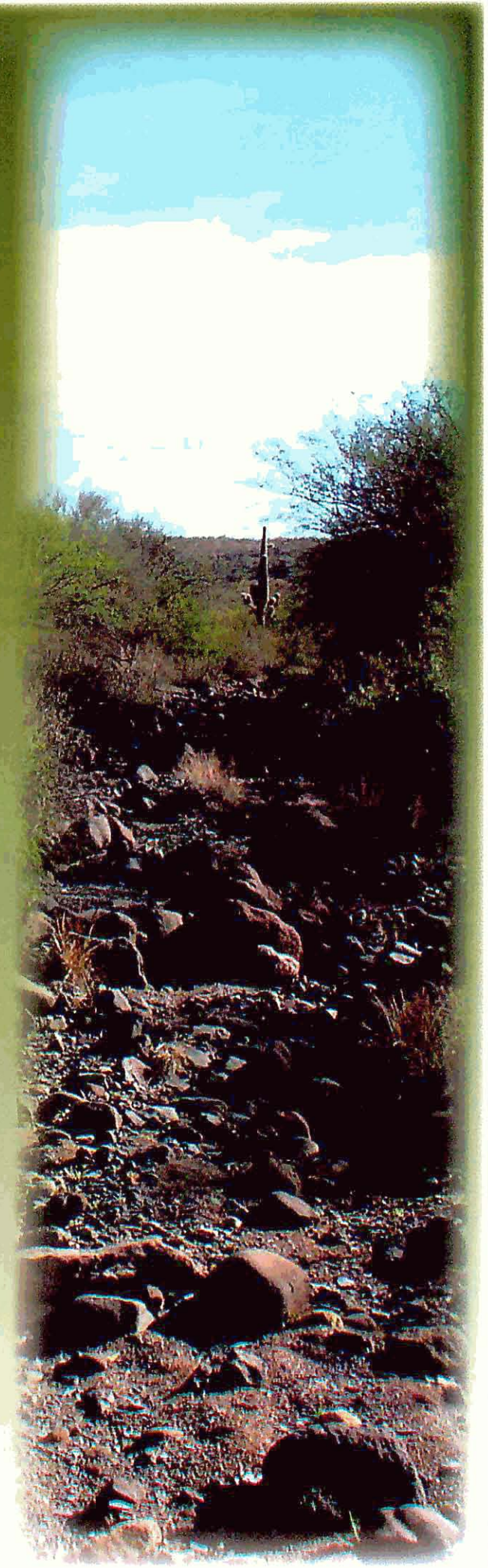
ADOBE DAM/DESERT HILLS

AREA DRAINAGE MASTER PLAN



Part 3

Lower Skunk Creek Hydrology Technical Data Notebook

Volume 4

Flood Control District of Maricopa County

August 2003

Lower Skunk Creek Hydrology

Technical Data Notebook

August 2003

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ENCLOSED DATA CD INCLUDES:

- **Digital Copy of Report and Plates in PDF Format**
- **Digital Copies of DDMSW and HEC-1 Files**
- **GIS Shapefile Coverages of Project Elements**

SECTION 1: INTRODUCTION

1.1 Purpose of Study

This study was a hydrologic modeling study done in support and in conjunction with the Adobe Dam / Desert Hills Area Drainage Master Plan (ADMP). The primary purpose of the current study was to develop an HEC-1 model to connect models previously developed in the Skunk Creek Watercourse Master Plan hydrology and the Buchanan Wash hydrology conducted for the ADMP. The results will be used to investigate the performance of Adobe Dam and the channelized reach of Skunk Creek downstream of I-17.

Existing condition and future condition land uses were evaluated. The existing and future conditions land use models will serve as the basis for formulation and evaluation of flood control alternatives for the Lower Skunk Creek area within the ADMP. 100-year, 10-year, and 2-year frequency events were computed for both land use conditions.

1.2 Authority for Study

The current study was authorized by the Flood Control District of Maricopa County under contract FCD 2002C001 as part of the scope of services for the Adobe Dam / Desert Hills ADMP.

1.3 Location of study

Figure 1.1 shows the location of the watershed. The study area is located in northern Maricopa County, Arizona. The watershed lies south of the Central Arizona Project Canal, west of Interstate 17, east of about 55th Avenue, and north of Adobe Dam. Plate 1 shows the hydrologic subbasins and the local watershed geography in more detail.

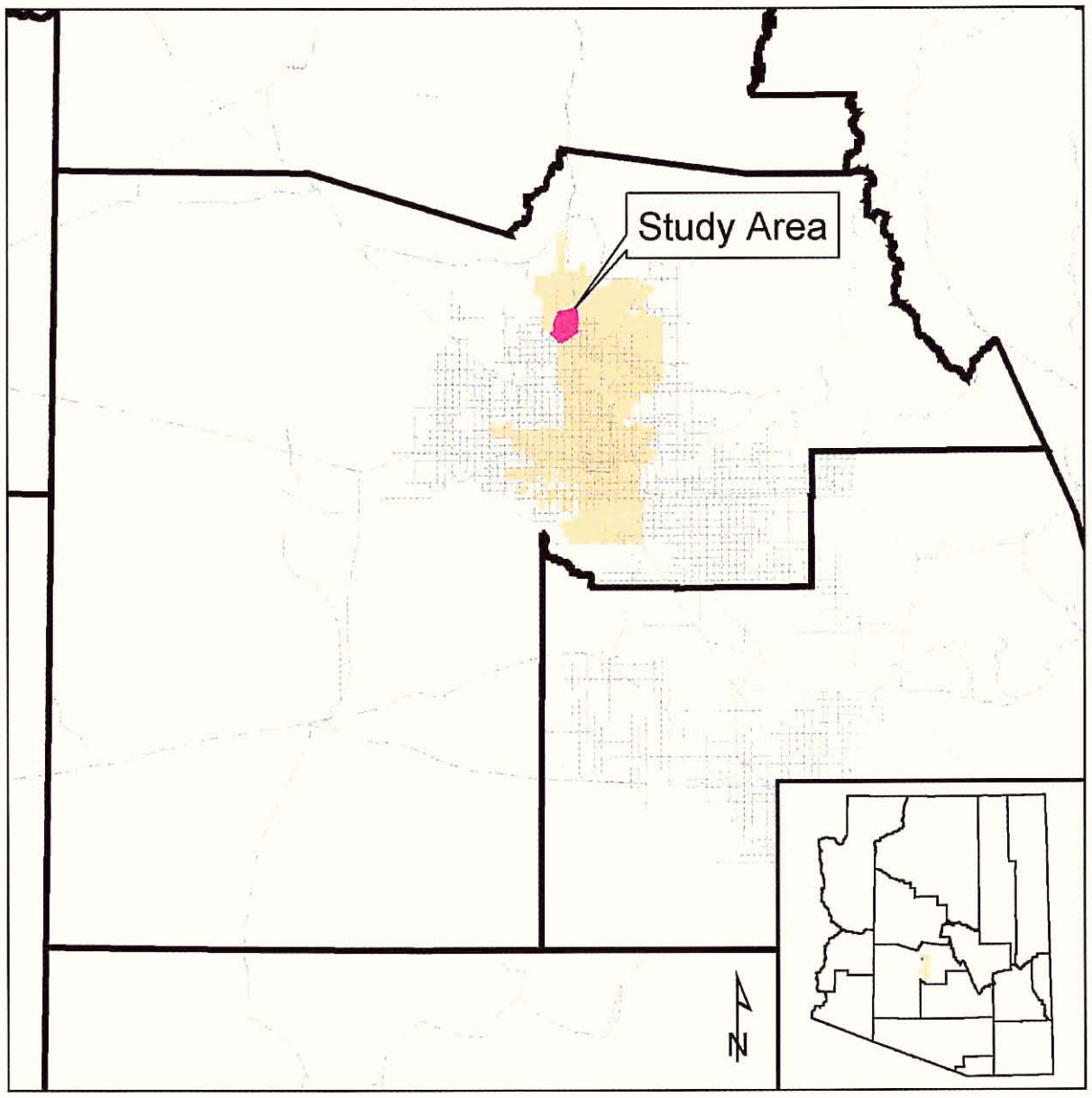

Figure 1.1 Location of Study Area

1.4 Methodology

The methods employed in this study were those outlined in the Drainage Design Manuals for Maricopa County.

1.4.1 Hydrology

Rainfall-runoff models for the 100-year, 10-year, and 2-year 24-hour events were computed using the U.S. Army Corps of Engineers HEC-1 model (version 4.1) was used to

compute runoff hydrographs and peak discharges. The Data Storage System (DSS) was used to export hydrographs from the Skunk Creek and Sonoran Wash Watercourse Master Plan and the Buchanan Wash Hydrology HEC-1 models. HEC-1 was then used to export the hydrographs to the PUNCH file using the 7 option on field 4 of the KO record in HEC-1. The resulting QI records were then inserted into the HEC-1 input files for the Lower Skunk Creek area. A similar approach was used for the 100-year, 10-year, 2-year existing and future condition scenarios.

For the future conditions, no retention was assumed to accompany future development in the Skunk Creek watershed upstream of Sonoran Wash. The Sonoran Wash and Buchanan Wash watersheds were assumed to have 100-year 2-hour retention for all new development. The remaining portions of developable area in the Lower Skunk Creek area were also assumed to include 100-year 2-hour retention.

1.4.2 Hydraulics

No floodplains were delineated using conventional step-backwater approaches for this study. Inundation limits for the Adobe Dam flood pool were derived from the HEC-1 storage routing calculations.

1.5 Acknowledgements

This study was funded entirely by the Flood Control District of Maricopa County. Assistance and review from their staff was critical to the success of this project.

1.6 Study results

The study resulted in the development of rainfall-runoff models for the 2-year, 10-year, and 100-year 24-hour duration events for the watershed contributing to the Adobe Dam pool area for existing and future land use conditions.

SECTION 2: ADWR/FEMA FORMS

This study was not performed for the purposes of a floodplain delineation study. Therefore, no FEMA forms were completed.

SECTION 3: MAPPING AND SURVEY INFORMATION

3.1 Field Survey Information

No field survey was performed as part of this hydrology study. Refer to the Flood Control District of Maricopa County for field survey information associated with the various topographic mapping used in this current study.

3.2 Mapping

No mapping was performed specifically for the hydrologic modeling. The District 10-foot 2001 contour data were used to assess watershed boundaries, flow paths, and slopes. Supplemental 2-foot contour mapping performed by Cooper Aerial for a reach of the Skunk Creek channel was conducted under a separate contract with the District.

SECTION 4: HYDROLOGY

4.1 Method Description

The methods employed in this study were those outlined in the current Drainage Design Manual for Maricopa County, Volume I, Hydrology (1995) and 2003 draft revised Hydrology Manual. The DDMSW version 2.1.3 was used to assist in the development of the HEC-1 models. The U.S. Army Corps of Engineers HEC-1 model (version 4.1) was used to compute runoff hydrographs and peak discharges. Runoff hydrographs from Skunk Creek, Sonoran Wash, and Buchanan Wash were imported from modeling conducted previously as part of the Skunk Creek / Sororan Wash Watercourse Master Plan and this ADMP respectively (see Figure 4.1)..

Rainfall losses were calculated by use of the Green and Ampt infiltration equation with an allowance for surface retention loss within HEC-1. Channel routing was performed using the normal depth Modified Puls method.

Peak discharges were estimated at various concentration points. Rainfall-runoff models were generated for the 2-year, 10-year and 100-year return periods. Generally, the 2-year and 10-year models use a ratio of the 100-year results to compute peak discharges and hydrographs per the 2003 draft Hydrology Manual. However, the imported hydrographs for the 10-year and 2-year models were input directly and not taken as a ratio of the imported 100-year hydrographs.

Two land use conditions were evaluated: 1) existing conditions (c.a Feb. 2002) and 2) full build-out of watershed with similar style of development as currently exists in the area. Retention was also modeled.

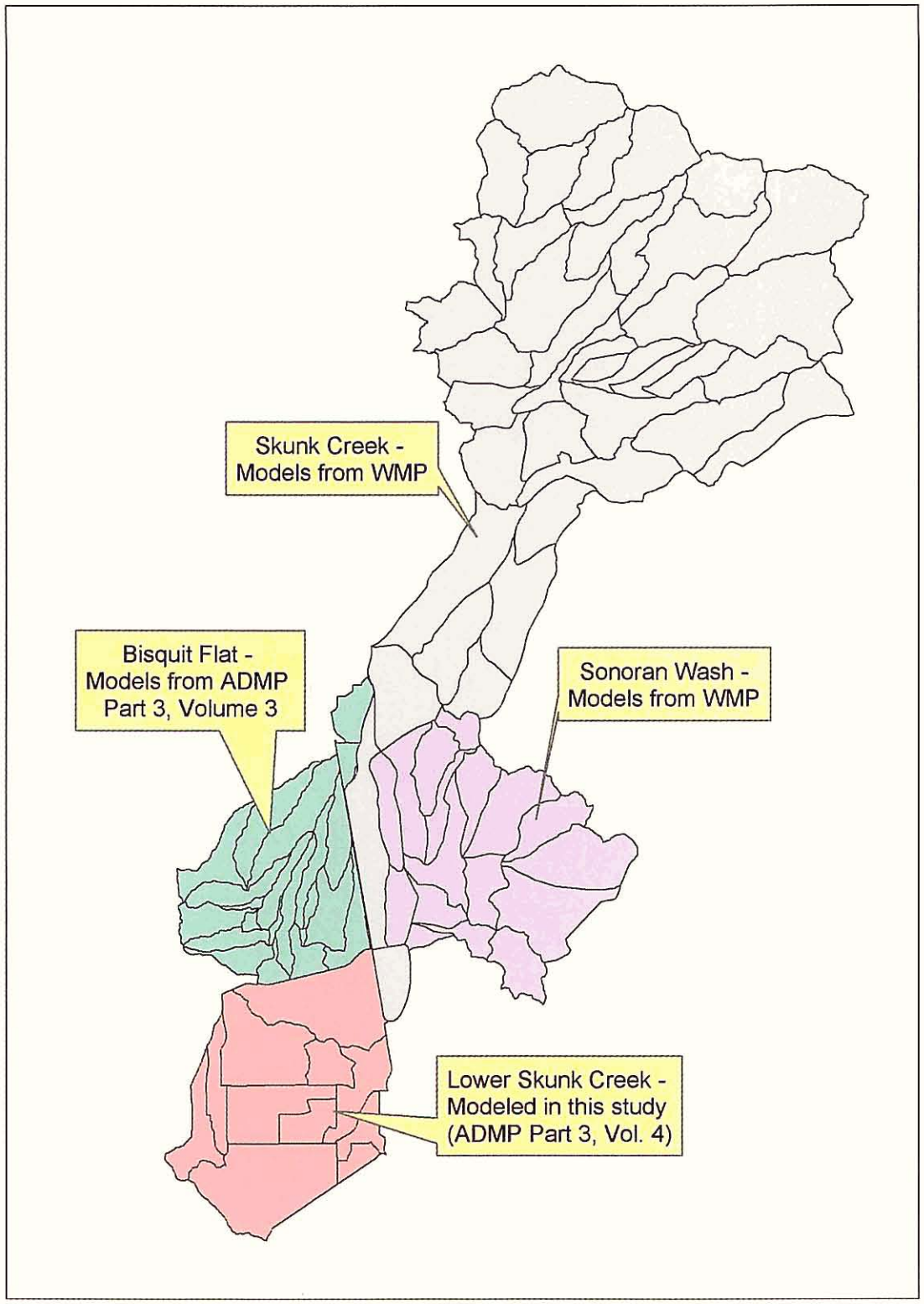

Figure 4.1 Location of Models Used

4.2 Parameter Estimation

4.2.1 Drainage Area Boundaries

The study area watershed and hydrologic subbasins are shown on Plate 1. The watershed is approximately 12.6 square miles in area downstream of the CAP Canal and Interstate 17. Skunk Creek, Sonoran Wash, and Buchanan Wash contribute an additional 73.9 square miles of watershed for a total watershed area at Adobe Dam of 86.5 square miles. This is slightly less than the 89.6 square miles reported by the Corps of Engineers for the design of the dam.

4.2.2 Watershed work maps

Refer to Plate 1 for the watershed work maps for HEC-1 modeling. Plates 2 shows the NRCS soils data and the distribution of saturated conductivity values for the area. Plate 3 shows the existing land use distribution used in this analysis. Plate 4 shows the future conditions land use distribution.

4.2.3 Gage data

Gaged streamflow data have been collected on Skunk Creek since 1960 at a station near the I-17 crossing of Skunk Creek by the USGS. The USGS gage number is 09513860. A statistical analysis of the data through 1996 was performed previously by Pope, et. al (1998). These data as well as the USGS regional regression equations are compared to the results of the rainfall-runoff modeling in Section 4.5.

4.2.4 Statistical parameters

The only statistical data used directly in the study were the precipitation statistics obtained from the NOAA Atlas 2, Arizona. The statistics from the NOAA Atlas were analyzed to develop the rainfall depth-duration-frequency table for the watershed. The analysis was performed using the PREFRE program. The program output is provided in Appendix D.1.

4.2.5 *Precipitation*

The rainfall depths used for the HEC-1 model were obtained from the NOAA Altas 2 maps for Arizona. Figure 4.2 shows the location of the watershed on the NOAA maps for the data required for input into the PREFRE program. The multiple storm option (JD records) were used to determine the critical storm at each concentration point in the HEC-1 model. The depth-area reduction factors were applied via the DDMSW 2.1.3 computer program for use with HEC-1.

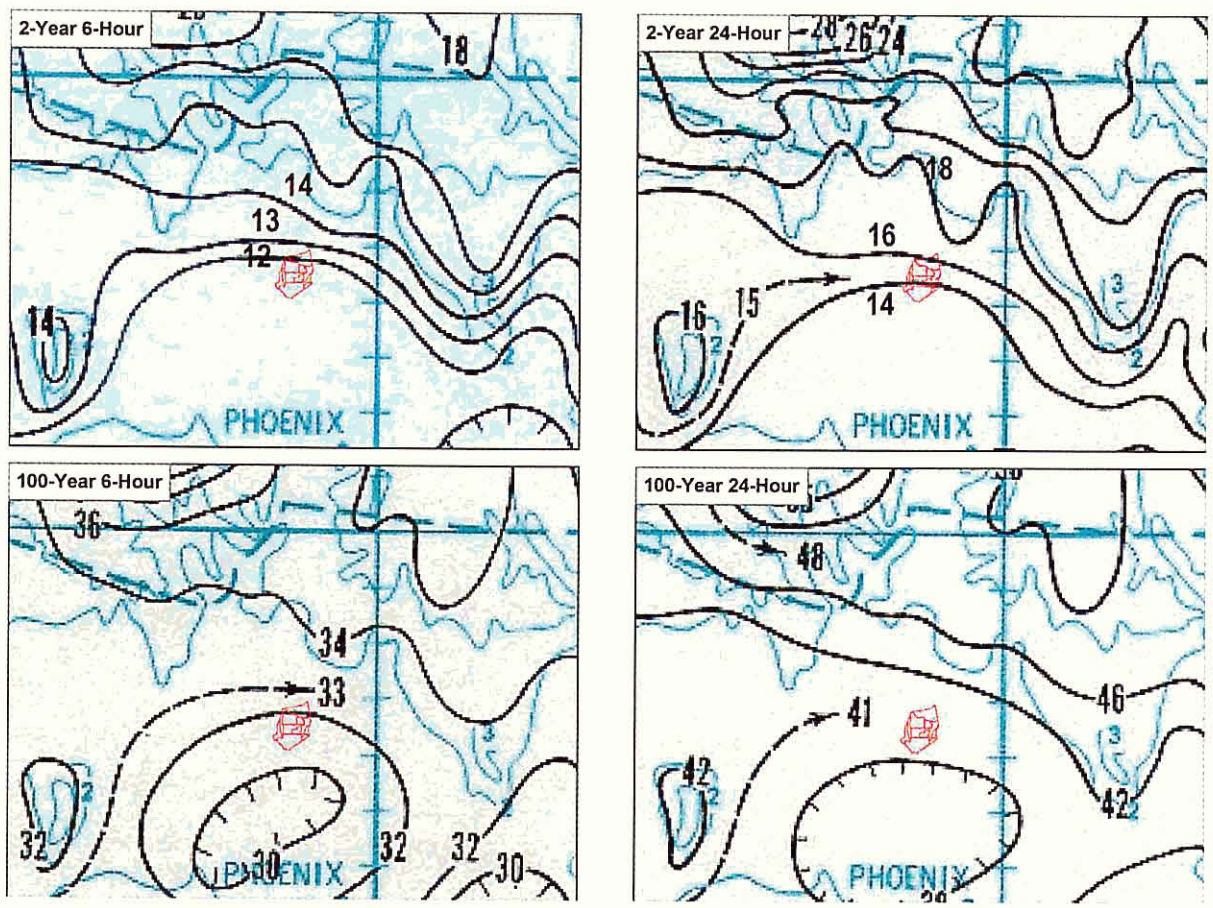

Figure 4.2. Watershed Location on NOAA Maps

The storm duration modeled was the 24-hour SCS Type II storm as described in the Drainage Design Manual for Maricopa County. The temporal distributions for the 24-hour storms with the JD records were implemented via the DDMSW program. Index storms larger than 90 square miles were removed from the final models as it was not needed for the 86 square mile watershed.

The 10-year and 2-year models were computed by use of field 3 on the BA record in HEC-1. A ratio of 0.35 was applied to the 100-year models to compute the 10-year discharge for all of the area except the portion modeled external to HEC-1 with the FLO-2D computer model. A ratio of 0.10 was applied to the 100-year model in a similar fashion for the 2-year discharge computations. These ratios were selected based on the recommendations in Chapter 6 of the 2003 draft Drainage Design Manual, Hydrology.

4.2.6 Physical parameters

Rainfall Losses

Rainfall losses were computed using the Green and Ampt method as outlined in the Drainage Design Manual for Maricopa County, Volume I, Hydrology. The County's preprocessing program for HEC-1, DDMSW, version 2.1.3 was used to perform the lumped parameter calculations and to develop the draft HEC-1 models. The development of the soils, land use, and subbasin data for use in the DDMSW is described briefly below.

Soils

The NRCS (formerly SCS) *Soil Survey of Aguila-Carefree Area* (Camp, 1986) and the *Soil Survey of Maricopa County, Central Part* (Hartman, 1977) presents the descriptions of the soils in the study watershed. Appendix A and B of the Drainage Design Manual provides loss rate parameters for the map units for these soil surveys. The loss rates from the appendices of the Manual are integrated into the DDMSW. The spatial distribution of the soil map units for the watershed area is shown on Plate 2. Plate 2 also shows the saturated conductivity values (XKSAT) for the soil units in the watershed.

Areas of each soil unit in each subbasin were computed using ArcMap – ArcView 8.3 software. These data were imported into the DDMSW. Average subbasin XKSAT values were then computed using logarithmic averaging as implemented in the DDMSW version 2.1.3.

The subbasin soil data and subbasin average results are provided in Appendix D.2.

Land Use

Two land use conditions were evaluated for the ADMP – 1) existing land uses, and 2) future build-out land uses based on existing zoning with the style of development similar to the existing conditions. The future conditions analysis was performed to provide a baseline

against which flood control alternatives developed in the ADMP can be measured. Existing land use conditions were evaluated based on GIS files provided by the Flood Control District of Maricopa County and updated to reflect conditions shown in aerial photographs dated February 2002. Future land uses were estimated based on MAG general plan data provided via the Flood Control District. In addition, the data were modified to be comparable with the existing conditions land uses. Plate 3 and Plate 4 show the existing and future land use distributions for the study area, respectively.

Table 1 summarizes the hydrologic parameters related to the land use categories used in the existing and future condition analyses for estimation of rainfall excess using the Green and Ampt method and Maricopa County procedures. These parameters include surface retention loss (IA), effective impervious area (RTIMP), surface roughness (Kb Type), vegetation cover (%), and antecedent moisture conditions (DTHETA Condition). The antecedent moisture condition for all areas was assumed to be NORMAL as defined in the Drainage Design Manual.

The subbasin existing and future land use data are provided in Appendix D.3.

Table 1. Land Use Types and Hydrologic Parameters (Existing Conditions and Future Conditions)

Land Use Code	Description	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kb Type
NDR	Undeveloped desert range land	Normal	25	0	0.35	Low
NHS	Natural hillslope areas	Normal	25	0	0.15	Hi
VLDR	Very Low Density Residential (1 to 5 acre lots)	Normal	20	5	0.30	Low
LDR	Low Density Residential (1/2 to 1 acre lots)	Normal	50	15	0.30	Low
MDR	Medium Density Residential (4-6 dwellings per acre)	Normal	50	30	0.25	Low
HDR	High Density Residential (> 6 dwellings per acre)	Normal	50	40	0.25	Low
COMM	Commercial	Normal	75	80	0.10	Min
PARK	Parks	Normal	60	0	0.20	Hi
LANDFILL	Landfill areas	Normal	0	0	0.25	Low
SCHOOL	Educational facilities	Normal	50	30	0.25	Low

Retention

The newer development within the Lower Skunk Creek area have 100-year 2-hour retention facilities. For the existing condition analysis, the aerial photographs and County Assessors data were examined to identify subdivisions which have retention basins. These subdivisions were delineated and their area computed in GIS. New development in the future condition models were assumed to have retention.

Table 2. Retention Calculations (Existing Conditions and Future Conditions)

Subbasin	Rain 2.66 in. (ft)	C Factor	Area Existing (acres)	Area Future (acres)	Retention Volume Existing (ac-ft)	Retention Volume Future (ac-ft)
LS-1	0.2217	0.63	232	232	32.4	32.4
LS-2	0.2217	0.63		78.2	0.0	10.9
LS-3	0.2217	0.63			0.0	0.0
LS-4	0.2217	0.63	445	528	62.2	73.7
LS-5	0.2217	0.63	72.5	72.5	10.1	10.1
LS-6	0.2217	0.63		62.5	0.0	8.7
LS-7	0.2217	0.63			0.0	0.0
LS-8	0.2217	0.63			0.0	0.0
LS-9	0.2217	0.63			0.0	0.0
LS-10	0.2217	0.63	121.4	121.4	17.0	17.0
LS-11	0.2217	0.63			0.0	0.0

For the future conditions, no retention was assumed to accompany future development in the Skunk Creek watershed upstream of Sonoran Wash. The Sonoran Wash and Buchanan Wash watersheds were assumed to have 100-year 2-hour retention for all new development. The remaining portions of developable area in the Lower Skunk Creek area were also assumed to include 100-year 2-hour retention. A similar, but slightly different assumption was made in the Skunk Creek WMP. In the WMP they assumed that retention was provided for all of the areas downstream of Cline and Rodger Creeks (shown on Figure 3-3-2 in Attachment 3 of the WMP). That includes all of the Skunk Tank watershed as well as the other incidental drainage area along Skunk Creek upstream and downstream of the

Tramanto subdivision. Based on the type of development occurring in the unincorporated County, we decided that retention was not likely to occur in the unincorporated County since the area is developing almost exclusively as individual lot style development. Although the proposed Rules of Development for the ADMP may recommend enforcement of retention for single lot development, the Rules have not yet been adopted. The remaining drainage area downstream of Skunk Tank Wash is very small relative to the entire upstream watershed. Therefore, it was concluded that 1) the effect of retention in this small area of the watershed is likely negligible to the peak discharge in Skunk Creek at the CAP, and 2) by not modeling retention for these areas in the ADMP the resulting discharges while not significantly different, will be conservative for planning purposes in the Lower Skunk Creek area.

Table 2 shows the resulting retention volumes used in the HEC-1 model. These volumes were diverted from the front of each subbasin runoff hydrograph for the affected subbasins in the HEC-1 model.

Unit Hydrograph

The Clark unit hydrograph method as outlined in the Drainage Design Manual was used in the HEC-1 modeling of the watershed. Watershed drainage areas, time of concentration path lengths and slopes were computed using ArcMap – ArcView 8.3 GIS software and examination of the 2002 aerial photographs and the 2001 10-foot contour data for the area.

Time-area relationships for all subbasins were assigned to the 'Urban' type as defined in the Drainage Design Manual. The time-area relationships for the existing and future conditions were assumed the same. The "urban" time-area curve generates runoff more rapidly than the other time-area curves described in the Manual and therefore produce the most conservative peak discharge which was determined to be suitable for the planning purposes of the ADMP.

Surface roughness values were assigned as shown in Table 1 described above. The DDMSW 2.1.3 was used in the computation of subbasin average Kb.

Time of concentration (Tc) and the Clark storage coefficient (R) were computed using the DDMSW version 2.1.3 based on the geometric and land use parameters provided. Tables summarizing the Clark unit hydrograph parameters for the existing conditions and future conditions are provided in Appendix D.4.

Routing Parameters

Channel Routing - Routing of the model subbasin hydrographs was done using the Modified Puls normal depth channel option in HEC-1. The routing reach paths are shown on Plate 1. Each route is identified by a name consisting of the upper and lower subbasin and/or concentration point numbers defining the reach. Reach LS3LS5, for instance, starts at the outlet of subbasin LS-3 at the upper end and extends to concentration point LS5C at the lower end.

The routing reaches, routing parameters, and related routing information are provided in Appendix D.5. The watershed mapping was used to delineate the routing reaches and estimate the elevations at the end of each channel routing reach. Reach lengths were computed in the ArcMap – ArcView GIS software.

The eight-point channel cross sections input to HEC-1 were developed from examination of the 10-foot contours and aerial photographs. Plots of each cross section are provided in Appendix D.5.

The number of routing steps for input to the HEC-1 models was estimated using an iterative process. An initial NSTEP value was estimated based on an estimated channel velocity divided by the channel length and the model time interval. The HEC-1 models were then run using the assumed values. The reach travel time was then compared to the computed travel time from the HEC-1 model run. This process was repeated until the HEC-1 travel time from the previous run equals the travel time from the current run within the variation possible given the 5 minute time step used in the HEC-1 model.

Channel infiltration losses were not included in the routing computations.

One routing block, CAPR2, was taken directly from the previous Skunk Creek WCMP model. It uses Muskingum routing instead of normal-depth.

Reservoir Routing – The Adobe Dam storage reservoir was modeled in the HEC-1 model to investigate the maximum inundation elevation for the various flood scenarios. The stage-storage-discharge data were obtained from the District's ALERT System information for the water level gage at the dam. The stage-storage-discharge tables and plots are provided in Appendix D.5.

Multiple Frequency Models

The 10-year and 2-year discharges for the existing and future conditions were computed based on ratios of the 100-year results as described in the 2003 draft Hydrology Manual. The 2003 Manual recommends computation of the 10-year peak discharge as 35% of the 100-year value. The 2-year peak discharge can be estimated as 10% of the 100-year result. The ratios were applied on field 3 of the BA record in copies of the 100-year HEC-1 model.

The ratio approach was applied to the subbasins computed within the HEC-1 model only. The imported inflow hydrographs for Skunk Creek, Sonoran Wash, and Buchanan Wash were taken from the 10-year and 2-year HEC-1 models performed separately as part of the Watercourse Master Plan and the ADMP.

4.3 Problems Encountered During the Study

4.3.1 Special problems and solutions

It was noted during the study that the CAP Canal overchutes were designed for the 50-year event. Flows in excess of this event flow through the overchutes, west over I-17, east along the CAP canal embankment, and some flows enter the CAP canal and flow east within the canal. This scenario was modeled in FLO-2D by Tetra Tech as part of the WMP in 2001 (Attachment 7) and a follow up study in 2002. Table 7-4F on page 16 of Attachment 7 shows that 6400 cfs flows across I-17, 100 cfs east along the CAP embankment, 18,500 cfs through the Skunk Creek overcute, and 6,100 cfs through the Sonoran Wash overchute. That adds up to 31,100 cfs which leaves an additional 5,300 cfs overtopping the CAP around the overchutes. The combined peak discharge of 36,400 cfs is larger than the combined peak in the current study (29,000 cfs) because of the timing of the Skunk Creek and Sonoran Wash hydrographs. For the FLO-2D model in the WMP, the two hydrographs were shifted so that the peaks would add directly to one another. Therefore, in the present HEC-1 model overflows of I-17 and the CAP would be somewhat less than reported in the WMP. Moreover, the FLO-2D results suggest that the bulk of the flow returns to Skunk Creek by the time it gets to the Interstate 17 crossing (see Figure 4-1 in Tetra Tech, 2002). Therefore, it was decided that no changes would be made to the HEC-1 models.

Otherwise, no special problems were noted in this study.

4.3.2 Modeling warning and error messages

The HEC-1 models contain only two warning messages in each model. They are all stability warnings for one of the normal-depth channel routings. The discharge range of the stability warning is greater than any computed discharge in any of the six models in this study. Therefore, the warnings do not affect the results.

4.4 Calibration

No calibration of the models was performed as part of this study. However, the results were compared to previous studies and regional regression equations and found to be reasonable. In addition, the methods used in this study have been designed for application to the area and have been found to produce reasonable results in hundreds of studies throughout Maricopa County.

4.5 Final Results

4.5.1 Hydrologic analysis results

Tables 3 and 4 show the peak discharges for the existing and future conditions. Results for the 100-, 10-, and 2-year events area provided. Plates 5 and 6 show the 100-year peak discharges for the existing and future conditions respectively. The existing condition has a greater peak discharge and runoff volume compared to the future condition for the 100-year event, the 10-year, and the 2-year events. The reduction in peak discharges is primarily a function of the Skunk Creek results which were computed previously and appear to be the result of a change in watershed timing. The volumes are also reduced due to the effects of retention both in the Skunk Creek watershed and the Buchanan Wash watershed.

Table 3. Calculated Peak Discharges and Runoff Volumes - Existing Conditions

KK ID	Area sq.mi.	100-year Peak Flow (cfs)	100-year Time to Peak (hrs)	100-year Volume (ac-ft)	10-year Peak Flow (cfs)	10-year Time to Peak (hrs)	10-year Volume (ac-ft)	2-year Peak Flow (cfs)	2-year Time to Peak (hrs)	2-year Volume (ac-ft)
S23L	50.29	26513	14.17	4195	13417	14.17	2147	4712	14.08	815
C010	13.39	9824	12.83	1224	4852	13	641	2097	13.33	305
CAP	63.68	28959	14.08	5419	14941	14	2788	5509	13.5	1121
CAPR2	63.68	28717	14.33	5419	14758	14.17	2788	5412	13.75	1121
S24	0.64	1095	12.17	51	1095	12.17	51	1095	12.17	51
S24C	64.32	28717	14.33	5461	14758	14.17	2830	5412	13.75	1163
S24LS1	64.32	28595	14.42	5461	14690	14.25	2830	5334	13.83	1163
RRB22C	9.62	1242	15.42	1184	945	14.25	397	397	13.5	111
B22LS1	9.62	1239	16.5	1184	935	15.25	397	388	13.92	111
LS-1	2.47	3440	12.17	238	1204	12.17	83	344	12.17	24
LS1CR	12.09	3741	12.17	1384	1327	12.25	446	388	13.92	111
LS1C	76.41	29751	14.42	6818	15589	14.25	3266	5721	13.83	1273
LS1LS2	76.41	29633	14.5	6818	15441	14.42	3266	5604	14.17	1273
LS-2	0.94	575	12.42	71	201	12.42	25	58	12.42	7
LS2C	77.35	29685	14.5	6877	15461	14.42	3287	5612	14.17	1279
LS-3	0.54	810	12.17	64	283	12.17	22	81	12.17	6
LS3LS5	0.54	426	12.75	64	98	13.25	22	20	14	6
LS-4	1.85	2317	12.17	186	811	12.17	65	232	12.17	19
LS4LS5	1.85	1525	12.58	123	6	24.42	3	0	0	0
LS-5	1.28	950	12.42	119	332	12.42	42	95	12.42	12
LS5C	3.67	2681	12.58	292	343	12.42	55	29	14.25	8
LS-6	0.79	410	12.5	78	144	12.5	27	41	12.5	8
LS-7	0.6	272	12.5	41	95	12.5	14	27	12.5	4
LS7C	1.39	676	12.5	117	237	12.5	41	68	12.5	12
LS-8	0.57	574	12.25	63	201	12.25	22	57	12.25	6
LS-9	0.45	247	12.5	37	87	12.5	13	25	12.5	4
LS-10	0.26	468	12.08	29	164	12.08	10	47	12.08	3
INFLOW	83.69	30083	14.5	7312	15601	14.42	3395	5654	14.17	1303
LS-11	2.84	2202	12.42	222	771	12.42	78	220	12.42	22
LS11C	86.53	30147	14.5	7500	15626	14.42	3461	5665	14.08	1322
ADOBE	86.53	1481	19.92	7500	1221	17.25	3461	870	16.42	1321

Table 4. Calculated Peak Discharges and Runoff Volumes - Future Conditions

KK ID	Area sq.mi.	100-year Peak Flow (cfs)	100-year Time to Peak (hrs)	100-year Volume (ac-ft)	10-year Peak Flow (cfs)	10-year Time to Peak (hrs)	10-year Volume (ac-ft)	2-year Peak Flow (cfs)	2-year Time to Peak (hrs)	2-year Volume (ac-ft)
S23L	50.29	24155	14.25	4871	12758	14.17	2644	5354	14.08	1186
C010	13.39	6098	13.17	862	717	13.42	179	52	14.92	12
CAP	63.68	26287	14.17	5733	13241	14.17	2823	5357	14.08	1198
CAPR2	63.68	26092	14.42	5733	13172	14.42	2823	5318	14.33	1198
S24	0.65	1334	12.08	79	467	12.08	28	133	12.08	8
S24C	64.33	26107	14.42	5801	13178	14.42	2847	5320	14.33	1205
S24LS1	64.33	26086	14.42	5801	13139	14.5	2847	5283	14.42	1205
RRB22C	9.62	934	15.67	489	13	19.92	18	0	0	0
B22LS1	9.62	927	16.67	489	12	21.83	18	0	0	0
LS-1	2.47	3440	12.17	238	1204	12.17	83	344	12.17	24
LS1CR	12.09	3358	12.17	688	1144	12.25	67	0	0	0
LS1C	76.42	26714	14.42	6462	13150	14.5	2904	5283	14.42	1205
LS1LS2	76.42	26608	14.58	6462	13073	14.67	2904	5201	14.67	1205
LS-2	0.94	681	12.42	88	238	12.42	31	68	12.42	9
LS2C	77.37	26656	14.58	6526	13088	14.67	2919	5201	14.67	1205
LS-3	0.54	810	12.17	64	283	12.17	22	81	12.17	6
LS3LS5	0.54	426	12.75	64	98	13.25	22	20	14	6
LS-4	1.85	2352	12.17	191	823	12.17	67	235	12.17	19
LS4LS5	1.85	1146	12.67	117	0	0	0	0	0	0
LS-5	1.28	950	12.42	119	332	12.42	42	95	12.42	12
LS5C	3.67	2313	12.67	286	343	12.42	53	29	14.25	8
LS-6	0.79	423	12.5	82	148	12.5	29	42	12.5	8
LS-7	0.6	313	12.42	53	110	12.42	19	31	12.42	5
LS7C	1.39	615	12.92	101	147	12.58	20	0	0	0
LS-8	0.57	561	12.25	62	197	12.25	22	56	12.25	6
LS-9	0.45	247	12.5	37	87	12.5	13	25	12.5	4
LS-10	0.26	468	12.08	29	164	12.08	10	47	12.08	3
INFLOW	83.7	27047	14.58	6935	13191	14.67	3008	5221	14.67	1219
LS-11	2.84	2202	12.42	222	771	12.42	78	220	12.42	22
LS11C	86.54	27100	14.58	7123	13206	14.67	3074	5225	14.67	1238
ADOBE	86.54	1470	19.25	7123	1151	17.17	3074	809	16.75	1238

Table 5. Maximum Calculated Stage and Storage at Adobe Dam – Existing and Future Conditions

Condition	Area sq.mi.	100-year			10-year			2-year		
		Peak Stage (feet)	Time to Max (hrs)	Maximum Stored Volume (ac-ft)	Peak Stage (feet)	Time to Max (hrs)	Maximum Stored Volume (ac-ft)	Peak Stage (feet)	Time to Max (hrs)	Maximum Stored Volume (ac-ft)
Existing	86.53	1364.1	19.92	5959	1358.0	17.25	2810	1351.4	16.42	943
Future	86.53	1363.8	19.25	5773	1356.5	17.17	2313	1350.6	16.75	813

Table 6. Maximum Calculated Stage and Storage at Adobe Dam
Assuming Back-to-back 100-year Storms – Existing and Future Conditions

Condition	Area sq.mi.	Back-to-back 100-year		
		Peak Stage (feet)	Time to Max (hrs)	Maximum Stored Volume (ac-ft)
Existing	86.53	1369.7	18.08	10299
Future	86.53	1369.6	18.75	10164

4.5.2 Verification of results

Figure 4.3 shows a plot of the peak discharge results for the 100-year model with the USGS regional regression equations for Region 12. The model results fall generally below the regression curve for the region. The results fall below the regression equation line because of effects of urban retention, storage behind the CAP (Buchanan Wash), and the elevation of the watershed. The cloud of common values for Region 12 has a lower elevation limit of about 2000 feet. That is, none of the gage data incorporated into the regression equations come from stations with watersheds below 2000 feet.

The frequency statistics for the USGS gaging station, Skunk Creek near Phoenix, which lies in the study area give an estimate of the 100-year peak discharge of 27,600 cfs (Pope, et. al, 1998). This compares well with the 28,700 cfs estimated in the HEC-1 model at S24C. The period of record for their analysis is 27 years. Given the interest in the performance of the Skunk Creek channel and Adobe Dam as the primary areas of interest for the ADMP, the results are considered good for this purpose.

Total runoff volumes for the existing conditions models compare better to the gage data for the less frequent storms. Table 7 shows a comparison of modeled runoff volumes with statistical estimates from the USGS (Pope, et. al, 1998). The HEC-1 computed values compare better for the less frequent events than the more frequent ones. This is likely due to the fact that the FCDMC methods were developed primarily for more extreme events.

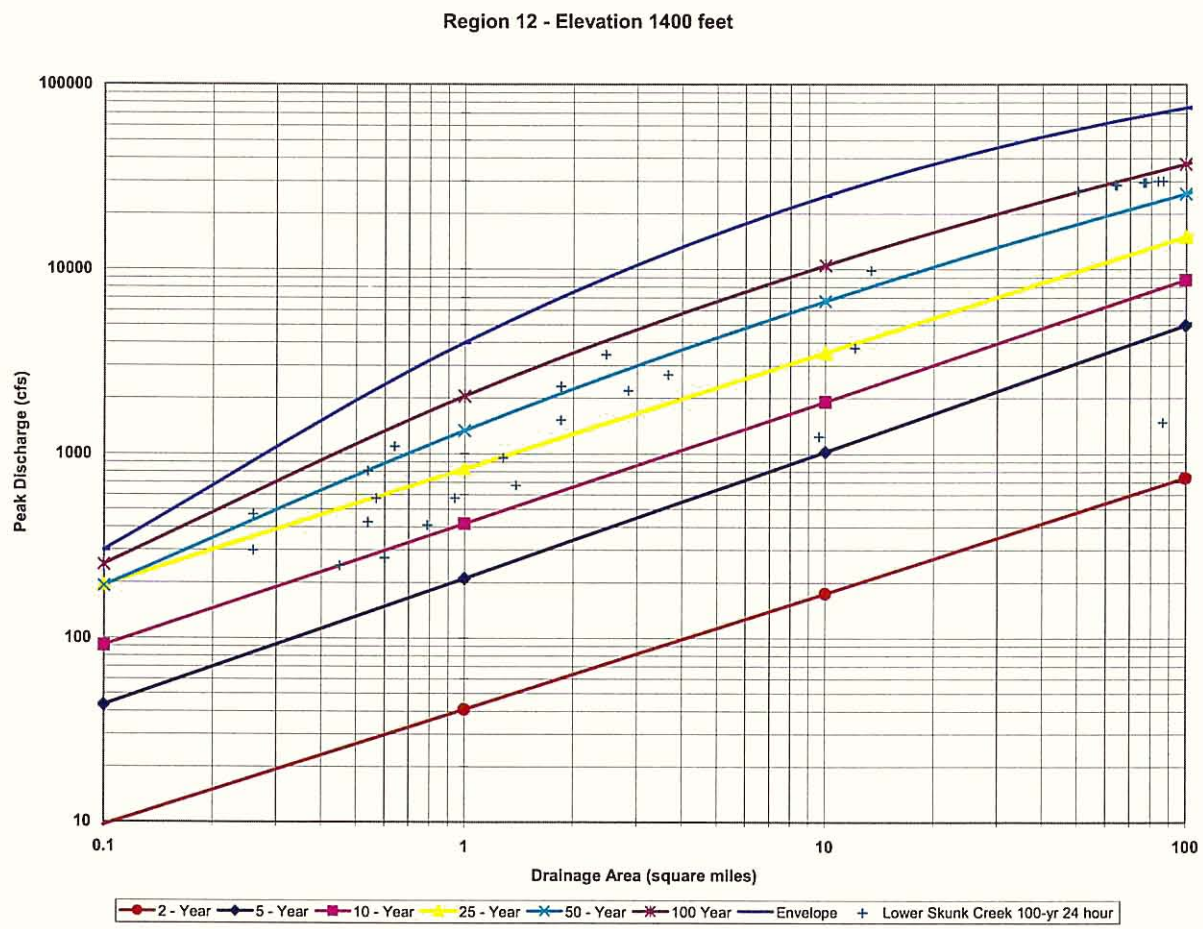

Figure 4.3. Comparison of 100-year Results with USGS Regression Equations

Table 7. Comparison of Computed and USGS Statistical Runoff Volume
Existing Conditions

	100-year Runoff	10-year Runoff	2-year Runoff
USGS	4304 ac-ft 2170 cfs	1745 ac-ft 880 cfs	274 ac-ft 138 cfs
HEC-1	5461 ac-ft 2751 cfs	2830 ac-ft 1425 cfs	1163 ac-ft 580 cfs
Difference (%)	27 % 27 %	62 % 62 %	324 % 320 %

4.5.3 Comparison with Previous Studies

The US Army Corps of Engineers, Hydrology Part 2 (1982) (which refers to Design Memo. No. 3, Phase I, 1976) reports a 100-year peak discharge inflow to Adobe Dam of 39,000 cfs. The drainage area reported by the Corps is 89.6 square miles (vs. 86.5 for the ADMP). The ADMP results are about 23% lower than the Corps results for the 100-year peak discharge. Again, the good correlation with the USGS gage data supports the validity of the ADMP results.

The maximum stage was estimated at 1369.8 feet from the Corps analyses based on their reported peak outflow of 1730 cfs. This stage equates to a storage volume of 10845 ac-ft. These results are about 6 feet below the ADMP computations. The Corps results are nearly identical to the back-to-back storm analysis in the ADMP.

The Corps estimated the Standard Project Flood for Adobe Dam inflow at 66,000 cfs. Note that 66,000 cfs plots very near the envelope curve line in Figure 4.3.

Table 8 shows a comparison of computed peak discharges of the ADMP results with the results of a previous study, the Little Deer Valley Area Drainage Master Study (LDV ADMS), Conceptual Drainage Plan, performed by Collar, Williams, and White in 1990 for the City of Phoenix. The LDV ADMS used the SCS Type IIA temporal distribution for

rainfall and SCS unit hydrograph and Curve Numbers for the runoff hydrograph computation. The results are different in both directions. Drainage areas, watershed boundaries, hydrologic methods, and development conditions all vary between the analyses.

Table 8. Comparison of ADMP and Little Deer Valley ADMS HEC-1 Results – 'Existing Conditions'

Location	Adobe ADMP (2003)		Little Deer Valley ADMS (1990)	
	100-yr Peak Q	2-yr Peak Q	100-yr Peak Q	2-yr Peak Q
51st Ave & Pinnacle Peak	676	68	1456	173
Pinnacle Peak near 47th Ave	2681	29	1340	109
Happy Valley & 39th Ave	810	81	275	26

SECTION 5: HYDRAULICS

This study was not performed for the purposes of a floodplain delineation study. Therefore, no hydraulic modeling is presented in this Technical Data Notebook. Hydraulic modeling performed in conjunction with the rainfall-runoff modeling is presented in Section 4 and Appendix D.

SECTION 6: SEDIMENT TRANSPORT/EROSION

No sediment transport modeling was performed as a part of the hydrology study for the ADMP.

SECTION 7: DRAFT FIS

This study was not performed for the purposes of a floodplain delineation study. Therefore, a Draft FIS is not presented.

Appendix A

References

Camp, P.D., et al., 1986, Soil Survey of Aguila-Carefree Area, Parts of Maricopa and Pinal Counties, Arizona: U.S. Soil Conservation Service Report, 306 p., 53 maps, scale 1:24,000.

Collar, Williams, and White, 1990, Area Drainage Master Study, Little Deer Valley Conceptual Drainage Plan, in two volumes, performed for City of Phoenix under Job No. 881111-11022.

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Hartman, G.W., et al., 1977, Soil Survey of Maricopa County, Central Part: Soil Conservation Service, USDA, 117 p., 128 maps, scale 1:20,000.

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U.S. Army Corps of Engineers, 1990, HEC-1 Flood Hydrograph Package, User's Manual, CPD-1A

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U.S. Army Corps of Engineers, 1979, Gila River Basin, New River and Phoenix City Streams Arizona, Design Memorandum No. 3, General Design Memorandum – Phase II, Project Design, Part 2, Adobe Dam (Including Skunk Creek to the Arizona Canal), Los Angeles.

U.S. Army Corps of Engineers, 1976, Gila River Basin, New River and Phoenix City Streams Arizona, Design Memorandum No. 3, General Design Memorandum – Phase I, Project Formulation, Los Angeles.

Appendix B

Correspondence

JE Fuller/ Hydrology & Geomorphology, Inc.

Jon Fuller, P.E., R.G., P.H., C.F.M.	**Pat Deschamps, P.E., L.S.**	**6101 S. Rural Rd., Suite 110**
Brian Iserman, P.E.	**Tamara J. Norton, E.I.T.**	**Tempe, Arizona 85283**
John Wallace, P.E.	**Brooks Dillard, B.A.**	**1-877-752-2124 (toll free)**
Ted Lehman, P.E.	**Mike Kellogg, M.S.**	**480-752-2124 (voice)**
W. Scott Ogden, P.E.	**Nick Headley, A.A.S.**	**480-839-2193 (fax)**
Jeffrey A. Despain, P.E.	**Annette Griffin, A.A.S.**	**www.jefuller.com**

August 13, 2003

Dave Degerness, P.E.
2801 W. Durango Street
Phoenix, AZ 85009

RE: response to comments on the Lower Skunk Creek Hydrology, Part 3, Volume 4

Dave:

This letter describes our responses to your review comments on the subject report. The format of this letter is to list your comment and then our response following each comment:

1. Page 12, first paragraph. Index storms "greater than" 90 square miles were removed from the models. Sentence currently states that storms "less than" 90 square miles were removed.

Response: The change to the text on page 12 was made.

2. Page 15 describes retention in the watershed. The methodology is fine, but I think to clarify the procedure, you should state that the volume calculation used formula 3.4 from the FCD Hydrology Manual. Is it expected to be 100% effective? In past experiences I have seen 80-85% effective retention.

Response: This is indeed an interesting and potentially valid assumption to make. Certainly not all subdivisions effectively collect the entire area intended to get to the retention basin. On the other hand, the volume for the whole area should be provided in the basin as part of the approved construction. So, 100% of the volume is probably present, but not 100% of the area may drain to it. Therefore, one could try to separate these areas with an assumed effectiveness approach as suggested. However, no such approach was taken in the other portions of the watershed modeled as part of the Skunk Creek WMP (i.e. Sonoran Wash). Therefore, at least for consistency sake we recommend that the 100% of the retention calculated for the basins in Lower Skunk Creek be included in the models. That is, no changes to the retention volumes in the HEC-1 models for the Lower Skunk Creek area were made.

3. Page 15 also states that no retention was assumed to accompany future development in the Skunk Creek Watershed upstream of Sonoran Wash. This may have been explained in the Skunk Creek WMP, but you should explain why this is so at this point too, at least briefly.

Response: A similar, but slightly different assumption was made in the Skunk Creek WMP. In the WMP they assumed that retention was provided for all of the areas downstream of Cline and Rodger Creeks (shown on Figure 3-3-2 in Attachment 3 of the WMP). That includes all of the Skunk Tank watershed as well as the other incidental drainage area along Skunk Creek upstream and downstream of the Tramanto subdivision. Based on the type of development occurring in the unincorporated County, we decided that retention was not likely to occur in the unincorporated County since the area is developing almost exclusively as individual lot style development. Although the Rules of Development may change this they have not been adopted yet. The remaining area downstream of Skunk Tank Wash is very small relative to the entire upstream watershed. Therefore, it was concluded that 1) the effect of retention in this small area of the watershed is likely negligible to the peak discharge in Skunk Creek at the CAP and 2) by not modeling retention for these areas in the ADMP the resulting discharges while not significantly different, will be conservative for planning purposes in the Lower Skunk Creek area.

These explanations have been added to the Technical Data Notebook discussion in the Retention subsection of section 4.2.6.

4. Page 24, third sentence contains a typo. It should say "....vs 86.5 for the ADMP."

Response: The typographic correction has been made in the TDN.

5. Appendix D.3 containing land use data for the delineated sub-basins. It appears the sort for the existing land use and future land use did not work because the land use breakdowns for the sub-basins are separated.

Response: You are correct. Apparently the new version of DDMSW fails to correctly sort the data in these reports. We have exported the results to a spreadsheet, sorted the data correctly and reprinted a more sensible presentation into the revised Appendix D.3.

6. Plate 1 does not have the concentration points visible.

Response: You are absolutely correct. They have been added and Plate 1 reprinted.

7. Should be more descriptive in hydrograph routing operations of your model. I would like to know where the flow is being routed to and in what type of channel if possible.

Response: Additional descriptive text has been added to the hydrologic routings to help out.

8. The CAP over chutes are designed for the 50 year event. Can they pass the 100 year event without having a diversion out of the system or a stage storage routing for them? The HEC-1 models do not show any diversion of flows at the over-chuttes. Should the diversion of flows be not included in the HEC-1models?

Response: You are absolutely correct again. The CAP overchutes were designed for the 50-year event. Flows in excess of this event flow through the overchutes, west over I-17, east along the CAP canal embankment, and some flows enter the CAP canal and flow east within the canal. This scenario was modeled in FLO-2D by Tetra Tech as part of the WMP in 2001 (Attachment 7) and a follow up study in 2002. Table 7-4F on page 16 of Attachment 7 shows that 6400 cfs flows across I-17, 100 cfs east along the CAP embankment, 18,500 cfs through the Skunk Creek overcute, and 6,100 cfs through the Sonoran Wash overchute. That adds up to 31,100 cfs which leaves an additional 5,300 cfs overtopping the CAP around the overchutes. The combined peak discharge of 36,400 cfs is larger than the combined peak in the current study (29,000 cfs) because of the timing of the Skunk Creek and Sonoran Wash hydrographs. For the FLO-2D model in the WMP, the hydrographs were shifted so that the peaks would add directly. Therefore, in the present HEC-1 model overflows of I-17 and the CAP would be somewhat less than reported in the WMP.

After discussions with you on the telephone on August 12, 2003, it was decided that our course of action would be to add discussion to the TDN to outline the results of the FLO-2D analysis and add similar comments to the HEC-1 models. However, no changes will be made to the models themselves for the following reasons: 1) routing all the flow through Skunk Creek to Adobe Dam provides us with a more conservative estimate of the peak discharges downstream, 2) for planning purposes this is considered an adequate description of the flows, 3) ultimately any proposed structural alternatives should assume that all the upstream flows may some day be collected and routed to the dam, 4) alternatives already outlined in the WMP suggest just such a structural remedy which would prevent overtopping of I-17 and the CAP and translate the flows into Skunk Creek, and 5) it makes good long-term sense to assume all the flow will (someday) be able to get to the Adobe Dam since it was originally designed to handle inflows from the entire upstream watershed.

9. Why did the hydrologic routings stop at Pinnacle Peak Road when the 100 year pool appears to be much further south?

Response: The delineated FEMA floodplain shows the pool area at approximately the emergency spillway crest elevation. This elevation is approximately along the Pinnacle Peak Road alignment. Therefore, impoundments could occur up to this level and no channel-type routing would occur. For events less than the SPF (design level for the spillway crest elevation), this could result in a slight overestimation of the peak inflow to the pool and consequently the maximum routed water surface elevation in the reservoir pool. This slightly conservative result was considered appropriate to the ADMP.

10. The route LS1LS2 has a velocity of 33 ft/sec in the 100yr 24hr existing conditions model. This seems very fast, even for the channelized/levee section of Skunk Creek. All other routings have more reasonable routing velocities for all the models.

Response: Indeed 33 ft/s is probably much to fast. Examination of the detailed output shows a depth in the section of about 7.5 ft for the 28,000 cfs flow in the 100-yr. For the channel section described (about 330 ft wide average at 7.5 ft depth), the cross sectional area is 2475 sq. ft. Therefore, the average flow velocity would be about 11 ft/s. Remembering that the wave celerity for a trapezoidal channel is something like 1.6 then the travel time we should expect would be about 17-18 ft/sec. The routing reach length is 9552 ft. Therefore, the travel time for the 100-yr flood wave should be about 546 seconds or about 9 minutes. The travel time shown in the HEC-1 model is 0.08 hours or one time step (in this case 5 minutes). So, the HEC-1 model is making it a little too fast. However, a quick trial of NSTEPS from 1 to 10 yielded the same HEC-1 time. Therefore, no change to the model is recommended.

11. The exhibits are fine, but shouldn't they also be produced on a much larger scale for use by others?

Response: We will produce a 24" x 36" set of the figures for inclusion in the TDN.

12. Do we need a HIS type submittal for this watershed to be a part of our GIS database?

Response: The only part of the ADMP scope that calls for HIS submittal was the FDS delineation areas. Therefore, no formal HIS submittal will be made for Lower Skunk Creek. However, all of the pertinent shapefiles used in the development of the hydrology will be included on a CD in the TDN for your use and future reference.

Sincerely,
JE Fuller/Hydrology & Geomorphology, Inc.

Ted Lehman, P.E.

CC: File
Appendix B of Final TDN

Flood Control District of Maricopa County
2801 West Durango Street
Phoenix, Arizona 85009-6399
(602) 506-1501
FAX: (602) 506-4601
TT: (602) 506-5897
www.fcd.maricopa.gov

DATE: July 22, 2003

MEMO TO: Afshin Ahouraiyan, Project Manager

FROM: David Degerness, P.E.

SUBJECT: Lower Skunk Creek Hydrology, Part 3, Volume 4

I have finished my review of the above referenced report and I have the following comments.

1. Page 12, first paragraph. Index storms "greater than" 90 square miles were removed from the models. Sentence currently states that storms "less than" 90 square miles were removed.

2. Page 15 describes retention in the watershed. The methodology is fine, but I think to clarify the procedure, you should state that the volume calculation used formula 3.4 from the FCD Hydrology Manual. Is it expected to be 100% effective? In past experiences I have seen 80-85% effective retention.

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very fast, even for the channelized/levee section of Skunk Creek. All other routings have more reasonable routing velocities for all the models.

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July 2, 2003

TRANSMITTAL

Afhsin Ahouraiyan
Dave Degerness
Flood Control District of Maricopa County
2801 W. Durango Street
Phoenix, AZ 85009

Afshin/Dave,

Attached are the following materials provided by JEFuller/ Hydrology & Geomorphology, Inc.:

Two copies of the Technical Data Notebook for the Lower Skunk Creek Hydrology for your review. Please note the following items:

1) The inflows for Buchanan Wash in the future condition models are identical to the existing conditions. This is due to the fact that the future condition modeling is not quite complete. The Buchanan Wash future conditions and other hydrology are anticipated for delivery to you at the progress meeting next week. For the purposes of this review document for Lower Skunk Creek, it is not believed that the differences in the existing vs. future Buchanan Wash inflows will have a very big effect on the Lower Skunk Creek results. The inflows for Buchanan are hydraulically controlled by a set of culverts under the CAP. The impoundment head is quite high, well above the top of the culverts. Therefore, the rating curves for their outflow don't change very rapidly with changes in depth for these large impoundment depths (something on the order of 16 feet depth for the existing conditions). Moreover, the total outflows are relatively small compared to the flows in Skunk Creek.
2) I have not printed the reams of HEC-1 output for this review submittal. The output are provided as PDF format on the CD enclosed in the TDNs. In addition, the DDMSW backup files and HEC-1 DAT files are provided for your use in the review.
3) Finally the CD also includes the shapefiles for the subbasin boundaries, Tc & routing paths, as well as the land use polygons for your reference in GIS.

If there are additional data you need to help with your review or if you should have any questions, please let me know.

Sincerely,
JE Fuller/Hydrology & Geomorphology, Inc.

Ted Lehman, P.E.

Appendix C

Mapping & Survey

The mapping used in this study was performed under separate contracts with the Flood Control District. Refer to the Flood Control District for more information.

Appendix D

Supporting Documentation for Hydrology

D.1 PREFRE Output

```
                    *** O U T P U T   D A T A ***
    REVISED JUNE 1988 TO UPDATE COMPUTATION OF SHORT-DURATION VALUES

   PRECIPITATION FREQUENCY VALUES FOR Lower Skunk Creek Hydrology,
    PRIMARY ZONE NUMBER=   7
    SHORT-DURATION ZONE NUMBER=   8
```

POINT VALUES

RETURN PERIOD

DURATION	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR	
5-MIN	.30	.40	.47	.57	.64	.71	.88	5-MIN
10-MIN	.46	.61	.72	.87	.98	1.09	1.36	10-MIN
15-MIN	.55	.76	.91	1.10	1.25	1.40	1.75	15-MIN
30-MIN	.73	1.02	1.22	1.49	1.70	1.90	2.38	30-MIN
1-HR	.89	1.26	1.51	1.85	2.12	2.38	2.99	1-HR
2-HR	1.00	1.41	1.69	2.07	2.37	2.66	3.34	2-HR
3-HR	1.07	1.51	1.81	2.22	2.53	2.85	3.57	3-HR
6-HR	1.20	1.70	2.03	2.49	2.85	3.20	4.01	6-HR
12-HR	1.35	1.93	2.31	2.84	3.25	3.65	4.59	12-HR
24-HR	1.50	2.15	2.59	3.18	3.64	4.10	5.16	24-HR

```
 * IF YOUR SITE IS IN ARIZONA OR NEW MEXICO, PLEASE CONSULT THE
   FOLLOWING PAPER FOR REVISED DEPTH-AREA VALUES:
     DEPTH-AREA RATIOS IN THE SEMI-ARID SOUTHWEST UNITED STATES
     NOAA TECHNICAL MEMORANDUM NWS HYDRO-40
     ZEHR AND MYERS
     AUGUST 1984


              INPUT DATA

PROJECT NAME=Lower Skunk Creek Hydrology,
ZONE= 7    SHORT-DURATION ZONE= 8
LATITUDE=    .00    LONGITUDE= 100.00    ELEVATION=    0
2-YR, 6-HR PCPN= 1.20    100-YR, 6-HR PCPN= 3.20
2-YR, 24-HR PCPN= 1.50    100-YR, 24-HR PCPN= 4.10


         * * * *  E N D   OF   R U N  * * * *
```

D.2. Subbasin Soil Data

(DDMSW Report Output)

Soil Data

	Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
Major Basin	**01**							
	LS-1	Aguila/Carefree	1	0.015	0.6	0.41		
		Aguila/Carefree	110	0.158	6.4	0.13		
		Aguila/Carefree	112	0.220	8.9	0.39		
		Aguila/Carefree	118	0.087	3.5	0.42		
		Aguila/Carefree	12	0.656	26.6	0.01		
		Aguila/Carefree	18	0.883	35.8	0.33	15.0	100
		Aguila/Carefree	2	0.012	0.5	0.41		
		Aguila/Carefree	3	0.036	1.5	0.58		
		Aguila/Carefree	44	0.051	2.1	0.03		
		Aguila/Carefree	55	0.011	0.5	0.27		
		Aguila/Carefree	75	0.152	6.1	0.23		
		Aguila/Carefree	98	0.005	0.2	0.37		
		Central County	ABA	0.017	0.7	0.38		
		Central County	AGB	0.008	0.3	0.40		
		Central County	CO	0.000		0.29	20.0	100
		Central County	GE	0.003	0.1	0.26		
		Central County	LCA	0.008	0.3	0.25		
		Central County	MA	0.044	1.8	0.40		
		Central County	RS	0.071	2.9	0.40	65.0	100
		Central County	TD	0.014	0.6	1.20		
		Central County	TSC	0.021	0.9	0.14		
	LS-10	Central County	CB	0.002	0.8	0.40		
		Central County	GXA	0.024	9.3	0.23		
		Central County	GYD	0.050	19.4	0.26		
		Central County	LCA	0.069	26.9	0.25		
		Central County	MA	0.005	1.8	0.40		
		Central County	RBA	0.009	3.6	0.26		
		Central County	RS	0.029	11.1	0.40	65.0	100
		Central County	TH	0.038	14.6	0.04		
		Central County	TSC	0.001	0.4	0.14		
		Central County	TW	0.022	8.7	0.05		
		Central County	VF	0.009	3.4	0.01		
	LS-11	Central County	ABA	0.016	0.5	0.38		
		Central County	AE	0.096	3.4	0.39		
		Central County	AFA	0.137	4.8	0.38		
		Central County	CO	0.018	0.6	0.29	20.0	100
		Central County	ES	0.008	0.3	0.25		
		Central County	GGA	0.047	1.7	0.25		
		Central County	GXA	0.127	4.5	0.23		
		Central County	GXB	0.036	1.3	0.24		
		Central County	LCA	0.824	29.0	0.25		
		Central County	MP	0.063	2.2	0.25		
		Central County	PEA	0.113	4.0	0.37		

* Custom Value (not default value)

Soil Data

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
LS-11	Central County	RBA	0.542	19.1	0.26		
	Central County	RBB	0.013	0.5	0.25		
	Central County	RS	0.623	21.9	0.40	65.0	100
	Central County	TD	0.044	1.5	1.20		
	Central County	TH	0.040	1.4	0.04		
	Central County	TU	0.068	2.4	0.25		
	Central County	VE	0.014	0.5	0.25		
	Central County	VF	0.009	0.3	0.01		
LS-2	Central County	AA	0.005	0.6	0.26		
	Central County	ABA	0.022	2.3	0.38		
	Central County	AFA	0.007	0.7	0.38		
	Central County	AGB	0.083	8.8	0.40		
	Central County	CV	0.006	0.6	0.39		
	Central County	ES	0.000		0.25		
	Central County	GGA	0.024	2.6	0.25		
	Central County	LCA	0.036	3.8	0.25		
	Central County	MA	0.175	18.5	0.40		
	Central County	MP	0.015	1.6	0.25		
	Central County	PEA	0.006	0.7	0.37		
	Central County	RBA	0.006	0.7	0.26		
	Central County	RS	0.048	5.0	0.40	65.0	100
	Central County	TD	0.067	7.1	1.20		
	Central County	TH	0.042	4.4	0.04		
	Central County	TPB	0.049	5.1	0.12		
	Central County	TSC	0.321	34.0	0.14		
	Central County	VA	0.033	3.5	0.39		
LS-3	Central County	CO	0.058	10.6	0.29	20.0	100
	Central County	CV	0.129	23.7	0.39		
	Central County	LCA	0.043	7.9	0.25		
	Central County	RS	0.261	48.1	0.40	65.0	100
	Central County	TSC	0.053	9.7	0.14		
LS-4	Aguila/Carefree	101	0.017	0.9	0.28		
	Aguila/Carefree	18	0.539	29.1	0.33	15.0	100
	Aguila/Carefree	98	0.010	0.5	0.37		
	Central County	CO	0.164	8.9	0.29	20.0	100
	Central County	CV	0.299	16.1	0.39		
	Central County	GN	0.121	6.5	0.25		
	Central County	GYD	0.029	1.5	0.26		
	Central County	LCA	0.000		0.25		
	Central County	MP	0.089	4.8	0.25		
	Central County	MTB	0.069	3.7	0.15		
	Central County	PRB	0.073	4.0	0.28		
	Central County	PT	0.141	7.6	0.40		
	Central County	RS	0.300	16.2	0.40	65.0	100

* Custom Value (not default value)

Soil Data

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
LS-5	Central County	CV	0.090	7.0	0.39		
	Central County	GGA	0.006	0.5	0.25		
	Central County	GN	0.068	5.3	0.25		
	Central County	GXA	0.003	0.2	0.23		
	Central County	LCA	0.584	45.6	0.25		
	Central County	MP	0.200	15.6	0.25		
	Central County	PRB	0.021	1.6	0.28		
	Central County	PT	0.032	2.5	0.40		
	Central County	RBA	0.217	17.0	0.26		
	Central County	TH	0.025	2.0	0.04		
	Central County	TSC	0.021	1.6	0.14		
	Central County	VF	0.013	1.0	0.01		
LS-6	Central County	CO	0.055	7.0	0.29	20.0	100
	Central County	CV	0.027	3.4	0.39		
	Central County	LCA	0.371	46.8	0.25		
	Central County	LCB	0.006	0.7	0.25		
	Central County	MP	0.060	7.6	0.25		
	Central County	PEA	0.028	3.5	0.37		
	Central County	PRB	0.024	3.0	0.28		
	Central County	PT	0.001	0.1	0.40		
	Central County	RS	0.220	27.8	0.40	65.0	100
LS-7	Aguila/Carefree	101	0.044	7.3	0.28		
	Aguila/Carefree	21	0.009	1.5	0.38		
	Aguila/Carefree	98	0.005	0.8	0.37		
	Central County	CV	0.109	18.3	0.39		
	Central County	LCA	0.319	53.5	0.25		
	Central County	MP	0.000	0.1	0.25		
	Central County	PRB	0.009	1.5	0.28		
	Central County	PT	0.101	16.9	0.40		
LS-8	Central County	GGA	0.000		0.25		
	Central County	LCA	0.064	11.2	0.25		
	Central County	MP	0.168	29.7	0.25		
	Central County	RBA	0.231	40.7	0.26		
	Central County	TH	0.024	4.2	0.04		
	Central County	TU	0.066	11.7	0.25		
	Central County	VF	0.014	2.5	0.01		
LS-9	Central County	AA	0.041	9.0	0.26		
	Central County	ABA	0.011	2.3	0.38		
	Central County	AFA	0.002	0.5	0.38		
	Central County	CB	0.007	1.4	0.40		
	Central County	GGA	0.043	9.4	0.25		
	Central County	GYD	0.062	13.7	0.26		
	Central County	LCA	0.013	2.8	0.25		
	Central County	MA	0.052	11.4	0.40		

* Custom Value (not default value)

Soil Data

Sub Basin ID	Soil Survey	Map Unit	Area	Area Pct (%)	XKSAT	Rock Outcrop (%)	Effective (%)
LS-9	Central County	PEA	0.039	8.6	0.37		
	Central County	RBA	0.001	0.3	0.26		
	Central County	RS	0.061	13.5	0.40	65.0	100
	Central County	TD	0.000		1.20		
	Central County	TH	0.000		0.04		
	Central County	TSC	0.081	17.9	0.14		
	Central County	TU	0.003	0.6	0.25		
	Central County	VF	0.038	8.3	0.01		

* Custom Value (not default value)

D.3. Subbasin Land Use Data

D.3.1 Existing Land Use Data

D.3.2 Future Land Use Data

Subbasin ID	Land Use Code	Area (sq.mi.)	Area (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kb Type	Kb
LS-1	NHS	0.933	37.8	Normal	25	0	0.15	Hi	0.081
LS-1	NDR	0.620	25.1	Normal	25	0	0.35	Low	0.044
LS-1	VLDR	0.457	18.5	Normal	20	5	0.30	Low	0.046
LS-1	MDR	0.371	15.0	Normal	50	30	0.25	Low	0.047
LS-1	COMM	0.062	2.5	Normal	75	80	0.10	Min	0.03
LS-1	LANDFILL	0.019	0.8	Normal	0	0	0.15	Low	0.065
LS-1	LDR	0.007	0.3	Normal	50	15	0.30	Low	0.071
LS-10	MDR	0.211	82.0	Normal	50	30	0.25	Low	0.051
LS-10	NHS	0.024	9.3	Normal	25	0	0.15	Hi	0.12
LS-10	NDR	0.022	8.7	Normal	25	0	0.35	Low	0.064
LS-11	NDR	1.420	50.0	Normal	25	0	0.35	Low	0.039
LS-11	PARK	0.805	28.3	Normal	60	0	0.20	Hi	0.082
LS-11	NHS	0.592	20.8	Normal	25	0	0.15	Hi	0.086
LS-11	LDR	0.022	0.8	Normal	50	15	0.30	Low	0.064
LS-11	HDR	0.000	0.0	Normal	50	40	0.25	Low	0.09
LS-11	COMM	0.000	0.0	Normal	75	80	0.10	Min	0.046
LS-2	LANDFILL	0.458	48.4	Normal	0	0	0.15	Low	0.046
LS-2	NDR	0.403	42.6	Normal	25	0	0.35	Low	0.047
LS-2	NHS	0.042	4.4	Normal	25	0	0.15	Hi	0.114
LS-2	COMM	0.041	4.4	Normal	75	80	0.10	Min	0.031
LS-2	MDR	0.001	0.1	Normal	50	30	0.25	Low	0.081
LS-2	HDR	0.000	0.0	Normal	50	40	0.25	Low	0.096
LS-3	NHS	0.352	64.8	Normal	25	0	0.15	Hi	0.091
LS-3	LANDFILL	0.096	17.7	Normal	0	0	0.15	Low	0.055
LS-3	SCHOOL	0.095	17.5	Normal	50	30	0.25	Low	0.055
LS-3	MDR	0.000	0.0	Normal	50	30	0.25	Low	0.096
LS-4	NHS	0.796	43.0	Normal	25	0	0.15	Hi	0.082
LS-4	MDR	0.590	31.9	Normal	50	30	0.25	Low	0.045
LS-4	LDR	0.280	15.2	Normal	50	15	0.30	Low	0.049
LS-4	NDR	0.146	7.9	Normal	25	0	0.35	Low	0.053
LS-4	SCHOOL	0.038	2.1	Normal	50	30	0.25	Low	0.061
LS-5	MDR	0.706	55.1	Normal	50	30	0.25	Low	0.043
LS-5	LDR	0.297	23.2	Normal	50	15	0.30	Low	0.049
LS-5	NDR	0.247	19.3	Normal	25	0	0.35	Low	0.05
LS-5	COMM	0.029	2.3	Normal	75	80	0.10	Min	0.032
LS-5	NHS	0.001	0.1	Normal	25	0	0.15	Hi	0.157
LS-6	NHS	0.255	32.2	Normal	25	0	0.15	Hi	0.095
LS-6	NDR	0.240	30.3	Normal	25	0	0.35	Low	0.05
LS-6	LDR	0.228	28.8	Normal	50	15	0.30	Low	0.05
LS-6	MDR	0.066	8.3	Normal	50	30	0.25	Low	0.058
LS-6	PARK	0.003	0.4	Normal	60	0	0.20	Hi	0.143
LS-7	NDR	0.296	49.7	Normal	25	0	0.35	Low	0.049
LS-7	LDR	0.282	47.3	Normal	50	15	0.30	Low	0.049
LS-7	PARK	0.018	3.0	Normal	60	0	0.20	Hi	0.124
LS-7	MDR	0.000	0.0	Normal	50	30	0.25	Low	0.092
LS-8	MDR	0.383	67.6	Normal	50	30	0.25	Low	0.047
LS-8	HDR	0.130	22.9	Normal	50	40	0.25	Low	0.054
LS-8	SCHOOL	0.022	3.9	Normal	50	30	0.25	Low	0.064
LS-8	COMM	0.017	2.9	Normal	75	80	0.10	Min	0.034
LS-8	NDR	0.014	2.5	Normal	25	0	0.35	Low	0.067
LS-8	PARK	0.001	0.1	Normal	60	0	0.20	Hi	0.162
LS-9	LANDFILL	0.243	53.9	Normal	0	0	0.15	Low	0.05
LS-9	NDR	0.089	19.7	Normal	25	0	0.35	Low	0.056
LS-9	PARK	0.065	14.5	Normal	60	0	0.20	Hi	0.109
LS-9	NHS	0.053	11.8	Normal	25	0	0.15	Hi	0.112
LS-9	MDR	0.001	0.2	Normal	50	30	0.25	Low	0.085

Subbasin ID	Land Use Code	Area (sq.mi.)	Area (%)	DTHETA Condition	Vegetation Cover (%)	RTIMP (%)	IA (in)	Kb Type	Kb
LS-1	NHS	0.933	37.8	Normal	25	0	0.15	Hi	0.081
LS-1	VLDR	0.648	26.2	Normal	20	5	0.30	Low	0.044
LS-1	NDR	0.429	17.4	Normal	25	0	0.35	Low	0.046
LS-1	MDR	0.371	15.0	Normal	50	30	0.25	Low	0.047
LS-1	COMM	0.062	2.5	Normal	75	80	0.10	Min	0.030
LS-1	LANDFILL	0.019	0.8	Normal	0	0	0.15	Low	0.065
LS-1	LDR	0.007	0.3	Normal	50	15	0.30	Low	0.071
LS-10	MDR	0.211	82.0	Normal	50	30	0.25	Low	0.051
LS-10	NHS	0.024	9.3	Normal	25	0	0.15	Hi	0.120
LS-10	NDR	0.022	8.7	Normal	25	0	0.35	Low	0.064
LS-11	NDR	1.420	49.9	Normal	25	0	0.35	Low	0.039
LS-11	PARK	0.805	28.3	Normal	60	0	0.20	Hi	0.082
LS-11	NHS	0.592	20.8	Normal	25	0	0.15	Hi	0.086
LS-11	LDR	0.022	0.8	Normal	50	15	0.30	Low	0.064
LS-11	LANDFILL	0.007	0.2	Normal	0	0	0.15	Low	0.071
LS-11	HDR	0.000	0.0	Normal	50	40	0.25	Low	0.090
LS-11	COMM	0.000	0.0	Normal	75	80	0.10	Min	0.046
LS-2	LANDFILL	0.458	47.1	Normal	0	0	0.15	Low	0.046
LS-2	NDR	0.265	27.2	Normal	25	0	0.35	Low	0.049
LS-2	COMM	0.206	21.2	Normal	75	80	0.10	Min	0.027
LS-2	NHS	0.042	4.3	Normal	25	0	0.15	Hi	0.114
LS-2	MDR	0.001	0.1	Normal	50	30	0.25	Low	0.081
LS-2	HDR	0.000	0.0	Normal	50	40	0.25	Low	0.096
LS-3	NHS	0.352	64.8	Normal	25	0	0.15	Hi	0.091
LS-3	LANDFILL	0.096	17.7	Normal	0	0	0.15	Low	0.055
LS-3	SCHOOL	0.095	17.5	Normal	50	30	0.25	Low	0.055
LS-3	MDR	0.000	0.0	Normal	50	30	0.25	Low	0.096
LS-4	NHS	0.796	43.0	Normal	25	0	0.15	Hi	0.082
LS-4	MDR	0.719	38.9	Normal	50	30	0.25	Low	0.043
LS-4	LDR	0.297	16.0	Normal	50	15	0.30	Low	0.049
LS-4	SCHOOL	0.038	2.1	Normal	50	30	0.25	Low	0.061
LS-5	MDR	0.706	55.1	Normal	50	30	0.25	Low	0.043
LS-5	LDR	0.297	23.2	Normal	50	15	0.30	Low	0.049
LS-5	NDR	0.247	19.3	Normal	25	0	0.35	Low	0.050
LS-5	COMM	0.029	2.3	Normal	75	80	0.10	Min	0.032
LS-5	NHS	0.001	0.1	Normal	25	0	0.15	Hi	0.157
LS-6	NHS	0.255	32.2	Normal	25	0	0.15	Hi	0.095
LS-6	LDR	0.246	31.1	Normal	50	15	0.30	Low	0.050
LS-6	MDR	0.163	20.6	Normal	50	30	0.25	Low	0.052
LS-6	NDR	0.124	15.7	Normal	25	0	0.35	Low	0.054
LS-6	PARK	0.003	0.4	Normal	60	0	0.20	Hi	0.143
LS-7	LDR	0.298	50.0	Normal	50	15	0.30	Low	0.049
LS-7	MDR	0.268	44.9	Normal	50	30	0.25	Low	0.049
LS-7	PARK	0.018	3.0	Normal	60	0	0.20	Hi	0.124
LS-7	NDR	0.012	2.1	Normal	25	0	0.35	Low	0.068
LS-8	MDR	0.383	70.9	Normal	50	30	0.25	Low	0.047
LS-8	HDR	0.130	24.0	Normal	50	40	0.25	Low	0.054
LS-8	SCHOOL	0.022	4.1	Normal	50	30	0.25	Low	0.064
LS-8	NDR	0.004	0.8	Normal	25	0	0.35	Low	0.074
LS-8	PARK	0.001	0.1	Normal	60	0	0.20	Hi	0.162
LS-9	LANDFILL	0.243	53.9	Normal	0	0	0.15	Low	0.050
LS-9	NDR	0.089	19.7	Normal	25	0	0.35	Low	0.056
LS-9	PARK	0.065	14.5	Normal	60	0	0.20	Hi	0.109
LS-9	NHS	0.053	11.8	Normal	25	0	0.15	Hi	0.112
LS-9	MDR	0.001	0.2	Normal	50	30	0.25	Low	0.085

D.4. Subbasin Unit Hydrograph Data

(DDMSW Report Output)

Flood Control District of Maricopa County
LS_EX24 - Lower Skunk Creek Existing Conditions Hydrology

Sub Basin Data

6/27/2003

Basin: 01 | Storms: Multiple | Duration: 24 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
LS-1	2.47	3.10	190.6	190.6	Urban	0.048	0.24	0.19	6.60	0.15	15	**Tc (hrs)**	0.96	0.77	0.68	0.60	0.56	0.53
												Vel (f/s)	4.75	5.93	6.70	7.58	8.08	8.59
												R (hrs)	0.52	0.41	0.36	0.31	0.29	0.27
LS-2	0.95	2.41	31.2	31.2	Urban	0.043	0.23	0.25	4.80	0.28	7	**Tc (hrs)**	1.50	1.50	1.42	1.21	1.09	1.00
												Vel (f/s)	2.36	2.36	2.49	2.93	3.24	3.55
												R (hrs)	1.21	1.21	1.14	0.95	0.85	0.77
LS-3	0.54	1.18	144.6	144.6	Urban	0.072	0.17	0.25	4.30	0.41	39	**Tc (hrs)**	0.65	0.55	0.51	0.46	0.43	0.41
												Vel (f/s)	2.66	3.15	3.41	3.74	4.00	4.19
												R (hrs)	0.37	0.31	0.28	0.25	0.24	0.22
LS-4	1.85	2.79	229.6	226.0	Urban	0.053	0.22	0.25	4.35	0.43	29	**Tc (hrs)**	0.88	0.72	0.65	0.58	0.53	0.50
												Vel (f/s)	4.68	5.71	6.30	7.12	7.68	8.12
												R (hrs)	0.51	0.41	0.37	0.32	0.30	0.28
LS-5	1.28	2.18	22.9	22.9	Urban	0.040	0.28	0.25	4.90	0.33	22	**Tc (hrs)**	1.50	1.47	1.32	1.15	1.05	0.97
												Vel (f/s)	2.13	2.18	2.43	2.79	3.05	3.31
												R (hrs)	0.94	0.92	0.81	0.70	0.63	0.58
LS-6	0.79	2.45	35.1	35.1	Urban	0.056	0.26	0.25	4.50	0.38	26	**Tc (hrs)**	1.50	1.50	1.50	1.32	1.21	1.13
												Vel (f/s)	2.40	2.40	2.40	2.72	2.96	3.19
												R (hrs)	1.36	1.36	1.36	1.18	1.07	0.99
LS-7	0.60	2.65	49.0	49.0	Urban	0.046	0.32	0.25	4.50	0.39	7	**Tc (hrs)**	1.50	1.50	1.40	1.18	1.05	0.96
												Vel (f/s)	2.59	2.59	2.77	3.30	3.69	4.04
												R (hrs)	1.70	1.70	1.58	1.30	1.15	1.04
LS-8	0.57	1.42	26.8	26.8	Urban	0.044	0.25	0.25	5.10	0.31	33	**Tc (hrs)**	1.17	0.97	0.88	0.78	0.72	0.67
												Vel (f/s)	1.78	2.14	2.37	2.69	2.90	3.10
												R (hrs)	0.80	0.66	0.59	0.51	0.47	0.44
LS-9	0.45	1.80	27.8	27.8	Urban	0.057	0.20	0.25	5.20	0.24	9	**Tc (hrs)**	1.50	1.50	1.44	1.24	1.12	1.03
												Vel (f/s)	1.76	1.76	1.84	2.13	2.36	2.58

Sub Basin Data

Basin: 01 Storms: Multiple Duration: 24 Hour Loss Method: Green-Ampt Unit Hydrograph: Clark

	Sub Basin Parameters						Rainfall Losses						Return Period (Years)					
Sub Basin ID	Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		2	5	10	25	50	100
												R (hrs)	1.46	1.46	1.40	1.18	1.05	0.96
LS-10	0.26	1.05	274.2	253.0	Urban	0.054	0.25	0.25	5.80	0.22	32	**Tc (hrs)**	0.38	0.33	0.31	0.29	0.28	0.26
												Vel (f/s)	4.02	4.68	5.00	5.35	5.60	5.86
												R (hrs)	0.29	0.24	0.23	0.21	0.20	0.19
LS-11	2.84	1.89	21.1	21.1	Urban	0.052	0.27	0.25	4.55	0.38	14	**Tc (hrs)**	1.50	1.50	1.50	1.42	1.29	1.18
												Vel (f/s)	1.85	1.85	1.85	1.95	2.15	2.34
												R (hrs)	0.53	0.53	0.53	0.50	0.45	0.41

Sub Basin Data

Basin: 01 Storms: Multiple Duration: 24 Hour Loss Method: Green-Ampt Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
LS-1	2.47	3.10	190.6	190.6	Urban	0.048	0.24	0.19	6.60	0.15	15	**Tc (hrs)**	0.96	0.77	0.68	0.60	0.56	0.53
												Vel (f/s)	4.75	5.93	6.70	7.58	8.08	8.59
												R (hrs)	0.52	0.41	0.36	0.31	0.29	0.27
LS-2	0.95	2.41	31.2	31.2	Urban	0.039	0.19	0.25	4.80	0.30	20	**Tc (hrs)**	1.50	1.33	1.18	1.03	0.95	0.87
												Vel (f/s)	2.36	2.65	2.99	3.42	3.74	4.06
												R (hrs)	1.21	1.06	0.93	0.80	0.73	0.66
LS-3	0.54	1.18	144.6	144.6	Urban	0.072	0.17	0.25	4.30	0.41	39	**Tc (hrs)**	0.65	0.55	0.51	0.46	0.43	0.41
												Vel (f/s)	2.66	3.15	3.41	3.74	4.00	4.19
												R (hrs)	0.37	0.31	0.28	0.25	0.24	0.22
LS-4	1.85	2.79	229.6	226.0	Urban	0.053	0.22	0.25	4.35	0.43	31	**Tc (hrs)**	0.86	0.71	0.65	0.57	0.53	0.50
												Vel (f/s)	4.77	5.78	6.33	7.17	7.74	8.18
												R (hrs)	0.50	0.40	0.36	0.32	0.29	0.27
LS-5	1.28	2.18	22.9	22.9	Urban	0.040	0.28	0.25	4.90	0.33	22	**Tc (hrs)**	1.50	1.47	1.32	1.15	1.05	0.97
												Vel (f/s)	2.13	2.18	2.43	2.79	3.05	3.31
												R (hrs)	0.94	0.92	0.81	0.70	0.63	0.58
LS-6	0.79	2.45	35.1	35.1	Urban	0.056	0.25	0.25	4.50	0.39	30	**Tc (hrs)**	1.50	1.50	1.47	1.30	1.19	1.11
												Vel (f/s)	2.40	2.40	2.44	2.77	3.01	3.23
												R (hrs)	1.36	1.36	1.33	1.15	1.05	0.97
LS-7	0.60	2.65	49.0	49.0	Urban	0.046	0.28	0.25	4.50	0.42	21	**Tc (hrs)**	1.50	1.37	1.23	1.07	0.97	0.90
												Vel (f/s)	2.59	2.84	3.17	3.64	4.00	4.32
												R (hrs)	1.70	1.53	1.36	1.16	1.05	0.96
LS-8	0.57	1.42	26.8	26.8	Urban	0.045	0.25	0.25	5.10	0.31	32	**Tc (hrs)**	1.20	0.99	0.90	0.79	0.73	0.68
												Vel (f/s)	1.74	2.10	2.32	2.63	2.84	3.05
												R (hrs)	0.83	0.67	0.60	0.52	0.48	0.44
LS-9	0.45	1.80	27.8	27.8	Urban	0.057	0.20	0.25	5.20	0.24	9	**Tc (hrs)**	1.50	1.50	1.44	1.24	1.12	1.03
												Vel (f/s)	1.76	1.76	1.84	2.13	2.36	2.58

Sub Basin Data

Basin: 01 | Storms: Multiple | Duration: 24 Hour | Loss Method: Green-Ampt | Unit Hydrograph: Clark

Sub Basin ID	Sub Basin Parameters: Area (sq mi)	Length (mi)	Slope (ft/mi)	Adj Slope	Time-Area	Kb	Rainfall Losses: IA (in)	DTHETA	PSIF (in)	XKSAT (in/hr)	RTIMP (%)		Return Period (Years): 2	5	10	25	50	100
												R (hrs)	1.46	1.46	1.40	1.18	1.05	0.96
LS-10	0.26	1.05	274.2	253.0	Urban	0.054	0.25	0.25	5.80	0.22	32	**Tc (hrs)**	0.38	0.33	0.31	0.29	0.28	0.26
												Vel (f/s)	4.02	4.68	5.00	5.35	5.60	5.86
												R (hrs)	0.29	0.24	0.23	0.21	0.20	0.19
LS-11	2.84	1.89	21.1	21.1	Urban	0.052	0.27	0.25	4.55	0.38	14	**Tc (hrs)**	1.50	1.50	1.50	1.42	1.29	1.18
												Vel (f/s)	1.85	1.85	1.85	1.95	2.15	2.34
												R (hrs)	0.53	0.53	0.53	0.50	0.45	0.41

* Non default value

D.5. Routing Data

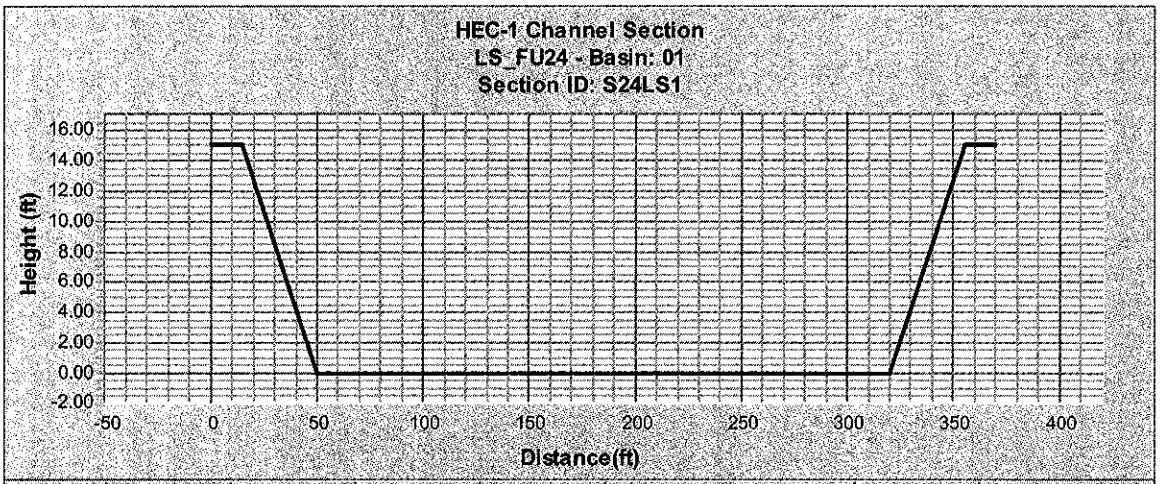
DDMSW Report Output

ALERT System Rating Curves for Adobe Dam

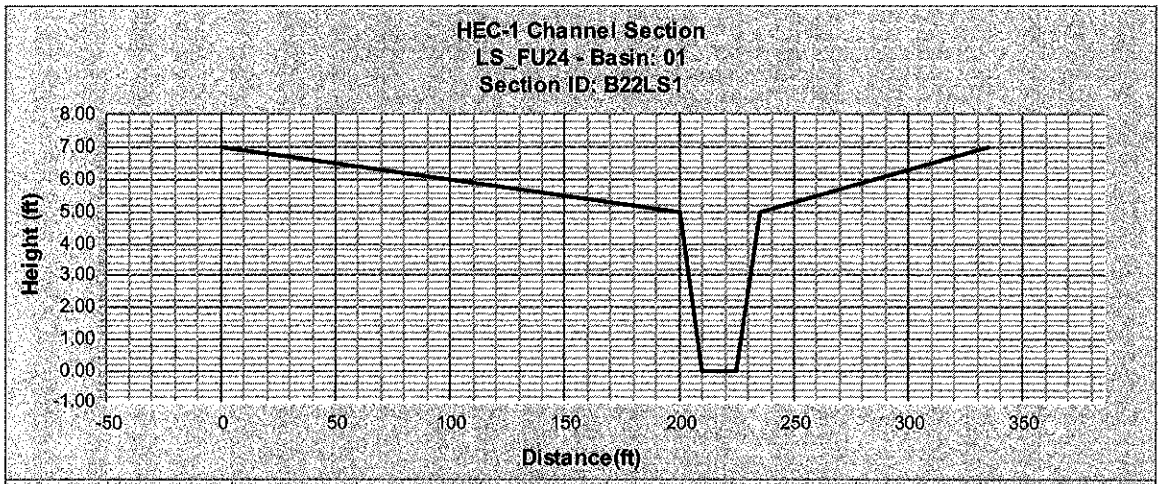
Routing Data - Normal Depth

		RS Card	RC Card						RX and RY Cards								
Basin	Reach ID	NSTPS	ANL	ANCH	ANR	RLNTH (ft)	SEL (ft/ft)	ELMAX		1	2	LB	4	5	RB	7	8
01	S24LS1	1	0.035	0.035	0.035	3394	0.0053	15.00	**Sta**	0.0	8.0	15.0	50.0	320.0	355.0	362.0	370.0
									Elev	15.0	15.0	15.0	0.0	0.0	15.0	15.0	15.0
01	B22LS1	5	0.055	0.040	0.055	10208	0.0040	7.00	**Sta**	0.0	100.0	200.0	210.0	225.0	235.0	285.0	335.0
									Elev	7.0	6.0	5.0	0.0	0.0	5.0	6.0	7.0
01	LS1LS2	3	0.035	0.035	0.035	9552	0.0063	15.00	**Sta**	0.0	8.0	15.0	50.0	320.0	355.0	362.0	370.0
									Elev	15.0	15.0	15.0	0.0	0.0	15.0	15.0	15.0
01	LS3LS5	4	0.080	0.040	0.080	8883	0.0040	6.00	**Sta**	0.0	100.0	200.0	220.0	370.0	390.0	490.0	590.0
									Elev	6.0	5.0	4.0	0.0	0.0	4.0	5.0	6.0
01	LS4LS5	2	0.080	0.040	0.080	6160	0.0040	6.00	**Sta**	0.0	100.0	200.0	220.0	370.0	390.0	490.0	590.0
									Elev	6.0	5.0	4.0	0.0	0.0	4.0	5.0	6.0

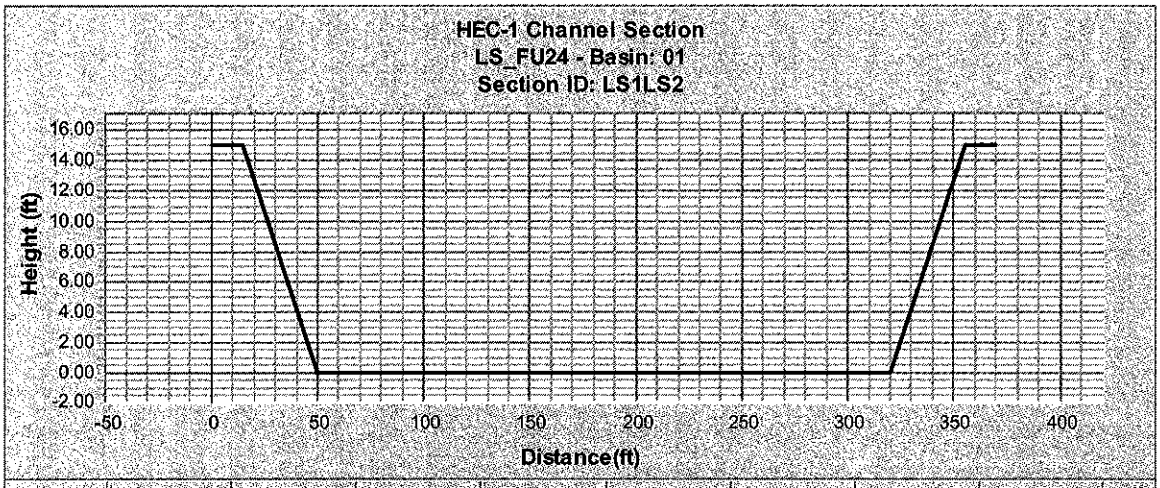
Hydrologic Routing Sections for Existing and Future Conditions



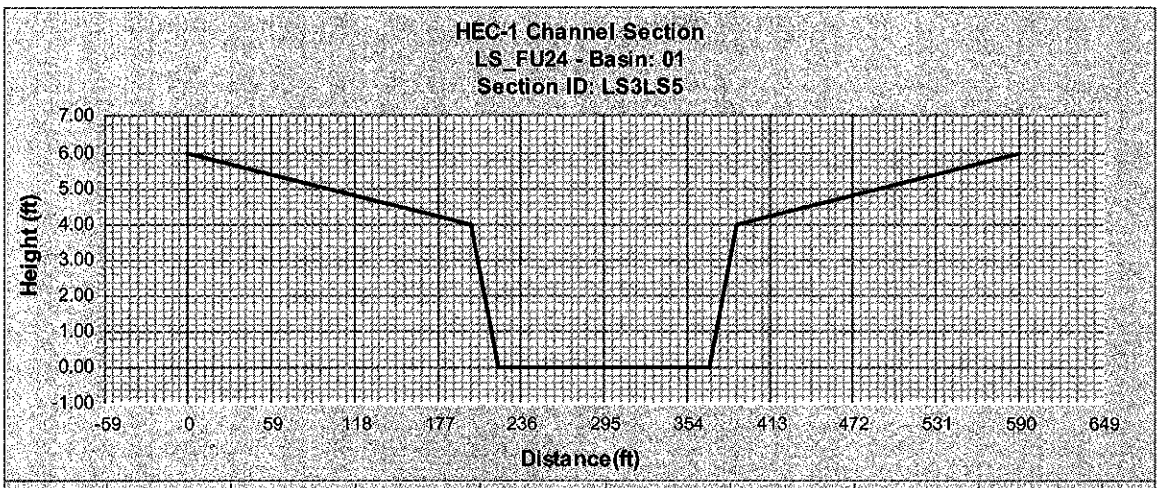
	1	2	3	4	5	6	7	8
1	0	8	15	50	320	355	362	370
	15.00	15.00	15.00	0.00	0.00	15.00	15.00	15.00



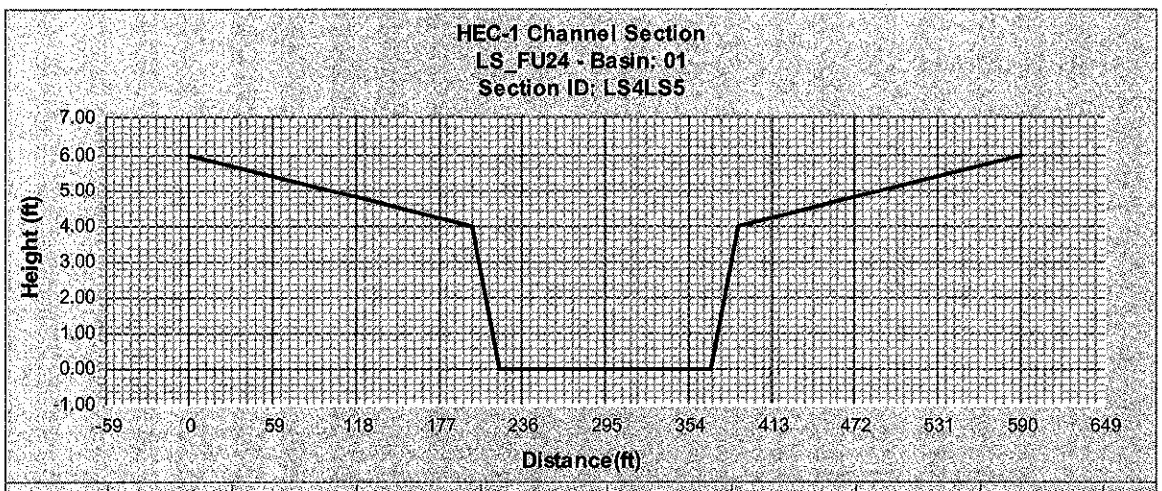
	1	2	3	4	5	6	7	8
1	0	100	200	210	225	235	285	335
	7.00	6.00	5.00	0.00	0.00	5.00	6.00	7.00



	1	2	3	4	5	6	7	8
1	0	8	15	50	320	355	362	370
	15.00	15.00	15.00	0.00	0.00	15.00	15.00	15.00



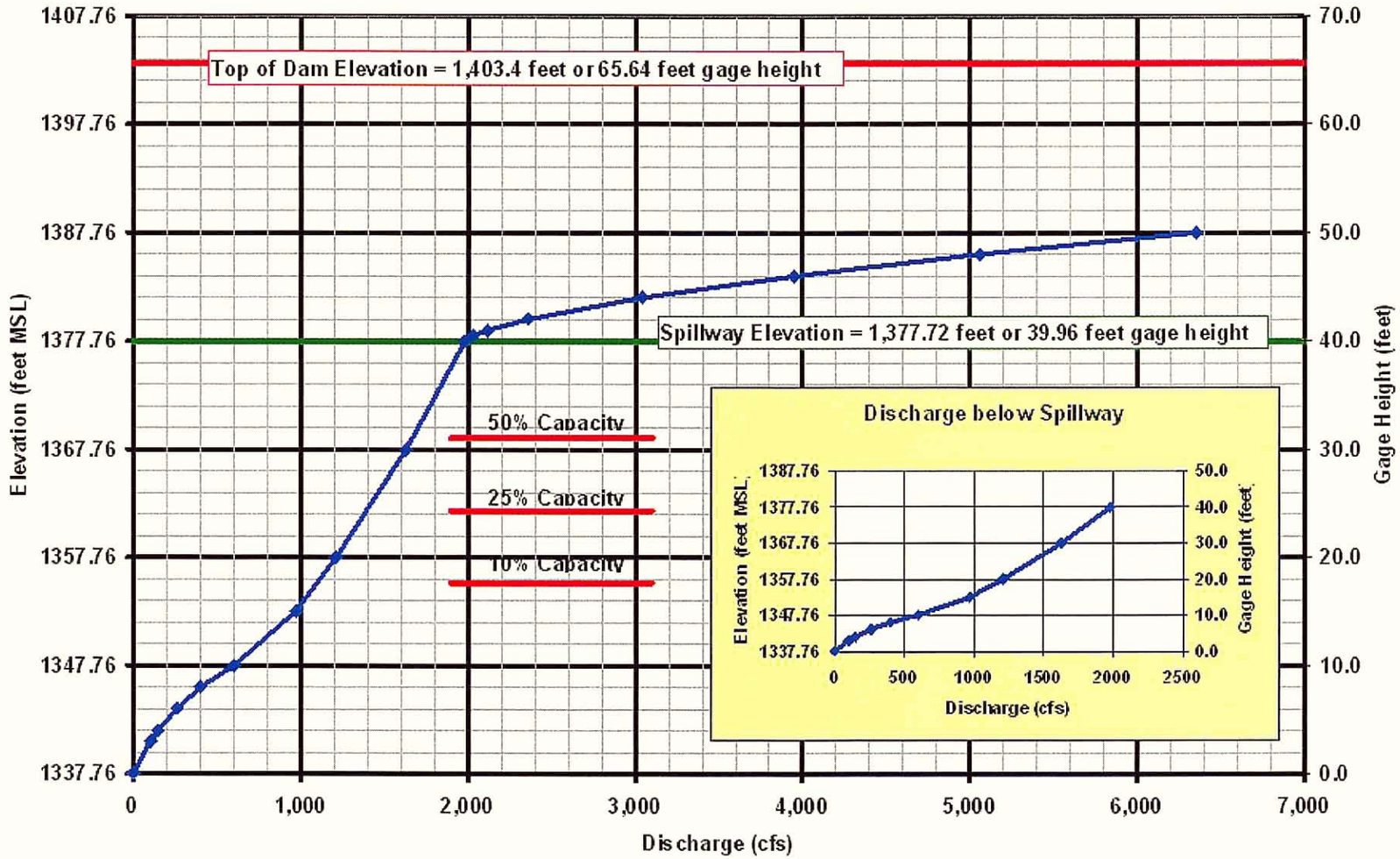
	1	2	3	4	5	6	7	8
1	0	100	200	220	370	390	490	590
	6.00	5.00	4.00	0.00	0.00	4.00	5.00	6.00



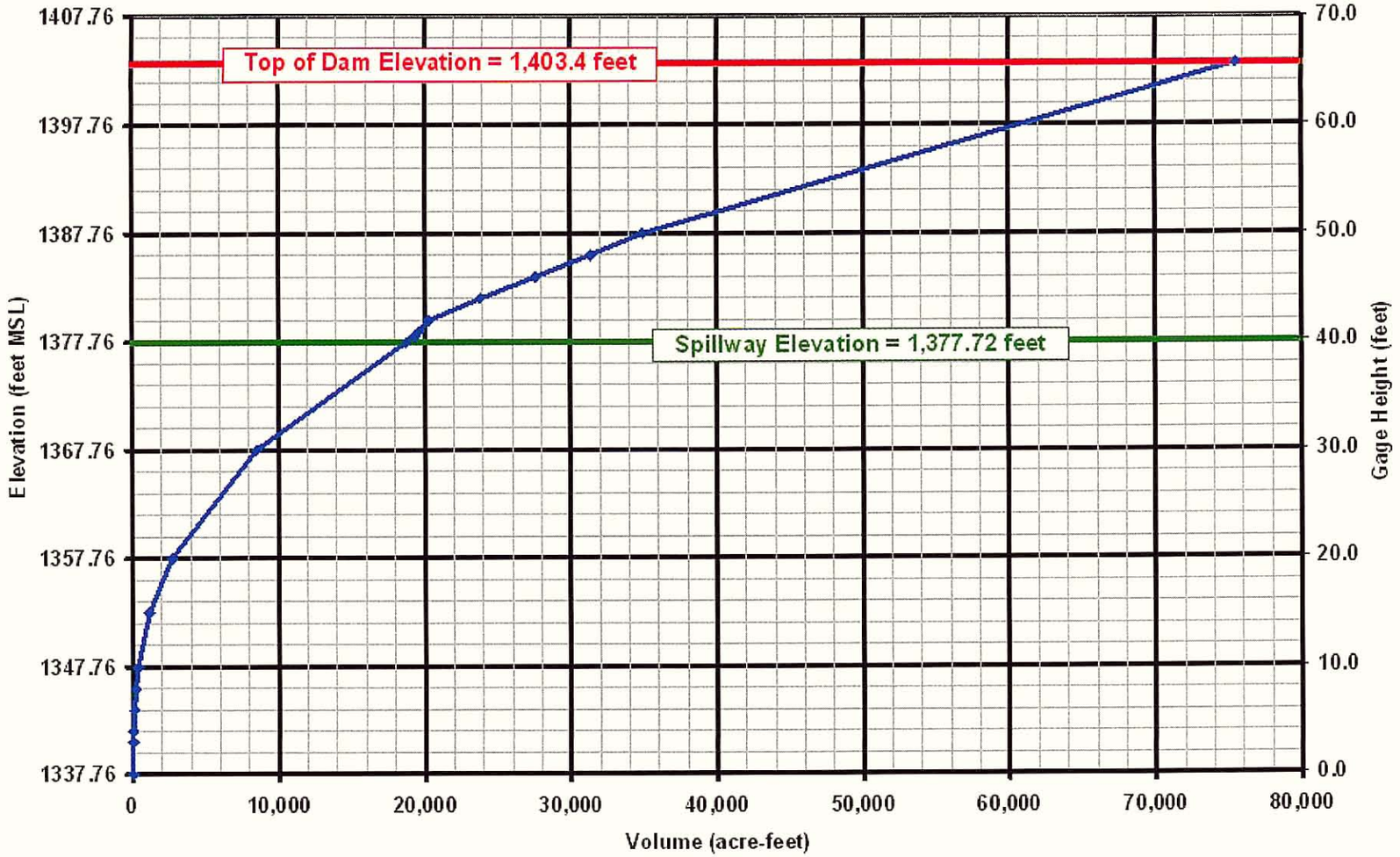
	1	2	3	4	5	6	7	8
— 1	0	100	200	220	370	390	490	590
	6.00	5.00	4.00	0.00	0.00	4.00	5.00	6.00

RATING TABLE FOR ADOBE DAM			
DISCHARGE RATING NUMBER 6, APPLIED AS OF MAY 7, 1997 CAPACITY RATING NUMBER 4, APPLIED AS OF MAY 7, 1997			
GAGE HEIGHT (FEET)	ELEVATION (FEET NGVD 29)	DISCHARGE (CFS)	VOLUME (ACRE-FEET)
0	1337.76	0	0
2	1339.76	0	0
5	1342.76	200	70
7	1344.76	339	154
10	1347.76	600	372
15	1352.76	970	1,154
20	1357.76	1,210	2,695
25	1362.76	1,429	5,068
30	1367.76	1,630	8,502
35	1372.76	1,810	13,100
40	1377.76	1,980	18,825
45	1382.76	3,471	26,896
50	1387.76	6,350	34,968
55	1392.76	6,350	47,757
60	1397.76	6,350	60,546
65	1402.76	6,350	73,335
Data from FCDMC ALERT web site: http://156.42.96.39/alert/Flow/pg_5534.htm			

Adobe Dam - Stage-Discharge Relation



Adobe Dam - Stage-Storage Relation



D.6. HEC-1 Output Files (included also as PDF files on CD)

- **D.6.1. 100-year 24-hour Existing Conditions**
- **D.6.2. 10-year 24-hour Existing Conditions**
- **D.6.3. 2-year 24-hour Existing Conditions**
- **D.6.4. 100-year 24-hour Future Conditions**
- **D.6.5. 10-year 24-hour Future Conditions**
- **D.6.6. 2-year 24-hour Future Conditions**

Lower Skunk Creek Hydrology
Existing Conditions Results

		100-year			10-year			2-year		
KK	Area	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume
ID	sq.mi.	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft
S23L	50.29	26513	14.17	4195	13417	14.17	2147	4712	14.08	815
C010	13.39	9824	12.83	1224	4852	13	641	2097	13.33	305
CAP	63.68	28959	14.08	5419	14941	14	2788	5509	13.5	1121
CAPR2	63.68	28717	14.33	5419	14758	14.17	2788	5412	13.75	1121
S24	0.64	1095	12.17	51	1095	12.17	51	1095	12.17	51
S24C	64.32	28717	14.33	5461	14758	14.17	2830	5412	13.75	1163
S24LS1	64.32	28595	14.42	5461	14690	14.25	2830	5334	13.83	1163
RRB22C	9.62	1242	15.42	1184	945	14.25	397	397	13.5	111
B22LS1	9.62	1239	16.5	1184	935	15.25	397	388	13.92	111
LS-1	2.47	3440	12.17	238	1204	12.17	83	344	12.17	24
RETLS1	2.47	3440	12.17	206	1172	12.25	51	0	0	0
LS1CR	12.09	3741	12.17	1384	1327	12.25	446	388	13.92	111
LS1C	76.41	29751	14.42	6818	15589	14.25	3266	5721	13.83	1273
LS1LS2	76.41	29633	14.5	6818	15441	14.42	3266	5604	14.17	1273
LS-2	0.94	575	12.42	71	201	12.42	25	58	12.42	7
LS2C	77.35	29685	14.5	6877	15461	14.42	3287	5612	14.17	1279
LS-3	0.54	810	12.17	64	283	12.17	22	81	12.17	6
LS3LS5	0.54	426	12.75	64	98	13.25	22	20	14	6
LS-4	1.85	2317	12.17	186	811	12.17	65	232	12.17	19
RETLS4	1.85	2317	12.17	123	6	21.17	3	0	0	0
LS4LS5	1.85	1525	12.58	123	6	24.42	3	0	0	0
LS-5	1.28	950	12.42	119	332	12.42	42	95	12.42	12
RETLS5	1.28	950	12.42	109	332	12.42	32	9	14.25	2
LS5C	3.67	2681	12.58	292	343	12.42	55	29	14.25	8
LS-6	0.79	410	12.5	78	144	12.5	27	41	12.5	8
LS-7	0.6	272	12.5	41	95	12.5	14	27	12.5	4
LS7C	1.39	676	12.5	117	237	12.5	41	68	12.5	12
LS-8	0.57	574	12.25	63	201	12.25	22	57	12.25	6
LS-9	0.45	247	12.5	37	87	12.5	13	25	12.5	4
LS-10	0.26	468	12.08	29	164	12.08	10	47	12.08	3
RET10	0.26	299	12.25	12	0	0	0	0	0	0
INFLOW	83.69	30083	14.5	7312	15601	14.42	3395	5654	14.17	1303
LS-11	2.84	2202	12.42	222	771	12.42	78	220	12.42	22
LS11C	86.53	30147	14.5	7500	15626	14.42	3461	5665	14.08	1322
ADOBE	86.53	1481	19.92	7500	1221	17.25	3461	870	16.42	1321

Lower Skunk Creek Hydrology
Future Conditions Results

		100-year			10-year			2-year		
KK	Area	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume	Peak Flow	Time to	Volume
ID	sq.mi.	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft	cfs	Peak(hrs)	ac-ft
S23L	50.29	24155	14.25	4871	12758	14.17	2644	5354	14.08	1186
C010	13.39	6098	13.17	862	717	13.42	179	52	14.92	12
CAP	63.68	26287	14.17	5733	13241	14.17	2823	5357	14.08	1198
CAPR2	63.68	26092	14.42	5733	13172	14.42	2823	5318	14.33	1198
S24	0.65	1334	12.08	79	467	12.08	28	133	12.08	8
S24C	64.33	26107	14.42	5801	13178	14.42	2847	5320	14.33	1205
S24LS1	64.33	26086	14.42	5801	13139	14.5	2847	5283	14.42	1205
RRB22C	9.62	934	15.67	489	13	19.92	18	0	0	0
B22LS1	9.62	927	16.67	489	12	21.83	18	0	0	0
LS-1	2.47	3440	12.17	238	1204	12.17	83	344	12.17	24
RETLS1	2.47	3440	12.17	206	1172	12.25	51	0	0	0
LS1CR	12.09	3358	12.17	688	1144	12.25	67	0	0	0
LS1C	76.42	26714	14.42	6462	13150	14.5	2904	5283	14.42	1205
LS1LS2	76.42	26608	14.58	6462	13073	14.67	2904	5201	14.67	1205
LS-2	0.94	681	12.42	88	238	12.42	31	68	12.42	9
RETLS2	0.94	681	12.42	77	231	12.5	20	0	0	0
LS2C	77.37	26656	14.58	6526	13088	14.67	2919	5201	14.67	1205
LS-3	0.54	810	12.17	64	283	12.17	22	81	12.17	6
LS3LS5	0.54	426	12.75	64	98	13.25	22	20	14	6
LS-4	1.85	2352	12.17	191	823	12.17	67	235	12.17	19
RETLS4	1.85	2232	12.25	117	0	0	0	0	0	0
LS4LS5	1.85	1146	12.67	117	0	0	0	0	0	0
LS-5	1.28	950	12.42	119	332	12.42	42	95	12.42	12
RETLS5	1.28	950	12.42	109	332	12.42	32	9	14.25	2
LS5C	3.67	2313	12.67	286	343	12.42	53	29	14.25	8
LS-6	0.79	423	12.5	82	148	12.5	29	42	12.5	8
RETLS6	0.79	423	12.5	73	147	12.58	20	0	0	0
LS-7	0.6	313	12.42	53	110	12.42	19	31	12.42	5
RETLS7	0.6	247	12.92	29	0	0	0	0	0	0
LS7C	1.39	615	12.92	101	147	12.58	20	0	0	0
LS-8	0.57	561	12.25	62	197	12.25	22	56	12.25	6
LS-9	0.45	247	12.5	37	87	12.5	13	25	12.5	4
LS-10	0.26	468	12.08	29	164	12.08	10	47	12.08	3
RET10	0.26	299	12.25	12	0	0	0	0	0	0
INFLOW	83.7	27047	14.58	6935	13191	14.67	3008	5221	14.67	1219
LS-11	2.84	2202	12.42	222	771	12.42	78	220	12.42	22
LS11C	86.54	27100	14.58	7123	13206	14.67	3074	5225	14.67	1238
ADOBE	86.54	1470	19.25	7123	1151	17.17	3074	809	16.75	1238

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1****************************************                                    ****************************************
*                                      *                                    *                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                                    *    U.S. ARMY CORPS OF ENGINEERS      *
*              JUN   1998              *                                    *    HYDROLOGIC ENGINEERING CENTER     *
*            VERSION 4.1               *                                    *          609 SECOND STREET           *
*                                      *                                    *       DAVIS, CALIFORNIA 95616        *
*  RUN DATE   13AUG03  TIME  15:32:08  *                                    *           (916) 756-1104             *
*                                      *                                    *                                      *
****************************************                                    ****************************************

                                        X     X  XXXXXXX   XXXXX           X
                                        X     X  X        X     X         XX
                                        X     X  X        X                X
                                        XXXXXXX  XXXX     X        XXXXX   X
                                        X     X  X        X                X
                                        X     X  X        X     X          X
                                        X     X  XXXXXXX   XXXXX         XXX

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL   LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1                                                HEC-1 INPUT                                                    PAGE  1

      LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

        1           ID       LOWER SKUNK CREEK HYDROLOGY                        FILENAME: LS10024E.DAT
        2           ID       FOR: ADOBE DAM / DESERT HILLS ADMP                 ORIGINAL: 06/13/03
        3           ID       AUG. 2003                                          REVISED:  08/13/03
        4           ID       BY: JE FULLER/ HYDROLOGY & GEOMORPHOLOGY, INC.
        5           ID
        6           ID    THIS IS THE 100-YEAR 24-HOUR MODEL FOR EXISTING CONDITIONS
        7           ID
        8           ID    MODEL BASIS:
        9           ID      * DDMSW PROJECT NAME: LS_EX24
       10           ID      * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
       11           ID      * MULTIPLE STORM OPTION (JD)
       12           ID      * GREEN & AMPT LOSS METHOD
       13           ID      * CLARK UNIT HYDROGRAPH METHOD
       14           ID      * TC & R COMPUTED WITH MCHUP1 THRU DDMSW 2.1.3
       15           ID      * MODIFIED PULS NORMAL-DEPTH CHANNEL ROUTING
       16           ID      * INFLOW HYDROGRAPHS AS QI RECORDS FROM:
       17           ID          * S23L - SKUNK CREEK - SKUNK CREEK WMP
       18           ID          * C010 - SONORAN (UNNAMED) WASH - SKUNK CREEK WMP
       19           ID          * RRB22C - BUCHANAN WASH - ADOBE ADMP PART 3, VOL. 3
       20           ID
                    *DIAGRAM
       21           IT       5 01JAN90    0000    2000
       22           IO       3
       23           IN      15
       24           JD    4.10    0.01
       25           PC   0.000   0.002   0.005   0.008   0.011   0.014   0.017   0.020   0.023   0.026
       26           PC   0.029   0.032   0.035   0.038   0.041   0.044   0.048   0.052   0.056   0.060
       27           PC   0.064   0.068   0.072   0.076   0.080   0.085   0.090   0.095   0.100   0.105
       28           PC   0.110   0.115   0.120   0.126   0.133   0.140   0.147   0.155   0.163   0.172
       29           PC   0.181   0.191   0.203   0.218   0.236   0.257   0.283   0.387   0.663   0.707
       30           PC   0.735   0.758   0.776   0.791   0.804   0.815   0.825   0.834   0.842   0.849
       31           PC   0.856   0.863   0.869   0.875   0.881   0.887   0.893   0.898   0.903   0.908
       32           PC   0.913   0.918   0.922   0.926   0.930   0.934   0.938   0.942   0.946   0.950
       33           PC   0.953   0.956   0.959   0.962   0.965   0.968   0.971   0.974   0.977   0.980
       34           PC   0.983   0.986   0.989   0.992   0.995   0.998   1.000
       35           JD   3.854   10.00
       36           JD   3.690   30.00
       37           JD   3.526   60.00
       38           JD   3.469   90.00
                    *
                    * ************************************************************************
                    *
                    *   INFLOW HYDROGRAPHS FOR SKUNK CREEK, SONORAN WASH, & SUBBASIN S24 FROM:
                    *      Skunk Creek Watercourse Master Plan                    File: SCE100.IH1
                    *           By: ASL Consulting Engineers                   Original: 09/01/1999
                    *          For: Flood Control District of Maricopa County   Revised: 01/03/2000
                    *
                    *        This is an Existing Condition Model.
                    *
                    *        Skunk Creek Watershed at the CAP Canal
                    *           This file is based on the original FIS HEC-1 model prepared by:
                    *
                    *                Montgomery Watson FCD 95-16
                    *                Skunk Creek Floodplain Delineation Study
                    *                Original model dated March 1996
                    *
                    *        Model Basis:
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*
*        * 100-year, 24-hr rainfall with SCS Type II Rainfall Distribution
*        * Green & Ampt Loss Rate Method
*        * NMIN = 5
*        * Phoenix Mountain, Desert/Rangeland and Phoenix Valley S-Graphs
*        * Muskingum channel routing for Skunk Creek watershed
*        * Modified Puls normal depth channel routing for Unnamed Wash watershed
*        * 200 Scale 2' CI mapping of Skunk Creek by Kenney Aerial Mapping
*        * 200 Scale 2' CI mapping of Unnamed Wash by Aerial Mapping Company
*        * The Montgomery Watson HEC-1 model structure is used for Skunk Creek.
*
1                                    HEC-1 INPUT                                    PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  39          KK    S23L
  40          KM     HYDROGRAPH FOR S23L FROM SKUNK CREEK WMP MODEL
  41          IN       5
  42          BA   50.29
  43          QI       0       0       0       0       0       0       0       0       0       0
  44          QI       0       0       0       0       0       1       2       3       4       6
  45          QI       8      11      15      18      23      27      32      37      42      47
  46          QI      51      56      60      64      67      70      73      75      77      79
  47          QI      80      81      82      83      83      84      84      84      84      84
  48          QI      84      84      84      84      84      84      85      85      85      85
  49          QI      85      85      86      86      87      88      89      91      92      94
  50          QI      95      97      99     100     102     103     105     106     107     108
  51          QI     109     110     111     111     112     112     112     113     113     114
  52          QI     115     115     116     118     119     120     122     124     125     127
  53          QI     129     130     132     133     134     136     137     138     138     139
  54          QI     140     141     142     143     144     146     148     151     154     157
  55          QI     161     166     170     175     180     184     189     193     198     202
  56          QI     206     211     216     223     231     241     260     281     317     383
  57          QI     463     598     788    1031    1349    1718    2182    2691    3259    3875
  58          QI    4531    5238    5987    6788    7661    8642    9726   10894   12125   13406
  59          QI   14735   16129   17590   19113   20675   22209   23635   24856   25790   26362
  60          QI   26513   26228   25511   24387   22904   21125   19133   17008   14839   12716
  61          QI   10712    8885    7271    5884    4723    3770    3004    2396    1919    1548
  62          QI    1259    1035     860     722     615     529     461     406     363     327
  63          QI     299     276     257     242     229     219     210     203     198     193
  64          QI     189     186     183     180     178     176     174     172     170     168
  65          QI     166     164     162     159     157     155     153     151     149     147
  66          QI     144     142     140     137     135     133     130     128     126     125
  67          QI     123     121     120     119     118     117     116     115     115     114
  68          QI     114     113     113     112     112     111     110     109     108     107
  69          QI     105     104     102     100      99      97      95      94      93      91
  70          QI      90      89      88      87      87      86      86      85      85      85
  71          QI      85      85      85      85      85      85      85      85      85      85
  72          QI      85      84      84      84      84      84      84      84      84      84
  73          QI      83      82      81      80      78      76      73      69      66      61
  74          QI      57      52      47      42      37      33      28      24      20      17
  75          QI      14      11       9       7       5       4       3       2       1       1
  76          QI       0       0       0       0       0       0       0       0       0       0
  77          QI       0       0       0       0       0       0       0       0       0       0
              *

  78          KK    C010
  79          KM     HYDROGRAPH FOR SONORAN WASH FROM SKUNK CREEK WMP
  80          IN       5
  81          BA   13.39
  82          QI       0       0       0       0       0       0       1       1       1       1
  83          QI       1       2       2       2       2       2       2       3       3       3
  84          QI       3       3       4       4       4       5       5       6       6       7
  85          QI       7       8       8       9       9      10      11      11      12      12
  86          QI      13      13      14      14      15      15      15      16      16      17
  87          QI      17      18      18      19      19      19      19      20      20      20
  88          QI      21      21      21      21      22      22      22      22      23      23
  89          QI      23      24      24      24      25      25      25      26      26      27
  90          QI      27      27      28      28      28      28      29      29      29      30
1                                    HEC-1 INPUT                                    PAGE  3

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  91          QI      30      31      32      32      33      33      33      34      34      35
  92          QI      35      35      36      36      36      37      37      37      38      38
  93          QI      39      39      40      41      41      42      43      44      44      45
  94          QI      46      47      48      49      50      51      52      54      56      58
  95          QI      62      68      76      86      97     110     126     144     167     219
  96          QI     351     566     925    1476    2335    3452    4208    4424    4405    4621
  97          QI    5508    6996    8527    9512    9824    9717    9318    8713    7983    7222
  98          QI    6552    5922    5279    4708    4261    3880    3494    3136    2831    2597
  99          QI    2366    2070    1667    1072     769     674     610     554     505     465
 100          QI     430     397     366     339     316     296     276     256     239     223
 101          QI     209     198     189     180     171     162     154     146     139     133
 102          QI     127     121     116     112     108     105     103     100      98      96
 103          QI      94      92      90      88      86      84      82      80      78      76
 104          QI      74      73      71      69      68      66      64      63      61      60
 105          QI      58      56      55      53      51      50      49      47      46      45
 106          QI      44      43      42      41      40      39      39      38      38      37
 107          QI      36      36      35      35      34      33      33      32      31      31
 108          QI      30      30      29      29      29      28      28      28      28      28
 109          QI      27      27      27      27      26      26      26      26      25      25
 110          QI      25      25      25      25      25      24      24      24      24      24
 111          QI      23      23      22      22      22      22      21      21      21      21
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 112          QI      21      20      20      20      20      19      19      19      18      18
 113          QI      18      17      17      16      16      15      14      14      13      13
 114          QI      12      12      11      10      10       9       9       8       8       7
 115          QI       7       7       6       6       5       5       5       4       4       4
 116          QI       4       3       3       3       3       2       2       2       2       2
 117          QI       2       1       1       1       1       1       1       1       1       1
 118          QI       1       0       0       0       0       0       0       0       0       0
 119          QI       0       0       0       0       0       0       0       0       0       0
              *

 120          KK     CAP
 121          KM    COMBINE S23L+C010 (SUBAREAS S1-S23, CLINE CR, RODGER CR & UNNAMED WASH)
 122          KM    COMBINED FLOW AT CAP OVERCHUTES
 123          HC       2   63.68
 124          ZW       C=FLOW      F=100EX
              *
              *  Note: FLO-2D model results in Attachment 7 of the Skunk Creek WMP show that
              *        during the 100-yr event some flows overtop I-17 to the west (6,400 cfs)
              *        along the CAP Canal east (100 cfs), and over the CAP embankment around
              *        the Skunk Creek and Sonoran Wash overchutes (6,100 cfs).  Moreover, the
              *        FLO-2D model suggests that the bulk of the flow returns to Skunk Creek
              *        by the time it gets to the I-17 crossing of Skunk Creek.
              *

 125          KK   CAPR2
 126          KM    ROUTE CAP OVERFLOW THROUGH S24 FROM CAP TO I-17
 127          RM       3    0.23    0.25
              *
1                                        HEC-1 INPUT                                          PAGE  4

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 128          KK     S24
 129          KM   BASIN S24
 130          KM    THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
 131          KM    L=      1.4  Lca=       .8   S=   38.0  Kn= .026  LAG=  19.0
 132          KM    DESERT/RANGELAND S-GRAPH WAS USED FOR THE BASIN
 133          BA     .64
 134          LG     .35     .30    8.00     .09     .00
 135          UI    140.    538.    935.   1070.    844.    535.    336.    212.    135.     82.
 136          UI     47.     28.     28.      0.      0.      0.      0.      0.      0.      0.
 137          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
              *

 138          KK    S24C
 139          KM     COMBINE ROUTED FLOWS FROM CAP WITH RUNOFF FROM S24 AT I-17
 140          HC       2
              *
              * ************************** END OF INPUT FROM SKUNK CREEK WMP *****************
              *

 141          KK  S24LS1   ROUTE   REACH
 142          KM    ROUTE COMBINED FLOWS AT I-17 TO CONFLUENCE WITH BUCHANAN WASH IN SKUNK CREEK
 143          RS       1    STOR      -1
 144          RC   0.035   0.035   0.035    3394  0.0053   15.00
 145          RX     0.0     8.0    15.0    50.0   320.0   355.0   362.0   370.0
 146          RY    15.0    15.0    15.0     0.0     0.0    15.0    15.0    15.0
              *
              *    FROM BUCHANAN HYDROLOGY BY JEF, INC. AUG. 2003
              *

 147          KK  RRB22C
 148          KM     INFLOWS FROM BUCHANAN WASH UNDER CAP
 149          KM       FROM BF10024E.DAT
 150          IN       5
 151          BA    9.62
 152          QI       0       0       0       0       0       0       0       0       0       0
 153          QI       0       0       0       0       1       1       1       1       1       1
 154          QI       1       1       1       2       2       2       2       2       2       2
 155          QI       2       2       2       2       3       3       3       3       3       3
 156          QI       3       3       3       3       3       3       3       3       3       3
 157          QI       3       3       3       4       4       4       4       4       4       4
 158          QI       4       4       4       4       4       4       4       4       4       4
 159          QI       4       4       4       4       4       4       4       5       5       5
 160          QI       5       5       5       5       5       5       5       5       5       5
 161          QI       5       5       5       5       6       6       6       6       6       6
 162          QI       6       6       7       7       8       9      10      11      12      13
 163          QI      15      16      18      20      22      25      28      34      40      47
 164          QI      55      65      75      85      93     102     111     121     131     140
 165          QI     150     160     172     185     200     213     234     257     285     310
 166          QI     336     381     427     497     549     594     661     747     803     835
 167          QI     872     908     934     964     998    1020    1040    1056    1073    1089
 168          QI    1106    1121    1137    1151    1161    1171    1180    1189    1196    1203
 169          QI    1207    1212    1216    1220    1223    1226    1229    1231    1234    1235
 170          QI    1237    1239    1240    1241    1241    1242    1242    1242    1242    1242
 171          QI    1241    1240    1240    1239    1237    1236    1235    1234    1232    1231
1                                        HEC-1 INPUT                                          PAGE  5

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 172          QI    1229    1228    1226    1224    1223    1221    1219    1217    1216    1214
 173          QI    1212    1210    1208    1206    1204    1202    1200    1197    1194    1191
 174          QI    1189    1186    1183    1180    1177    1174    1171    1168    1165    1162
 175          QI    1160    1157    1154    1151    1147    1143    1139    1135    1132    1128
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176          QI    1124    1120    1116    1112    1108    1104    1100    1096    1092    1089
177          QI    1085    1081    1077    1073    1069    1065    1061    1058    1054    1050
178          QI    1046    1042    1038    1034    1029    1024    1019    1013    1008    1003
179          QI     996     987     978     969     961     952     944     935     927     918
180          QI     910     902     889     875     862     848     835     822     809     790
181          QI     760     721     667     617     571     514     333      76      75      73
182          QI      72      70      68      66      64      62      60      56      53      51
183          QI      49      47      45      43      42      40      38      37      35      34
184          QI      32      31      30      29      27      27      25      24      23      22
185          QI      21      20      19      18      18      17      16      15      14      14
186          QI      13      12      12      11      11      10      10       9       9       9
187          QI       8       8       8       8       7       7       7       7       6       6
188          QI       6       6       6       5       5       5       5       5       5       5
189          QI       4       4       4       4       4       4       4       4       4       3
190          QI       3       3       3       3       3       3       3       3       3       2
191          QI       2       2       2       2       2       2       2       2       2       2
192          QI       2       1       1       1       1       1       1       1       1       1
193          QI       1       1       1       1       1       1       1       0       0       0
194          QI       0       0       0       0       0       0       0       0       0       0
195          QI       0       0       0       0       0       0       0       0       0       0
196          ZW       C=FLOW
             *
             *  THE REMAINING HEC-1 MODEL INPUT FROM ORIGINAL ADOBE DAM ADMP MODELING BY JEF
             *

197          KK  B22LS1   ROUTE   REACH
198          KM    ROUTE IMPORTED FLOWS IN BUCHANAN WASH FROM THE CAP TO SKUNK CREEK IN
199          KM    BUCHANAN WASH
200          RS       4    STOR      -1
201          RC   0.055   0.040   0.055   10208  0.0040    7.00
202          RX     0.0   100.0   200.0   210.0   225.0   235.0   285.0   335.0
203          RY     7.0     6.0     5.0     0.0     0.0     5.0     6.0     7.0
204          ZW       C=FLOW
             *

205          KK    LS-1   BASIN
206          BA   2.469
207          LG    0.24    0.19    6.60    0.15      15
208          UC   0.529   0.270
209          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
210          UA     100
             *

211          KK  RETLS1
212          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
213          KM      - 232 AC DEVELOPMENT WITH RETENTION
214          KM      - C FACTOR = 0.63
215          KM      - 100-YR 2-HR RAIN = 2.66"
216          DT   R1OUT    32.4
217          DI       0   10000
218          DQ       0   10000
             *
1                                        HEC-1 INPUT                                          PAGE  6

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

219          KK   LS1CR
220          KM     COMBINE RUNOFF FROM LS-1 WITH ROUTED FLOWS FROM BUCHANAN WASH AT CAP
221          KM     THIS IS THE TOTAL FLOW IN BUCHANAN WASH JUST U/S OF SKUNK CREEK
222          HC       2
             *

223          KK    LS1C
224          KM     COMBINE BUCHANAN WASH WITH ROUTED FLOWS IN SKUNK CREEK FROM I-17.
225          HC       2
             *

226          KK  LS1LS2   ROUTE   REACH
227          KM    ROUTE COMBINED FLOWS FROM THE CONFLUENCE OF BUCHANAN WASH AND SKUNK
228          KM    CREEK TO PINNACLE PEAK ROAD IN SKUNK CREEK
229          RS       3    STOR      -1
230          RC   0.035   0.035   0.035    9552  0.0063   15.00
231          RX     0.0     8.0    15.0    50.0   320.0   355.0   362.0   370.0
232          RY    15.0    15.0    15.0     0.0     0.0    15.0    15.0    15.0
             *
             *

233          KK    LS-2   BASIN
234          BA   0.945
235          LG    0.23    0.25    4.80    0.28       7
236          UC   0.996   0.769
237          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
238          UA     100
             *

239          KK    LS2C
240          KM     COMBINE FLOWS IN SKUNK CREEK AT PINNACLE PEAK ROAD
241          HC       2
             *

242          KK    LS-3   BASIN
243          BA   0.543
244          LG    0.17    0.25    4.30    0.41      39
245          UC   0.413   0.224
```

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 246          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 247          UA     100
              *

 248          KK  LS3LS5   ROUTE   REACH
 249          KM    ROUTE RUNOFF FROM SUBBASIN LS-3 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK ROAD
 250          RS       4    STOR      -1
 251          RC   0.080   0.040   0.080    8883  0.0040    6.00
 252          RX     0.0   100.0   200.0   220.0   370.0   390.0   490.0   590.0
 253          RY     6.0     5.0     4.0     0.0     0.0     4.0     5.0     6.0
              *
1                                          HEC-1 INPUT                                          PAGE  7

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 254          KK    LS-4   BASIN
 255          BA   1.851
 256          LG    0.22    0.25    4.35    0.43      29
 257          UC   0.504   0.277
 258          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 259          UA     100
              *

 260          KK  RETLS4
 261          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
 262          KM      - 445 AC DEVELOPMENT WITH RETENTION
 263          KM      - C FACTOR = 0.63
 264          KM      - 100-YR 2-HR RAIN = 2.66"
 265          DT   R4OUT    62.2
 266          DI       0   10000
 267          DQ       0   10000
              *

 268          KK  LS4LS5   ROUTE   REACH
 269          KM    ROUTE RUNOFF FROM SUBBASIN LS-4 THROUGH LS-5 FROM HAPPY VALLEY ROAD
 270          KM    TO PINNACLE PEAK ROAD
 271          RS       4    STOR      -1
 272          RC   0.080   0.040   0.080    6160  0.0040    6.00
 273          RX     0.0   100.0   200.0   220.0   370.0   390.0   490.0   590.0
 274          RY     6.0     5.0     4.0     0.0     0.0     4.0     5.0     6.0
              *

 275          KK    LS-5   BASIN
 276          BA   1.280
 277          LG    0.28    0.25    4.90    0.33      22
 278          UC   0.967   0.577
 279          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 280          UA     100
              *

 281          KK  RETLS5
 282          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
 283          KM      - 72.5 AC DEVELOPMENT WITH RETENTION
 284          KM      - C FACTOR = 0.63
 285          KM      - 100-YR 2-HR RAIN = 2.66"
 286          DT   R5OUT    10.1
 287          DI       0   10000
 288          DQ       0   10000
              *

 289          KK    LS5C
 290          KM     COMBINE ROUTED FLOWS FROM LS3 AND LS4 WITH RUNOFF FROM LS5 AT ADOBE POOL
 291          KM     AT PINNACLE PEAK ROAD
 292          HC       3
              *
1                                          HEC-1 INPUT                                          PAGE  8

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 293          KK    LS-6   BASIN
 294          BA   0.792
 295          LG    0.26    0.25    4.50    0.38      26
 296          UC   1.125   0.986
 297          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 298          UA     100
              *

 299          KK    LS-7   BASIN
 300          BA   0.597
 301          LG    0.32    0.25    4.50    0.39       7
 302          UC   0.963   1.038
 303          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 304          UA     100
              *

 305          KK    LS7C
 306          KM    COMBINE RUNOFF FROM LS6 AND LS7 AT ADOBE POOL
 307          HC       2
              *

 308          KK    LS-8   BASIN
 309          BA   0.567
 310          LG    0.25    0.25    5.10    0.31      33
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311          UC   0.671   0.435
312          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
313          UA     100
             *

314          KK    LS-9   BASIN
315          BA   0.451
316          LG    0.20    0.25    5.20    0.24       9
317          UC   1.025   0.958
318          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
319          UA     100
             *

320          KK   LS-10   BASIN
321          BA   0.257
322          LG    0.25    0.25    5.80    0.22      32
323          UC   0.263   0.189
324          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
325          UA     100
             *

326          KK   RET10
327          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
328          KM      - 121.4 AC DEVELOPMENT WITH RETENTION
329          KM      - C FACTOR = 0.63
330          KM      - 100-YR 2-HR RAIN = 2.66"
331          DT  R10OUT    17.0
332          DI       0   10000
333          DQ       0   10000
             *
1                                                HEC-1 INPUT                                                PAGE  9

        LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

334          KK  INFLOW
335          KM    COMBINE ALL INFLOW HYDROGRAPHS TO ADOBE DAM POOL AREA
336          KM    (LS7C, LS5C, LS8, LS2C, LS9, LS10)
337          HC       6
             *

338          KK   LS-11   BASIN
339          BA   2.838
340          LG    0.27    0.25    4.55    0.38      14
341          UC   1.183   0.410
342          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
343          UA     100
             *

344          KK   LS11C
345          KM    COMBINE ALL INFLOWS TO ADOBE POOL WITH RUNOFF FROM LS11
346          HC       2
347          ZW      C=FLOW
             *

348          KK   ADOBE
349          KM     ROUTE COMBINED FLOWS THROUGH ADOBE DAM RESERVOIR
350          KM     DATA FROM FCDMC ALERT STATION DATA (TAKEN FROM COE DESIGN DATA)
351          RS       1    STOR       0
352          SV       0      70     154     372    1154    2695    5068    8502   13100   18825
353          SV   26896   34968   47757   60546   73335
354          SE  1339.8 1342.76 1344.76 1347.76 1352.76 1357.76 1362.76 1367.76 1372.76 1377.76
355          SE  1382.8 1387.76 1392.76 1397.76 1402.76
356          SQ       0     200     339     600     970    1210    1429    1630    1810    1980
357          SQ    3471    6350    8000   12300   17200
358          SE  1339.8 1342.76 1344.76 1347.76 1352.76 1357.76 1362.76 1367.76 1372.76 1377.76
359          SE  1382.8 1387.76 1392.76 1397.76 1402.76
360          ZW      C=FLOW
361          ZZ
1
             SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

   NO.     (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    39       S23L
                .
                .
    78          .        C010
                .           .
                .           .
   120        CAP...........
               V
               V
   125       CAPR2
                .
                .
   128          .         S24
                .           .
                .           .
   138       S24C...........
               V
               V
   141      S24LS1
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                .
                .
147             .      RRB22C
                .          V
                .          V
197             .      B22LS1
                .          .
                .          .
205             .          .        LS-1
                .          .          .
                .          .          .
216             .          .          .-------->   R10UT
211             .          .      RETLS1
                .          .          .
                .          .          .
219             .       LS1CR............
                .          .
                .          .
223        LS1C............
               V
               V
226      LS1LS2
                .
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233             .        LS-2
                .          .
                .          .
239        LS2C............
                .
                .
242             .        LS-3
                .          V
                .          V
248             .      LS3LS5
                .          .
                .          .
254             .          .        LS-4
                .          .          .
                .          .          .
265             .          .          .-------->   R4OUT
260             .          .      RETLS4
                .          .          V
                .          .          V
268             .          .      LS4LS5
                .          .          .
                .          .          .
275             .          .          .        LS-5
                .          .          .          .
                .          .          .          .
286             .          .          .          .-------->   R5OUT
281             .          .          .      RETLS5
                .          .          .          .
                .          .          .          .
289             .        LS5C........................
                .          .
                .          .
293             .          .        LS-6
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299             .          .          .        LS-7
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305             .          .        LS7C............
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308             .          .          .        LS-8
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314             .          .          .          .        LS-9
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320             .          .          .          .          .       LS-10
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331             .          .          .          .          .          .-------->  R10OUT
326             .          .          .          .          .       RET10
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334      INFLOW.......................................................
                .
                .
338             .       LS-11
                .          .
                .          .
344       LS11C............
               V
               V
348       ADOBE
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1****************************************                                    ****************************************
 *                                      *                                    *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                                    *   U.S. ARMY CORPS OF ENGINEERS       *
 *             JUN   1998               *                                    *   HYDROLOGIC ENGINEERING CENTER      *
 *           VERSION 4.1                *                                    *         609 SECOND STREET            *
```

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*                                        *                                                    *      DAVIS, CALIFORNIA 95616      *
*  RUN DATE   13AUG03  TIME  15:32:08    *                                                    *          (916) 756-1104           *
*                                        *                                                    *                                   *
******************************************                                                    *************************************
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                    LOWER SKUNK CREEK HYDROLOGY                          FILENAME: LS10024E.DAT
                    FOR: ADOBE DAM / DESERT HILLS ADMP                   ORIGINAL: 06/13/03
                    AUG. 2003                                            REVISED:  08/13/03
                    BY: JE FULLER/ HYDROLOGY & GEOMORPHOLOGY, INC.

                  THIS IS THE 100-YEAR 24-HOUR MODEL FOR EXISTING CONDITIONS

                  MODEL BASIS:
                    * DDMSW PROJECT NAME: LS_EX24
                    * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
                    * MULTIPLE STORM OPTION (JD)
                    * GREEN & AMPT LOSS METHOD
                    * CLARK UNIT HYDROGRAPH METHOD
                    * TC & R COMPUTED WITH MCHUP1 THRU DDMSW 2.1.3
                    * MODIFIED PULS NORMAL-DEPTH CHANNEL ROUTING
                    * INFLOW HYDROGRAPHS AS QI RECORDS FROM:
                        * S23L - SKUNK CREEK - SKUNK CREEK WMP
                        * C010 - SONORAN (UNNAMED) WASH - SKUNK CREEK WMP
                        * RRB22C - BUCHANAN WASH - ADOBE ADMP PART 3, VOL. 3

 22 IO        OUTPUT CONTROL VARIABLES
                    IPRNT          3  PRINT CONTROL
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE

 23 IN        TIME DATA FOR INPUT TIME SERIES
                    JXMIN         15  TIME INTERVAL IN MINUTES
                   JXDATE     1JAN90  STARTING DATE
                   JXTIME          0  STARTING TIME

    IT        HYDROGRAPH TIME DATA
                     NMIN          5  MINUTES IN COMPUTATION INTERVAL
                    IDATE     1JAN90  STARTING DATE
                    ITIME       0000  STARTING TIME
                       NQ       2000  NUMBER OF HYDROGRAPH ORDINATES
                   NDDATE     7JAN90  ENDING DATE
                   NDTIME       2235  ENDING TIME
                    ICENT         19  CENTURY MARK

              COMPUTATION INTERVAL     .08 HOURS
                   TOTAL TIME BASE  166.58 HOURS

         ENGLISH UNITS
              DRAINAGE AREA          SQUARE MILES
              PRECIPITATION DEPTH    INCHES
              LENGTH, ELEVATION      FEET
              FLOW                   CUBIC FEET PER SECOND
              STORAGE VOLUME         ACRE-FEET
              SURFACE AREA           ACRES
              TEMPERATURE            DEGREES FAHRENHEIT

 24 JD        INDEX STORM NO. 1
                    STRM        4.10  PRECIPITATION DEPTH
                    TRDA         .01  TRANSPOSITION DRAINAGE AREA

 25 PI          PRECIPITATION PATTERN
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35 JD INDEX STORM NO. 2

STRM 3.85 PRECIPITATION DEPTH
TRDA 10.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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36 JD INDEX STORM NO. 3

STRM 3.69 PRECIPITATION DEPTH
TRDA 30.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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37 JD INDEX STORM NO. 4

STRM 3.53 PRECIPITATION DEPTH
TRDA 60.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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 38 JD        INDEX STORM NO. 5
                STRM        3.47  PRECIPITATION DEPTH
                TRDA       90.00  TRANSPOSITION DRAINAGE AREA

  0 PI          PRECIPITATION PATTERN
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            *            *
 39 KK      *     S23L   *
            *            *
            **************
                        HYDROGRAPH FOR S23L FROM SKUNK CREEK WMP MODEL

 41 IN        TIME DATA FOR INPUT TIME SERIES
                JXMIN           5  TIME INTERVAL IN MINUTES
               JXDATE      1JAN90  STARTING DATE
               JXTIME           0  STARTING TIME

            SUBBASIN RUNOFF DATA

 42 BA        SUBBASIN CHARACTERISTICS
                TAREA       50.29  SUBBASIN AREA

                                                          ***

     ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     S23L
                  TRANSPOSITION AREA       .0 SQ MI

 PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+   26513.     14.17              8116.       2114.        705.        305.
                       (INCHES)    1.500       1.563       1.564       1.564
                        (AC-FT)    4024.       4193.       4195.       4195.

                    CUMULATIVE AREA =   50.29 SQ MI

     ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     S23L
                  TRANSPOSITION AREA     10.0 SQ MI

 PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
```

```
+   26513.     14.17                 8116.       2114.        705.         305.
                          (INCHES)   1.500       1.563       1.564        1.564
                           (AC-FT)   4024.       4193.       4195.        4195.

                          CUMULATIVE AREA =   50.29 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     S23L
                        TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+   26513.     14.17                 8116.       2114.        705.         305.
                          (INCHES)   1.500       1.563       1.564        1.564
                           (AC-FT)   4024.       4193.       4195.        4195.

                          CUMULATIVE AREA =   50.29 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     S23L
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+   26513.     14.17                 8116.       2114.        705.         305.
                          (INCHES)   1.500       1.563       1.564        1.564
                           (AC-FT)   4024.       4193.       4195.        4195.

                          CUMULATIVE AREA =   50.29 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     S23L
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+   26513.     14.17                 8116.       2114.        705.         305.
                          (INCHES)   1.500       1.563       1.564        1.564
                           (AC-FT)   4024.       4193.       4195.        4195.

                          CUMULATIVE AREA =   50.29 SQ MI

      ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT     S23L

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+   26513.     14.17                 8116.       2114.        705.         305.
                          (INCHES)   1.500       1.563       1.564        1.564
                           (AC-FT)   4024.       4193.       4195.        4195.

                          CUMULATIVE AREA =   50.29 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  78 KK     *     C010   *
            *            *
            **************
                          HYDROGRAPH FOR SONORAN WASH FROM SKUNK CREEK WMP

  80 IN          TIME DATA FOR INPUT TIME SERIES
                      JXMIN          5  TIME INTERVAL IN MINUTES
                     JXDATE      1JAN90  STARTING DATE
                     JXTIME           0  STARTING TIME

               SUBBASIN RUNOFF DATA

  81 BA          SUBBASIN CHARACTERISTICS
                      TAREA      13.39  SUBBASIN AREA

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      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     C010
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    9824.     12.83                2359.        616.        206.          89.
                        (INCHES)    1.638       1.712       1.714        1.714
                         (AC-FT)    1170.       1222.       1224.        1224.

                       CUMULATIVE AREA =   13.39 SQ MI


      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     C010
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    9824.     12.83                2359.        616.        206.          89.
                        (INCHES)    1.638       1.712       1.714        1.714
                         (AC-FT)    1170.       1222.       1224.        1224.

                       CUMULATIVE AREA =   13.39 SQ MI


      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     C010
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    9824.     12.83                2359.        616.        206.          89.
                        (INCHES)    1.638       1.712       1.714        1.714
                         (AC-FT)    1170.       1222.       1224.        1224.

                       CUMULATIVE AREA =   13.39 SQ MI


      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     C010
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    9824.     12.83                2359.        616.        206.          89.
                        (INCHES)    1.638       1.712       1.714        1.714
                         (AC-FT)    1170.       1222.       1224.        1224.

                       CUMULATIVE AREA =   13.39 SQ MI


      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     C010
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    9824.     12.83                2359.        616.        206.          89.
                        (INCHES)    1.638       1.712       1.714        1.714
                         (AC-FT)    1170.       1222.       1224.        1224.

                       CUMULATIVE AREA =   13.39 SQ MI

      ***             ***             ***             ***             ***


                  INTERPOLATED HYDROGRAPH AT      C010

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    9824.     12.83                2359.        616.        206.          89.
                        (INCHES)    1.638       1.712       1.714        1.714
                         (AC-FT)    1170.       1222.       1224.        1224.

                       CUMULATIVE AREA =   13.39 SQ MI
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
 120 KK       *       CAP  *
              *            *
              **************
                              COMBINE S23L+C010 (SUBAREAS S1-S23, CLINE CR, RODGER CR & UNNAMED WASH)
                              COMBINED FLOW AT CAP OVERCHUTES

 123 HC            HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                    ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      CAP
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+   28959.     14.08              10475.       2730.        911.         394.
                       (INCHES)     1.529       1.594       1.596        1.596
                        (AC-FT)     5194.       5415.       5419.        5419.

                       CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      CAP
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+   28959.     14.08              10475.       2730.        911.         394.
                       (INCHES)     1.529       1.594       1.596        1.596
                        (AC-FT)     5194.       5415.       5419.        5419.

                       CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      CAP
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+   28959.     14.08              10475.       2730.        911.         394.
                       (INCHES)     1.529       1.594       1.596        1.596
                        (AC-FT)     5194.       5415.       5419.        5419.

                       CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      CAP
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+   28959.     14.08              10475.       2730.        911.         394.
                       (INCHES)     1.529       1.594       1.596        1.596
                        (AC-FT)     5194.       5415.       5419.        5419.

                       CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      CAP
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+   28959.     14.08              10475.       2730.        911.         394.
                       (INCHES)     1.529       1.594       1.596        1.596
                        (AC-FT)     5194.       5415.       5419.        5419.
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                    CUMULATIVE AREA =   63.68 SQ MI

   -----DSS---ZOPEN:  Existing File Opened,  File: LS10024E.DSS
                      Unit:  71;  DSS Version: 6-JG
-----DSS---ZWRITE Unit  71; Vers.    7:  //CAP/FLOW/31DEC1989/5MIN/100EX/
-----DSS---ZWRITE Unit  71; Vers.    7:  //CAP/FLOW/01JAN1990/5MIN/100EX/
-----DSS---ZWRITE Unit  71; Vers.    7:  //CAP/FLOW/02JAN1990/5MIN/100EX/
-----DSS---ZWRITE Unit  71; Vers.    7:  //CAP/FLOW/03JAN1990/5MIN/100EX/
-----DSS---ZWRITE Unit  71; Vers.    7:  //CAP/FLOW/04JAN1990/5MIN/100EX/
-----DSS---ZWRITE Unit  71; Vers.    7:  //CAP/FLOW/05JAN1990/5MIN/100EX/
-----DSS---ZWRITE Unit  71; Vers.    7:  //CAP/FLOW/06JAN1990/5MIN/100EX/
-----DSS---ZWRITE Unit  71; Vers.    7:  //CAP/FLOW/07JAN1990/5MIN/100EX/
      ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT      CAP

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   28959.     14.08               10475.       2730.        911.         394.
                        (INCHES)    1.529       1.594       1.596        1.596
                         (AC-FT)    5194.       5415.       5419.        5419.

                    CUMULATIVE AREA =   63.68 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  125 KK    *     CAPR2  *
            *            *
            **************
                    ROUTE CAP OVERFLOW THROUGH S24 FROM CAP TO I-17

              HYDROGRAPH ROUTING DATA

  127 RM          MUSKINGUM ROUTING
                        NSTPS         3 NUMBER OF SUBREACHES
                        AMSKK       .23 MUSKINGUM K
                            X       .25 MUSKINGUM X

                                                                  ***

      ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CAPR2
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   28717.     14.33               10475.       2730.        911.         394.
                        (INCHES)    1.529       1.594       1.596        1.596
                         (AC-FT)    5194.       5415.       5419.        5419.

                    CUMULATIVE AREA =   63.68 SQ MI

      ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CAPR2
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   28717.     14.33               10475.       2730.        911.         394.
                        (INCHES)    1.529       1.594       1.596        1.596
                         (AC-FT)    5194.       5415.       5419.        5419.

                    CUMULATIVE AREA =   63.68 SQ MI

      ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CAPR2
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   28717.     14.33               10475.       2730.        911.         394.
                        (INCHES)    1.529       1.594       1.596        1.596
                         (AC-FT)    5194.       5415.       5419.        5419.
```

```
                    CUMULATIVE AREA =   63.68 SQ MI

      ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    CAPR2
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                  (CFS)
+   28717.     14.33              10475.       2730.        911.         394.
                (INCHES)          1.529       1.594       1.596        1.596
                 (AC-FT)          5194.       5415.       5419.        5419.

                    CUMULATIVE AREA =   63.68 SQ MI

      ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    CAPR2
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                  (CFS)
+   28717.     14.33              10475.       2730.        911.         394.
                (INCHES)          1.529       1.594       1.596        1.596
                 (AC-FT)          5194.       5415.       5419.        5419.

                    CUMULATIVE AREA =   63.68 SQ MI

      ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT    CAPR2

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                  (CFS)
+   28717.     14.33              10475.       2730.        911.         394.
                (INCHES)          1.529       1.594       1.596        1.596
                 (AC-FT)          5194.       5415.       5419.        5419.

                    CUMULATIVE AREA =   63.68 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  128 KK    *       S24  *
            *            *
            **************
                      BASIN S24
                       THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
                       L=      1.4  Lca=       .8   S=   38.0  Kn= .026  LAG=  19.0
                       DESERT/RANGELAND S-GRAPH WAS USED FOR THE BASIN

               SUBBASIN RUNOFF DATA

  133 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .64  SUBBASIN AREA

  134 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .35  STARTING LOSS
                         DTH         .30  MOISTURE DEFICIT
                        PSIF        8.00  WETTING FRONT SUCTION
                       XKSAT         .09  HYDRAULIC CONDUCTIVITY
                       RTIMP         .00  PERCENT IMPERVIOUS AREA

  129 UI          INPUT UNITGRAPH,  13 ORDINATES,  VOLUME =  .99
                      140.0     538.0     935.0    1070.0     844.0     535.0     336.0     212.0     135.0      82.0
                       47.0      28.0      28.0

                                                                  ***

      ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      S24
                   TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.52, TOTAL EXCESS =    1.58

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

```
                                (CFS)
+    1145.      12.17                    108.          27.           9.           4.
                             (INCHES)    1.572        1.572        1.572        1.572
                              (AC-FT)      54.          54.          54.          54.

                             CUMULATIVE AREA =      .64 SQ MI


      ***                  ***            ***            ***            ***

                             HYDROGRAPH AT STATION      S24
                            TRANSPOSITION AREA     10.0 SQ MI

     TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.42, TOTAL EXCESS =    1.43

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+    1062.      12.17                     98.          25.           8.           4.
                             (INCHES)    1.424        1.424        1.424        1.424
                              (AC-FT)      49.          49.          49.          49.

                             CUMULATIVE AREA =      .64 SQ MI


      ***                  ***            ***            ***            ***

                             HYDROGRAPH AT STATION      S24
                            TRANSPOSITION AREA     30.0 SQ MI

     TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.35, TOTAL EXCESS =    1.34

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+    1007.      12.17                     92.          23.           8.           3.
                             (INCHES)    1.332        1.332        1.332        1.332
                              (AC-FT)      45.          45.          45.          45.

                             CUMULATIVE AREA =      .64 SQ MI


      ***                  ***            ***            ***            ***

                             HYDROGRAPH AT STATION      S24
                            TRANSPOSITION AREA     60.0 SQ MI

     TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.28, TOTAL EXCESS =    1.25

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     951.      12.17                     85.          21.           7.           3.
                             (INCHES)    1.241        1.241        1.241        1.241
                              (AC-FT)      42.          42.          42.          42.

                             CUMULATIVE AREA =      .64 SQ MI


      ***                  ***            ***            ***            ***

                             HYDROGRAPH AT STATION      S24
                            TRANSPOSITION AREA     90.0 SQ MI

     TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.25, TOTAL EXCESS =    1.22

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     931.      12.17                     83.          21.           7.           3.
                             (INCHES)    1.209        1.209        1.209        1.209
                              (AC-FT)      41.          41.          41.          41.

                             CUMULATIVE AREA =      .64 SQ MI

      ***                  ***            ***            ***            ***


                             INTERPOLATED HYDROGRAPH AT      S24

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+    1095.      12.17                    102.          26.           9.           4.
                             (INCHES)    1.483        1.483        1.483        1.483
                              (AC-FT)      51.          51.          51.          51.

                             CUMULATIVE AREA =      .64 SQ MI
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
 138 KK       *     S24C   *
              *            *
              **************
                          COMBINE ROUTED FLOWS FROM CAP WITH RUNOFF FROM S24 AT I-17

 140 HC          HYDROGRAPH COMBINATION
                      ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S24C
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   28717.     14.33                10583.      2757.        920.         398.
                        (INCHES)     1.530      1.594       1.595        1.595
                         (AC-FT)     5248.      5469.       5473.        5473.

                        CUMULATIVE AREA =   64.32 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S24C
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   28717.     14.33                10573.      2759.        919.         397.
                        (INCHES)     1.528      1.593       1.594        1.594
                         (AC-FT)     5243.      5463.       5468.        5468.

                        CUMULATIVE AREA =   64.32 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S24C
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   28717.     14.33                10566.      2753.        918.         397.
                        (INCHES)     1.527      1.592       1.593        1.593
                         (AC-FT)     5240.      5460.       5465.        5465.

                        CUMULATIVE AREA =   64.32 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S24C
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   28717.     14.33                10560.      2751.        918.         397.
                        (INCHES)     1.526      1.591       1.592        1.592
                         (AC-FT)     5236.      5457.       5462.        5462.

                        CUMULATIVE AREA =   64.32 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S24C
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   28717.     14.33                10558.      2751.        918.         397.
                        (INCHES)     1.526      1.591       1.592        1.592
                         (AC-FT)     5235.      5456.       5461.        5461.
```

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                    CUMULATIVE AREA =   64.32 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     S24C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   28717.     14.33                10560.       2751.        918.         397.
                          (INCHES)   1.526       1.591       1.592        1.592
                           (AC-FT)   5236.       5457.       5461.        5461.

                    CUMULATIVE AREA =   64.32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
141 KK    *   S24LS1   *        ROUTE   REACH
          *            *
          **************
                         ROUTE COMBINED FLOWS AT I-17 TO CONFLUENCE WITH BUCHANAN WASH IN SKUNK CREEK

             HYDROGRAPH ROUTING DATA

143 RS          STORAGE ROUTING
                     NSTPS          1  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC      -1.00  INITIAL CONDITION
                         X        .00 WORKING R AND D COEFFICIENT

144 RC          NORMAL DEPTH CHANNEL
                       ANL       .035  LEFT OVERBANK N-VALUE
                      ANCH       .035  MAIN CHANNEL N-VALUE
                       ANR       .035  RIGHT OVERBANK N-VALUE
                     RLNTH      3394.  REACH LENGTH
                       SEL      .0053  ENERGY SLOPE
                     ELMAX       15.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
146 RY        ELEVATION     15.00     15.00     15.00       .00       .00     15.00     15.00     15.00
145 RX        DISTANCE        .00      8.00     15.00     50.00    320.00    355.00    362.00    370.00

                                                          ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00     16.72     33.67     50.84     68.25     85.87    103.73    121.81    140.12    158.65
          OUTFLOW        .00    565.16   1797.10   3538.08   5724.48   8317.93  11291.97  14627.04  18307.96  22322.63
        ELEVATION        .00       .79      1.58      2.37      3.16      3.95      4.74      5.53      6.32      7.11

          STORAGE     177.41    196.40    215.62    235.06    254.73    274.62    294.74    315.09    335.66    356.46
          OUTFLOW   26661.13  31315.26  36278.10  41543.79  47107.33  52964.40  59111.29  65544.80  72262.11  79260.82
        ELEVATION       7.89      8.68      9.47     10.26     11.05     11.84     12.63     13.42     14.21     15.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN    47107. TO    79261.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   S24LS1
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   28595.     14.42                10578.       2757.        920.         398.
                          (INCHES)   1.529       1.594       1.595        1.595
                           (AC-FT)   5246.       5468.       5473.        5473.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      185.     14.42                  86.         25.          8.           4.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      8.22     14.42                 3.91        1.13         .38          .16

                    CUMULATIVE AREA =   64.32 SQ MI
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***          ***          ***          ***          ***

                HYDROGRAPH AT STATION   S24LS1
              TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   28595.     14.42                10568.      2754.        919.        397.
                        (INCHES)    1.528      1.592       1.594       1.594
                         (AC-FT)    5240.      5463.       5468.       5468.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     185.     14.42                  86.         25.          8.          4.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     8.22     14.42                 3.91        1.13         .38         .16

                      CUMULATIVE AREA =   64.32 SQ MI


***          ***          ***          ***          ***

                HYDROGRAPH AT STATION   S24LS1
              TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   28595.     14.42                10562.      2753.        918.        397.
                        (INCHES)    1.527      1.592       1.593       1.593
                         (AC-FT)    5237.      5460.       5465.       5465.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     185.     14.42                  86.         25.          8.          4.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     8.22     14.42                 3.91        1.13         .38         .16

                      CUMULATIVE AREA =   64.32 SQ MI


***          ***          ***          ***          ***

                HYDROGRAPH AT STATION   S24LS1
              TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   28595.     14.42                10556.      2751.        918.        397.
                        (INCHES)    1.526      1.591       1.592       1.592
                         (AC-FT)    5234.      5457.       5462.       5462.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     185.     14.42                  86.         25.          8.          4.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     8.22     14.42                 3.90        1.13         .38         .16

                      CUMULATIVE AREA =   64.32 SQ MI


***          ***          ***          ***          ***

                HYDROGRAPH AT STATION   S24LS1
              TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   28595.     14.42                10554.      2750.        918.        397.
                        (INCHES)    1.526      1.590       1.592       1.592
                         (AC-FT)    5233.      5456.       5461.       5461.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     185.     14.42                  86.         25.          8.          4.
```

```
    PEAK STAGE     TIME                               MAXIMUM AVERAGE STAGE
                                          6-HR          24-HR        72-HR     166.58-HR
+     (FEET)       (HR)
        8.22      14.42                   3.90           1.13          .38           .16

                          CUMULATIVE AREA =    64.32 SQ MI

       ***                ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT    S24LS1

    PEAK FLOW      TIME                               MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR        72-HR     166.58-HR
+     (CFS)        (HR)
                              (CFS)
+    28595.       14.42                  10555.          2751.         918.          397.
                            (INCHES)      1.526          1.591        1.592         1.592
                             (AC-FT)      5234.          5456.        5461.         5461.

                          CUMULATIVE AREA =    64.32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

                **************
                *            *
    147 KK      *   RRB22C   *
                *            *
                **************
                                 INFLOWS FROM BUCHANAN WASH UNDER CAP
                                   FROM BF10024E.DAT

    150 IN            TIME DATA FOR INPUT TIME SERIES
                          JXMIN           5  TIME INTERVAL IN MINUTES
                          JXDATE     1JAN90  STARTING DATE
                          JXTIME          0  STARTING TIME

                    SUBBASIN RUNOFF DATA

    151 BA            SUBBASIN CHARACTERISTICS
                          TAREA        9.62  SUBBASIN AREA

                                                                   ***

       ***                ***             ***             ***             ***

                           HYDROGRAPH AT STATION    RRB22C
                         TRANSPOSITION AREA        .0 SQ MI

    PEAK FLOW      TIME                               MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR        72-HR     166.58-HR
+     (CFS)        (HR)
                              (CFS)
+     1242.       15.42                   1209.           596.         199.           86.
                            (INCHES)      1.168          2.304        2.308         2.308
                             (AC-FT)       599.          1182.        1184.         1184.

                          CUMULATIVE AREA =     9.62 SQ MI


       ***                ***             ***             ***             ***

                           HYDROGRAPH AT STATION    RRB22C
                         TRANSPOSITION AREA      10.0 SQ MI

    PEAK FLOW      TIME                               MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR        72-HR     166.58-HR
+     (CFS)        (HR)
                              (CFS)
+     1242.       15.42                   1209.           596.         199.           86.
                            (INCHES)      1.168          2.304        2.308         2.308
                             (AC-FT)       599.          1182.        1184.         1184.

                          CUMULATIVE AREA =     9.62 SQ MI


       ***                ***             ***             ***             ***

                           HYDROGRAPH AT STATION    RRB22C
                         TRANSPOSITION AREA      30.0 SQ MI

    PEAK FLOW      TIME                               MAXIMUM AVERAGE FLOW
                                          6-HR          24-HR        72-HR     166.58-HR
+     (CFS)        (HR)
                              (CFS)
+     1242.       15.42                   1209.           596.         199.           86.
                            (INCHES)      1.168          2.304        2.308         2.308
                             (AC-FT)       599.          1182.        1184.         1184.
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                    CUMULATIVE AREA =    9.62 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   RRB22C
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    1242.     15.42                1209.        596.        199.          86.
                       (INCHES)     1.168       2.304       2.308        2.308
                        (AC-FT)      599.       1182.       1184.        1184.

                    CUMULATIVE AREA =    9.62 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   RRB22C
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    1242.     15.42                1209.        596.        199.          86.
                       (INCHES)     1.168       2.304       2.308        2.308
                        (AC-FT)      599.       1182.       1184.        1184.

                    CUMULATIVE AREA =    9.62 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    7:  //RRB22C/FLOW/31DEC1989/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //RRB22C/FLOW/01JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //RRB22C/FLOW/02JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //RRB22C/FLOW/03JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //RRB22C/FLOW/04JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //RRB22C/FLOW/05JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //RRB22C/FLOW/06JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //RRB22C/FLOW/07JAN1990/5MIN/100EX/
     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT   RRB22C

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    1242.     15.42                1209.        596.        199.          86.
                       (INCHES)     1.168       2.304       2.308        2.308
                        (AC-FT)      599.       1182.       1184.        1184.

                    CUMULATIVE AREA =    9.62 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
197 KK    *   B22LS1   *        ROUTE   REACH
          *            *
          **************
                         ROUTE IMPORTED FLOWS IN BUCHANAN WASH FROM THE CAP TO SKUNK CREEK IN
                         BUCHANAN WASH

             HYDROGRAPH ROUTING DATA

200 RS         STORAGE ROUTING
                     NSTPS          4  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC      -1.00  INITIAL CONDITION
                         X        .00 WORKING R AND D COEFFICIENT

201 RC         NORMAL DEPTH CHANNEL
                       ANL       .055  LEFT OVERBANK N-VALUE
                      ANCH       .040  MAIN CHANNEL N-VALUE
                       ANR       .055  RIGHT OVERBANK N-VALUE
                     RLNTH      10208.  REACH LENGTH
                       SEL      .0040  ENERGY SLOPE
                     ELMAX        7.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                  CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
203 RY       ELEVATION      7.00      6.00      5.00       .00       .00      5.00      6.00      7.00
202 RX       DISTANCE        .00    100.00    200.00    210.00    225.00    235.00    285.00    335.00

                                                  ***
```

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	1.36	2.84	4.46	6.20	8.07	10.06	12.18	14.43	16.81
OUTFLOW	.00	6.76	21.75	43.42	71.34	105.36	145.48	191.77	244.33	303.29
ELEVATION	.00	.37	.74	1.11	1.47	1.84	2.21	2.58	2.95	3.32
STORAGE	19.31	21.94	24.70	27.59	31.03	38.48	50.70	67.70	89.46	116.00
OUTFLOW	368.81	441.04	520.14	606.30	708.61	843.01	1016.38	1242.18	1531.99	1896.29
ELEVATION	3.68	4.05	4.42	4.79	5.16	5.53	5.89	6.26	6.63	7.00

*** *** *** *** ***

HYDROGRAPH AT STATION B22LS1
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1239.	16.50		1205.	596.	199.	86.
		(INCHES)	1.165	2.304	2.308	2.308
		(AC-FT)	598.	1182.	1184.	1184.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
17.	16.50	16.	8.	3.	1.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
6.26	16.50	6.20	3.64	1.23	.53

CUMULATIVE AREA = 9.62 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B22LS1
TRANSPOSITION AREA 10.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1239.	16.50		1205.	596.	199.	86.
		(INCHES)	1.165	2.304	2.308	2.308
		(AC-FT)	598.	1182.	1184.	1184.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
17.	16.50	16.	8.	3.	1.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
6.26	16.50	6.20	3.64	1.23	.53

CUMULATIVE AREA = 9.62 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B22LS1
TRANSPOSITION AREA 30.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1239.	16.50		1205.	596.	199.	86.
		(INCHES)	1.165	2.304	2.308	2.308
		(AC-FT)	598.	1182.	1184.	1184.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
17.	16.50	16.	8.	3.	1.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
6.26	16.50	6.20	3.64	1.23	.53

CUMULATIVE AREA = 9.62 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B22LS1
TRANSPOSITION AREA 60.0 SQ MI

PEAK FLOW TIME MAXIMUM AVERAGE FLOW

```
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    1239.      16.50                1205.         596.         199.           86.
                            (INCHES)  1.165        2.304        2.308        2.308
                             (AC-FT)   598.        1182.        1184.        1184.

 PEAK STORAGE   TIME                            MAXIMUM AVERAGE STORAGE
                                        6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)       (HR)
       17.      16.50                  16.           8.           3.            1.

  PEAK STAGE    TIME                            MAXIMUM AVERAGE STAGE
                                        6-HR        24-HR        72-HR    166.58-HR
+   (FEET)       (HR)
      6.26      16.50                 6.20         3.64         1.23          .53

                            CUMULATIVE AREA =    9.62 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   B22LS1
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    1239.      16.50                1205.         596.         199.           86.
                            (INCHES)  1.165        2.304        2.308        2.308
                             (AC-FT)   598.        1182.        1184.        1184.

 PEAK STORAGE   TIME                            MAXIMUM AVERAGE STORAGE
                                        6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)       (HR)
       17.      16.50                  16.           8.           3.            1.

  PEAK STAGE    TIME                            MAXIMUM AVERAGE STAGE
                                        6-HR        24-HR        72-HR    166.58-HR
+   (FEET)       (HR)
      6.26      16.50                 6.20         3.64         1.23          .53

                            CUMULATIVE AREA =    9.62 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    7:  //B22LS1/FLOW/31DEC1989/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //B22LS1/FLOW/01JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //B22LS1/FLOW/02JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //B22LS1/FLOW/03JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //B22LS1/FLOW/04JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //B22LS1/FLOW/05JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //B22LS1/FLOW/06JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //B22LS1/FLOW/07JAN1990/5MIN/100EX/
      ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT   B22LS1

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    1239.      16.50                1205.         596.         199.           86.
                            (INCHES)  1.165        2.304        2.308        2.308
                             (AC-FT)   598.        1182.        1184.        1184.

                            CUMULATIVE AREA =    9.62 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 205 KK     *     LS-1   *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

 206 BA          SUBBASIN CHARACTERISTICS
                      TAREA        2.47  SUBBASIN AREA

 207 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .24  STARTING LOSS
                        DTH         .19  MOISTURE DEFICIT
                       PSIF        6.60  WETTING FRONT SUCTION
                      XKSAT         .15  HYDRAULIC CONDUCTIVITY
                      RTIMP       15.00  PERCENT IMPERVIOUS AREA

 208 UC          CLARK UNITGRAPH
                         TC         .53  TIME OF CONCENTRATION
```

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                    R          .27  STORAGE COEFFICIENT

209 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                  100.0

                                                  ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=   .53 HR,       R=   .27 HR
                                        SNYDER   TP=   .31 HR,      CP=   .60

                                                UNIT HYDROGRAPH
                                           20 END-OF-PERIOD ORDINATES
            290.     1114.     2411.     3058.     2746.     2333.     1875.     1416.     1037.      760.
            557.      408.      299.      219.      160.      117.       86.       63.       46.       34.

    ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-1
                   TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.16, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3647.     12.17                466.        128.         43.          18.
                        (INCHES)   1.755       1.932       1.933        1.933
                         (AC-FT)    231.        254.        255.         255.

                       CUMULATIVE AREA =    2.47 SQ MI

    ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-1
                   TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.07, TOTAL EXCESS =    1.79

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3388.     12.17                428.        118.         39.          17.
                        (INCHES)   1.611       1.777       1.778        1.778
                         (AC-FT)    212.        234.        234.         234.

                       CUMULATIVE AREA =    2.47 SQ MI

    ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-1
                   TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.00, TOTAL EXCESS =    1.69

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3216.     12.17                403.        111.         37.          16.
                        (INCHES)   1.517       1.677       1.678        1.678
                         (AC-FT)    200.        221.        221.         221.

                       CUMULATIVE AREA =    2.47 SQ MI

    ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-1
                   TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.94, TOTAL EXCESS =    1.59

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3045.     12.17                378.        105.         35.          15.
                        (INCHES)   1.425       1.578       1.579        1.579
                         (AC-FT)    188.        208.        208.         208.

                       CUMULATIVE AREA =    2.47 SQ MI

    ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-1
                   TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.92, TOTAL EXCESS =    1.55
```

```
  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2985.     12.17                370.        102.         34.          15.
                        (INCHES)   1.393       1.543       1.544        1.544
                         (AC-FT)    183.        203.        203.         203.

                        CUMULATIVE AREA =    2.47 SQ MI

      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT     LS-1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3440.     12.17                436.        120.         40.          17.
                        (INCHES)   1.640       1.809       1.810        1.810
                         (AC-FT)    216.        238.        238.         238.

                        CUMULATIVE AREA =    2.47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 211 KK     *    RETLS1  *
            *            *
            **************
                          DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                           - 232 AC DEVELOPMENT WITH RETENTION
                           - C FACTOR = 0.63
                           - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                      ISTAD       R1OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       32.40  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R1OUT
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     860.     11.83                 54.         16.          5.           2.
                        (INCHES)    .203        .246        .246         .246
                         (AC-FT)     27.         32.         32.          32.

                        CUMULATIVE AREA =    2.47 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RETLS1
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3647.     12.17                433.        112.         37.          16.
                        (INCHES)   1.631       1.687       1.687        1.687
                         (AC-FT)    215.        222.        222.         222.

                        CUMULATIVE AREA =    2.47 SQ MI

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R1OUT
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     868.     11.83                 54.         16.          5.           2.
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```
                    (INCHES)      .204        .246        .246        .246
                     (AC-FT)      27.         32.         32.         32.

                    CUMULATIVE AREA =    2.47 SQ MI

      ***           ***          ***         ***         ***

                     HYDROGRAPH AT STATION   RETLS1
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                     MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3388.      12.17                393.        102.         34.         15.
                    (INCHES)      1.481       1.532       1.532       1.532
                     (AC-FT)      195.        202.        202.        202.

                    CUMULATIVE AREA =    2.47 SQ MI

      ***           ***          ***         ***         ***

                     DIVERSION HYDROGRAPH    R1OUT
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                     MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     811.      11.83                55.         16.          5.          2.
                    (INCHES)      .206        .246        .246        .246
                     (AC-FT)      27.         32.         32.         32.

                    CUMULATIVE AREA =    2.47 SQ MI

      ***           ***          ***         ***         ***

                     HYDROGRAPH AT STATION   RETLS1
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                     MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3216.      12.17                367.         95.         32.         14.
                    (INCHES)      1.382       1.431       1.431       1.431
                     (AC-FT)      182.        188.        188.        188.

                    CUMULATIVE AREA =    2.47 SQ MI

      ***           ***          ***         ***         ***

                     DIVERSION HYDROGRAPH    R1OUT
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                     MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     769.      11.92                55.         16.          5.          2.
                    (INCHES)      .208        .246        .246        .246
                     (AC-FT)      27.         32.         32.         32.

                    CUMULATIVE AREA =    2.47 SQ MI

      ***           ***          ***         ***         ***

                     HYDROGRAPH AT STATION   RETLS1
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                     MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3045.      12.17                341.         88.         29.         13.
                    (INCHES)      1.285       1.333       1.333       1.333
                     (AC-FT)      169.        175.        175.        175.

                    CUMULATIVE AREA =    2.47 SQ MI

      ***           ***          ***         ***         ***

                     DIVERSION HYDROGRAPH    R1OUT
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                     MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
```

```
+     842.     11.92                    55.         16.          5.           2.
                          (INCHES)     .209        .246        .246         .246
                           (AC-FT)      27.         32.         32.          32.

                          CUMULATIVE AREA =    2.47 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   RETLS1
                         TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+    2985.     12.17                   332.         86.         29.          12.
                          (INCHES)    1.252       1.298       1.298        1.298
                           (AC-FT)     165.        171.        171.         171.

                          CUMULATIVE AREA =    2.47 SQ MI

      ***             ***             ***             ***             ***


                    INTERPOLATED DIVERSION HYDROGRAPH AT    R1OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     866.     11.83                    54.         16.          5.           2.
                          (INCHES)     .204        .246        .246         .246
                           (AC-FT)      27.         32.         32.          32.

                          CUMULATIVE AREA =    2.47 SQ MI

      ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT   RETLS1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+    3440.     12.17                   401.        104.         35.          15.
                          (INCHES)    1.511       1.564       1.564        1.564
                           (AC-FT)     199.        206.        206.         206.

                          CUMULATIVE AREA =    2.47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 219 KK     *     LS1CR  *
            *            *
            **************
                          COMBINE RUNOFF FROM LS-1 WITH ROUTED FLOWS FROM BUCHANAN WASH AT CAP
                          THIS IS THE TOTAL FLOW IN BUCHANAN WASH JUST U/S OF SKUNK CREEK

 222 HC          HYDROGRAPH COMBINATION
                         ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    LS1CR
                         TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+    4030.     12.17                  1463.        708.        236.         102.
                          (INCHES)    1.125       2.178       2.182        2.182
                           (AC-FT)     725.       1404.       1407.        1407.

                          CUMULATIVE AREA =   12.09 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    LS1CR
                         TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
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                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    3771.      12.17                1427.         698.         233.          101.
                              (INCHES)  1.098       2.146        2.150         2.150
                               (AC-FT)   708.       1384.        1386.         1386.

                           CUMULATIVE AREA =   12.09 SQ MI

      ***             ***             ***             ***             ***

                           HYDROGRAPH AT STATION    LS1CR
                         TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    3599.      12.17                1403.         691.         231.          100.
                              (INCHES)  1.079       2.126        2.129         2.129
                               (AC-FT)   696.       1371.        1373.         1373.

                           CUMULATIVE AREA =   12.09 SQ MI

      ***             ***             ***             ***             ***

                           HYDROGRAPH AT STATION    LS1CR
                         TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    3427.      12.17                1380.         684.         229.           99.
                              (INCHES)  1.061       2.106        2.109         2.109
                               (AC-FT)   684.       1358.        1360.         1360.

                           CUMULATIVE AREA =   12.09 SQ MI

      ***             ***             ***             ***             ***

                           HYDROGRAPH AT STATION    LS1CR
                         TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    3368.      12.17                1371.         682.         228.           98.
                              (INCHES)  1.055       2.098        2.102         2.102
                               (AC-FT)   680.       1353.        1355.         1355.

                           CUMULATIVE AREA =   12.09 SQ MI

      ***             ***             ***             ***             ***


                           INTERPOLATED HYDROGRAPH AT    LS1CR

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    3741.      12.17                1423.         697.         233.          101.
                              (INCHES)  1.095       2.143        2.146         2.146
                               (AC-FT)   706.       1382.        1384.         1384.

                           CUMULATIVE AREA =   12.09 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  223 KK    *      LS1C  *
            *            *
            **************
                      COMBINE BUCHANAN WASH WITH ROUTED FLOWS IN SKUNK CREEK FROM I-17.

  225 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

      ***             ***             ***             ***             ***

                           HYDROGRAPH AT STATION     LS1C
                         TRANSPOSITION AREA        .0 SQ MI
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```
  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                   (CFS)
+   29756.      14.42                12037.       3462.        1156.         500.
                              (INCHES)   1.465       1.685        1.688        1.688
                               (AC-FT)   5969.       6866.        6879.        6879.

                              CUMULATIVE AREA =   76.41 SQ MI

      ***                 ***            ***            ***            ***

                              HYDROGRAPH AT STATION     LS1C
                             TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                   (CFS)
+   29754.      14.42                11989.       3449.        1152.         498.
                              (INCHES)   1.459       1.679        1.682        1.682
                               (AC-FT)   5945.       6841.        6854.        6854.

                              CUMULATIVE AREA =   76.41 SQ MI

      ***                 ***            ***            ***            ***

                              HYDROGRAPH AT STATION     LS1C
                             TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                   (CFS)
+   29753.      14.42                11959.       3441.        1149.         497.
                              (INCHES)   1.455       1.675        1.678        1.678
                               (AC-FT)   5930.       6824.        6838.        6838.

                              CUMULATIVE AREA =   76.41 SQ MI

      ***                 ***            ***            ***            ***

                              HYDROGRAPH AT STATION     LS1C
                             TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                   (CFS)
+   29751.      14.42                11929.       3432.        1146.         495.
                              (INCHES)   1.452       1.671        1.674        1.674
                               (AC-FT)   5915.       6808.        6821.        6821.

                              CUMULATIVE AREA =   76.41 SQ MI

      ***                 ***            ***            ***            ***

                              HYDROGRAPH AT STATION     LS1C
                             TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                   (CFS)
+   29750.      14.42                11919.       3430.        1145.         495.
                              (INCHES)   1.450       1.669        1.673        1.673
                               (AC-FT)   5910.       6803.        6816.        6816.

                              CUMULATIVE AREA =   76.41 SQ MI

      ***                 ***            ***            ***            ***


                              INTERPOLATED HYDROGRAPH AT     LS1C

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                   (CFS)
+   29751.      14.42                11923.       3431.        1146.         495.
                              (INCHES)   1.451       1.670        1.673        1.673
                               (AC-FT)   5912.       6805.        6818.        6818.

                              CUMULATIVE AREA =   76.41 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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                **************
                *            *
226 KK          *   LS1LS2   *        ROUTE   REACH
                *            *
                **************
                                ROUTE COMBINED FLOWS FROM THE CONFLUENCE OF BUCHANAN WASH AND SKUNK
                                CREEK TO PINNACLE PEAK ROAD IN SKUNK CREEK

                HYDROGRAPH ROUTING DATA

229 RS            STORAGE ROUTING
                       NSTPS          3  NUMBER OF SUBREACHES
                        ITYP       STOR  TYPE OF INITIAL CONDITION
                      RSVRIC      -1.00  INITIAL CONDITION
                           X        .00  WORKING R AND D COEFFICIENT

230 RC            NORMAL DEPTH CHANNEL
                         ANL       .035  LEFT OVERBANK N-VALUE
                        ANCH       .035  MAIN CHANNEL N-VALUE
                         ANR       .035  RIGHT OVERBANK N-VALUE
                       RLNTH      9552.  REACH LENGTH
                         SEL      .0063  ENERGY SLOPE
                       ELMAX       15.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                      CROSS-SECTION DATA
                            --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
232 RY        ELEVATION     15.00     15.00     15.00       .00       .00     15.00     15.00     15.00
231 RX        DISTANCE        .00      8.00     15.00     50.00    320.00    355.00    362.00    370.00

                                                                  ***

                                      COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00     47.06     94.76    143.10    192.07    241.68    291.93    342.82    394.35    446.51
          OUTFLOW        .00    616.17   1959.31   3857.45   6241.21   9068.75  12311.25  15947.36  19960.54  24337.59
        ELEVATION        .00       .79      1.58      2.37      3.16      3.95      4.74      5.53      6.32      7.11

          STORAGE     499.31    552.75    606.83    661.54    716.89    772.88    829.51    886.78    944.68   1003.22
          OUTFLOW   29067.71  34141.95  39552.77  45293.77  51359.50  57745.27  64447.01  71461.24  78784.90  86415.35
        ELEVATION       7.89      8.68      9.47     10.26     11.05     11.84     12.63     13.42     14.21     15.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN    34142. TO    86415.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   LS1LS2
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   29639.     14.50          11993.      3461.       1156.         500.
                           (INCHES)      1.459       1.685       1.688       1.688
                            (AC-FT)      5947.       6865.       6879.       6879.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     168.     14.50                  87.         31.         10.           4.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     7.98     14.50                 4.22        1.52         .51         .22

                      CUMULATIVE AREA =   76.41 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   LS1LS2
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   29636.     14.50          11945.      3448.       1152.         498.
                           (INCHES)      1.453       1.678       1.682       1.682
                            (AC-FT)      5923.       6840.       6854.       6854.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     168.     14.50                  87.         31.         10.           4.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
```

```
      7.98     14.50                 4.21        1.51         .51          .22

                        CUMULATIVE AREA =   76.41 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   LS1LS2
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+   29635.     14.50             11914.       3440.       1149.         497.
                         (INCHES)   1.450       1.674       1.678        1.678
                          (AC-FT)   5908.       6823.       6838.        6838.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      168.     14.50                 87.         31.         10.           4.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      7.98     14.50                 4.20        1.51         .51          .22

                        CUMULATIVE AREA =   76.41 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   LS1LS2
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+   29633.     14.50             11884.       3432.       1146.         495.
                         (INCHES)   1.446       1.670       1.674        1.674
                          (AC-FT)   5893.       6807.       6821.        6821.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      168.     14.50                 87.         31.         10.           4.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      7.98     14.50                 4.19        1.51         .51          .22

                        CUMULATIVE AREA =   76.41 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   LS1LS2
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+   29632.     14.50             11874.       3429.       1145.         495.
                         (INCHES)   1.445       1.669       1.673        1.673
                          (AC-FT)   5888.       6801.       6816.        6816.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      168.     14.50                 87.         31.         10.           4.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      7.98     14.50                 4.19        1.50         .50          .22

                        CUMULATIVE AREA =   76.41 SQ MI

      ***            ***            ***            ***            ***


                        INTERPOLATED HYDROGRAPH AT   LS1LS2

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+   29633.     14.50             11878.       3430.       1146.         495.
                         (INCHES)   1.445       1.670       1.673        1.673
                          (AC-FT)   5890.       6804.       6818.        6818.
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                    CUMULATIVE AREA =   76.41 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 233 KK     *      LS-2  *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

 234 BA         SUBBASIN CHARACTERISTICS
                     TAREA          .94  SUBBASIN AREA

 235 LG         GREEN AND AMPT LOSS RATE
                     STRTL          .23  STARTING LOSS
                       DTH          .25  MOISTURE DEFICIT
                      PSIF         4.80  WETTING FRONT SUCTION
                     XKSAT          .28  HYDRAULIC CONDUCTIVITY
                     RTIMP         7.00  PERCENT IMPERVIOUS AREA

 236 UC         CLARK UNITGRAPH
                        TC         1.00  TIME OF CONCENTRATION
                         R          .77  STORAGE COEFFICIENT

 237 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                   ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=  1.00 HR,       R=   .77 HR
                                        SNYDER   TP=   .56 HR,      CP=   .43

                                                  UNIT HYDROGRAPH
                                              54 END-OF-PERIOD ORDINATES
                16.       61.      126.      225.      367.      461.      473.      466.      452.      432.
               408.      385.      354.      318.      285.      256.      230.      206.      185.      166.
               149.      133.      120.      107.       96.       86.       78.       70.       62.       56.
                50.       45.       40.       36.       33.       29.       26.       24.       21.       19.
                17.       15.       14.       12.       11.       10.        9.        8.        7.        6.
                 6.        5.        5.        4.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-2
                      TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.60, TOTAL EXCESS =    1.50

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     608.     12.42                143.         38.         13.           5.
                       (INCHES)    1.410       1.494       1.495        1.495
                        (AC-FT)       71.         75.         75.          75.

                       CUMULATIVE AREA =     .94 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-2
                      TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.48, TOTAL EXCESS =    1.38

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     558.     12.42                131.         35.         12.           5.
                       (INCHES)    1.290       1.368       1.370        1.370
                        (AC-FT)       65.         69.         69.          69.

                       CUMULATIVE AREA =     .94 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-2
                      TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.40, TOTAL EXCESS =    1.29

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
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+   (CFS)        (HR)
                          (CFS)
+     524.      12.42                123.         33.         11.          5.
                         (INCHES)    1.209       1.283       1.285       1.285
                          (AC-FT)     61.         65.         65.         65.

                         CUMULATIVE AREA =     .94 SQ MI


      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     LS-2
                        TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.32, TOTAL EXCESS =    1.21

  PEAK FLOW     TIME                           MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     490.      12.42                115.         30.         10.          4.
                         (INCHES)    1.127       1.198       1.200       1.200
                          (AC-FT)     57.         60.         60.         60.

                         CUMULATIVE AREA =     .94 SQ MI


      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     LS-2
                        TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.29, TOTAL EXCESS =    1.18

  PEAK FLOW     TIME                           MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     478.      12.42                112.         30.         10.          4.
                         (INCHES)    1.098       1.168       1.170       1.170
                          (AC-FT)     55.         59.         59.         59.

                         CUMULATIVE AREA =     .94 SQ MI

      ***             ***             ***             ***             ***


                         INTERPOLATED HYDROGRAPH AT     LS-2

  PEAK FLOW     TIME                           MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     575.      12.42                135.         36.         12.          5.
                         (INCHES)    1.331       1.411       1.412       1.412
                          (AC-FT)     67.         71.         71.         71.

                         CUMULATIVE AREA =     .94 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 239 KK     *      LS2C  *
            *            *
            **************
                         COMBINE FLOWS IN SKUNK CREEK AT PINNACLE PEAK ROAD

 241 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     LS2C
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                           MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+   29705.      14.50               12124.       3499.       1169.        505.
                         (INCHES)    1.457       1.682       1.686       1.686
                          (AC-FT)    6012.       6940.       6955.       6955.

                         CUMULATIVE AREA =   77.35 SQ MI

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                    HYDROGRAPH AT STATION      LS2C
                 TRANSPOSITION AREA      10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+   29697.      14.50                12065.       3483.        1163.         503.
                              (INCHES)   1.450       1.674        1.678        1.678
                               (AC-FT)   5983.       6908.        6923.        6923.

                          CUMULATIVE AREA =   77.35 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION      LS2C
                 TRANSPOSITION AREA      30.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+   29692.      14.50                12026.       3472.        1160.         501.
                              (INCHES)   1.446       1.669        1.673        1.673
                               (AC-FT)   5964.       6887.        6902.        6902.

                          CUMULATIVE AREA =   77.35 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION      LS2C
                 TRANSPOSITION AREA      60.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+   29686.      14.50                11988.       3462.        1157.         500.
                              (INCHES)   1.441       1.664        1.668        1.668
                               (AC-FT)   5944.       6867.        6882.        6882.

                          CUMULATIVE AREA =   77.35 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION      LS2C
                 TRANSPOSITION AREA      90.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+   29684.      14.50                11975.       3458.        1155.         499.
                              (INCHES)   1.439       1.663        1.666        1.666
                               (AC-FT)   5938.       6860.        6875.        6875.

                          CUMULATIVE AREA =   77.35 SQ MI

      ***             ***             ***             ***             ***


                    INTERPOLATED HYDROGRAPH AT      LS2C

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+   29685.      14.50                11980.       3460.        1156.         500.
                              (INCHES)   1.440       1.663        1.667        1.667
                               (AC-FT)   5940.       6862.        6877.        6877.

                          CUMULATIVE AREA =   77.35 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  242 KK    *     LS-3   *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

  243 BA        SUBBASIN CHARACTERISTICS
                     TAREA         .54  SUBBASIN AREA
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244 LG          GREEN AND AMPT LOSS RATE
                      STRTL          .17  STARTING LOSS
                        DTH          .25  MOISTURE DEFICIT
                       PSIF         4.30  WETTING FRONT SUCTION
                      XKSAT          .41  HYDRAULIC CONDUCTIVITY
                      RTIMP        39.00  PERCENT IMPERVIOUS AREA

245 UC          CLARK UNITGRAPH
                         TC          .41  TIME OF CONCENTRATION
                          R          .22  STORAGE COEFFICIENT

246 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=   .41 HR,       R=   .22 HR
                                        SNYDER   TP=   .23 HR,      CP=   .55

                                                UNIT HYDROGRAPH
                                           17 END-OF-PERIOD ORDINATES
              107.      505.      796.      736.      608.      456.      313.      215.      147.      101.
               69.       48.       33.       22.       15.       11.        7.

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-3
                   TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.79, TOTAL EXCESS =    2.31

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     845.     12.17                 107.         34.         11.          5.
                        (INCHES)    1.840      2.301       2.304      2.304
                         (AC-FT)     53.         67.         67.         67.

                       CUMULATIVE AREA =     .54 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-3
                   TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.70, TOTAL EXCESS =    2.15

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     784.     12.17                 100.         31.         10.          5.
                        (INCHES)    1.707      2.141       2.143      2.143
                         (AC-FT)     49.         62.         62.         62.

                       CUMULATIVE AREA =     .54 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-3
                   TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.65, TOTAL EXCESS =    2.04

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     743.     12.17                  95.         30.         10.          4.
                        (INCHES)    1.619      2.034       2.036      2.036
                         (AC-FT)     47.         59.         59.         59.

                       CUMULATIVE AREA =     .54 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-3
                   TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.59, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     702.     12.17                  89.         28.          9.          4.
                        (INCHES)    1.531      1.928       1.930      1.930
                         (AC-FT)     44.         56.         56.         56.
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                    CUMULATIVE AREA =     .54 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-3
                   TRANSPOSITION AREA     90.0 SQ MI

   TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.57, TOTAL EXCESS =    1.90

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     688.     12.17                 88.         28.          9.           4.
                        (INCHES)    1.500       1.890       1.892        1.892
                         (AC-FT)     43.         55.         55.          55.

                    CUMULATIVE AREA =     .54 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS-3

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     810.     12.17                103.         32.         11.           5.
                        (INCHES)    1.763       2.208       2.211        2.211
                         (AC-FT)     51.         64.         64.          64.

                    CUMULATIVE AREA =     .54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 248 KK     *    LS3LS5  *        ROUTE   REACH
            *            *
            **************
                          ROUTE RUNOFF FROM SUBBASIN LS-3 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK ROAD

              HYDROGRAPH ROUTING DATA

 250 RS          STORAGE ROUTING
                      NSTPS          4  NUMBER OF SUBREACHES
                       ITYP       STOR  TYPE OF INITIAL CONDITION
                     RSVRIC      -1.00  INITIAL CONDITION
                          X        .00 WORKING R AND D COEFFICIENT

 251 RC          NORMAL DEPTH CHANNEL
                        ANL       .080  LEFT OVERBANK N-VALUE
                       ANCH       .040  MAIN CHANNEL N-VALUE
                        ANR       .080  RIGHT OVERBANK N-VALUE
                      RLNTH      8883.  REACH LENGTH
                        SEL      .0040  ENERGY SLOPE
                      ELMAX        6.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                      CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 253 RY        ELEVATION      6.00      5.00      4.00       .00       .00      4.00      5.00      6.00
 252 RX        DISTANCE        .00    100.00    200.00    220.00    370.00    390.00    490.00    590.00

                                                          ***

                                      COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00      9.76     19.73     29.89     40.27     50.84     61.62     72.60     83.78     95.17
            OUTFLOW        .00     51.92    165.40    326.25    528.86    769.95   1047.31   1359.35   1704.87   2082.97
          ELEVATION        .00       .32       .63       .95      1.26      1.58      1.89      2.21      2.53      2.84

            STORAGE     106.76    118.56    130.56    142.97    158.60    178.29    202.05    229.88    261.77    297.73
            OUTFLOW    2492.92   2934.16   3406.25   3923.13   4506.62   5139.55   5829.60   6583.30   7406.53   8304.72
          ELEVATION       3.16      3.47      3.79      4.11      4.42      4.74      5.05      5.37      5.68      6.00

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   LS3LS5
                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     454.     12.75                106.         33.         11.           5.
                        (INCHES)    1.819       2.288       2.304        2.304
                         (AC-FT)     53.         66.         67.          67.
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 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)      (HR)
       9.      12.75                   3.           1.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+   (FEET)      (HR)
      1.15     12.75                  .40          .14          .05          .02

                          CUMULATIVE AREA =     .54 SQ MI

      ***                ***          ***          ***          ***

                          HYDROGRAPH AT STATION   LS3LS5
                         TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                             (CFS)
+     408.     12.83                  99.          31.          10.           5.
                           (INCHES)  1.687       2.128        2.143        2.143
                            (AC-FT)   49.          62.          62.          62.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)      (HR)
       9.      12.83                   3.           1.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+   (FEET)      (HR)
      1.07     12.83                  .38          .13          .05          .02

                          CUMULATIVE AREA =     .54 SQ MI

      ***                ***          ***          ***          ***

                          HYDROGRAPH AT STATION   LS3LS5
                         TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                             (CFS)
+     380.     12.83                  93.          30.          10.           4.
                           (INCHES)  1.600       2.022        2.036        2.036
                            (AC-FT)   46.          59.          59.          59.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)      (HR)
       8.      12.83                   3.           1.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+   (FEET)      (HR)
      1.03     12.83                  .37          .13          .04          .02

                          CUMULATIVE AREA =     .54 SQ MI

      ***                ***          ***          ***          ***

                          HYDROGRAPH AT STATION   LS3LS5
                         TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                             (CFS)
+     350.     12.83                  88.          28.           9.           4.
                           (INCHES)  1.512       1.916        1.930        1.930
                            (AC-FT)   44.          55.          56.          56.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)      (HR)
       8.      12.83                   3.           1.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+   (FEET)      (HR)
       .98     12.83                  .36          .13          .04          .02

                          CUMULATIVE AREA =     .54 SQ MI

      ***                ***          ***          ***          ***

                          HYDROGRAPH AT STATION   LS3LS5
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                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     339.     12.83                 87.         27.          9.           4.
                         (INCHES)   1.482       1.879       1.892        1.892
                          (AC-FT)     43.         54.         55.          55.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        8.     12.83                  3.          1.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .97      12.83                 .35         .12         .04          .02

                     CUMULATIVE AREA =     .54 SQ MI

      ***            ***            ***            ***            ***


                     INTERPOLATED HYDROGRAPH AT   LS3LS5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     426.     12.75                102.         32.         11.           5.
                         (INCHES)   1.743       2.195       2.211        2.211
                          (AC-FT)     50.         64.         64.          64.

                     CUMULATIVE AREA =     .54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 254 KK     *     LS-4   *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

 255 BA         SUBBASIN CHARACTERISTICS
                      TAREA        1.85  SUBBASIN AREA

 256 LG         GREEN AND AMPT LOSS RATE
                      STRTL         .22  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        4.35  WETTING FRONT SUCTION
                      XKSAT         .43  HYDRAULIC CONDUCTIVITY
                      RTIMP       29.00  PERCENT IMPERVIOUS AREA

 257 UC         CLARK UNITGRAPH
                         TC         .50  TIME OF CONCENTRATION
                          R         .28  STORAGE COEFFICIENT

 258 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                   ***

                                              UNIT HYDROGRAPH PARAMETERS
                                       CLARK   TC=   .50 HR,       R=   .28 HR
                                      SNYDER   TP=   .30 HR,      CP=   .58

                                                UNIT HYDROGRAPH
                                           21 END-OF-PERIOD ORDINATES
            228.      932.     1894.     2279.     2025.     1722.     1369.     1016.      750.      554.
            409.      302.      223.      165.      122.       90.       66.       49.       36.       27.
             20.

      ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-4
                    TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.10, TOTAL EXCESS =    2.00

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    2462.     12.17                 327.         99.         33.          14.
                         (INCHES)   1.645       1.987       1.990        1.990
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                    (AC-FT)      162.        196.        196.        196.

                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-4
                   TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.00, TOTAL EXCESS =    1.85

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+    2270.     12.17                 303.         92.         31.          13.
                    (INCHES)       1.519       1.842       1.844       1.844
                     (AC-FT)       150.        182.        182.        182.

                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-4
                   TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.94, TOTAL EXCESS =    1.75

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+    2142.     12.17                 286.         87.         29.          13.
                    (INCHES)       1.436       1.744       1.746       1.746
                     (AC-FT)       142.        172.        172.        172.

                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-4
                   TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.87, TOTAL EXCESS =    1.65

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+    2012.     12.17                 269.         82.         27.          12.
                    (INCHES)       1.351       1.646       1.648       1.648
                     (AC-FT)       133.        162.        163.        163.

                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-4
                   TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.85, TOTAL EXCESS =    1.62

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+    1967.     12.17                 263.         80.         27.          12.
                    (INCHES)       1.322       1.612       1.614       1.614
                     (AC-FT)       130.        159.        159.        159.

                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS-4

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+    2317.     12.17                 309.         93.         31.          13.
                    (INCHES)       1.550       1.877       1.879       1.879
                     (AC-FT)       153.        185.        186.        186.

                    CUMULATIVE AREA =    1.85 SQ MI
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
 260 KK       *    RETLS4  *
              *            *
              **************
                                DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                                 - 445 AC DEVELOPMENT WITH RETENTION
                                 - C FACTOR = 0.63
                                 - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                       ISTAD       R4OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX       62.20  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ       DIVERTED FLOW        .00  10000.00

                                                                  ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R4OUT
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1599.     12.00                 108.         31.         10.           5.
                        (INCHES)     .541        .630        .630         .630
                         (AC-FT)      53.         62.         62.          62.

                        CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RETLS4
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2462.     12.17                 250.         68.         23.          10.
                        (INCHES)    1.257       1.360       1.360        1.360
                         (AC-FT)     124.        134.        134.         134.

                        CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R4OUT
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1547.     12.08                 109.         31.         10.           5.
                        (INCHES)     .546        .630        .630         .630
                         (AC-FT)      54.         62.         62.          62.

                        CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RETLS4
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2270.     12.17                 222.         60.         20.           9.
                        (INCHES)    1.118       1.214       1.214        1.214
                         (AC-FT)     110.        120.        120.         120.

                        CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R4OUT
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

```
                    (CFS)
+    1890.     12.08                109.        31.        10.         5.
                  (INCHES)          .548       .630       .630       .630
                   (AC-FT)           54.        62.        62.        62.

                   CUMULATIVE AREA =    1.85 SQ MI

      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   RETLS4
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR      72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+    2073.     12.17                204.        56.        19.         8.
                  (INCHES)         1.026      1.116      1.116      1.116
                   (AC-FT)          101.       110.       110.       110.

                   CUMULATIVE AREA =    1.85 SQ MI

      ***          ***          ***          ***          ***

                    DIVERSION HYDROGRAPH    R4OUT
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR      72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+    1771.     12.08                110.        31.        10.         5.
                  (INCHES)          .552       .630       .630       .630
                   (AC-FT)           55.        62.        62.        62.

                   CUMULATIVE AREA =    1.85 SQ MI

      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   RETLS4
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR      72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+    1924.     12.25                185.        51.        17.         7.
                  (INCHES)          .931      1.018      1.018      1.018
                   (AC-FT)           92.       100.       100.       100.

                   CUMULATIVE AREA =    1.85 SQ MI

      ***          ***          ***          ***          ***

                    DIVERSION HYDROGRAPH    R4OUT
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR      72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+    1729.     12.08                110.        31.        10.         5.
                  (INCHES)          .553       .630       .630       .630
                   (AC-FT)           55.        62.        62.        62.

                   CUMULATIVE AREA =    1.85 SQ MI

      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   RETLS4
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR      72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+    1882.     12.25                179.        49.        16.         7.
                  (INCHES)          .899       .984       .984       .984
                   (AC-FT)           89.        97.        97.        97.

                   CUMULATIVE AREA =    1.85 SQ MI

      ***          ***          ***          ***          ***


              INTERPOLATED DIVERSION HYDROGRAPH AT    R4OUT

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR      72-HR    166.58-HR
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+   (CFS)        (HR)
                          (CFS)
+    1495.      12.00                109.          31.          10.           5.
                        (INCHES)     .545         .630         .630         .630
                         (AC-FT)      54.          62.          62.          62.

                        CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT   RETLS4

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+    2317.      12.17                229.          62.          21.           9.
                        (INCHES)    1.152        1.249        1.249        1.249
                         (AC-FT)     114.         123.         123.         123.

                        CUMULATIVE AREA =    1.85 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 268 KK     *    LS4LS5  *        ROUTE   REACH
            *            *
            **************
                            ROUTE RUNOFF FROM SUBBASIN LS-4 THROUGH LS-5 FROM HAPPY VALLEY ROAD
                            TO PINNACLE PEAK ROAD

              HYDROGRAPH ROUTING DATA

 271 RS          STORAGE ROUTING
                      NSTPS           4  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC       -1.00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 272 RC          NORMAL DEPTH CHANNEL
                        ANL        .080  LEFT OVERBANK N-VALUE
                       ANCH        .040  MAIN CHANNEL N-VALUE
                        ANR        .080  RIGHT OVERBANK N-VALUE
                      RLNTH       6160.  REACH LENGTH
                        SEL       .0040  ENERGY SLOPE
                      ELMAX         6.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 274 RY        ELEVATION      6.00      5.00      4.00       .00       .00      4.00      5.00      6.00
 273 RX        DISTANCE        .00    100.00    200.00    220.00    370.00    390.00    490.00    590.00

                                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

           STORAGE        .00      6.77     13.68     20.73     27.92     35.26     42.73     50.35     58.10     66.00
           OUTFLOW        .00     51.92    165.40    326.25    528.86    769.95   1047.31   1359.35   1704.87   2082.97
         ELEVATION        .00       .32       .63       .95      1.26      1.58      1.89      2.21      2.53      2.84

           STORAGE      74.04     82.22     90.54     99.15    109.98    123.64    140.11    159.41    181.53    206.46
           OUTFLOW    2492.92   2934.16   3406.25   3923.13   4506.62   5139.55   5829.60   6583.30   7406.53   8304.72
         ELEVATION       3.16      3.47      3.79      4.11      4.42      4.74      5.05      5.37      5.68      6.00

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   LS4LS5
                      TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+    1715.      12.58                243.          68.          23.          10.
                        (INCHES)    1.222        1.360        1.360        1.360
                         (AC-FT)     121.         134.         134.         134.

 PEAK STORAGE    TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)       (HR)
      15.      12.58                  3.           1.           0.           0.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+   (FEET)       (HR)
     2.54      12.58                 .62          .20          .07          .03
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                    CUMULATIVE AREA =    1.85 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   LS4LS5
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1463.     12.58                216.         60.         20.           9.
                        (INCHES)    1.085       1.214       1.214        1.214
                         (AC-FT)     107.        120.        120.         120.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      13.      12.58                  3.          1.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      2.31     12.58                 .58         .18         .06          .03

                    CUMULATIVE AREA =    1.85 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   LS4LS5
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1316.     12.67                198.         56.         19.           8.
                        (INCHES)    .993       1.116       1.116        1.116
                         (AC-FT)      98.        110.        110.         110.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      12.      12.67                  3.          1.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      2.17     12.67                 .56         .18         .06          .03

                    CUMULATIVE AREA =    1.85 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   LS4LS5
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1161.     12.67                179.         51.         17.           7.
                        (INCHES)    .901       1.018       1.018        1.018
                         (AC-FT)      89.        100.        100.         100.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      11.      12.67                  3.          1.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      2.01     12.67                 .53         .17         .06          .02

                    CUMULATIVE AREA =    1.85 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   LS4LS5
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1098.     12.67                173.         49.         16.           7.
                        (INCHES)    .869        .984        .984         .984
                         (AC-FT)      86.         97.         97.          97.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
```

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                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      11.     12.67                      3.          1.          0.           0.

  PEAK STAGE    TIME                            MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     1.95     12.67                     .52         .16         .05          .02

                        CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT   LS4LS5

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    1525.    12.58                     223.         62.         21.           9.
                        (INCHES)      1.118       1.249       1.249        1.249
                         (AC-FT)      110.         123.        123.         123.

                        CUMULATIVE AREA =    1.85 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  275 KK    *      LS-5  *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

  276 BA          SUBBASIN CHARACTERISTICS
                        TAREA        1.28  SUBBASIN AREA

  277 LG          GREEN AND AMPT LOSS RATE
                        STRTL         .28  STARTING LOSS
                          DTH         .25  MOISTURE DEFICIT
                         PSIF        4.90  WETTING FRONT SUCTION
                        XKSAT         .33  HYDRAULIC CONDUCTIVITY
                        RTIMP       22.00  PERCENT IMPERVIOUS AREA

  278 UC          CLARK UNITGRAPH
                           TC         .97  TIME OF CONCENTRATION
                            R         .58  STORAGE COEFFICIENT

  279 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0
                                                                  ***

                                                      UNIT HYDROGRAPH PARAMETERS
                                                CLARK   TC=    .97 HR,       R=    .58 HR
                                               SNYDER   TP=    .50 HR,      CP=    .48

                                                         UNIT HYDROGRAPH
                                                   42 END-OF-PERIOD ORDINATES
                29.      111.      229.      417.      658.      786.      784.      753.      710.      658.
               605.      552.      488.      422.      365.      316.      273.      237.      205.      177.
               153.      133.      115.       99.       86.       74.       64.       56.       48.       42.
                36.       31.       27.       23.       20.       17.       15.       13.       11.       10.
                 8.        7.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.24, TOTAL EXCESS =    1.86

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    1008.    12.42                     218.         63.         21.           9.
                        (INCHES)      1.583       1.843       1.847        1.847
                         (AC-FT)      108.         126.        126.         126.

                        CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA     10.0 SQ MI
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    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.15, TOTAL EXCESS =    1.71

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     925.     12.42                 200.         58.         19.           8.
                        (INCHES)    1.452       1.696       1.700       1.700
                         (AC-FT)     99.        116.        116.         116.

                        CUMULATIVE AREA =    1.28 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.08, TOTAL EXCESS =    1.61

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     870.     12.42                 188.         55.         18.           8.
                        (INCHES)    1.366       1.600       1.603       1.603
                         (AC-FT)     93.        109.        109.         109.

                        CUMULATIVE AREA =    1.28 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.01, TOTAL EXCESS =    1.52

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     817.     12.42                 177.         52.         17.           7.
                        (INCHES)    1.284       1.508       1.511       1.511
                         (AC-FT)     88.        103.        103.         103.

                        CUMULATIVE AREA =    1.28 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.98, TOTAL EXCESS =    1.49

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     798.     12.42                 173.         51.         17.           7.
                        (INCHES)    1.256       1.476       1.479       1.479
                         (AC-FT)     86.        101.        101.         101.

                        CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT     LS-5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     950.     12.42                 205.         60.         20.           9.
                        (INCHES)    1.491       1.740       1.743       1.743
                         (AC-FT)    102.        119.        119.         119.

                        CUMULATIVE AREA =    1.28 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  281 KK    *    RETLS5  *
            *            *
            **************
                          DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
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                    - 72.5 AC DEVELOPMENT WITH RETENTION
                    - C FACTOR = 0.63
                    - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                      ISTAD       R5OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       10.10  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH    R5OUT
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     25.      10.33                15.          5.          2.           1.
                        (INCHES)    .110        .148        .148         .148
                         (AC-FT)      8.         10.         10.          10.

                       CUMULATIVE AREA =    1.28 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   RETLS5
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1008.     12.42               218.         58.         19.           8.
                        (INCHES)   1.580      1.699       1.699        1.699
                         (AC-FT)    108.       116.        116.         116.

                       CUMULATIVE AREA =    1.28 SQ MI

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH    R5OUT
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     26.      10.67                15.          5.          2.           1.
                        (INCHES)    .109        .148        .148         .148
                         (AC-FT)      7.         10.         10.          10.

                       CUMULATIVE AREA =    1.28 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   RETLS5
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     925.      12.42               199.         53.         18.           8.
                        (INCHES)   1.446      1.552       1.552        1.552
                         (AC-FT)     99.        106.        106.         106.

                       CUMULATIVE AREA =    1.28 SQ MI

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH    R5OUT
                     TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     27.      10.83                15.          5.          2.           1.
                        (INCHES)    .108        .148        .148         .148
                         (AC-FT)      7.         10.         10.          10.

                       CUMULATIVE AREA =    1.28 SQ MI

      ***            ***            ***            ***            ***
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                    HYDROGRAPH AT STATION   RETLS5
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     870.      12.42                187.         50.         17.           7.
                        (INCHES)    1.358      1.455       1.455       1.455
                         (AC-FT)     93.         99.         99.          99.

                       CUMULATIVE AREA =    1.28 SQ MI


      ***             ***            ***            ***            ***

                    DIVERSION HYDROGRAPH    R5OUT
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      29.      11.08                 15.          5.          2.           1.
                        (INCHES)     .108       .148        .148        .148
                         (AC-FT)      7.         10.         10.          10.

                       CUMULATIVE AREA =    1.28 SQ MI


      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION   RETLS5
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     817.      12.42                175.         47.         16.           7.
                        (INCHES)    1.273      1.363       1.363       1.363
                         (AC-FT)     87.         93.         93.          93.

                       CUMULATIVE AREA =    1.28 SQ MI


      ***             ***            ***            ***            ***

                    DIVERSION HYDROGRAPH    R5OUT
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      29.      11.08                 15.          5.          2.           1.
                        (INCHES)     .108       .148        .148        .148
                         (AC-FT)      7.         10.         10.          10.

                       CUMULATIVE AREA =    1.28 SQ MI


      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION   RETLS5
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     798.      12.42                171.         46.         15.           7.
                        (INCHES)    1.244      1.331       1.331       1.331
                         (AC-FT)     85.         91.         91.          91.

                       CUMULATIVE AREA =    1.28 SQ MI

      ***             ***            ***            ***            ***


              INTERPOLATED DIVERSION HYDROGRAPH AT    R5OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      24.      10.42                 15.          5.          2.           1.
                        (INCHES)     .108       .148        .148        .148
                         (AC-FT)      7.         10.         10.          10.

                       CUMULATIVE AREA =    1.28 SQ MI

      ***             ***            ***            ***            ***
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                    INTERPOLATED HYDROGRAPH AT   RETLS5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     950.     12.42                204.         55.         18.           8.
                        (INCHES)   1.485      1.595       1.595        1.595
                         (AC-FT)   101.        109.        109.         109.

                        CUMULATIVE AREA =    1.28 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  289 KK    *     LS5C   *
            *            *
            **************
                          COMBINE ROUTED FLOWS FROM LS3 AND LS4 WITH RUNOFF FROM LS5 AT ADOBE POOL
                          AT PINNACLE PEAK ROAD

  292 HC          HYDROGRAPH COMBINATION
                        ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS5C
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3012.     12.58                560.        159.         53.          23.
                        (INCHES)   1.418      1.614       1.617        1.617
                         (AC-FT)   278.        316.        317.         317.

                        CUMULATIVE AREA =    3.67 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS5C
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2625.     12.58                507.        145.         48.          21.
                        (INCHES)   1.284      1.466       1.469        1.469
                         (AC-FT)   252.        287.        288.         288.

                        CUMULATIVE AREA =    3.67 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS5C
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2397.     12.67                472.        135.         45.          20.
                        (INCHES)   1.196      1.367       1.370        1.370
                         (AC-FT)   234.        268.        268.         268.

                        CUMULATIVE AREA =    3.67 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS5C
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2164.     12.67                438.        125.         42.          18.
                        (INCHES)   1.108      1.270       1.273        1.273
                         (AC-FT)   217.        249.        249.         249.
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                    CUMULATIVE AREA =    3.67 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS5C
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2074.     12.67                 426.        122.         41.          18.
                        (INCHES)    1.078       1.236       1.239        1.239
                         (AC-FT)     211.        242.        243.         243.

                    CUMULATIVE AREA =    3.67 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS5C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2681.     12.58                 515.        147.         49.          21.
                        (INCHES)    1.304       1.487       1.490        1.490
                         (AC-FT)     255.        291.        292.         292.

                    CUMULATIVE AREA =    3.67 SQ MI


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          *            *
 293 KK   *      LS-6  *        BASIN
          *            *
          **************

             SUBBASIN RUNOFF DATA

 294 BA        SUBBASIN CHARACTERISTICS
                     TAREA         .79  SUBBASIN AREA

 295 LG        GREEN AND AMPT LOSS RATE
                     STRTL         .26  STARTING LOSS
                       DTH         .25  MOISTURE DEFICIT
                      PSIF        4.50  WETTING FRONT SUCTION
                     XKSAT         .38  HYDRAULIC CONDUCTIVITY
                     RTIMP       26.00  PERCENT IMPERVIOUS AREA

 296 UC        CLARK UNITGRAPH
                        TC        1.13  TIME OF CONCENTRATION
                         R         .99  STORAGE COEFFICIENT

 297 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                    .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                 100.0

                                                  ***

                                              UNIT HYDROGRAPH PARAMETERS
                                       CLARK   TC=  1.13 HR,       R=   .99 HR
                                      SNYDER   TP=   .67 HR,      CP=   .41

                                                UNIT HYDROGRAPH
                                           69 END-OF-PERIOD ORDINATES
              9.       34.       70.      112.      191.      277.      313.      321.      319.      313.
            304.      292.      279.      265.      246.      226.      208.      191.      175.      161.
            148.      136.      125.      115.      106.       97.       89.       82.       75.       69.
             64.       58.       54.       49.       45.       42.       38.       35.       32.       30.
             27.       25.       23.       21.       19.       18.       16.       15.       14.       13.
             12.       11.       10.        9.        8.        8.        7.        6.        6.        5.
              5.        5.        4.        4.        4.        3.        3.        3.        3.

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-6
                  TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.16, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     432.     12.50                 137.         41.         14.           6.
                        (INCHES)    1.604       1.921       1.929        1.929
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                    (AC-FT)        68.          81.          81.          81.

                    CUMULATIVE AREA =      .79 SQ MI

      ***           ***            ***          ***          ***

                    HYDROGRAPH AT STATION      LS-6
                  TRANSPOSITION AREA      10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.06, TOTAL EXCESS =    1.79

  PEAK FLOW      TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                    (CFS)
+     397.      12.50                126.         38.          13.           5.
                  (INCHES)         1.477        1.775        1.782        1.782
                  (AC-FT)           62.          75.          75.          75.

                    CUMULATIVE AREA =      .79 SQ MI

      ***           ***            ***          ***          ***

                    HYDROGRAPH AT STATION      LS-6
                  TRANSPOSITION AREA      30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.99, TOTAL EXCESS =    1.70

  PEAK FLOW      TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                    (CFS)
+     375.      12.50                119.         36.          12.           5.
                  (INCHES)         1.395        1.680        1.687        1.687
                  (AC-FT)           59.          71.          71.          71.

                    CUMULATIVE AREA =      .79 SQ MI

      ***           ***            ***          ***          ***

                    HYDROGRAPH AT STATION      LS-6
                  TRANSPOSITION AREA      60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.93, TOTAL EXCESS =    1.60

  PEAK FLOW      TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                    (CFS)
+     352.      12.50                112.         34.          11.           5.
                  (INCHES)         1.312        1.585        1.592        1.592
                  (AC-FT)           55.          67.          67.          67.

                    CUMULATIVE AREA =      .79 SQ MI

      ***           ***            ***          ***          ***

                    HYDROGRAPH AT STATION      LS-6
                  TRANSPOSITION AREA      90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.90, TOTAL EXCESS =    1.57

  PEAK FLOW      TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                    (CFS)
+     344.      12.50                109.         33.          11.           5.
                  (INCHES)         1.283        1.552        1.558        1.558
                  (AC-FT)           54.          66.          66.          66.

                    CUMULATIVE AREA =      .79 SQ MI

      ***           ***            ***          ***          ***


                    INTERPOLATED HYDROGRAPH AT      LS-6

  PEAK FLOW      TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                    (CFS)
+     410.      12.50                130.         39.          13.           6.
                  (INCHES)         1.523        1.829        1.836        1.836
                  (AC-FT)           64.          77.          78.          78.

                    CUMULATIVE AREA =      .79 SQ MI
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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            *            *
299 KK      *     LS-7   *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

300 BA           SUBBASIN CHARACTERISTICS
                      TAREA          .60  SUBBASIN AREA

301 LG           GREEN AND AMPT LOSS RATE
                      STRTL          .32  STARTING LOSS
                        DTH          .25  MOISTURE DEFICIT
                       PSIF         4.50  WETTING FRONT SUCTION
                      XKSAT          .39  HYDRAULIC CONDUCTIVITY
                      RTIMP         7.00  PERCENT IMPERVIOUS AREA

302 UC           CLARK UNITGRAPH
                         TC          .96  TIME OF CONCENTRATION
                          R         1.04  STORAGE COEFFICIENT

303 UA           ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=   .96 HR,       R=  1.04 HR
                                        SNYDER   TP=   .61 HR,      CP=   .38

                                                UNIT HYDROGRAPH
                                            71 END-OF-PERIOD ORDINATES
                 8.       30.       64.      118.      188.      231.      241.      242.      239.      232.
               224.      214.      200.      185.      170.      157.      145.      134.      124.      114.
               105.       97.       90.       83.       76.       70.       65.       60.       55.       51.
                47.       43.       40.       37.       34.       32.       29.       27.       25.       23.
                21.       19.       18.       17.       15.       14.       13.       12.       11.       10.
                 9.        9.        8.        7.        7.        6.        6.        5.        5.        5.
                 4.        4.        4.        3.        3.        3.        3.        2.        2.        2.
                 2.

     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS-7
                     TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.74, TOTAL EXCESS =    1.36

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     287.     12.50                   81.         22.          7.          3.
                       (INCHES)      1.262       1.351       1.353       1.353
                        (AC-FT)       40.         43.         43.         43.

                      CUMULATIVE AREA =     .60 SQ MI

     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS-7
                     TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.61, TOTAL EXCESS =    1.24

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     261.     12.50                   74.         20.          7.          3.
                       (INCHES)      1.149       1.233       1.235       1.235
                        (AC-FT)       37.         39.         39.         39.

                      CUMULATIVE AREA =     .60 SQ MI

     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS-7
                     TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.53, TOTAL EXCESS =    1.16

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     244.     12.50                   69.         19.          6.          3.
                       (INCHES)      1.075       1.154       1.156       1.156
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                    (AC-FT)        34.          37.          37.          37.

                    CUMULATIVE AREA =      .60 SQ MI

      ***          ***          ***          ***          ***

                     HYDROGRAPH AT STATION      LS-7
                   TRANSPOSITION AREA      60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.44, TOTAL EXCESS =    1.08

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+     227.     12.50                  64.          17.           6.           2.
                    (INCHES)        .999        1.075        1.077        1.077
                     (AC-FT)         32.          34.          34.          34.

                    CUMULATIVE AREA =      .60 SQ MI

      ***          ***          ***          ***          ***

                     HYDROGRAPH AT STATION      LS-7
                   TRANSPOSITION AREA      90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.41, TOTAL EXCESS =    1.05

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+     221.     12.50                  62.          17.           6.           2.
                    (INCHES)        .973        1.048        1.049        1.049
                     (AC-FT)         31.          33.          33.          33.

                    CUMULATIVE AREA =      .60 SQ MI

      ***          ***          ***          ***          ***


                    INTERPOLATED HYDROGRAPH AT      LS-7

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+     272.     12.50                  77.          21.           7.           3.
                    (INCHES)       1.195        1.281        1.283        1.283
                     (AC-FT)         38.          41.          41.          41.

                    CUMULATIVE AREA =      .60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  305 KK    *      LS7C  *
            *            *
            **************
                      COMBINE RUNOFF FROM LS6 AND LS7 AT ADOBE POOL

  307 HC          HYDROGRAPH COMBINATION
                  ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

      ***          ***          ***          ***          ***

                     HYDROGRAPH AT STATION      LS7C
                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+     719.     12.50                 218.          63.          21.           9.
                    (INCHES)       1.456        1.676        1.682        1.682
                     (AC-FT)        108.         124.         125.         125.

                    CUMULATIVE AREA =    1.39 SQ MI

      ***          ***          ***          ***          ***

                     HYDROGRAPH AT STATION      LS7C
                   TRANSPOSITION AREA      10.0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     659.     12.50                199.         58.          19.           8.
                        (INCHES)   1.335       1.542        1.547        1.547
                         (AC-FT)     99.        114.         115.         115.

                        CUMULATIVE AREA =    1.39 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS7C
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     619.     12.50                188.         54.          18.           8.
                        (INCHES)   1.257       1.454        1.459        1.459
                         (AC-FT)     93.        108.         108.         108.

                        CUMULATIVE AREA =    1.39 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS7C
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     579.     12.50                176.         51.          17.           7.
                        (INCHES)   1.177       1.366        1.371        1.371
                         (AC-FT)     87.        101.         102.         102.

                        CUMULATIVE AREA =    1.39 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS7C
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     565.     12.50                172.         50.          17.           7.
                        (INCHES)   1.149       1.335        1.340        1.340
                         (AC-FT)     85.         99.          99.          99.

                        CUMULATIVE AREA =    1.39 SQ MI

      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT     LS7C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     676.     12.50                205.         59.          20.           9.
                        (INCHES)   1.370       1.580        1.585        1.585
                         (AC-FT)    101.        117.         117.         117.

                        CUMULATIVE AREA =    1.39 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  308 KK    *     LS-8   *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

  309 BA          SUBBASIN CHARACTERISTICS
                        TAREA         .57  SUBBASIN AREA

  310 LG          GREEN AND AMPT LOSS RATE
                        STRTL         .25  STARTING LOSS
                          DTH         .25  MOISTURE DEFICIT
                         PSIF        5.10  WETTING FRONT SUCTION
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                    XKSAT        .31  HYDRAULIC CONDUCTIVITY
                    RTIMP      33.00  PERCENT IMPERVIOUS AREA

311 UC          CLARK UNITGRAPH
                      TC        .67  TIME OF CONCENTRATION
                       R        .44  STORAGE COEFFICIENT

312 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                  100.0

                                                  ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=   .67 HR,       R=   .44 HR
                                        SNYDER   TP=   .39 HR,      CP=   .50

                                                UNIT HYDROGRAPH
                                            32 END-OF-PERIOD ORDINATES
              29.      112.      275.      434.      473.      448.      411.      370.      321.      265.
             219.      181.      149.      123.      101.       84.       69.       57.       47.       39.
              32.       26.       22.       18.       15.       12.       10.        8.        7.        6.
               5.        4.

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA        .0 SQ MI

   TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.91, TOTAL EXCESS =    2.19

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     600.     12.25                109.         33.         11.          5.
                        (INCHES)   1.786      2.176       2.180      2.180
                         (AC-FT)     54.         66.         66.        66.

                        CUMULATIVE AREA =     .57 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     10.0 SQ MI

   TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.83, TOTAL EXCESS =    2.03

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     555.     12.25                101.         31.         10.          4.
                        (INCHES)   1.649      2.015       2.019      2.019
                         (AC-FT)     50.         61.         61.        61.

                        CUMULATIVE AREA =     .57 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     30.0 SQ MI

   TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.77, TOTAL EXCESS =    1.92

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     524.     12.25                 95.         29.         10.          4.
                        (INCHES)   1.557      1.908       1.912      1.912
                         (AC-FT)     47.         58.         58.        58.

                        CUMULATIVE AREA =     .57 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     60.0 SQ MI

   TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.71, TOTAL EXCESS =    1.81

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     494.     12.25                 90.         27.          9.          4.
                        (INCHES)   1.468      1.803       1.807      1.807
                         (AC-FT)     44.         55.         55.        55.

                        CUMULATIVE AREA =     .57 SQ MI
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     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS-8
                     TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.69, TOTAL EXCESS =    1.78

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     483.     12.25                 88.         27.          9.           4.
                       (INCHES)     1.439       1.768       1.772        1.772
                        (AC-FT)      44.         53.         54.          54.

                       CUMULATIVE AREA =     .57 SQ MI

     ***             ***             ***             ***             ***


                       INTERPOLATED HYDROGRAPH AT     LS-8

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     574.     12.25                104.         32.         11.           5.
                       (INCHES)     1.706       2.082       2.086        2.086
                        (AC-FT)      52.         63.         63.          63.

                       CUMULATIVE AREA =     .57 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  314 KK    *     LS-9   *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

  315 BA          SUBBASIN CHARACTERISTICS
                        TAREA          .45  SUBBASIN AREA

  316 LG          GREEN AND AMPT LOSS RATE
                        STRTL          .20  STARTING LOSS
                          DTH          .25  MOISTURE DEFICIT
                         PSIF         5.20  WETTING FRONT SUCTION
                        XKSAT          .24  HYDRAULIC CONDUCTIVITY
                        RTIMP         9.00  PERCENT IMPERVIOUS AREA

  317 UC          CLARK UNITGRAPH
                           TC         1.02  TIME OF CONCENTRATION
                            R          .96  STORAGE COEFFICIENT

  318 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                         .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                      100.0

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=  1.02 HR,        R=   .96 HR
                                        SNYDER   TP=   .61 HR,       CP=   .39

                                                UNIT HYDROGRAPH
                                            67 END-OF-PERIOD ORDINATES
                 6.       23.       47.       82.      139.      181.      189.      190.      188.      183.
               176.      168.      159.      147.      135.      123.      113.      104.       95.       87.
                80.       73.       67.       61.       56.       52.       47.       43.       40.       36.
                33.       31.       28.       26.       24.       22.       20.       18.       17.       15.
                14.       13.       12.       11.       10.        9.        8.        8.        7.        6.
                 6.        5.        5.        5.        4.        4.        3.        3.        3.        3.
                 2.        2.        2.        2.        2.        2.        1.

     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS-9
                     TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.50, TOTAL EXCESS =    1.60

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     259.     12.50                 72.         19.          6.           3.
                       (INCHES)     1.480       1.592       1.594        1.594
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                    (AC-FT)        36.          38.          38.          38.

                    CUMULATIVE AREA =      .45 SQ MI

      ***           ***          ***          ***          ***

                    HYDROGRAPH AT STATION      LS-9
                  TRANSPOSITION AREA      10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.38, TOTAL EXCESS =    1.47

  PEAK FLOW      TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                     (CFS)
+     238.      12.50                66.          18.           6.           3.
                  (INCHES)       1.360        1.464        1.467        1.467
                   (AC-FT)        33.          35.          35.          35.

                    CUMULATIVE AREA =      .45 SQ MI

      ***           ***          ***          ***          ***

                    HYDROGRAPH AT STATION      LS-9
                  TRANSPOSITION AREA      30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.30, TOTAL EXCESS =    1.39

  PEAK FLOW      TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                     (CFS)
+     224.      12.50                62.          17.           6.           2.
                  (INCHES)       1.279        1.379        1.381        1.381
                   (AC-FT)        31.          33.          33.          33.

                    CUMULATIVE AREA =      .45 SQ MI

      ***           ***          ***          ***          ***

                    HYDROGRAPH AT STATION      LS-9
                  TRANSPOSITION AREA      60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.23, TOTAL EXCESS =    1.30

  PEAK FLOW      TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                     (CFS)
+     210.      12.50                58.          16.           5.           2.
                  (INCHES)       1.197        1.293        1.295        1.295
                   (AC-FT)        29.          31.          31.          31.

                    CUMULATIVE AREA =      .45 SQ MI

      ***           ***          ***          ***          ***

                    HYDROGRAPH AT STATION      LS-9
                  TRANSPOSITION AREA      90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.20, TOTAL EXCESS =    1.27

  PEAK FLOW      TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                     (CFS)
+     205.      12.50                57.          15.           5.           2.
                  (INCHES)       1.168        1.262        1.265        1.265
                   (AC-FT)        28.          30.          30.          30.

                    CUMULATIVE AREA =      .45 SQ MI

      ***           ***          ***          ***          ***

                    INTERPOLATED HYDROGRAPH AT      LS-9

  PEAK FLOW      TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                     (CFS)
+     247.      12.50                69.          18.           6.           3.
                  (INCHES)       1.414        1.521        1.524        1.524
                   (AC-FT)        34.          37.          37.          37.

                    CUMULATIVE AREA =      .45 SQ MI
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            *            *
320 KK      *     LS-10  *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

321 BA           SUBBASIN CHARACTERISTICS
                       TAREA          .26  SUBBASIN AREA

322 LG           GREEN AND AMPT LOSS RATE
                       STRTL          .25  STARTING LOSS
                         DTH          .25  MOISTURE DEFICIT
                        PSIF         5.80  WETTING FRONT SUCTION
                       XKSAT          .22  HYDRAULIC CONDUCTIVITY
                       RTIMP        32.00  PERCENT IMPERVIOUS AREA

323 UC           CLARK UNITGRAPH
                          TC          .26  TIME OF CONCENTRATION
                           R          .19  STORAGE COEFFICIENT

324 UA           ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=   .26 HR,       R=   .19 HR
                                           SNYDER   TP=   .18 HR,      CP=   .56

                                                      UNIT HYDROGRAPH
                                                 14 END-OF-PERIOD ORDINATES
                 129.      392.      475.      354.      231.      148.       94.       60.       39.       25.
                  16.       10.        6.        4.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS-10
                      TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.87, TOTAL EXCESS =    2.23

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     484.     12.08                  51.         15.          5.           2.
                       (INCHES)     1.846      2.225       2.226        2.226
                        (AC-FT)       25.         30.         31.          31.

                       CUMULATIVE AREA =     .26 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS-10
                      TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.78, TOTAL EXCESS =    2.07

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     450.     12.08                  47.         14.          5.           2.
                       (INCHES)     1.710      2.066       2.067        2.067
                        (AC-FT)       23.         28.         28.          28.

                       CUMULATIVE AREA =     .26 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS-10
                      TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.72, TOTAL EXCESS =    1.97

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     427.     12.08                  45.         14.          5.           2.
                       (INCHES)     1.619      1.960       1.961        1.961
                        (AC-FT)       22.         27.         27.          27.

                       CUMULATIVE AREA =     .26 SQ MI

      ***             ***             ***             ***             ***
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                    HYDROGRAPH AT STATION    LS-10
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.66, TOTAL EXCESS =    1.86

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     404.     12.08                 42.         13.          4.           2.
                        (INCHES)    1.528       1.853       1.855        1.855
                         (AC-FT)     21.         25.         25.          25.

                       CUMULATIVE AREA =     .26 SQ MI


      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-10
                  TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.64, TOTAL EXCESS =    1.82

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     396.     12.08                 41.         13.          4.           2.
                        (INCHES)    1.496       1.816       1.818        1.818
                         (AC-FT)     21.         25.         25.          25.

                       CUMULATIVE AREA =     .26 SQ MI

      ***             ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT    LS-10

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     468.     12.08                 49.         15.          5.           2.
                        (INCHES)    1.782       2.150       2.152        2.152
                         (AC-FT)     24.         29.         29.          29.

                       CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  326 KK    *     RET10  *
            *            *
            **************
                        DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                         - 121.4 AC DEVELOPMENT WITH RETENTION
                         - C FACTOR = 0.63
                         - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                      ISTAD      R10OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       17.00  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***             ***            ***            ***            ***

                    DIVERSION HYDROGRAPH   R10OUT
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     484.     12.08                 31.          9.          3.           1.
                        (INCHES)    1.136       1.240       1.240        1.240
                         (AC-FT)     16.         17.         17.          17.

                       CUMULATIVE AREA =     .26 SQ MI

      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION    RET10
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                    TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     310.     12.25                24.           7.           2.           1.
                             (INCHES)        .879         .986         .986         .986
                              (AC-FT)         12.          14.          14.          14.

                          CUMULATIVE AREA =     .26 SQ MI


      ***                 ***          ***          ***          ***

                        DIVERSION HYDROGRAPH   R10OUT
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     450.     12.08                32.           9.           3.           1.
                             (INCHES)       1.143        1.240        1.240        1.240
                              (AC-FT)         16.          17.          17.          17.

                          CUMULATIVE AREA =     .26 SQ MI


      ***                 ***          ***          ***          ***

                        HYDROGRAPH AT STATION    RET10
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     287.     12.25                20.           6.           2.           1.
                             (INCHES)        .727         .827         .827         .827
                              (AC-FT)         10.          11.          11.          11.

                          CUMULATIVE AREA =     .26 SQ MI


      ***                 ***          ***          ***          ***

                        DIVERSION HYDROGRAPH   R10OUT
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     427.     12.08                32.           9.           3.           1.
                             (INCHES)       1.145        1.240        1.240        1.240
                              (AC-FT)         16.          17.          17.          17.

                          CUMULATIVE AREA =     .26 SQ MI


      ***                 ***          ***          ***          ***

                        HYDROGRAPH AT STATION    RET10
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     208.     12.25                17.           5.           2.           1.
                             (INCHES)        .627         .721         .721         .721
                              (AC-FT)          9.          10.          10.          10.

                          CUMULATIVE AREA =     .26 SQ MI


      ***                 ***          ***          ***          ***

                        DIVERSION HYDROGRAPH   R10OUT
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     404.     12.08                32.           9.           3.           1.
                             (INCHES)       1.149        1.240        1.240        1.240
                              (AC-FT)         16.          17.          17.          17.

                          CUMULATIVE AREA =     .26 SQ MI


      ***                 ***          ***          ***          ***
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                    HYDROGRAPH AT STATION    RET10
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     179.      12.33                14.           4.           1.           1.
                        (INCHES)    .524         .614         .614         .614
                         (AC-FT)      7.           8.           8.           8.

                       CUMULATIVE AREA =     .26 SQ MI

      ***             ***            ***          ***          ***

                    DIVERSION HYDROGRAPH   R10OUT
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     396.      12.08                32.           9.           3.           1.
                        (INCHES)   1.151        1.240        1.240        1.240
                         (AC-FT)     16.          17.          17.          17.

                       CUMULATIVE AREA =     .26 SQ MI

      ***             ***            ***          ***          ***

                    HYDROGRAPH AT STATION    RET10
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     175.      12.33                14.           4.           1.           1.
                        (INCHES)    .489         .577         .577         .577
                         (AC-FT)      7.           8.           8.           8.

                       CUMULATIVE AREA =     .26 SQ MI

      ***             ***            ***          ***          ***


              INTERPOLATED DIVERSION HYDROGRAPH AT   R10OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     468.      12.08                31.           9.           3.           1.
                        (INCHES)   1.139        1.240        1.240        1.240
                         (AC-FT)     16.          17.          17.          17.

                       CUMULATIVE AREA =     .26 SQ MI

      ***             ***            ***          ***          ***


                    INTERPOLATED HYDROGRAPH AT    RET10

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     299.      12.25                22.           6.           2.           1.
                        (INCHES)    .808         .911         .911         .911
                         (AC-FT)     11.          12.          12.          12.

                       CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  334 KK    *    INFLOW  *
            *            *
            **************
                      COMBINE ALL INFLOW HYDROGRAPHS TO ADOBE DAM POOL AREA
                      (LS7C, LS5C, LS8, LS2C, LS9, LS10)

  337 HC          HYDROGRAPH COMBINATION
                       ICOMP           6  NUMBER OF HYDROGRAPHS TO COMBINE
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***          ***          ***          ***          ***

                HYDROGRAPH AT STATION   INFLOW
              TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+   30182.      14.50                 13067.      3778.       1263.        546.
                                (INCHES)  1.452       1.679       1.683       1.683
                                 (AC-FT)  6480.       7494.       7514.       7514.

                              CUMULATIVE AREA =   83.69 SQ MI

***          ***          ***          ***          ***

                HYDROGRAPH AT STATION   INFLOW
              TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+   30142.      14.50                 12918.      3738.       1249.        540.
                                (INCHES)  1.435       1.661       1.665       1.665
                                 (AC-FT)  6406.       7414.       7433.       7433.

                              CUMULATIVE AREA =   83.69 SQ MI

***          ***          ***          ***          ***

                HYDROGRAPH AT STATION   INFLOW
              TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+   30116.      14.50                 12821.      3711.       1240.        536.
                                (INCHES)  1.424       1.649       1.653       1.653
                                 (AC-FT)  6357.       7361.       7380.       7380.

                              CUMULATIVE AREA =   83.69 SQ MI

***          ***          ***          ***          ***

                HYDROGRAPH AT STATION   INFLOW
              TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+   30091.      14.50                 12725.      3685.       1231.        532.
                                (INCHES)  1.414       1.637       1.642       1.642
                                 (AC-FT)  6310.       7308.       7327.       7327.

                              CUMULATIVE AREA =   83.69 SQ MI

***          ***          ***          ***          ***

                HYDROGRAPH AT STATION   INFLOW
              TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+   30082.      14.50                 12692.      3675.       1228.        531.
                                (INCHES)  1.410       1.633       1.637       1.637
                                 (AC-FT)  6293.       7290.       7309.       7309.

                              CUMULATIVE AREA =   83.69 SQ MI

***          ***          ***          ***          ***

              INTERPOLATED HYDROGRAPH AT   INFLOW

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+   30083.      14.50                 12698.      3677.       1229.        531.
                                (INCHES)  1.411       1.634       1.638       1.638
                                 (AC-FT)  6296.       7293.       7312.       7312.

                              CUMULATIVE AREA =   83.69 SQ MI
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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            *            *
 338 KK     *     LS-11  *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

 339 BA          SUBBASIN CHARACTERISTICS
                      TAREA        2.84  SUBBASIN AREA

 340 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .27  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        4.55  WETTING FRONT SUCTION
                      XKSAT         .38  HYDRAULIC CONDUCTIVITY
                      RTIMP       14.00  PERCENT IMPERVIOUS AREA

 341 UC          CLARK UNITGRAPH
                         TC        1.18  TIME OF CONCENTRATION
                          R         .41  STORAGE COEFFICIENT

 342 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                                  ***

                                                        UNIT HYDROGRAPH PARAMETERS
                                                  CLARK   TC=  1.18 HR,       R=   .41 HR
                                                 SNYDER   TP=   .57 HR,      CP=   .63

                                                        UNIT HYDROGRAPH
                                                 33 END-OF-PERIOD ORDINATES
              71.      251.      490.      763.     1245.     1831.     2059.     1958.     1796.     1642.
            1480.     1312.     1161.     1032.      893.      737.      601.      490.      400.      326.
             266.      217.      177.      144.      118.       96.       78.       64.       52.       42.
              35.       28.       23.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS-11
                      TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.52, TOTAL EXCESS =    1.58

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2366.     12.42                 430.        120.         40.          17.
                       (INCHES)     1.409       1.575       1.576       1.576
                        (AC-FT)      213.        238.        239.        239.

                       CUMULATIVE AREA =    2.84 SQ MI


     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS-11
                      TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.40, TOTAL EXCESS =    1.45

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2166.     12.42                 393.        110.         37.          16.
                       (INCHES)     1.289       1.444       1.446       1.446
                        (AC-FT)      195.        219.        219.        219.

                       CUMULATIVE AREA =    2.84 SQ MI


     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS-11
                      TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.32, TOTAL EXCESS =    1.37

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2034.     12.42                 370.        104.         35.          15.
                       (INCHES)     1.212       1.360       1.362       1.362
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                    (AC-FT)      183.        206.        206.        206.

                    CUMULATIVE AREA =    2.84 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-11
                   TRANSPOSITION AREA     60.0 SQ MI

   TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.24, TOTAL EXCESS =    1.28

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+    1900.     12.42                346.         97.         32.          14.
                     (INCHES)     1.133       1.275       1.277       1.277
                      (AC-FT)      172.        193.        193.        193.

                    CUMULATIVE AREA =    2.84 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-11
                   TRANSPOSITION AREA     90.0 SQ MI

   TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.22, TOTAL EXCESS =    1.25

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+    1853.     12.42                338.         95.         32.          14.
                     (INCHES)     1.106       1.246       1.247       1.247
                      (AC-FT)      167.        189.        189.        189.

                    CUMULATIVE AREA =    2.84 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT    LS-11

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+    2202.     12.42                400.        112.         37.          16.
                     (INCHES)     1.311       1.468       1.470       1.470
                      (AC-FT)      198.        222.        222.        222.

                    CUMULATIVE AREA =    2.84 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  344 KK    *     LS11C  *
            *            *
            **************
                    COMBINE ALL INFLOWS TO ADOBE POOL WITH RUNOFF FROM LS11

  346 HC          HYDROGRAPH COMBINATION
                   ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS11C
                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+   30260.     14.50               13478.       3897.       1303.         563.
                     (INCHES)     1.448       1.675       1.680       1.680
                      (AC-FT)     6683.       7730.       7753.       7753.

                    CUMULATIVE AREA =   86.53 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS11C
                   TRANSPOSITION AREA     10.0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   30215.     14.50                13293.       3847.       1286.         556.
                          (INCHES)   1.428       1.653       1.658        1.658
                           (AC-FT)   6591.       7630.       7652.        7652.

                          CUMULATIVE AREA =   86.53 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    LS11C
                        TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   30186.     14.50                13172.       3814.       1275.         551.
                          (INCHES)   1.415       1.639       1.644        1.644
                           (AC-FT)   6532.       7564.       7586.        7586.

                          CUMULATIVE AREA =   86.53 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    LS11C
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   30156.     14.50                13053.       3781.       1264.         546.
                          (INCHES)   1.403       1.625       1.630        1.630
                           (AC-FT)   6472.       7499.       7520.        7520.

                          CUMULATIVE AREA =   86.53 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    LS11C
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   30146.     14.50                13011.       3769.       1260.         545.
                          (INCHES)   1.398       1.620       1.625        1.625
                           (AC-FT)   6452.       7476.       7498.        7498.

                          CUMULATIVE AREA =   86.53 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    7:  //LS11C/FLOW/31DEC1989/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //LS11C/FLOW/01JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //LS11C/FLOW/02JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //LS11C/FLOW/03JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //LS11C/FLOW/04JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //LS11C/FLOW/05JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //LS11C/FLOW/06JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //LS11C/FLOW/07JAN1990/5MIN/100EX/
      ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT    LS11C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   30147.     14.50                13015.       3770.       1260.         545.
                          (INCHES)   1.398       1.620       1.625        1.625
                           (AC-FT)   6454.       7478.       7500.        7500.

                          CUMULATIVE AREA =   86.53 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  348 KK    *     ADOBE  *
            *            *
            **************
                          ROUTE COMBINED FLOWS THROUGH ADOBE DAM RESERVOIR
                          DATA FROM FCDMC ALERT STATION DATA (TAKEN FROM COE DESIGN DATA)
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                HYDROGRAPH ROUTING DATA

 351 RS          STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 352 SV            STORAGE          .0      70.0     154.0     372.0    1154.0    2695.0    5068.0    8502.0   13100.0   18825.0
                                26896.0   34968.0   47757.0   60546.0   73335.0

 354 SE          ELEVATION     1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76
                               1382.80   1387.76   1392.76   1397.76   1402.76

 356 SQ          DISCHARGE          0.      200.      339.      600.      970.     1210.     1429.     1630.     1810.     1980.
                                 3471.     6350.     8000.    12300.    17200.

 358 SE          ELEVATION     1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76
                               1382.80   1387.76   1392.76   1397.76   1402.76

                                                                  ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00     70.00    154.00    372.00   1154.00   2695.00   5068.00   8502.00  13100.00  18825.00
            OUTFLOW        .00    200.00    339.00    600.00    970.00   1210.00   1429.00   1630.00   1810.00   1980.00
          ELEVATION    1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76

            STORAGE   26896.00  34968.00  47757.00  60546.00  73335.00
            OUTFLOW    3471.00   6350.00   8000.00  12300.00  17200.00
          ELEVATION    1382.80   1387.76   1392.76   1397.76   1402.76

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    ADOBE
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1495.     20.00                1494.       1462.       1215.         563.
                        (INCHES)     .161        .628       1.567        1.680
                         (AC-FT)     741.       2900.       7230.        7753.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     6189.     20.00                6176.       5662.       3400.        1488.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1364.39     19.92               1364.37     1363.59     1358.32      1348.33

                       CUMULATIVE AREA =   86.53 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    ADOBE
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1489.     19.92                1489.       1456.       1205.         556.
                        (INCHES)     .160        .626       1.554        1.658
                         (AC-FT)     738.       2888.       7170.        7652.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     6098.     20.00                6086.       5573.       3326.        1454.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1364.26     19.92               1364.24     1363.45     1358.13      1348.21

                       CUMULATIVE AREA =   86.53 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    ADOBE
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1486.     19.92                1485.       1452.       1198.         551.
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                        (INCHES)      .160        .624       1.545        1.644
                         (AC-FT)      736.       2881.       7130.        7586.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     6038.     20.00                 6026.       5515.       3278.        1432.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1364.17     20.00              1364.15     1363.36     1358.00      1348.13

                        CUMULATIVE AREA =   86.53 SQ MI


      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    ADOBE
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1482.     19.92                 1482.       1449.       1191.         546.
                        (INCHES)      .159        .623       1.536        1.630
                         (AC-FT)      735.       2873.       7089.        7520.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     5979.     20.00                 5967.       5457.       3230.        1410.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1364.09     19.92              1364.07     1363.27     1357.87      1348.05

                        CUMULATIVE AREA =   86.53 SQ MI


      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    ADOBE
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1481.     19.92                 1480.       1447.       1189.         545.
                        (INCHES)      .159        .622       1.533        1.625
                         (AC-FT)      734.       2870.       7074.        7497.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     5959.     20.00                 5947.       5437.       3213.        1403.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1364.06     19.92              1364.04     1363.23     1357.82      1348.02

                        CUMULATIVE AREA =   86.53 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    7:  //ADOBE/FLOW/31DEC1989/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //ADOBE/FLOW/01JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //ADOBE/FLOW/02JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //ADOBE/FLOW/03JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //ADOBE/FLOW/04JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //ADOBE/FLOW/05JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //ADOBE/FLOW/06JAN1990/5MIN/100EX/
 -----DSS---ZWRITE Unit  71; Vers.    7:  //ADOBE/FLOW/07JAN1990/5MIN/100EX/
      ***            ***            ***            ***            ***


                        INTERPOLATED HYDROGRAPH AT    ADOBE

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1481.     19.92                 1481.       1447.       1189.         545.
                        (INCHES)      .159        .622       1.533        1.625
                         (AC-FT)      734.       2871.       7076.        7500.

                        CUMULATIVE AREA =   86.53 SQ MI

1
                                                   RUNOFF SUMMARY
                                          FLOW IN CUBIC FEET PER SECOND
                                       TIME IN HOURS,  AREA IN SQUARE MILES
```

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	S23L	26513.	14.17	8116.	2114.	705.	50.29		
+	HYDROGRAPH AT	C010	9824.	12.83	2359.	616.	206.	13.39		
+	2 COMBINED AT	CAP	28959.	14.08	10475.	2730.	911.	63.68		
+	ROUTED TO	CAPR2	28717.	14.33	10475.	2730.	911.	63.68		
+	HYDROGRAPH AT	S24	1095.	12.17	102.	26.	9.	.64		
+	2 COMBINED AT	S24C	28717.	14.33	10560.	2751.	918.	64.32		
+	ROUTED TO	S24LS1	28595.	14.42	10555.	2751.	918.	64.32		
+	HYDROGRAPH AT	RRB22C	1242.	15.42	1209.	596.	199.	9.62		
+	ROUTED TO	B22LS1	1239.	16.50	1205.	596.	199.	9.62		
+	HYDROGRAPH AT	LS-1	3440.	12.17	436.	120.	40.	2.47		
+	DIVERSION TO	R1OUT	866.	11.83	54.	16.	5.	2.47		
+	HYDROGRAPH AT	RETLS1	3440.	12.17	401.	104.	35.	2.47		
+	2 COMBINED AT	LS1CR	3741.	12.17	1423.	697.	233.	12.09		
+	2 COMBINED AT	LS1C	29751.	14.42	11923.	3431.	1146.	76.41		
+	ROUTED TO	LS1LS2	29633.	14.50	11878.	3430.	1146.	76.41		
+	HYDROGRAPH AT	LS-2	575.	12.42	135.	36.	12.	.94		
+	2 COMBINED AT	LS2C	29685.	14.50	11980.	3460.	1156.	77.35		
+	HYDROGRAPH AT	LS-3	810.	12.17	103.	32.	11.	.54		
+	ROUTED TO	LS3LS5	426.	12.75	102.	32.	11.	.54		
+	HYDROGRAPH AT	LS-4	2317.	12.17	309.	93.	31.	1.85		
+	DIVERSION TO	R4OUT	1495.	12.00	109.	31.	10.	1.85		
+	HYDROGRAPH AT	RETLS4	2317.	12.17	229.	62.	21.	1.85		
+	ROUTED TO	LS4LS5	1525.	12.58	223.	62.	21.	1.85		
+	HYDROGRAPH AT	LS-5	950.	12.42	205.	60.	20.	1.28		
+	DIVERSION TO	R5OUT	24.	10.42	15.	5.	2.	1.28		
+	HYDROGRAPH AT	RETLS5	950.	12.42	204.	55.	18.	1.28		
+	3 COMBINED AT	LS5C	2681.	12.58	515.	147.	49.	3.67		
+	HYDROGRAPH AT	LS-6	410.	12.50	130.	39.	13.	.79		
+	HYDROGRAPH AT	LS-7	272.	12.50	77.	21.	7.	.60		
+	2 COMBINED AT	LS7C	676.	12.50	205.	59.	20.	1.39		

```
          HYDROGRAPH AT
+                          LS-8       574.   12.25        104.        32.        11.       .57

          HYDROGRAPH AT
+                          LS-9       247.   12.50         69.        18.         6.       .45

          HYDROGRAPH AT
+                         LS-10       468.   12.08         49.        15.         5.       .26

          DIVERSION TO
+                        R10OUT       468.   12.08         31.         9.         3.       .26

          HYDROGRAPH AT
+                         RET10       299.   12.25         22.         6.         2.       .26

          6 COMBINED AT
+                        INFLOW     30083.   14.50      12698.      3677.      1229.     83.69

          HYDROGRAPH AT
+                         LS-11      2202.   12.42        400.       112.        37.      2.84

          2 COMBINED AT
+                         LS11C     30147.   14.50      13015.      3770.      1260.     86.53

          ROUTED TO
+                         ADOBE      1481.   19.92       1481.      1447.      1189.     86.53


 *** NORMAL END OF HEC-1 ***


    -----DSS---ZCLOSE Unit:  71,   File: LS10024E.DSS
              Pointer Utilization:   .28
              Number of Records:     72
              File Size:    133.6  Kbytes
              Percent Inactive:    .0
```

```
1****************************************                                                    ****************************************
 *                                      *                                                    *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                                                    *    U.S. ARMY CORPS OF ENGINEERS      *
 *              JUN   1998              *                                                    *    HYDROLOGIC ENGINEERING CENTER     *
 *           VERSION 4.1                *                                                    *          609 SECOND STREET           *
 *                                      *                                                    *       DAVIS, CALIFORNIA 95616        *
 *  RUN DATE   13AUG03  TIME  15:33:03  *                                                    *           (916) 756-1104             *
 *                                      *                                                    *                                      *
 ****************************************                                                    ****************************************

                                        X     X  XXXXXXX   XXXXX           X
                                        X     X  X        X     X         XX
                                        X     X  X        X                X
                                        XXXXXXX  XXXX     X        XXXXX   X
                                        X     X  X        X                X
                                        X     X  X        X     X          X
                                        X     X  XXXXXXX   XXXXX         XXX

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL   LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1                                                HEC-1 INPUT                                                          PAGE  1

      LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

        1           ID       LOWER SKUNK CREEK HYDROLOGY                          FILENAME: LS1024E.DAT
        2           ID       FOR: ADOBE DAM / DESERT HILLS ADMP                   ORIGINAL: 06/25/03
        3           ID       AUG. 2003                                            REVISED:  08/13/03
        4           ID       BY: JE FULLER/ HYDROLOGY & GEOMORPHOLOGY, INC.
        5           ID
        6           ID    THIS IS THE 10-YEAR 24-HOUR MODEL FOR EXISTING CONDITIONS
        7           ID
        8           ID    MODEL BASIS:
        9           ID      * 100-YEAR 24-HOUR MODEL (LS10024E.DAT)
       10           ID      * DDMSW PROJECT NAME: LS_EX24
       11           ID      * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
       12           ID      * MULTIPLE STORM OPTION (JD)
       13           ID      * GREEN & AMPT LOSS METHOD
       14           ID      * CLARK UNIT HYDROGRAPH METHOD
       15           ID      * TC & R COMPUTED WITH MCHUP1 THRU DDMSW 2.1.3
       16           ID      * MODIFIED PULS NORMAL-DEPTH CHANNEL ROUTING
       17           ID      * INFLOW HYDROGRAPHS AS QI RECORDS FROM:
       18           ID          * S23L - SKUNK CREEK - SKUNK CREEK WMP
       19           ID          * C010 - SONORAN (UNNAMED) WASH - SKUNK CREEK WMP
       20           ID          * RRB22C - BUCHANAN WASH - ADOBE ADMP PART 3, VOL. 3
       21           ID
       22           ID       10-YEAR 24-HOUR MODEL FOR EXISTING CONDITIONS
       23           ID       10-YEAR MODEL BASED ON:
       24           ID       10-YEAR INFLOW HYDROGRAPHS FROM SKUNK CREEK / SONORAN WASH WCMP
       25           ID       10-YEAR INFLOW HYDROGRAPH FROM BUCHANAN WASH FDS (PART OF ADOBE ADMP)
       26           ID       0.35 RATIO ON BA RECORD FIELD 3 PER DRAFT 2003 FCDMC HYDROLOGY MANUAL
       27           ID
       28           ID
                    *DIAGRAM
       29           IT       5 01JAN90    0000    2000
       30           IO       3
       31           IN      15
       32           JD    4.10    0.01
       33           PC   0.000   0.002   0.005   0.008   0.011   0.014   0.017   0.020   0.023   0.026
       34           PC   0.029   0.032   0.035   0.038   0.041   0.044   0.048   0.052   0.056   0.060
       35           PC   0.064   0.068   0.072   0.076   0.080   0.085   0.090   0.095   0.100   0.105
       36           PC   0.110   0.115   0.120   0.126   0.133   0.140   0.147   0.155   0.163   0.172
       37           PC   0.181   0.191   0.203   0.218   0.236   0.257   0.283   0.387   0.663   0.707
       38           PC   0.735   0.758   0.776   0.791   0.804   0.815   0.825   0.834   0.842   0.849
       39           PC   0.856   0.863   0.869   0.875   0.881   0.887   0.893   0.898   0.903   0.908
       40           PC   0.913   0.918   0.922   0.926   0.930   0.934   0.938   0.942   0.946   0.950
       41           PC   0.953   0.956   0.959   0.962   0.965   0.968   0.971   0.974   0.977   0.980
       42           PC   0.983   0.986   0.989   0.992   0.995   0.998   1.000
       43           JD   3.854   10.00
       44           JD   3.690   30.00
       45           JD   3.526   60.00
       46           JD   3.469   90.00
                    *
                    * ***********************************************************************
                    *
                    *   INFLOW HYDROGRAPHS FOR SKUNK CREEK, SONORAN WASH, & SUBBASIN S24 FROM:
                    *      Skunk Creek Watercourse Master Plan                        File: SCE10.IH1
                    *           By: ASL Consulting Engineers                     Original: 09/01/1999
                    *          For: Flood Control District of Maricopa County     Revised: 05/25/2001
                    *
                    *        This is an Existing Condition Model.
                    *
```

```
*        Skunk Creek Watershed at the CAP Canal
*           This file is based on the original FIS HEC-1 model prepared by:
*
*                Montgomery Watson FCD 95-16
*                Skunk Creek Floodplain Delineation Study
*                Original model dated March 1996
*
*        Model Basis:
*
*        * 10-year, 24-hr rainfall with SCS Type II Rainfall Distribution
*        * Green & Ampt Loss Rate Method
*        * NMIN = 5
*        * Phoenix Mountain, Desert/Rangeland and Phoenix Valley S-Graphs
*        * Muskingum channel routing for Skunk Creek watershed
*        * Modified Puls normal depth channel routing for Unnamed Wash watershed
*        * 200 Scale 2' CI mapping of Skunk Creek by Kenney Aerial Mapping
*        * 200 Scale 2' CI mapping of Unnamed Wash by Aerial Mapping Company
*        * The Montgomery Watson HEC-1 model structure is used for Skunk Creek.
*
*      Model Adjustments:
*
*       * Rainfall JD records are revised for the 10-year 24-hour storm
*       * The Unnamed Wash watershed was modeled with a completely new HEC-1
*         model
*       * The rainfall point precipitation value and JD records were revised
*         because of better NOAA information. 5/25/01 by jad
*
1                                   HEC-1 INPUT                                    PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  47          KK    S23L
  48          KM     HYDROGRAPH FOR S23L FROM SKUNK CREEK WMP MODEL
  49          IN       5
  50          BA   50.29
  51          QI       0       0       0       0       0       0       0       0       0       0
  52          QI       0       0       0       0       0       0       1       2       2       4
  53          QI       5       7       9      12      15      18      21      24      27      30
  54          QI      33      36      39      42      44      46      48      49      50      51
  55          QI      52      53      54      54      54      55      55      55      55      55
  56          QI      55      55      55      55      55      55      55      55      55      55
  57          QI      56      56      56      56      57      58      58      59      60      61
  58          QI      62      63      64      65      67      67      68      69      70      71
  59          QI      71      72      72      73      73      73      73      74      74      74
  60          QI      75      75      76      77      78      79      80      81      82      83
  61          QI      84      85      86      87      88      89      89      90      90      91
  62          QI      91      92      93      93      94      95      97      98     100     103
  63          QI     106     108     111     114     118     121     124     127     129     132
  64          QI     135     137     140     142     144     147     151     156     165     192
  65          QI     224     289     386     511     677     865    1102    1354    1634    1940
  66          QI    2275    2645    3045    3476    3948    4475    5054    5670    6310    6970
  67          QI    7649    8357    9097    9867   10654   11421   12124   12713   13147   13390
  68          QI   13417   13224   12818   12214   11438   10519    9501    8419    7319    6244
  69          QI    5232    4312    3503    2812    2238    1773    1403    1113     890     719
  70          QI     588     489     412     353     307     271     243     220     202     188
  71          QI     176     166     157     150     144     139     135     131     128     125
  72          QI     123     121     119     118     116     115     114     112     111     110
  73          QI     108     107     106     104     103     102     100      99      97      96
  74          QI      94      93      91      90      88      87      85      84      83      81
  75          QI      80      79      78      78      77      76      76      75      75      75
  76          QI      74      74      74      73      73      73      72      71      71      70
  77          QI      69      68      67      66      64      63      62      61      60      60
  78          QI      59      58      58      57      57      56      56      56      56      56
  79          QI      55      55      55      55      55      55      55      55      55      55
  80          QI      55      55      55      55      55      55      55      55      55      55
  81          QI      54      54      53      52      51      49      48      45      43      40
  82          QI      37      34      31      27      24      21      18      16      13      11
  83          QI       9       7       6       4       3       2       2       1       1       0
  84          QI       0       0       0       0       0       0       0       0       0       0
              *

  85          KK    C010
  86          KM     HYDROGRAPH FOR SONORAN WASH FROM SKUNK CREEK WMP
  87          IN       5
  88          BA   13.39
  89          QI       0       0       0       0       0       0       0       0       1       1
  90          QI       1       1       1       1       1       1       1       1       2       2
  91          QI       2       2       2       3       3       3       3       4       4       4
  92          QI       4       5       5       5       6       6       6       7       7       8
  93          QI       8       8       9       9       9      10      10      10      11      11
  94          QI      11      11      12      12      12      12      13      13      13      13
  95          QI      13      14      14      14      14      14      15      15      15      15
  96          QI      15      15      16      16      16      16      16      17      17      17
  97          QI      17      17      18      18      18      18      18      18      19      19
  98          QI      19      19      19      19      19      20      20      20      20      20
1                                   HEC-1 INPUT                                    PAGE  3

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  99          QI      21      21      21      22      22      22      22      23      23      23
 100          QI      23      24      24      24      24      25      25      25      26      26
 101          QI      27      27      28      28      29      30      31      33      34      36
 102          QI      37      39      40      41      42      44      45      47      49      62
 103          QI     104     183     330     588     967    1484    2003    2526    2759    2760
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104          QI    2805    2865    3082    3533    4125    4571    4852    4843    4665    4418
105          QI    4172    3874    3541    3207    2905    2658    2459    2191    1794    1150
106          QI     680     607     540     481     432     387     346     312     283     256
107          QI     230     208     190     176     162     147     134     121     110     101
108          QI      94      89      84      79      75      70      66      62      58      55
109          QI      52      50      47      45      43      42      40      39      38      37
110          QI      36      35      35      34      33      33      32      31      31      30
111          QI      30      29      29      29      29      28      28      28      28      28
112          QI      27      27      27      27      26      26      26      26      25      25
113          QI      25      24      24      24      24      23      23      23      23      23
114          QI      22      22      22      22      22      21      21      21      21      20
115          QI      20      20      20      20      19      19      19      19      19      18
116          QI      18      18      18      18      17      17      17      17      17      17
117          QI      17      16      16      16      16      16      16      16      16      15
118          QI      15      15      15      14      14      14      14      14      14      13
119          QI      13      13      13      13      13      13      12      12      12      12
120          QI      11      11      11      10      10      10       9       9       9       8
121          QI       8       8       7       7       6       6       6       5       5       5
122          QI       5       4       4       4       3       3       3       3       3       2
123          QI       2       2       2       2       2       2       1       1       1       1
124          QI       1       1       1       1       1       1       0       0       0       0
125          QI       0       0       0       0       0       0       0       0       0       0
             *

126          KK     CAP
127          KM    COMBINE S23L+C010 (SUBAREAS S1-S23, CLINE CR, RODGER CR & UNNAMED WASH)
128          KM    COMBINED FLOW AT CAP OVERCHUTES
129          HC       2   63.68
             * DDM    ***** Preserved *****

130          KK   CAPR2
131          KM    ROUTE CAP OVERFLOW THROUGH S24 FROM CAP TO I-17 IN SKUNK CREEK
132          RM       3    0.23    0.25
             *

133          KK     S24
134          KM   BASIN S24
135          KM    THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
136          KM    L=      1.4  Lca=       .8   S=   38.0  Kn= .026  LAG=  19.0
137          KM    DESERT/RANGELAND S-GRAPH WAS USED FOR THE BASIN
138          BA     .64
139          LG     .35     .30    8.00     .09     .00
140          UI    140.    538.    935.   1070.    844.    535.    336.    212.    135.     82.
141          UI     47.     28.     28.      0.      0.      0.      0.      0.      0.      0.
142          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
             *
1                                                HEC-1 INPUT                                                PAGE  4

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

143          KK    S24C
144          KM     COMBINE ROUTED FLOWS FROM CAP WITH RUNOFF FROM S24 AT I-17
145          HC       2
             *
             * ************************* END OF INPUT FROM SKUNK CREEK WMP *****************
             *

146          KK  S24LS1   ROUTE   REACH
147          KM    ROUTE COMBINED FLOWS FROM I-17 TO CONFLUENCE WITH BUCHANAN WASH IN
148          KM    SKUNK CREEK
149          RS       1    STOR      -1
150          RC   0.035   0.035   0.035    3394  0.0053   15.00
151          RX     0.0     8.0    15.0    50.0   320.0   355.0   362.0   370.0
152          RY    15.0    15.0    15.0     0.0     0.0    15.0    15.0    15.0
             *
             *    FROM BUCHANAN HYDROLOGY BY JEF, INC. AUG. 2003
             *

153          KK  RRB22C
154          KM     INFLOWS FROM BUCHANAN WASH UNDER CAP
155          KM       FROM BF1024E.DAT
156          IN       5
157          BA    9.62
158          QI       0       0       0       0       0       0       0       0       0       0
159          QI       0       0       0       0       0       0       0       0       0       0
160          QI       0       0       0       0       0       0       0       0       0       0
161          QI       0       0       1       1       1       1       1       1       1       1
162          QI       1       1       1       1       1       1       1       1       1       1
163          QI       1       1       1       1       1       1       1       1       1       1
164          QI       1       1       1       1       1       1       1       1       1       1
165          QI       1       1       1       1       1       1       1       1       1       1
166          QI       1       1       1       1       1       1       1       1       1       1
167          QI       2       2       2       2       2       2       2       2       2       2
168          QI       2       2       2       2       3       3       3       4       4       5
169          QI       5       5       6       7       8       9      10      11      12      14
170          QI      15      17      19      21      25      28      32      36      40      43
171          QI      47      52      57      62      69      75      82      90      99     111
172          QI     129     153     201     261     346     434     521     565     606     652
173          QI     698     741     764     787     805     816     829     842     857     871
174          QI     885     898     906     913     919     925     930     934     938     941
175          QI     943     945     945     945     944     942     940     937     933     930
176          QI     926     922     917     912     908     903     895     886     876     866
177          QI     856     846     835     825     815     805     786     762     735     689
178          QI     645     605     568     523     407     158     139     133     127     121
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```
 179          QI     117     113     109     105     102      99      96      93      90      88
 180          QI      85      83      81      79      78      76      75      74      73      72
 181          QI      71      71      70      69      68      67      66      65      64      63
 182          QI      62      61      60      59      58      57      56      55      54      54
 183          QI      53      52      51      50      49      48      48      47      46      45
 184          QI      44      44      43      42      41      41      40      39      39      38
 185          QI      37      37      36      36      35      34      34      34      33      33
 186          QI      32      32      32      31      31      31      30      30      30      30
 187          QI      29      29      29      28      28      27      27      27      26      26
 188          QI      25      25      24      24      24      23      23      22      22      21
1                                                HEC-1 INPUT                                          PAGE  5

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 189          QI      21      20      20      19      19      18      17      17      16      16
 190          QI      15      14      14      13      12      12      11      10      10       9
 191          QI       9       8       8       7       7       7       6       6       6       6
 192          QI       5       5       5       5       4       4       4       4       4       3
 193          QI       3       3       3       3       3       3       2       2       2       2
 194          QI       2       2       2       2       2       2       2       1       1       1
 195          QI       1       1       1       1       1       1       1       1       1       1
 196          QI       1       1       1       1       1       1       1       1       1       1
 197          QI       0       0       0       0       0       0       0       0       0       0
 198          QI       0       0       0       0       0       0       0       0       0       0
              *
              *  THE REMAINING HEC-1 MODEL INPUT FROM ORIGINAL ADOBE DAM ADMP MODELING BY JEF
              *

 199          KK  B22LS1   ROUTE   REACH
 200          KM    ROUTE IMPORTED FLOWS FROM BUCHANAN WASH TO SKUNK CREEK
 201          RS       4    STOR      -1
 202          RC   0.055   0.040   0.055   10208  0.0040    7.00
 203          RX     0.0   100.0   200.0   210.0   225.0   235.0   285.0   335.0
 204          RY     7.0     6.0     5.0     0.0     0.0     5.0     6.0     7.0
 205          ZW       C=FLOW
              *

 206          KK    LS-1   BASIN
 207          BA   2.469           0.35
 208          LG    0.24    0.19    6.60    0.15      15
 209          UC   0.529   0.270
 210          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 211          UA     100
              *

 212          KK  RETLS1
 213          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
 214          KM      - 232 AC DEVELOPMENT WITH RETENTION
 215          KM      - C FACTOR = 0.63
 216          KM      - 100-YR 2-HR RAIN = 2.66"
 217          DT   R1OUT    32.4
 218          DI       0   10000
 219          DQ       0   10000
              *

 220          KK   LS1CR
 221          KM     COMBINE RUNOFF FROM LS-1 WITH ROUTED FLOWS FROM BUCHANAN WASH AT CAP
 222          KM     THIS IS THE TOTAL FLOW IN BUCHANAN WASH JUST U/S OF SKUNK CREEK
 223          HC       2
              *

 224          KK    LS1C
 225          KM     COMBINE BUCHANAN WASH WITH ROUTED FLOWS IN SKUNK CREEK FROM I-17.
 226          HC       2
              *
1                                                HEC-1 INPUT                                          PAGE  6

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 227          KK  LS1LS2   ROUTE   REACH
 228          KM     ROUTE COMBINED FLOWS FROM BUCHANAN WASH CONFLUENCE WITH SKUNK CREEK
 229          KM     TO PINNACLE PEAK ROAD IN SKUNK CREEK
 230          RS       3    STOR      -1
 231          RC   0.035   0.035   0.035    9552  0.0063   15.00
 232          RX     0.0     8.0    15.0    50.0   320.0   355.0   362.0   370.0
 233          RY    15.0    15.0    15.0     0.0     0.0    15.0    15.0    15.0
              *
              *

 234          KK    LS-2   BASIN
 235          BA   0.945           0.35
 236          LG    0.23    0.25    4.80    0.28       7
 237          UC   0.996   0.769
 238          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 239          UA     100
              *

 240          KK    LS2C
 241          KM     COMBINE FLOWS IN SKUNK CREEK AT PINNACLE PEAK ROAD
 242          HC       2
              *

 243          KK    LS-3   BASIN
 244          BA   0.543           0.35
```

```
245          LG    0.17    0.25    4.30    0.41      39
246          UC   0.413   0.224
247          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
248          UA     100
             *

249          KK  LS3LS5   ROUTE   REACH
250          KM    ROUTE RUNOFF FROM LS-3 THROUGH SUBBASIN LS-5 FROM HAPPY VALLEY ROAD TO
251          KM    PINNACLE PEAK ROAD
252          RS       4    STOR      -1
253          RC   0.080   0.040   0.080    8883  0.0040    6.00
254          RX     0.0   100.0   200.0   220.0   370.0   390.0   490.0   590.0
255          RY     6.0     5.0     4.0     0.0     0.0     4.0     5.0     6.0
             *

256          KK    LS-4   BASIN
257          BA   1.851            0.35
258          LG    0.22    0.25    4.35    0.43      29
259          UC   0.504   0.277
260          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
261          UA     100
             *

262          KK  RETLS4
263          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
264          KM      - 445 AC DEVELOPMENT WITH RETENTION
265          KM      - C FACTOR = 0.63
266          KM      - 100-YR 2-HR RAIN = 2.66"
267          DT   R4OUT    62.2
1                                          HEC-1 INPUT                                          PAGE  7

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

268          DI       0   10000
269          DQ       0   10000
             *

270          KK  LS4LS5   ROUTE   REACH
271          KM    ROUTE RUNOFF FROM LS-4 THROUGH SUBBASIN LS-5 FROM HAPPY VALLEY ROAD TO
272          KM    PINNACLE PEAK ROAD
273          RS       4    STOR      -1
274          RC   0.080   0.040   0.080    6160  0.0040    6.00
275          RX     0.0   100.0   200.0   220.0   370.0   390.0   490.0   590.0
276          RY     6.0     5.0     4.0     0.0     0.0     4.0     5.0     6.0
             *

277          KK    LS-5   BASIN
278          BA   1.280            0.35
279          LG    0.28    0.25    4.90    0.33      22
280          UC   0.967   0.577
281          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
282          UA     100
             *

283          KK  RETLS5
284          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
285          KM      - 72.5 AC DEVELOPMENT WITH RETENTION
286          KM      - C FACTOR = 0.63
287          KM      - 100-YR 2-HR RAIN = 2.66"
288          DT   R5OUT    10.1
289          DI       0   10000
290          DQ       0   10000
             *

291          KK    LS5C
292          KM     COMBINE ROUTED FLOWS FROM LS3 AND LS4 WITH RUNOFF FROM LS5 AT ADOBE POOL
293          KM     AT PINNACLE PEAK ROAD
294          HC       3
             *

295          KK    LS-6   BASIN
296          BA   0.792            0.35
297          LG    0.26    0.25    4.50    0.38      26
298          UC   1.125   0.986
299          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
300          UA     100
             *

301          KK    LS-7   BASIN
302          BA   0.597            0.35
303          LG    0.32    0.25    4.50    0.39       7
304          UC   0.963   1.038
305          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
306          UA     100
             *
1                                          HEC-1 INPUT                                          PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

307          KK    LS7C
308          KM    COMBINE RUNOFF FROM LS6 AND LS7 AT ADOBE POOL
309          HC       2
             *
```

```
310          KK    LS-8   BASIN
311          BA   0.567            0.35
312          LG    0.25    0.25    5.10    0.31      33
313          UC   0.671   0.435
314          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
315          UA     100
             *

316          KK    LS-9   BASIN
317          BA   0.451            0.35
318          LG    0.20    0.25    5.20    0.24       9
319          UC   1.025   0.958
320          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
321          UA     100
             *

322          KK   LS-10   BASIN
323          BA   0.257            0.35
324          LG    0.25    0.25    5.80    0.22      32
325          UC   0.263   0.189
326          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
327          UA     100
             *

328          KK   RET10
329          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
330          KM      - 121.4 AC DEVELOPMENT WITH RETENTION
331          KM      - C FACTOR = 0.63
332          KM      - 100-YR 2-HR RAIN = 2.66"
333          DT  R10OUT    17.0
334          DI       0   10000
335          DQ       0   10000
             *

336          KK  INFLOW
337          KM    COMBINE ALL INFLOW HYDROGRAPHS TO ADOBE DAM POOL AREA
338          KM    (LS7C, LS5C, LS8, LS2C, LS9, LS10)
339          HC       6
             *

340          KK   LS-11   BASIN
341          BA   2.838            0.35
342          LG    0.27    0.25    4.55    0.38      14
343          UC   1.183   0.410
344          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
345          UA     100
             *
1                                                HEC-1 INPUT                                          PAGE  9

        LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

346          KK   LS11C
347          KM    COMBINE ALL INFLOWS TO ADOBE POOL WITH RUNOFF FROM LS11
348          HC       2
349          ZW      C=FLOW
             *

350          KK   ADOBE
351          KM     ROUTE COMBINED FLOWS THROUGH ADOBE DAM RESERVOIR
352          KM     DATA FROM FCDMC ALERT STATION DATA (TAKEN FROM COE DESIGN DATA)
353          RS       1    STOR       0
354          SV       0      70     154     372    1154    2695    5068    8502   13100   18825
355          SV   26896   34968   47757   60546   73335
356          SE  1339.8 1342.76 1344.76 1347.76 1352.76 1357.76 1362.76 1367.76 1372.76 1377.76
357          SE  1382.8 1387.76 1392.76 1397.76 1402.76
358          SQ       0     200     339     600     970    1210    1429    1630    1810    1980
359          SQ    3471    6350    8000   12300   17200
360          SE  1339.8 1342.76 1344.76 1347.76 1352.76 1357.76 1362.76 1367.76 1372.76 1377.76
361          SE  1382.8 1387.76 1392.76 1397.76 1402.76
362          ZW      C=FLOW
363          ZZ
1
             SCHEMATIC DIAGRAM OF STREAM NETWORK

 INPUT
  LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

   NO.     (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    47       S23L
               .
               .
    85         .        C010
               .          .
               .          .
   126       CAP...........
               V
               V
   130      CAPR2
               .
               .
   133         .         S24
               .          .
               .          .
   143      S24C...........
```

```
                V
                V
146       S24LS1
                .
                .
153             .       RRB22C
                .           V
                .           V
199             .       B22LS1
                .           .
                .           .
206             .           .        LS-1
                .           .           .
                .           .           .
217             .           .           .-------->   R1OUT
212             .           .      RETLS1
                .           .           .
                .           .           .
220             .       LS1CR............
                .           .
                .           .
224         LS1C............
                V
                V
227       LS1LS2
                .
                .
234             .        LS-2
                .           .
                .           .
240         LS2C............
                .
                .
243             .        LS-3
                .           V
                .           V
249             .      LS3LS5
                .           .
                .           .
256             .           .        LS-4
                .           .           .
                .           .           .
267             .           .           .-------->   R4OUT
262             .           .      RETLS4
                .           .           V
                .           .           V
270             .           .      LS4LS5
                .           .           .
                .           .           .
277             .           .           .        LS-5
                .           .           .           .
                .           .           .           .
288             .           .           .           .-------->   R5OUT
283             .           .           .      RETLS5
                .           .           .           .
                .           .           .           .
291             .        LS5C........................
                .           .
                .           .
295             .           .        LS-6
                .           .           .
                .           .           .
301             .           .           .        LS-7
                .           .           .           .
                .           .           .           .
307             .           .        LS7C............
                .           .           .
                .           .           .
310             .           .           .        LS-8
                .           .           .           .
                .           .           .           .
316             .           .           .           .        LS-9
                .           .           .           .           .
                .           .           .           .           .
322             .           .           .           .           .       LS-10
                .           .           .           .           .           .
                .           .           .           .           .           .
333             .           .           .           .           .           .-------->  R10OUT
328             .           .           .           .           .       RET10
                .           .           .           .           .           .
                .           .           .           .           .           .
336       INFLOW.............................................................
                .
                .
340             .       LS-11
                .           .
                .           .
346       LS11C............
                V
                V
350       ADOBE
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*************************************                                    *************************************
 *                                   *                                    *                                   *
```

```
*   FLOOD HYDROGRAPH PACKAGE   (HEC-1)    *
*               JUN   1998               *
*            VERSION 4.1                 *
*                                        *
*  RUN DATE   13AUG03  TIME  15:33:03    *
*                                        *
******************************************
```

```
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
```

```
LOWER SKUNK CREEK HYDROLOGY                    FILENAME: LS1024E.DAT
FOR: ADOBE DAM / DESERT HILLS ADMP             ORIGINAL: 06/25/03
AUG. 2003                                      REVISED:  08/13/03
BY: JE FULLER/ HYDROLOGY & GEOMORPHOLOGY, INC.

THIS IS THE 10-YEAR 24-HOUR MODEL FOR EXISTING CONDITIONS

MODEL BASIS:
  * 100-YEAR 24-HOUR MODEL (LS10024E.DAT)
  * DDMSW PROJECT NAME: LS_EX24
  * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
  * MULTIPLE STORM OPTION (JD)
  * GREEN & AMPT LOSS METHOD
  * CLARK UNIT HYDROGRAPH METHOD
  * TC & R COMPUTED WITH MCHUP1 THRU DDMSW 2.1.3
  * MODIFIED PULS NORMAL-DEPTH CHANNEL ROUTING
  * INFLOW HYDROGRAPHS AS QI RECORDS FROM:
      * S23L - SKUNK CREEK - SKUNK CREEK WMP
      * C010 - SONORAN (UNNAMED) WASH - SKUNK CREEK WMP
      * RRB22C - BUCHANAN WASH - ADOBE ADMP PART 3, VOL. 3

 10-YEAR 24-HOUR MODEL FOR EXISTING CONDITIONS
 10-YEAR MODEL BASED ON:
 10-YEAR INFLOW HYDROGRAPHS FROM SKUNK CREEK / SONORAN WASH WCMP
 10-YEAR INFLOW HYDROGRAPH FROM BUCHANAN WASH FDS (PART OF ADOBE ADMP)
 0.35 RATIO ON BA RECORD FIELD 3 PER DRAFT 2003 FCDMC HYDROLOGY MANUAL


30 IO          OUTPUT CONTROL VARIABLES
                     IPRNT           3  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

31 IN          TIME DATA FOR INPUT TIME SERIES
                     JXMIN          15  TIME INTERVAL IN MINUTES
                    JXDATE      1JAN90  STARTING DATE
                    JXTIME           0  STARTING TIME

   IT          HYDROGRAPH TIME DATA
                      NMIN           5  MINUTES IN COMPUTATION INTERVAL
                     IDATE      1JAN90  STARTING DATE
                     ITIME        0000  STARTING TIME
                        NQ        2000  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE      7JAN90  ENDING DATE
                    NDTIME        2235  ENDING TIME
                     ICENT          19  CENTURY MARK

               COMPUTATION INTERVAL     .08 HOURS
                    TOTAL TIME BASE  166.58 HOURS

         ENGLISH UNITS
              DRAINAGE AREA          SQUARE MILES
              PRECIPITATION DEPTH    INCHES
              LENGTH, ELEVATION      FEET
              FLOW                   CUBIC FEET PER SECOND
              STORAGE VOLUME         ACRE-FEET
              SURFACE AREA           ACRES
              TEMPERATURE            DEGREES FAHRENHEIT

32 JD          INDEX STORM NO. 1
                     STRM        4.10  PRECIPITATION DEPTH
                     TRDA         .01  TRANSPOSITION DRAINAGE AREA

33 PI            PRECIPITATION PATTERN
                  .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                  .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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                  .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                  .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                  .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                  .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                  .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                  .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

43 JD         INDEX STORM NO. 2
                STRM        3.85  PRECIPITATION DEPTH
                TRDA       10.00  TRANSPOSITION DRAINAGE AREA

 0 PI          PRECIPITATION PATTERN
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
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                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

44 JD         INDEX STORM NO. 3
                STRM        3.69  PRECIPITATION DEPTH
                TRDA       30.00  TRANSPOSITION DRAINAGE AREA

 0 PI          PRECIPITATION PATTERN
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

45 JD         INDEX STORM NO. 4
                STRM        3.53  PRECIPITATION DEPTH
                TRDA       60.00  TRANSPOSITION DRAINAGE AREA

 0 PI          PRECIPITATION PATTERN
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
```

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                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .01      .00      .01
                .01      .01      .01      .01      .01      .01      .01      .01      .03      .03
                .03      .09      .09      .09      .01      .01      .01      .01      .01      .01
                .01      .01      .01      .01      .01      .01      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00

 46 JD        INDEX STORM NO. 5
                STRM        3.47  PRECIPITATION DEPTH
                TRDA       90.00  TRANSPOSITION DRAINAGE AREA

  0 PI          PRECIPITATION PATTERN
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .01      .00      .01
                .01      .01      .01      .01      .01      .01      .01      .01      .03      .03
                .03      .09      .09      .09      .01      .01      .01      .01      .01      .01
                .01      .01      .01      .01      .01      .01      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 47 KK      *     S23L   *
            *            *
            **************
                        HYDROGRAPH FOR S23L FROM SKUNK CREEK WMP MODEL

 49 IN        TIME DATA FOR INPUT TIME SERIES
                JXMIN          5  TIME INTERVAL IN MINUTES
               JXDATE      1JAN90  STARTING DATE
               JXTIME          0  STARTING TIME

            SUBBASIN RUNOFF DATA

 50 BA        SUBBASIN CHARACTERISTICS
                TAREA       50.29  SUBBASIN AREA

                                                        ***

     ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION     S23L
                TRANSPOSITION AREA        .0 SQ MI

 PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)      (HR)
                         (CFS)
+   13417.     14.17               4105.       1082.        361.        156.
                        (INCHES)     .759        .800        .800        .800
                         (AC-FT)    2035.       2145.       2147.       2147.

                       CUMULATIVE AREA =   50.29 SQ MI
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      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S23L
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13417.      14.17                4105.       1082.        361.         156.
                        (INCHES)     .759        .800        .800         .800
                         (AC-FT)    2035.       2145.       2147.        2147.

                        CUMULATIVE AREA =   50.29 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S23L
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13417.      14.17                4105.       1082.        361.         156.
                        (INCHES)     .759        .800        .800         .800
                         (AC-FT)    2035.       2145.       2147.        2147.

                        CUMULATIVE AREA =   50.29 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S23L
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13417.      14.17                4105.       1082.        361.         156.
                        (INCHES)     .759        .800        .800         .800
                         (AC-FT)    2035.       2145.       2147.        2147.

                        CUMULATIVE AREA =   50.29 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S23L
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13417.      14.17                4105.       1082.        361.         156.
                        (INCHES)     .759        .800        .800         .800
                         (AC-FT)    2035.       2145.       2147.        2147.

                        CUMULATIVE AREA =   50.29 SQ MI

      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT     S23L

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13417.      14.17                4105.       1082.        361.         156.
                        (INCHES)     .759        .800        .800         .800
                         (AC-FT)    2035.       2145.       2147.        2147.

                        CUMULATIVE AREA =   50.29 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  85 KK     *      C010  *
            *            *
            **************
                          HYDROGRAPH FOR SONORAN WASH FROM SKUNK CREEK WMP

  87 IN          TIME DATA FOR INPUT TIME SERIES
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                    JXMIN          5  TIME INTERVAL IN MINUTES
                   JXDATE      1JAN90  STARTING DATE
                   JXTIME          0  STARTING TIME

              SUBBASIN RUNOFF DATA

  88 BA         SUBBASIN CHARACTERISTICS
                     TAREA       13.39  SUBBASIN AREA
                                                                  ***

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION     C010
                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    4852.     13.00                1231.       322.        108.        47.
                        (INCHES)    .855        .896        .897       .897
                         (AC-FT)    610.        640.        641.       641.

                       CUMULATIVE AREA =   13.39 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION     C010
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    4852.     13.00                1231.       322.        108.        47.
                        (INCHES)    .855        .896        .897       .897
                         (AC-FT)    610.        640.        641.       641.

                       CUMULATIVE AREA =   13.39 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION     C010
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    4852.     13.00                1231.       322.        108.        47.
                        (INCHES)    .855        .896        .897       .897
                         (AC-FT)    610.        640.        641.       641.

                       CUMULATIVE AREA =   13.39 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION     C010
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    4852.     13.00                1231.       322.        108.        47.
                        (INCHES)    .855        .896        .897       .897
                         (AC-FT)    610.        640.        641.       641.

                       CUMULATIVE AREA =   13.39 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION     C010
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    4852.     13.00                1231.       322.        108.        47.
                        (INCHES)    .855        .896        .897       .897
                         (AC-FT)    610.        640.        641.       641.

                       CUMULATIVE AREA =   13.39 SQ MI

      ***           ***           ***           ***           ***


                     INTERPOLATED HYDROGRAPH AT     C010
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    4852.     13.00                1231.        322.        108.          47.
                        (INCHES)     .855        .896        .897         .897
                         (AC-FT)     610.        640.        641.         641.

                        CUMULATIVE AREA =   13.39 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  126 KK    *       CAP  *
            *            *
            **************
                            COMBINE S23L+C010 (SUBAREAS S1-S23, CLINE CR, RODGER CR & UNNAMED WASH)
                            COMBINED FLOW AT CAP OVERCHUTES

  129 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION      CAP
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14941.     14.00                5335.       1404.        468.         202.
                        (INCHES)     .779        .820        .821         .821
                         (AC-FT)    2646.       2785.       2788.        2788.

                        CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION      CAP
                        TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14941.     14.00                5335.       1404.        468.         202.
                        (INCHES)     .779        .820        .821         .821
                         (AC-FT)    2646.       2785.       2788.        2788.

                        CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION      CAP
                        TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14941.     14.00                5335.       1404.        468.         202.
                        (INCHES)     .779        .820        .821         .821
                         (AC-FT)    2646.       2785.       2788.        2788.

                        CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION      CAP
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14941.     14.00                5335.       1404.        468.         202.
                        (INCHES)     .779        .820        .821         .821
                         (AC-FT)    2646.       2785.       2788.        2788.

                        CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***
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                    HYDROGRAPH AT STATION      CAP
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14941.     14.00                5335.       1404.        468.         202.
                        (INCHES)     .779        .820        .821         .821
                         (AC-FT)    2646.       2785.       2788.        2788.

                       CUMULATIVE AREA =   63.68 SQ MI

      ***            ***            ***            ***            ***


                     INTERPOLATED HYDROGRAPH AT      CAP

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14941.     14.00                5335.       1404.        468.         202.
                        (INCHES)     .779        .820        .821         .821
                         (AC-FT)    2646.       2785.       2788.        2788.

                       CUMULATIVE AREA =   63.68 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  130 KK    *     CAPR2  *
            *            *
            **************
                     ROUTE CAP OVERFLOW THROUGH S24 FROM CAP TO I-17 IN SKUNK CREEK

              HYDROGRAPH ROUTING DATA

  132 RM          MUSKINGUM ROUTING
                        NSTPS         3 NUMBER OF SUBREACHES
                        AMSKK       .23 MUSKINGUM K
                            X       .25 MUSKINGUM X

                                                                  ***

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    CAPR2
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14758.     14.17                5335.       1404.        468.         202.
                        (INCHES)     .779        .820        .821         .821
                         (AC-FT)    2646.       2785.       2788.        2788.

                       CUMULATIVE AREA =   63.68 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    CAPR2
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14758.     14.17                5335.       1404.        468.         202.
                        (INCHES)     .779        .820        .821         .821
                         (AC-FT)    2646.       2785.       2788.        2788.

                       CUMULATIVE AREA =   63.68 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    CAPR2
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14758.     14.17                5335.       1404.        468.         202.
                        (INCHES)     .779        .820        .821         .821
```

```
                    (AC-FT)      2646.       2785.       2788.        2788.

                    CUMULATIVE AREA =   63.68 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION    CAPR2
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+   14758.     14.17              5335.       1404.        468.         202.
                  (INCHES)       .779        .820        .821         .821
                   (AC-FT)      2646.       2785.       2788.        2788.

                    CUMULATIVE AREA =   63.68 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION    CAPR2
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+   14758.     14.17              5335.       1404.        468.         202.
                  (INCHES)       .779        .820        .821         .821
                   (AC-FT)      2646.       2785.       2788.        2788.

                    CUMULATIVE AREA =   63.68 SQ MI

      ***           ***           ***           ***           ***


                    INTERPOLATED HYDROGRAPH AT    CAPR2

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+   14758.     14.17              5335.       1404.        468.         202.
                  (INCHES)       .779        .820        .821         .821
                   (AC-FT)      2646.       2785.       2788.        2788.

                    CUMULATIVE AREA =   63.68 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
 133 KK   *       S24  *
          *            *
          **************
                    BASIN S24
                     THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
                     L=      1.4  Lca=      .8   S=   38.0  Kn= .026  LAG=  19.0
                     DESERT/RANGELAND S-GRAPH WAS USED FOR THE BASIN

             SUBBASIN RUNOFF DATA

 138 BA        SUBBASIN CHARACTERISTICS
                    TAREA         .64  SUBBASIN AREA

 139 LG        GREEN AND AMPT LOSS RATE
                    STRTL         .35  STARTING LOSS
                      DTH         .30  MOISTURE DEFICIT
                     PSIF        8.00  WETTING FRONT SUCTION
                    XKSAT         .09  HYDRAULIC CONDUCTIVITY
                    RTIMP         .00  PERCENT IMPERVIOUS AREA

 134 UI        INPUT UNITGRAPH,  13 ORDINATES,  VOLUME =  .99
                  140.0     538.0     935.0    1070.0     844.0     535.0     336.0     212.0     135.0      82.0
                   47.0      28.0      28.0

                                                                  ***

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION      S24
                   TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.52, TOTAL EXCESS =    1.58

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
```

```
+   (CFS)        (HR)
                              (CFS)
+    1145.      12.17                  108.          27.           9.           4.
                            (INCHES)  1.572        1.572        1.572        1.572
                             (AC-FT)    54.          54.          54.          54.

                            CUMULATIVE AREA =     .64 SQ MI

      ***                 ***            ***            ***            ***

                            HYDROGRAPH AT STATION      S24
                          TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.42, TOTAL EXCESS =    1.43

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+    1062.      12.17                   98.          25.           8.           4.
                            (INCHES)  1.424        1.424        1.424        1.424
                             (AC-FT)    49.          49.          49.          49.

                            CUMULATIVE AREA =     .64 SQ MI

      ***                 ***            ***            ***            ***

                            HYDROGRAPH AT STATION      S24
                          TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.35, TOTAL EXCESS =    1.34

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+    1007.      12.17                   92.          23.           8.           3.
                            (INCHES)  1.332        1.332        1.332        1.332
                             (AC-FT)    45.          45.          45.          45.

                            CUMULATIVE AREA =     .64 SQ MI

      ***                 ***            ***            ***            ***

                            HYDROGRAPH AT STATION      S24
                          TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.28, TOTAL EXCESS =    1.25

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     951.      12.17                   85.          21.           7.           3.
                            (INCHES)  1.241        1.241        1.241        1.241
                             (AC-FT)    42.          42.          42.          42.

                            CUMULATIVE AREA =     .64 SQ MI

      ***                 ***            ***            ***            ***

                            HYDROGRAPH AT STATION      S24
                          TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.25, TOTAL EXCESS =    1.22

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     931.      12.17                   83.          21.           7.           3.
                            (INCHES)  1.209        1.209        1.209        1.209
                             (AC-FT)    41.          41.          41.          41.

                            CUMULATIVE AREA =     .64 SQ MI

      ***                 ***            ***            ***            ***


                            INTERPOLATED HYDROGRAPH AT      S24

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+    1095.      12.17                  102.          26.           9.           4.
                            (INCHES)  1.483        1.483        1.483        1.483
                             (AC-FT)    51.          51.          51.          51.

                            CUMULATIVE AREA =     .64 SQ MI
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
143 KK        *     S24C   *
              *            *
              **************
                              COMBINE ROUTED FLOWS FROM CAP WITH RUNOFF FROM S24 AT I-17

145 HC            HYDROGRAPH COMBINATION
                       ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S24C
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14758.      14.17                5444.       1431.        477.         206.
                        (INCHES)     .787        .827        .828         .828
                         (AC-FT)    2699.       2838.       2841.        2841.

                        CUMULATIVE AREA =   64.32 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S24C
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14758.      14.17                5433.       1428.        477.         206.
                        (INCHES)     .785        .826        .827         .827
                         (AC-FT)    2694.       2833.       2836.        2836.

                        CUMULATIVE AREA =   64.32 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S24C
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14758.      14.17                5427.       1427.        476.         206.
                        (INCHES)     .784        .825        .826         .826
                         (AC-FT)    2691.       2830.       2833.        2833.

                        CUMULATIVE AREA =   64.32 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S24C
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14758.      14.17                5421.       1425.        476.         206.
                        (INCHES)     .784        .824        .825         .825
                         (AC-FT)    2688.       2827.       2830.        2830.

                        CUMULATIVE AREA =   64.32 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S24C
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14758.      14.17                5419.       1425.        475.         205.
                        (INCHES)     .783        .824        .825         .825
                         (AC-FT)    2687.       2826.       2829.        2829.
```

```
                    CUMULATIVE AREA =   64.32 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     S24C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14758.      14.17                5420.       1425.        476.         206.
                       (INCHES)      .784        .824        .825         .825
                        (AC-FT)     2688.       2827.       2830.        2830.

                    CUMULATIVE AREA =   64.32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 146 KK     *    S24LS1  *        ROUTE   REACH
            *            *
            **************
                            ROUTE COMBINED FLOWS FROM I-17 TO CONFLUENCE WITH BUCHANAN WASH IN
                            SKUNK CREEK

              HYDROGRAPH ROUTING DATA

 149 RS          STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC       -1.00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 150 RC          NORMAL DEPTH CHANNEL
                        ANL        .035  LEFT OVERBANK N-VALUE
                       ANCH        .035  MAIN CHANNEL N-VALUE
                        ANR        .035  RIGHT OVERBANK N-VALUE
                      RLNTH       3394.  REACH LENGTH
                        SEL      .0053  ENERGY SLOPE
                      ELMAX        15.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                     CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 152 RY        ELEVATION     15.00     15.00     15.00       .00       .00     15.00     15.00     15.00
 151 RX        DISTANCE        .00      8.00     15.00     50.00    320.00    355.00    362.00    370.00

                                                                  ***

                                     COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00     16.72     33.67     50.84     68.25     85.87    103.73    121.81    140.12    158.65
            OUTFLOW        .00    565.16   1797.10   3538.08   5724.48   8317.93  11291.97  14627.04  18307.96  22322.63
          ELEVATION        .00       .79      1.58      2.37      3.16      3.95      4.74      5.53      6.32      7.11

            STORAGE     177.41    196.40    215.62    235.06    254.73    274.62    294.74    315.09    335.66    356.46
            OUTFLOW   26661.13  31315.26  36278.10  41543.79  47107.33  52964.40  59111.29  65544.80  72262.11  79260.82
          ELEVATION       7.89      8.68      9.47     10.26     11.05     11.84     12.63     13.42     14.21     15.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN    47107. TO    79261.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   S24LS1
                    TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14690.      14.25                5441.       1431.        477.         206.
                       (INCHES)      .787        .827        .828         .828
                        (AC-FT)     2698.       2838.       2841.        2841.

  PEAK STORAGE  TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     122.      14.25                  57.         16.          5.           2.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     5.54      14.25                 2.62         .75         .25          .11

                    CUMULATIVE AREA =   64.32 SQ MI
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      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   S24LS1
                 TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14690.     14.25               5431.       1428.        477.         206.
                        (INCHES)    .785        .826        .827         .827
                         (AC-FT)   2693.       2833.       2836.        2836.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      122.     14.25                 57.         16.          5.           2.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      5.54     14.25                2.61         .75         .25          .11

                     CUMULATIVE AREA =   64.32 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   S24LS1
                 TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14690.     14.25               5425.       1427.        476.         206.
                        (INCHES)    .784        .825        .826         .826
                         (AC-FT)   2690.       2830.       2833.        2833.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      122.     14.25                 57.         16.          5.           2.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      5.54     14.25                2.61         .75         .25          .11

                     CUMULATIVE AREA =   64.32 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   S24LS1
                 TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14690.     14.25               5419.       1425.        476.         206.
                        (INCHES)    .783        .824        .825         .825
                         (AC-FT)   2687.       2827.       2830.        2830.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      122.     14.25                 57.         16.          5.           2.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      5.54     14.25                2.60         .75         .25          .11

                     CUMULATIVE AREA =   64.32 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   S24LS1
                 TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14690.     14.25               5416.       1425.        475.         205.
                        (INCHES)    .783        .824        .825         .825
                         (AC-FT)   2686.       2826.       2829.        2829.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
```

```
+  (AC-FT)      (HR)
     122.     14.25                    57.         16.          5.           2.

  PEAK STAGE    TIME                              MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     5.54     14.25                    2.60         .75         .25          .11

                        CUMULATIVE AREA =   64.32 SQ MI

      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT   S24LS1

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   14690.    14.25                 5418.       1425.        476.         206.
                        (INCHES)     .783        .824        .825         .825
                         (AC-FT)    2687.       2827.       2830.        2830.

                        CUMULATIVE AREA =   64.32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  153 KK    *    RRB22C  *
            *            *
            **************
                          INFLOWS FROM BUCHANAN WASH UNDER CAP
                            FROM BF1024E.DAT

  156 IN          TIME DATA FOR INPUT TIME SERIES
                        JXMIN           5  TIME INTERVAL IN MINUTES
                       JXDATE      1JAN90  STARTING DATE
                       JXTIME           0  STARTING TIME

               SUBBASIN RUNOFF DATA

  157 BA          SUBBASIN CHARACTERISTICS
                        TAREA        9.62  SUBBASIN AREA

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RRB22C
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     945.    14.25                  710.        200.         67.          29.
                        (INCHES)     .686        .773        .774         .774
                         (AC-FT)     352.        397.        397.         397.

                        CUMULATIVE AREA =    9.62 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RRB22C
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     945.    14.25                  710.        200.         67.          29.
                        (INCHES)     .686        .773        .774         .774
                         (AC-FT)     352.        397.        397.         397.

                        CUMULATIVE AREA =    9.62 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RRB22C
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     945.    14.25                  710.        200.         67.          29.
                        (INCHES)     .686        .773        .774         .774
```

```
                    (AC-FT)      352.        397.        397.        397.

                    CUMULATIVE AREA =    9.62 SQ MI

     ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   RRB22C
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     945.      14.25               710.        200.         67.         29.
                        (INCHES)    .686        .773        .774        .774
                         (AC-FT)    352.        397.        397.        397.

                    CUMULATIVE AREA =    9.62 SQ MI

     ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   RRB22C
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     945.      14.25               710.        200.         67.         29.
                        (INCHES)    .686        .773        .774        .774
                         (AC-FT)    352.        397.        397.        397.

                    CUMULATIVE AREA =    9.62 SQ MI

     ***          ***          ***          ***          ***


                    INTERPOLATED HYDROGRAPH AT   RRB22C

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     945.      14.25               710.        200.         67.         29.
                        (INCHES)    .686        .773        .774        .774
                         (AC-FT)    352.        397.        397.        397.

                    CUMULATIVE AREA =    9.62 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
199 KK    *   B22LS1   *        ROUTE   REACH
          *            *
          **************
                    ROUTE IMPORTED FLOWS FROM BUCHANAN WASH TO SKUNK CREEK

            HYDROGRAPH ROUTING DATA

201 RS        STORAGE ROUTING
                   NSTPS          4  NUMBER OF SUBREACHES
                    ITYP       STOR  TYPE OF INITIAL CONDITION
                  RSVRIC      -1.00  INITIAL CONDITION
                       X        .00 WORKING R AND D COEFFICIENT

202 RC        NORMAL DEPTH CHANNEL
                     ANL       .055  LEFT OVERBANK N-VALUE
                    ANCH       .040  MAIN CHANNEL N-VALUE
                     ANR       .055  RIGHT OVERBANK N-VALUE
                   RLNTH      10208.  REACH LENGTH
                     SEL      .0040  ENERGY SLOPE
                   ELMAX        7.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                CROSS-SECTION DATA
                  --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
204 RY      ELEVATION     7.00      6.00      5.00       .00       .00      5.00      6.00      7.00
203 RX      DISTANCE       .00    100.00    200.00    210.00    225.00    235.00    285.00    335.00

                                                  ***

                                COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

        STORAGE        .00      1.36      2.84      4.46      6.20      8.07     10.06     12.18     14.43     16.81
        OUTFLOW        .00      6.76     21.75     43.42     71.34    105.36    145.48    191.77    244.33    303.29
      ELEVATION        .00       .37       .74      1.11      1.47      1.84      2.21      2.58      2.95      3.32

        STORAGE      19.31     21.94     24.70     27.59     31.03     38.48     50.70     67.70     89.46    116.00
```

OUTFLOW	368.81	441.04	520.14	606.30	708.61	843.01	1016.38	1242.18	1531.99	1896.29
ELEVATION	3.68	4.05	4.42	4.79	5.16	5.53	5.89	6.26	6.63	7.00

*** *** *** *** ***

HYDROGRAPH AT STATION B22LS1
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 935.	15.25		707.	200.	67.	29.
		(INCHES)	.683	.773	.774	.774
		(AC-FT)	351.	397.	397.	397.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
11.	15.25	8.	3.	1.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
5.72	15.25	4.91	1.81	.61	.26

CUMULATIVE AREA = 9.62 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B22LS1
TRANSPOSITION AREA 10.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 935.	15.25		707.	200.	67.	29.
		(INCHES)	.683	.773	.774	.774
		(AC-FT)	351.	397.	397.	397.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
11.	15.25	8.	3.	1.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
5.72	15.25	4.91	1.81	.61	.26

CUMULATIVE AREA = 9.62 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B22LS1
TRANSPOSITION AREA 30.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 935.	15.25		707.	200.	67.	29.
		(INCHES)	.683	.773	.774	.774
		(AC-FT)	351.	397.	397.	397.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
11.	15.25	8.	3.	1.	0.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
5.72	15.25	4.91	1.81	.61	.26

CUMULATIVE AREA = 9.62 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION B22LS1
TRANSPOSITION AREA 60.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 935.	15.25		707.	200.	67.	29.
		(INCHES)	.683	.773	.774	.774
		(AC-FT)	351.	397.	397.	397.

```
 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      11.     15.25                   8.          3.          1.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      5.72    15.25                  4.91        1.81         .61          .26

                        CUMULATIVE AREA =    9.62 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   B22LS1
                       TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     935.    15.25                 707.        200.         67.          29.
                       (INCHES)     .683        .773        .774         .774
                        (AC-FT)     351.        397.        397.         397.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      11.     15.25                   8.          3.          1.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      5.72    15.25                  4.91        1.81         .61          .26

                        CUMULATIVE AREA =    9.62 SQ MI

    -----DSS---ZOPEN:  Existing File Opened,  File: LS1024E.DSS
                       Unit:  71;  DSS Version: 6-JG
 -----DSS---ZWRITE Unit  71; Vers.    9:  //B22LS1/FLOW/31DEC1989/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //B22LS1/FLOW/01JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //B22LS1/FLOW/02JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //B22LS1/FLOW/03JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //B22LS1/FLOW/04JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //B22LS1/FLOW/05JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //B22LS1/FLOW/06JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //B22LS1/FLOW/07JAN1990/5MIN//
      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT   B22LS1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     935.    15.25                 707.        200.         67.          29.
                       (INCHES)     .683        .773        .774         .774
                        (AC-FT)     351.        397.        397.         397.

                        CUMULATIVE AREA =    9.62 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 206 KK     *     LS-1   *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

 207 BA          SUBBASIN CHARACTERISTICS
                       TAREA        2.47  SUBBASIN AREA
                        SNAP         .00  NORMAL ANNUAL PRECIPITATION
                       RATIO         .35  RATIO OF HYDROGRAPH

 208 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .24  STARTING LOSS
                         DTH         .19  MOISTURE DEFICIT
                        PSIF        6.60  WETTING FRONT SUCTION
                       XKSAT         .15  HYDRAULIC CONDUCTIVITY
                       RTIMP       15.00  PERCENT IMPERVIOUS AREA

 209 UC          CLARK UNITGRAPH
                          TC         .53  TIME OF CONCENTRATION
                           R         .27  STORAGE COEFFICIENT

 210 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
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      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
   100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=   .53 HR,       R=   .27 HR
                                  SNYDER   TP=   .31 HR,      CP=   .60

                                          UNIT HYDROGRAPH
                                   20 END-OF-PERIOD ORDINATES
      290.     1114.     2411.     3058.     2746.     2333.     1875.     1416.     1037.      760.
      557.      408.      299.      219.      160.      117.       86.       63.       46.       34.

   ***          ***          ***          ***          ***

                HYDROGRAPH AT STATION     LS-1
               TRANSPOSITION AREA        .0 SQ MI

   TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.16, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   3647.      12.17                466.        128.         43.         18.
                        (INCHES)    1.755       1.932       1.933       1.933
                         (AC-FT)    231.        254.        255.        255.

                CUMULATIVE AREA =    2.47 SQ MI


                                          HYDROGRAPH MULTIPLIED BY    .35

   ***          ***          ***          ***          ***

                HYDROGRAPH AT STATION     LS-1
               TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   1276.      12.17                163.         45.         15.          6.
                        (INCHES)    .614        .676        .677        .677
                         (AC-FT)    81.         89.         89.         89.

                CUMULATIVE AREA =    2.47 SQ MI

   ***          ***          ***          ***          ***

                HYDROGRAPH AT STATION     LS-1
               TRANSPOSITION AREA      10.0 SQ MI

   TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.07, TOTAL EXCESS =    1.79

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   3388.      12.17                428.        118.         39.         17.
                        (INCHES)    1.611       1.777       1.778       1.778
                         (AC-FT)    212.        234.        234.        234.

                CUMULATIVE AREA =    2.47 SQ MI


                                          HYDROGRAPH MULTIPLIED BY    .35

   ***          ***          ***          ***          ***

                HYDROGRAPH AT STATION     LS-1
               TRANSPOSITION AREA      10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   1186.      12.17                150.         41.         14.          6.
                        (INCHES)    .564        .622        .622        .622
                         (AC-FT)    74.         82.         82.         82.

                CUMULATIVE AREA =    2.47 SQ MI

   ***          ***          ***          ***          ***

                HYDROGRAPH AT STATION     LS-1
               TRANSPOSITION AREA      30.0 SQ MI

   TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.00, TOTAL EXCESS =    1.69

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
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+   (CFS)        (HR)
                                  (CFS)
+    3216.      12.17                    403.        111.         37.          16.
                                (INCHES)     1.517       1.677       1.678        1.678
                                 (AC-FT)     200.        221.        221.         221.

                                CUMULATIVE AREA =    2.47 SQ MI


                                                          HYDROGRAPH MULTIPLIED BY    .35

      ***                 ***             ***             ***             ***

                                HYDROGRAPH AT STATION     LS-1
                               TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                          6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    1126.      12.17                    141.         39.         13.           6.
                                (INCHES)      .531       .587       .587         .587
                                 (AC-FT)      70.         77.         77.          77.

                                CUMULATIVE AREA =    2.47 SQ MI


      ***                 ***             ***             ***             ***

                                HYDROGRAPH AT STATION     LS-1
                               TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.94, TOTAL EXCESS =    1.59

  PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                          6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    3045.      12.17                    378.        105.         35.          15.
                                (INCHES)     1.425       1.578       1.579        1.579
                                 (AC-FT)     188.        208.        208.         208.

                                CUMULATIVE AREA =    2.47 SQ MI


                                                          HYDROGRAPH MULTIPLIED BY    .35

      ***                 ***             ***             ***             ***

                                HYDROGRAPH AT STATION     LS-1
                               TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                          6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    1066.      12.17                    132.         37.         12.           5.
                                (INCHES)      .499       .552       .553         .553
                                 (AC-FT)      66.         73.         73.          73.

                                CUMULATIVE AREA =    2.47 SQ MI


      ***                 ***             ***             ***             ***

                                HYDROGRAPH AT STATION     LS-1
                               TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.92, TOTAL EXCESS =    1.55

  PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                          6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    2985.      12.17                    370.        102.         34.          15.
                                (INCHES)     1.393       1.543       1.544        1.544
                                 (AC-FT)     183.        203.        203.         203.

                                CUMULATIVE AREA =    2.47 SQ MI


                                                          HYDROGRAPH MULTIPLIED BY    .35

      ***                 ***             ***             ***             ***

                                HYDROGRAPH AT STATION     LS-1
                               TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                          6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    1045.      12.17                    129.         36.         12.           5.
                                (INCHES)      .488       .540       .540         .540
                                 (AC-FT)      64.         71.         71.          71.
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                    CUMULATIVE AREA =    2.47 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS-1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+    1204.      12.17                152.         42.         14.           6.
                          (INCHES)  .574        .633        .633         .633
                           (AC-FT)   76.         83.         83.          83.

                    CUMULATIVE AREA =    2.47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 212 KK     *    RETLS1  *
            *            *
            **************
                         DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                          - 232 AC DEVELOPMENT WITH RETENTION
                          - C FACTOR = 0.63
                          - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                      ISTAD       R1OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       32.40  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW          .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00
                                                                  ***

     ***            ***            ***            ***            ***

                      DIVERSION HYDROGRAPH    R1OUT
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+    1118.      12.08                 61.         16.          5.           2.
                          (INCHES)  .230        .246        .246         .246
                            (AC-FT)  30.         32.         32.          32.

                    CUMULATIVE AREA =    2.47 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   RETLS1
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+    1243.      12.25                110.         29.         10.           4.
                          (INCHES)  .412        .431        .431         .431
                            (AC-FT)  54.         57.         57.          57.

                    CUMULATIVE AREA =    2.47 SQ MI

     ***            ***            ***            ***            ***

                      DIVERSION HYDROGRAPH    R1OUT
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+    1037.      12.08                 61.         16.          5.           2.
                          (INCHES)  .231        .246        .246         .246
                            (AC-FT)  30.         32.         32.          32.

                    CUMULATIVE AREA =    2.47 SQ MI

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                    HYDROGRAPH AT STATION   RETLS1
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+    1154.     12.25                 95.         25.          8.           4.
                  (INCHES)         .359        .376        .376         .376
                   (AC-FT)          47.         50.         50.          50.

                  CUMULATIVE AREA =    2.47 SQ MI

      ***         ***          ***          ***          ***

                  DIVERSION HYDROGRAPH    R1OUT
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+    1090.     12.17                 61.         16.          5.           2.
                  (INCHES)         .231        .246        .246         .246
                   (AC-FT)          30.         32.         32.          32.

                  CUMULATIVE AREA =    2.47 SQ MI

      ***         ***          ***          ***          ***

                  HYDROGRAPH AT STATION   RETLS1
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+    1095.     12.25                 86.         23.          8.           3.
                  (INCHES)         .325        .341        .341         .341
                   (AC-FT)          43.         45.         45.          45.

                  CUMULATIVE AREA =    2.47 SQ MI

      ***         ***          ***          ***          ***

                  DIVERSION HYDROGRAPH    R1OUT
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+    1066.     12.17                 62.         16.          5.           2.
                  (INCHES)         .232        .246        .246         .246
                   (AC-FT)          31.         32.         32.          32.

                  CUMULATIVE AREA =    2.47 SQ MI

      ***         ***          ***          ***          ***

                  HYDROGRAPH AT STATION   RETLS1
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+     902.     12.33                 77.         20.          7.           3.
                  (INCHES)         .291        .306        .306         .306
                   (AC-FT)          38.         40.         40.          40.

                  CUMULATIVE AREA =    2.47 SQ MI

      ***         ***          ***          ***          ***

                  DIVERSION HYDROGRAPH    R1OUT
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+    1045.     12.17                 62.         16.          5.           2.
                  (INCHES)         .232        .246        .246         .246
                   (AC-FT)          31.         32.         32.          32.

                  CUMULATIVE AREA =    2.47 SQ MI

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                    HYDROGRAPH AT STATION   RETLS1
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     883.      12.33                    74.          20.          7.           3.
                            (INCHES)    .279         .294        .294         .294
                             (AC-FT)     37.          39.         39.          39.

                             CUMULATIVE AREA =    2.47 SQ MI

       ***            ***            ***             ***             ***


                   INTERPOLATED DIVERSION HYDROGRAPH AT    R1OUT

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+    1053.      12.08                    61.          16.          5.           2.
                            (INCHES)    .230         .246        .246         .246
                             (AC-FT)     30.          32.         32.          32.

                             CUMULATIVE AREA =    2.47 SQ MI

       ***            ***            ***             ***             ***


                    INTERPOLATED HYDROGRAPH AT   RETLS1

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+    1172.      12.25                    98.          26.          9.           4.
                            (INCHES)    .370         .387        .387         .387
                             (AC-FT)     49.          51.         51.          51.

                             CUMULATIVE AREA =    2.47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

             **************
             *            *
 220 KK      *    LS1CR   *
             *            *
             **************
                                COMBINE RUNOFF FROM LS-1 WITH ROUTED FLOWS FROM BUCHANAN WASH AT CAP
                                THIS IS THE TOTAL FLOW IN BUCHANAN WASH JUST U/S OF SKUNK CREEK

 223 HC          HYDROGRAPH COMBINATION
                      ICOMP            2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                ***

       ***            ***            ***             ***             ***

                    HYDROGRAPH AT STATION    LS1CR
                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+    1426.      12.25                   817.         229.         76.          33.
                            (INCHES)    .628         .703        .704         .704
                             (AC-FT)    405.         453.        454.         454.

                             CUMULATIVE AREA =   12.09 SQ MI


       ***            ***            ***             ***             ***

                    HYDROGRAPH AT STATION    LS1CR
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+    1337.      12.25                   803.         225.         75.          32.
                            (INCHES)    .617         .692        .693         .693
                             (AC-FT)    398.         446.        447.         447.

                             CUMULATIVE AREA =   12.09 SQ MI
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      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS1CR
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1278.     12.25                 793.        223.         74.          32.
                        (INCHES)     .610        .685        .686         .686
                         (AC-FT)     393.        441.        442.         442.

                       CUMULATIVE AREA =   12.09 SQ MI


      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS1CR
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1143.     12.33                 784.        220.         74.          32.
                        (INCHES)     .603        .678        .679         .679
                         (AC-FT)     389.        437.        437.         437.

                       CUMULATIVE AREA =   12.09 SQ MI


      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS1CR
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1125.     12.33                 781.        219.         73.          32.
                        (INCHES)     .601        .675        .676         .676
                         (AC-FT)     387.        435.        436.         436.

                       CUMULATIVE AREA =   12.09 SQ MI

      ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT    LS1CR

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1327.     12.25                 801.        225.         75.          32.
                        (INCHES)     .616        .691        .692         .692
                         (AC-FT)     397.        445.        446.         446.

                       CUMULATIVE AREA =   12.09 SQ MI


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            **************
            *            *
 224 KK     *      LS1C  *
            *            *
            **************
                    COMBINE BUCHANAN WASH WITH ROUTED FLOWS IN SKUNK CREEK FROM I-17.

 226 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS1C
                  TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15592.     14.25                6253.       1658.        554.         239.
                        (INCHES)     .761        .807        .809         .809
                         (AC-FT)    3101.       3288.       3295.        3295.
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                    CUMULATIVE AREA =   76.41 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS1C
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   15591.      14.25                 6230.       1651.        552.        238.
                          (INCHES)    .758        .804        .806        .806
                           (AC-FT)   3089.       3276.       3283.       3283.

                    CUMULATIVE AREA =   76.41 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS1C
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   15590.      14.25                 6214.       1648.        550.        238.
                          (INCHES)    .756        .802        .804        .804
                           (AC-FT)   3081.       3268.       3275.       3275.

                    CUMULATIVE AREA =   76.41 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS1C
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   15589.      14.25                 6199.       1644.        549.        237.
                          (INCHES)    .754        .800        .802        .802
                           (AC-FT)   3074.       3260.       3267.       3267.

                    CUMULATIVE AREA =   76.41 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS1C
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   15589.      14.25                 6194.       1642.        549.        237.
                          (INCHES)    .754        .799        .801        .801
                           (AC-FT)   3071.       3257.       3265.       3265.

                    CUMULATIVE AREA =   76.41 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS1C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   15589.      14.25                 6196.       1643.        549.        237.
                          (INCHES)    .754        .800        .801        .801
                           (AC-FT)   3072.       3259.       3266.       3266.

                    CUMULATIVE AREA =   76.41 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
  227 KK    *    LS1LS2  *        ROUTE   REACH
            *            *
            **************
                          ROUTE COMBINED FLOWS FROM BUCHANAN WASH CONFLUENCE WITH SKUNK CREEK
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TO PINNACLE PEAK ROAD IN SKUNK CREEK

HYDROGRAPH ROUTING DATA

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230 RS        STORAGE ROUTING
                   NSTPS          3  NUMBER OF SUBREACHES
                    ITYP       STOR  TYPE OF INITIAL CONDITION
                  RSVRIC      -1.00  INITIAL CONDITION
                       X        .00  WORKING R AND D COEFFICIENT

231 RC        NORMAL DEPTH CHANNEL
                     ANL       .035  LEFT OVERBANK N-VALUE
                    ANCH       .035  MAIN CHANNEL N-VALUE
                     ANR       .035  RIGHT OVERBANK N-VALUE
                   RLNTH      9552.  REACH LENGTH
                     SEL      .0063  ENERGY SLOPE
                   ELMAX       15.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION
```

CROSS-SECTION DATA

		--- LEFT OVERBANK ---		+ ------ MAIN CHANNEL		------- + --- RIGHT OVERBANK ---			
233 RY	ELEVATION	15.00	15.00	15.00	.00	.00	15.00	15.00	15.00
232 RX	DISTANCE	.00	8.00	15.00	50.00	320.00	355.00	362.00	370.00

***

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	.00	47.06	94.76	143.10	192.07	241.68	291.93	342.82	394.35	446.51
OUTFLOW	.00	616.17	1959.31	3857.45	6241.21	9068.75	12311.25	15947.36	19960.54	24337.59
ELEVATION	.00	.79	1.58	2.37	3.16	3.95	4.74	5.53	6.32	7.11
STORAGE	499.31	552.75	606.83	661.54	716.89	772.88	829.51	886.78	944.68	1003.22
OUTFLOW	29067.71	34141.95	39552.77	45293.77	51359.50	57745.27	64447.01	71461.24	78784.90	86415.35
ELEVATION	7.89	8.68	9.47	10.26	11.05	11.84	12.63	13.42	14.21	15.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 34142. TO 86415.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

*** *** *** *** ***

HYDROGRAPH AT STATION LS1LS2
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW + (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	166.58-HR
		(CFS)				
+ 15443.	14.42		6225.	1657.	554.	239.
		(INCHES)	.757	.807	.809	.809
		(AC-FT)	3087.	3287.	3295.	3295.

PEAK STORAGE + (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	166.58-HR
112.	14.42	58.	17.	6.	2.

PEAK STAGE + (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	166.58-HR
5.42	14.42	2.83	.84	.28	.12

CUMULATIVE AREA = 76.41 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION LS1LS2
TRANSPOSITION AREA 10.0 SQ MI

PEAK FLOW + (CFS)	TIME (HR)		MAXIMUM AVERAGE FLOW 6-HR	24-HR	72-HR	166.58-HR
		(CFS)				
+ 15442.	14.42		6201.	1651.	552.	238.
		(INCHES)	.755	.804	.806	.806
		(AC-FT)	3075.	3275.	3283.	3283.

PEAK STORAGE + (AC-FT)	TIME (HR)	MAXIMUM AVERAGE STORAGE 6-HR	24-HR	72-HR	166.58-HR
112.	14.42	58.	17.	6.	2.

PEAK STAGE + (FEET)	TIME (HR)	MAXIMUM AVERAGE STAGE 6-HR	24-HR	72-HR	166.58-HR
5.42	14.42	2.82	.83	.28	.12

CUMULATIVE AREA = 76.41 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION LS1LS2

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                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15442.      14.42               6186.       1647.        550.        238.
                      (INCHES)       .753        .802        .804        .804
                       (AC-FT)      3068.       3267.       3275.       3275.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     112.      14.42                  57.         17.          6.           2.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     5.42      14.42                 2.81         .83         .28          .12

                    CUMULATIVE AREA =   76.41 SQ MI

      ***           ***          ***          ***          ***

                  HYDROGRAPH AT STATION   LS1LS2
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15441.      14.42               6172.       1643.        549.        237.
                      (INCHES)       .751        .800        .802        .802
                       (AC-FT)      3060.       3259.       3267.       3267.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     112.      14.42                  57.         17.          6.           2.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     5.42      14.42                 2.81         .83         .28          .12

                    CUMULATIVE AREA =   76.41 SQ MI

      ***           ***          ***          ***          ***

                  HYDROGRAPH AT STATION   LS1LS2
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15441.      14.42               6166.       1642.        549.        237.
                      (INCHES)       .750        .799        .801        .801
                       (AC-FT)      3058.       3257.       3265.       3265.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     112.      14.42                  57.         17.          6.           2.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     5.42      14.42                 2.81         .83         .28          .12

                    CUMULATIVE AREA =   76.41 SQ MI

      ***           ***          ***          ***          ***

                  INTERPOLATED HYDROGRAPH AT   LS1LS2

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15441.      14.42               6168.       1642.        549.        237.
                      (INCHES)       .751        .799        .801        .801
                       (AC-FT)      3059.       3258.       3266.       3266.

                    CUMULATIVE AREA =   76.41 SQ MI

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                *            *
234 KK          *     LS-2   *        BASIN
                *            *
                **************

                  SUBBASIN RUNOFF DATA

235 BA              SUBBASIN CHARACTERISTICS
                          TAREA          .94  SUBBASIN AREA
                           SNAP          .00  NORMAL ANNUAL PRECIPITATION
                          RATIO          .35  RATIO OF HYDROGRAPH

236 LG              GREEN AND AMPT LOSS RATE
                          STRTL          .23  STARTING LOSS
                            DTH          .25  MOISTURE DEFICIT
                           PSIF         4.80  WETTING FRONT SUCTION
                          XKSAT          .28  HYDRAULIC CONDUCTIVITY
                          RTIMP         7.00  PERCENT IMPERVIOUS AREA

237 UC              CLARK UNITGRAPH
                             TC         1.00  TIME OF CONCENTRATION
                              R          .77  STORAGE COEFFICIENT

238 UA              ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                          .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                       100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=  1.00 HR,       R=   .77 HR
                                           SNYDER   TP=   .56 HR,      CP=   .43

                                                     UNIT HYDROGRAPH
                                              54 END-OF-PERIOD ORDINATES
                      16.       61.      126.      225.      367.      461.      473.      466.      452.      432.
                     408.      385.      354.      318.      285.      256.      230.      206.      185.      166.
                     149.      133.      120.      107.       96.       86.       78.       70.       62.       56.
                      50.       45.       40.       36.       33.       29.       26.       24.       21.       19.
                      17.       15.       14.       12.       11.       10.        9.        8.        7.        6.
                       6.        5.        5.        4.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-2
                       TRANSPOSITION AREA       .0 SQ MI

     TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.60, TOTAL EXCESS =    1.50

   PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+     608.      12.42                143.         38.         13.          5.
                             (INCHES)      1.410       1.494       1.495       1.495
                              (AC-FT)       71.         75.         75.         75.

                             CUMULATIVE AREA =     .94 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY    .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-2
                       TRANSPOSITION AREA       .0 SQ MI

   PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+     213.      12.42                 50.         13.          4.          2.
                             (INCHES)      .494        .523        .523        .523
                              (AC-FT)       25.         26.         26.         26.

                             CUMULATIVE AREA =     .94 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-2
                       TRANSPOSITION AREA     10.0 SQ MI

     TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.48, TOTAL EXCESS =    1.38

   PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+     558.      12.42                131.         35.         12.          5.
                             (INCHES)      1.290       1.368       1.370       1.370
                              (AC-FT)       65.         69.         69.         69.
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                    CUMULATIVE AREA =     .94 SQ MI

                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION     LS-2
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     195.     12.42                46.         12.          4.           2.
                        (INCHES)   .451        .479        .479         .479
                         (AC-FT)    23.         24.         24.          24.

                    CUMULATIVE AREA =     .94 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION     LS-2
                  TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.40, TOTAL EXCESS =    1.29

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     524.     12.42               123.         33.         11.           5.
                        (INCHES)  1.209       1.283       1.285        1.285
                         (AC-FT)    61.         65.         65.          65.

                    CUMULATIVE AREA =     .94 SQ MI

                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION     LS-2
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     183.     12.42                43.         11.          4.           2.
                        (INCHES)   .423        .449        .450         .450
                         (AC-FT)    21.         23.         23.          23.

                    CUMULATIVE AREA =     .94 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION     LS-2
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.32, TOTAL EXCESS =    1.21

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     490.     12.42               115.         30.         10.           4.
                        (INCHES)  1.127       1.198       1.200        1.200
                         (AC-FT)    57.         60.         60.          60.

                    CUMULATIVE AREA =     .94 SQ MI

                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION     LS-2
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     171.     12.42                40.         11.          4.           2.
                        (INCHES)   .394        .419        .420         .420
                         (AC-FT)    20.         21.         21.          21.

                    CUMULATIVE AREA =     .94 SQ MI

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                    HYDROGRAPH AT STATION     LS-2
                  TRANSPOSITION AREA     90.0 SQ MI

   TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.29, TOTAL EXCESS =    1.18

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    478.      12.42                 112.         30.         10.          4.
                        (INCHES)    1.098       1.168       1.170        1.170
                         (AC-FT)     55.         59.         59.          59.

                        CUMULATIVE AREA =     .94 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY   .35

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-2
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    167.      12.42                  39.         10.          3.           1.
                        (INCHES)     .384        .409        .409         .409
                         (AC-FT)     19.         21.         21.          21.

                        CUMULATIVE AREA =     .94 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS-2

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    201.      12.42                  47.         13.          4.           2.
                        (INCHES)     .466        .494        .494         .494
                         (AC-FT)     23.         25.         25.          25.

                        CUMULATIVE AREA =     .94 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
  240 KK  *      LS2C  *
          *            *
          **************
                    COMBINE FLOWS IN SKUNK CREEK AT PINNACLE PEAK ROAD

  242 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS2C
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15469.      14.42                6267.       1670.        558.         241.
                        (INCHES)     .753        .803        .805         .805
                         (AC-FT)    3108.       3313.       3321.        3321.

                        CUMULATIVE AREA =   77.35 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS2C
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15466.      14.42                6239.       1663.        556.         240.
                        (INCHES)     .750        .800        .802         .802
                         (AC-FT)    3094.       3299.       3307.        3307.
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                    CUMULATIVE AREA =   77.35 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS2C
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15464.     14.42                6222.       1659.        554.         240.
                        (INCHES)     .748        .797        .799         .799
                         (AC-FT)    3085.       3290.       3298.        3298.

                    CUMULATIVE AREA =   77.35 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS2C
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15461.     14.42                6204.       1654.        553.         239.
                        (INCHES)     .746        .795        .797         .797
                         (AC-FT)    3077.       3280.       3289.        3289.

                    CUMULATIVE AREA =   77.35 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS2C
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15461.     14.42                6198.       1652.        552.         239.
                        (INCHES)     .745        .794        .796         .796
                         (AC-FT)    3073.       3277.       3285.        3285.

                    CUMULATIVE AREA =   77.35 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS2C

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15461.     14.42                6200.       1653.        552.         239.
                        (INCHES)     .745        .795        .797         .797
                         (AC-FT)    3075.       3278.       3287.        3287.

                    CUMULATIVE AREA =   77.35 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
  243 KK    *     LS-3   *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

  244 BA          SUBBASIN CHARACTERISTICS
                        TAREA          .54  SUBBASIN AREA
                         SNAP          .00  NORMAL ANNUAL PRECIPITATION
                        RATIO          .35  RATIO OF HYDROGRAPH

  245 LG          GREEN AND AMPT LOSS RATE
                        STRTL          .17  STARTING LOSS
                          DTH          .25  MOISTURE DEFICIT
                         PSIF         4.30  WETTING FRONT SUCTION
                        XKSAT          .41  HYDRAULIC CONDUCTIVITY
                        RTIMP        39.00  PERCENT IMPERVIOUS AREA

  246 UC          CLARK UNITGRAPH
                           TC          .41  TIME OF CONCENTRATION
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                    R          .22  STORAGE COEFFICIENT

247 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                  100.0

                                                  ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .41 HR,       R=   .22 HR
                                         SNYDER   TP=   .23 HR,      CP=   .55

                                                UNIT HYDROGRAPH
                                          17 END-OF-PERIOD ORDINATES
            107.      505.      796.      736.      608.      456.      313.      215.      147.      101.
             69.       48.       33.       22.       15.       11.        7.

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.79, TOTAL EXCESS =    2.31

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     845.     12.17                107.         34.         11.          5.
                       (INCHES)    1.840      2.301       2.304      2.304
                        (AC-FT)     53.         67.         67.         67.

                       CUMULATIVE AREA =     .54 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     296.     12.17                 38.         12.          4.          2.
                       (INCHES)     .644       .805       .806       .806
                        (AC-FT)     19.         23.         23.         23.

                       CUMULATIVE AREA =     .54 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA     10.0 SQ MI

   TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.70, TOTAL EXCESS =    2.15

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     784.     12.17                100.         31.         10.          5.
                       (INCHES)    1.707      2.141       2.143      2.143
                        (AC-FT)     49.         62.         62.         62.

                       CUMULATIVE AREA =     .54 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     274.     12.17                 35.         11.          4.          2.
                       (INCHES)     .597       .749       .750       .750
                        (AC-FT)     17.         22.         22.         22.

                       CUMULATIVE AREA =     .54 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA     30.0 SQ MI

   TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.65, TOTAL EXCESS =    2.04
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     743.      12.17                95.         30.         10.          4.
                        (INCHES)    1.619       2.034       2.036        2.036
                         (AC-FT)     47.         59.         59.          59.

                        CUMULATIVE AREA =     .54 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-3
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     260.      12.17                33.         10.          3.           1.
                        (INCHES)     .567        .712        .713         .713
                         (AC-FT)     16.         21.         21.          21.

                        CUMULATIVE AREA =     .54 SQ MI

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-3
                      TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.59, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     702.      12.17                89.         28.          9.           4.
                        (INCHES)    1.531       1.928       1.930        1.930
                         (AC-FT)     44.         56.         56.          56.

                        CUMULATIVE AREA =     .54 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-3
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     246.      12.17                31.         10.          3.           1.
                        (INCHES)     .536        .675        .675         .675
                         (AC-FT)     16.         20.         20.          20.

                        CUMULATIVE AREA =     .54 SQ MI

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-3
                      TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.57, TOTAL EXCESS =    1.90

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     688.      12.17                88.         28.          9.           4.
                        (INCHES)    1.500       1.890       1.892        1.892
                         (AC-FT)     43.         55.         55.          55.

                        CUMULATIVE AREA =     .54 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-3
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
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+     241.     12.17                    31.         10.          3.           1.
                          (INCHES)     .525        .662        .662         .662
                           (AC-FT)      15.         19.         19.          19.

                          CUMULATIVE AREA =     .54 SQ MI

      ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT     LS-3

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                            (CFS)
+     283.     12.17                    36.         11.          4.           2.
                          (INCHES)     .617        .773        .774         .774
                           (AC-FT)      18.         22.         22.          22.

                          CUMULATIVE AREA =     .54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 249 KK     *    LS3LS5  *        ROUTE   REACH
            *            *
            **************
                          ROUTE RUNOFF FROM LS-3 THROUGH SUBBASIN LS-5 FROM HAPPY VALLEY ROAD TO
                          PINNACLE PEAK ROAD

              HYDROGRAPH ROUTING DATA

 252 RS         STORAGE ROUTING
                      NSTPS           4  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC       -1.00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 253 RC         NORMAL DEPTH CHANNEL
                        ANL        .080  LEFT OVERBANK N-VALUE
                       ANCH        .040  MAIN CHANNEL N-VALUE
                        ANR        .080  RIGHT OVERBANK N-VALUE
                      RLNTH       8883.  REACH LENGTH
                        SEL      .0040  ENERGY SLOPE
                      ELMAX         6.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 255 RY       ELEVATION      6.00      5.00      4.00       .00       .00      4.00      5.00      6.00
 254 RX       DISTANCE        .00    100.00    200.00    220.00    370.00    390.00    490.00    590.00

                                                          ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      9.76     19.73     29.89     40.27     50.84     61.62     72.60     83.78     95.17
          OUTFLOW        .00     51.92    165.40    326.25    528.86    769.95   1047.31   1359.35   1704.87   2082.97
        ELEVATION        .00       .32       .63       .95      1.26      1.58      1.89      2.21      2.53      2.84

          STORAGE     106.76    118.56    130.56    142.97    158.60    178.29    202.05    229.88    261.77    297.73
          OUTFLOW    2492.92   2934.16   3406.25   3923.13   4506.62   5139.55   5829.60   6583.30   7406.53   8304.72
        ELEVATION       3.16      3.47      3.79      4.11      4.42      4.74      5.05      5.37      5.68      6.00

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   LS3LS5
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                            (CFS)
+     104.     13.25                    37.         12.          4.           2.
                          (INCHES)     .634        .801        .806         .806
                           (AC-FT)      18.         23.         23.          23.

 PEAK STORAGE    TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)       (HR)
       4.      13.17                     2.          1.          0.           0.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)       (HR)
      .46      13.25                    .20         .07         .02          .01

                          CUMULATIVE AREA =     .54 SQ MI
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      ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION   LS3LS5
                TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      93.      13.25                 34.         11.          4.           2.
                       (INCHES)      .588        .745        .750         .750
                        (AC-FT)       17.         22.         22.          22.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       3.      13.25                  1.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .43      13.25                 .19         .06         .02          .01

                CUMULATIVE AREA =     .54 SQ MI

      ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION   LS3LS5
                TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      85.      13.25                 33.         10.          3.           1.
                       (INCHES)      .558        .708        .713         .713
                        (AC-FT)       16.         20.         21.          21.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       3.      13.25                  1.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .41      13.25                 .18         .06         .02          .01

                CUMULATIVE AREA =     .54 SQ MI

      ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION   LS3LS5
                TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      78.      13.33                 31.         10.          3.           1.
                       (INCHES)      .527        .671        .675         .675
                        (AC-FT)       15.         19.         20.          20.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       3.      13.33                  1.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .39      13.33                 .18         .06         .02          .01

                CUMULATIVE AREA =     .54 SQ MI

      ***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION   LS3LS5
                TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      75.      13.33                 30.         10.          3.           1.
                       (INCHES)      .516        .658        .662         .662
                        (AC-FT)       15.         19.         19.          19.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
```

```
        3.     13.33                    1.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .38      13.33                   .18         .06         .02         .01

                          CUMULATIVE AREA =     .54 SQ MI

       ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT   LS3LS5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      98.      13.25                  35.         11.          4.          2.
                        (INCHES)     .608        .768        .774        .774
                         (AC-FT)      18.         22.         22.         22.

                          CUMULATIVE AREA =     .54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 256 KK     *      LS-4  *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

 257 BA          SUBBASIN CHARACTERISTICS
                       TAREA        1.85  SUBBASIN AREA
                        SNAP         .00  NORMAL ANNUAL PRECIPITATION
                       RATIO         .35  RATIO OF HYDROGRAPH

 258 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .22  STARTING LOSS
                         DTH         .25  MOISTURE DEFICIT
                        PSIF        4.35  WETTING FRONT SUCTION
                       XKSAT         .43  HYDRAULIC CONDUCTIVITY
                       RTIMP       29.00  PERCENT IMPERVIOUS AREA

 259 UC          CLARK UNITGRAPH
                          TC         .50  TIME OF CONCENTRATION
                           R         .28  STORAGE COEFFICIENT

 260 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=    .50 HR,       R=    .28 HR
                                         SNYDER   TP=    .30 HR,      CP=    .58

                                                   UNIT HYDROGRAPH
                                              21 END-OF-PERIOD ORDINATES
              228.      932.     1894.     2279.     2025.     1722.     1369.     1016.      750.      554.
              409.      302.      223.      165.      122.       90.       66.       49.       36.       27.
               20.

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-4
                       TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.10, TOTAL EXCESS =    2.00

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2462.     12.17                 327.         99.         33.         14.
                        (INCHES)    1.645      1.987       1.990       1.990
                         (AC-FT)     162.        196.        196.        196.

                          CUMULATIVE AREA =    1.85 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY   .35

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-4
                       TRANSPOSITION AREA       .0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     862.     12.17                115.         35.         12.           5.
                        (INCHES)    .576        .696        .696         .696
                         (AC-FT)     57.         69.         69.          69.

                        CUMULATIVE AREA =    1.85 SQ MI

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-4
                      TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.00, TOTAL EXCESS =    1.85

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2270.     12.17                303.         92.         31.          13.
                        (INCHES)   1.519       1.842       1.844        1.844
                         (AC-FT)    150.        182.        182.         182.

                        CUMULATIVE AREA =    1.85 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY    .35

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-4
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     795.     12.17                106.         32.         11.           5.
                        (INCHES)    .532        .645        .645         .645
                         (AC-FT)     53.         64.         64.          64.

                        CUMULATIVE AREA =    1.85 SQ MI

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-4
                      TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.94, TOTAL EXCESS =    1.75

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2142.     12.17                286.         87.         29.          13.
                        (INCHES)   1.436       1.744       1.746        1.746
                         (AC-FT)    142.        172.        172.         172.

                        CUMULATIVE AREA =    1.85 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY    .35

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-4
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     750.     12.17                100.         30.         10.           4.
                        (INCHES)    .502        .610        .611         .611
                         (AC-FT)     50.         60.         60.          60.

                        CUMULATIVE AREA =    1.85 SQ MI

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-4
                      TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.87, TOTAL EXCESS =    1.65

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
```

```
+    2012.     12.17                    269.        82.        27.        12.
                          (INCHES)     1.351      1.646      1.648      1.648
                           (AC-FT)      133.       162.       163.       163.

                          CUMULATIVE AREA =    1.85 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-4
                         TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR      72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     704.     12.17                     94.        29.        10.         4.
                          (INCHES)     .473       .576       .577       .577
                           (AC-FT)      47.        57.        57.        57.

                          CUMULATIVE AREA =    1.85 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-4
                         TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.85, TOTAL EXCESS =    1.62

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR      72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+    1967.     12.17                    263.        80.        27.        12.
                          (INCHES)     1.322      1.612      1.614      1.614
                           (AC-FT)      130.       159.       159.       159.

                          CUMULATIVE AREA =    1.85 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-4
                         TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR      72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     688.     12.17                     92.        28.         9.         4.
                          (INCHES)     .463       .564       .565       .565
                           (AC-FT)      46.        56.        56.        56.

                          CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT     LS-4

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR      72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     811.     12.17                    108.        33.        11.         5.
                          (INCHES)     .543       .657       .658       .658
                           (AC-FT)      54.        65.        65.        65.

                          CUMULATIVE AREA =    1.85 SQ MI


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            *            *
 262 KK     *    RETLS4  *
            *            *
            **************
                          DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                           - 445 AC DEVELOPMENT WITH RETENTION
                           - C FACTOR = 0.63
                           - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                       ISTAD       R4OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX       62.20  MAXIMUM VOLUME TO BE DIVERTED
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DI            INFLOW          .00  10000.00

DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

***             ***             ***             ***             ***

                  DIVERSION HYDROGRAPH    R4OUT
                TRANSPOSITION AREA       .0 SQ MI

PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+  (CFS)       (HR)
                          (CFS)
+    862.     12.17                114.         31.         10.           5.
                        (INCHES)   .575        .630        .630         .630
                         (AC-FT)    57.         62.         62.          62.

                       CUMULATIVE AREA =    1.85 SQ MI

***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION   RETLS4
                TRANSPOSITION AREA       .0 SQ MI

PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+  (CFS)       (HR)
                          (CFS)
+     15.     15.00                 10.          3.          1.           0.
                        (INCHES)   .049        .066        .066         .066
                         (AC-FT)     5.          7.          7.           7.

                       CUMULATIVE AREA =    1.85 SQ MI

***             ***             ***             ***             ***

                  DIVERSION HYDROGRAPH    R4OUT
                TRANSPOSITION AREA     10.0 SQ MI

PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+  (CFS)       (HR)
                          (CFS)
+    795.     12.17                106.         31.         10.           5.
                        (INCHES)   .532        .630        .630         .630
                         (AC-FT)    53.         62.         62.          62.

                       CUMULATIVE AREA =    1.85 SQ MI

***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION   RETLS4
                TRANSPOSITION AREA     10.0 SQ MI

PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+  (CFS)       (HR)
                          (CFS)
+      6.     21.17                  3.          1.          0.           0.
                        (INCHES)   .015        .015        .015         .015
                         (AC-FT)     2.          2.          2.           2.

                       CUMULATIVE AREA =    1.85 SQ MI

***             ***             ***             ***             ***

                  DIVERSION HYDROGRAPH    R4OUT
                TRANSPOSITION AREA     30.0 SQ MI

PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+  (CFS)       (HR)
                          (CFS)
+    750.     12.17                100.         30.         10.           4.
                        (INCHES)   .502        .610        .611         .611
                         (AC-FT)    50.         60.         60.          60.

                       CUMULATIVE AREA =    1.85 SQ MI

***             ***             ***             ***             ***

                  HYDROGRAPH AT STATION   RETLS4
                TRANSPOSITION AREA     30.0 SQ MI

PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+  (CFS)       (HR)
```

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                                  (CFS)
+       0.        .00                    0.          0.          0.          0.
                            (INCHES)   .000        .000        .000        .000
                             (AC-FT)     0.          0.          0.          0.

                            CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH    R4OUT
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     704.     12.17                   94.         29.         10.          4.
                            (INCHES)   .473        .576        .577        .577
                             (AC-FT)    47.         57.         57.         57.

                            CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   RETLS4
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+       0.        .00                    0.          0.          0.          0.
                            (INCHES)   .000        .000        .000        .000
                             (AC-FT)     0.          0.          0.          0.

                            CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH    R4OUT
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     688.     12.17                   92.         28.          9.          4.
                            (INCHES)   .463        .564        .565        .565
                             (AC-FT)    46.         56.         56.         56.

                            CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   RETLS4
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+       0.        .00                    0.          0.          0.          0.
                            (INCHES)   .000        .000        .000        .000
                             (AC-FT)     0.          0.          0.          0.

                            CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                    INTERPOLATED DIVERSION HYDROGRAPH AT    R4OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     811.     12.17                  108.         31.         10.          5.
                            (INCHES)   .542        .630        .630        .630
                             (AC-FT)    54.         62.         62.         62.

                            CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                          INTERPOLATED HYDROGRAPH AT   RETLS4

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
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+   (CFS)        (HR)
                                (CFS)
+       6.      21.17                    4.          1.          0.          0.
                             (INCHES)   .019        .028        .028        .028
                              (AC-FT)     2.          3.          3.          3.

                            CUMULATIVE AREA =    1.85 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 270 KK     *    LS4LS5  *        ROUTE   REACH
            *            *
            **************
                            ROUTE RUNOFF FROM LS-4 THROUGH SUBBASIN LS-5 FROM HAPPY VALLEY ROAD TO
                            PINNACLE PEAK ROAD

              HYDROGRAPH ROUTING DATA

 273 RS         STORAGE ROUTING
                      NSTPS          4  NUMBER OF SUBREACHES
                       ITYP       STOR  TYPE OF INITIAL CONDITION
                     RSVRIC      -1.00  INITIAL CONDITION
                          X        .00 WORKING R AND D COEFFICIENT

 274 RC         NORMAL DEPTH CHANNEL
                        ANL       .080  LEFT OVERBANK N-VALUE
                       ANCH       .040  MAIN CHANNEL N-VALUE
                        ANR       .080  RIGHT OVERBANK N-VALUE
                      RLNTH      6160.  REACH LENGTH
                        SEL      .0040  ENERGY SLOPE
                      ELMAX        6.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                      CROSS-SECTION DATA
                            --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 276 RY        ELEVATION      6.00      5.00      4.00       .00       .00      4.00      5.00      6.00
 275 RX        DISTANCE        .00    100.00    200.00    220.00    370.00    390.00    490.00    590.00

                                                                  ***

                                      COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      6.77     13.68     20.73     27.92     35.26     42.73     50.35     58.10     66.00
          OUTFLOW        .00     51.92    165.40    326.25    528.86    769.95   1047.31   1359.35   1704.87   2082.97
        ELEVATION        .00       .32       .63       .95      1.26      1.89      2.21      2.53      2.84

          STORAGE      74.04     82.22     90.54     99.15    109.98    123.64    140.11    159.41    181.53    206.46
          OUTFLOW    2492.92   2934.16   3406.25   3923.13   4506.62   5139.55   5829.60   6583.30   7406.53   8304.72
        ELEVATION       3.16      3.47      3.79      4.11      4.42      4.74      5.05      5.37      5.68      6.00

     ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION   LS4LS5
                        TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+      11.      17.75                    9.          3.          1.          0.
                             (INCHES)   .045        .066        .066        .066
                              (AC-FT)     4.          7.          7.          7.

 PEAK STORAGE    TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR       72-HR    166.58-HR
+  (AC-FT)       (HR)
       0.       17.67                    0.          0.          0.          0.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR       72-HR    166.58-HR
+   (FEET)       (HR)
       .07      17.75                  .05         .02         .01         .00

                            CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION   LS4LS5
                        TRANSPOSITION AREA      10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+       5.      24.42                    3.          1.          0.          0.
                             (INCHES)   .015        .015        .015        .015
                              (AC-FT)     1.          2.          2.          2.
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 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.      24.42                  0.           0.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+   (FEET)      (HR)
      .03      24.50                 .02          .00          .00          .00

                          CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   LS4LS5
                        TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+       0.       .00                  0.           0.           0.           0.
                            (INCHES)  .000         .000         .000         .000
                             (AC-FT)    0.           0.           0.           0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.       .00                  0.           0.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+   (FEET)      (HR)
      .00      11.83                 .00          .00          .00          .00

                          CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   LS4LS5
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+       0.       .00                  0.           0.           0.           0.
                            (INCHES)  .000         .000         .000         .000
                             (AC-FT)    0.           0.           0.           0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.       .00                  0.           0.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+   (FEET)      (HR)
      .00      12.75                 .00          .00          .00          .00

                          CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   LS4LS5
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+       0.       .00                  0.           0.           0.           0.
                            (INCHES)  .000         .000         .000         .000
                             (AC-FT)    0.           0.           0.           0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.       .00                  0.           0.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+   (FEET)      (HR)
      .00      13.42                 .00          .00          .00          .00

                          CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                          INTERPOLATED HYDROGRAPH AT   LS4LS5
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 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       6.     24.42                 4.          1.          0.          0.
                        (INCHES)   .018        .028        .028        .028
                         (AC-FT)     2.          3.          3.          3.

                        CUMULATIVE AREA =    1.85 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 277 KK     *      LS-5  *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

 278 BA          SUBBASIN CHARACTERISTICS
                       TAREA        1.28  SUBBASIN AREA
                        SNAP         .00  NORMAL ANNUAL PRECIPITATION
                       RATIO         .35  RATIO OF HYDROGRAPH

 279 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .28  STARTING LOSS
                         DTH         .25  MOISTURE DEFICIT
                        PSIF        4.90  WETTING FRONT SUCTION
                       XKSAT         .33  HYDRAULIC CONDUCTIVITY
                       RTIMP       22.00  PERCENT IMPERVIOUS AREA

 280 UC          CLARK UNITGRAPH
                          TC         .97  TIME OF CONCENTRATION
                           R         .58  STORAGE COEFFICIENT

 281 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0
                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=   .97 HR,       R=   .58 HR
                                           SNYDER   TP=   .50 HR,      CP=   .48

                                                     UNIT HYDROGRAPH
                                                 42 END-OF-PERIOD ORDINATES
                 29.      111.      229.      417.      658.      786.      784.      753.      710.      658.
                605.      552.      488.      422.      365.      316.      273.      237.      205.      177.
                153.      133.      115.       99.       86.       74.       64.       56.       48.       42.
                 36.       31.       27.       23.       20.       17.       15.       13.       11.       10.
                  8.        7.

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-5
                       TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.24, TOTAL EXCESS =    1.86

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1008.     12.42                218.         63.         21.          9.
                        (INCHES)  1.583      1.843       1.847       1.847
                         (AC-FT)    108.        126.        126.        126.

                        CUMULATIVE AREA =    1.28 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-5
                       TRANSPOSITION AREA       .0 SQ MI

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     353.     12.42                 76.         22.          7.          3.
                        (INCHES)   .554        .645        .646        .646
                         (AC-FT)     38.         44.         44.         44.

                        CUMULATIVE AREA =    1.28 SQ MI
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      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.15, TOTAL EXCESS =    1.71

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     925.     12.42                 200.         58.         19.           8.
                       (INCHES)     1.452      1.696       1.700       1.700
                        (AC-FT)      99.        116.        116.        116.

                       CUMULATIVE AREA =    1.28 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     324.     12.42                  70.         20.          7.           3.
                       (INCHES)      .508       .594        .595        .595
                        (AC-FT)      35.         41.         41.         41.

                       CUMULATIVE AREA =    1.28 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.08, TOTAL EXCESS =    1.61

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     870.     12.42                 188.         55.         18.           8.
                       (INCHES)     1.366      1.600       1.603       1.603
                        (AC-FT)      93.        109.        109.        109.

                       CUMULATIVE AREA =    1.28 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     304.     12.42                  66.         19.          6.           3.
                       (INCHES)      .478       .560        .561        .561
                        (AC-FT)      33.         38.         38.         38.

                       CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.01, TOTAL EXCESS =    1.52

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     817.     12.42                 177.         52.         17.           7.
                       (INCHES)     1.284      1.508       1.511       1.511
                        (AC-FT)      88.        103.        103.        103.

                       CUMULATIVE AREA =    1.28 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
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                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     286.      12.42                62.          18.           6.           3.
                          (INCHES)  .450         .528         .529         .529
                           (AC-FT)   31.          36.          36.          36.

                          CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS-5
                    TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.98, TOTAL EXCESS =    1.49

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     798.      12.42               173.          51.          17.           7.
                          (INCHES) 1.256        1.476        1.479        1.479
                           (AC-FT)   86.         101.         101.         101.

                          CUMULATIVE AREA =    1.28 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY    .35

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS-5
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     279.      12.42                61.          18.           6.           3.
                          (INCHES)  .440         .516         .518         .518
                           (AC-FT)   30.          35.          35.          35.

                          CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***

                       INTERPOLATED HYDROGRAPH AT     LS-5

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     332.      12.42                72.          21.           7.           3.
                          (INCHES)  .522         .609         .610         .610
                           (AC-FT)   36.          42.          42.          42.

                          CUMULATIVE AREA =    1.28 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
  283 KK    *    RETLS5  *
            *            *
            **************
                          DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                           - 72.5 AC DEVELOPMENT WITH RETENTION
                           - C FACTOR = 0.63
                           - 100-YR 2-HR RAIN = 2.66"

      DT          DIVERSION
                       ISTAD       R5OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX       10.10  MAXIMUM VOLUME TO BE DIVERTED

      DI             INFLOW         .00  10000.00

      DQ       DIVERTED FLOW        .00  10000.00

                                                                  ***

      ***             ***             ***             ***             ***

                       DIVERSION HYDROGRAPH    R5OUT
                    TRANSPOSITION AREA       .0 SQ MI
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```
  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     241.      12.17                 17.          5.          2.           1.
                          (INCHES)  .126        .148        .148         .148
                          (AC-FT)     9.          10.         10.          10.

                          CUMULATIVE AREA =    1.28 SQ MI

      ***                 ***         ***         ***         ***

                          HYDROGRAPH AT STATION   RETLS5
                          TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     353.      12.42                 65.         17.          6.           2.
                          (INCHES)  .469        .498        .498         .498
                          (AC-FT)    32.          34.         34.          34.

                          CUMULATIVE AREA =    1.28 SQ MI

      ***                 ***         ***         ***         ***

                          DIVERSION HYDROGRAPH    R5OUT
                          TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     221.      12.17                 18.          5.          2.           1.
                          (INCHES)  .127        .148        .148         .148
                          (AC-FT)     9.          10.         10.          10.

                          CUMULATIVE AREA =    1.28 SQ MI

      ***                 ***         ***         ***         ***

                          HYDROGRAPH AT STATION   RETLS5
                          TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     324.      12.42                 58.         15.          5.           2.
                          (INCHES)  .419        .447        .447         .447
                          (AC-FT)    29.          31.         31.          31.

                          CUMULATIVE AREA =    1.28 SQ MI

      ***                 ***         ***         ***         ***

                          DIVERSION HYDROGRAPH    R5OUT
                          TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     243.      12.25                 18.          5.          2.           1.
                          (INCHES)  .128        .148        .148         .148
                          (AC-FT)     9.          10.         10.          10.

                          CUMULATIVE AREA =    1.28 SQ MI

      ***                 ***         ***         ***         ***

                          HYDROGRAPH AT STATION   RETLS5
                          TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     304.      12.42                 53.         14.          5.           2.
                          (INCHES)  .387        .413        .413         .413
                          (AC-FT)    26.          28.         28.          28.

                          CUMULATIVE AREA =    1.28 SQ MI

      ***                 ***         ***         ***         ***

                          DIVERSION HYDROGRAPH    R5OUT
                          TRANSPOSITION AREA     60.0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     245.      12.25                 18.          5.           2.           1.
                                 (INCHES)       .129         .148         .148         .148
                                  (AC-FT)         9.          10.          10.          10.

                                 CUMULATIVE AREA =    1.28 SQ MI

      ***                ***            ***            ***            ***

                                HYDROGRAPH AT STATION   RETLS5
                               TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     286.      12.42                 49.         13.           4.           2.
                                 (INCHES)       .356         .381         .381         .381
                                  (AC-FT)        24.          26.          26.          26.

                                 CUMULATIVE AREA =    1.28 SQ MI

      ***                ***            ***            ***            ***

                                DIVERSION HYDROGRAPH    R5OUT
                               TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     240.      12.25                 18.          5.           2.           1.
                                 (INCHES)       .129         .148         .148         .148
                                  (AC-FT)         9.          10.          10.          10.

                                 CUMULATIVE AREA =    1.28 SQ MI

      ***                ***            ***            ***            ***

                                HYDROGRAPH AT STATION   RETLS5
                               TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     279.      12.42                 48.         13.           4.           2.
                                 (INCHES)       .345         .370         .370         .370
                                  (AC-FT)        24.          25.          25.          25.

                                 CUMULATIVE AREA =    1.28 SQ MI

      ***                ***            ***            ***            ***

                        INTERPOLATED DIVERSION HYDROGRAPH AT    R5OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     227.      12.17                 17.          5.           2.           1.
                                 (INCHES)       .127         .148         .148         .148
                                  (AC-FT)         9.          10.          10.          10.

                                 CUMULATIVE AREA =    1.28 SQ MI

      ***                ***            ***            ***            ***

                                INTERPOLATED HYDROGRAPH AT   RETLS5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     332.      12.42                 60.         16.           5.           2.
                                 (INCHES)       .434         .462         .462         .462
                                  (AC-FT)        30.          32.          32.          32.

                                 CUMULATIVE AREA =    1.28 SQ MI

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              *            *
  291 KK      *     LS5C   *
              *            *
              **************
                              COMBINE ROUTED FLOWS FROM LS3 AND LS4 WITH RUNOFF FROM LS5 AT ADOBE POOL
                              AT PINNACLE PEAK ROAD

  294 HC            HYDROGRAPH COMBINATION
                         ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                          ***

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS5C
                         TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     370.     12.42                105.         32.         11.           5.
                         (INCHES)   .266        .325        .326         .326
                          (AC-FT)    52.         64.         64.          64.

                         CUMULATIVE AREA =    3.67 SQ MI

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS5C
                         TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     339.     12.42                 92.         27.          9.           4.
                         (INCHES)   .233        .273        .274         .274
                          (AC-FT)    46.         54.         54.          54.

                         CUMULATIVE AREA =    3.67 SQ MI

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS5C
                         TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     318.     12.42                 86.         25.          8.           4.
                         (INCHES)   .217        .249        .249         .249
                          (AC-FT)    43.         49.         49.          49.

                         CUMULATIVE AREA =    3.67 SQ MI

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS5C
                         TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     299.     12.42                 80.         23.          8.           3.
                         (INCHES)   .202        .232        .233         .233
                          (AC-FT)    40.         45.         46.          46.

                         CUMULATIVE AREA =    3.67 SQ MI

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS5C
                         TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     292.     12.42                 78.         22.          7.           3.
                         (INCHES)   .196        .226        .227         .227
                          (AC-FT)    38.         44.         44.          44.

                         CUMULATIVE AREA =    3.67 SQ MI

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                    INTERPOLATRD HYDROGRAPH AT     LS5C

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     343.     12.42                 94.         28.          9.           4.
                          (INCHES)  .238        .281        .282         .282
                           (AC-FT)   47.         55.         55.          55.

                         CUMULATIVE AREA =    3.67 SQ MI


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          *            *
295 KK    *     LS-6   *        BASIN
          *            *
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            SUBBASIN RUNOFF DATA

296 BA        SUBBASIN CHARACTERISTICS
                    TAREA          .79  SUBBASIN AREA
                     SNAP          .00  NORMAL ANNUAL PRECIPITATION
                    RATIO          .35  RATIO OF HYDROGRAPH

297 LG        GREEN AND AMPT LOSS RATE
                    STRTL          .26  STARTING LOSS
                      DTH          .25  MOISTURE DEFICIT
                     PSIF         4.50  WETTING FRONT SUCTION
                    XKSAT          .38  HYDRAULIC CONDUCTIVITY
                    RTIMP        26.00  PERCENT IMPERVIOUS AREA

298 UC        CLARK UNITGRAPH
                       TC         1.13  TIME OF CONCENTRATION
                        R          .99  STORAGE COEFFICIENT

299 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                  100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.13 HR,       R=   .99 HR
                                  SNYDER   TP=   .67 HR,      CP=   .41

                                          UNIT HYDROGRAPH
                                   69 END-OF-PERIOD ORDINATES
                 9.       34.      70.     112.     191.     277.     313.     321.     319.     313.
               304.      292.     279.     265.     246.     226.     208.     191.     175.     161.
               148.      136.     125.     115.     106.      97.      89.      82.      75.      69.
                64.       58.      54.      49.      45.      42.      38.      35.      32.      30.
                27.       25.      23.      21.      19.      18.      16.      15.      14.      13.
                12.       11.      10.       9.       8.       8.       7.       6.       6.       5.
                 5.        5.       4.       4.       4.       3.       3.       3.       3.

     ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-6
                  TRANSPOSITION AREA        .0 SQ MI

     TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.16, TOTAL EXCESS =    1.94

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     432.     12.50                137.         41.         14.           6.
                          (INCHES) 1.604      1.921       1.929        1.929
                           (AC-FT)   68.         81.         81.          81.

                         CUMULATIVE AREA =     .79 SQ MI

                                          HYDROGRAPH MULTIPLIED BY    .35

     ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-6
                  TRANSPOSITION AREA        .0 SQ MI

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     151.     12.50                 48.         14.          5.           2.
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                    (INCHES)      .561        .673        .675        .675
                     (AC-FT)       24.         28.         29.         29.

                    CUMULATIVE AREA =     .79 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION     LS-6
                   TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.06, TOTAL EXCESS =    1.79

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+     397.     12.50                 126.         38.         13.          5.
                                 (INCHES)      1.477       1.775       1.782       1.782
                                  (AC-FT)       62.         75.         75.         75.

                    CUMULATIVE AREA =     .79 SQ MI

                                                HYDROGRAPH MULTIPLIED BY    .35

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION     LS-6
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+     139.     12.50                  44.         13.          4.          2.
                                 (INCHES)      .517        .621        .624        .624
                                  (AC-FT)       22.         26.         26.         26.

                    CUMULATIVE AREA =     .79 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION     LS-6
                   TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.99, TOTAL EXCESS =    1.70

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+     375.     12.50                 119.         36.         12.          5.
                                 (INCHES)      1.395       1.680       1.687       1.687
                                  (AC-FT)       59.         71.         71.         71.

                    CUMULATIVE AREA =     .79 SQ MI

                                                HYDROGRAPH MULTIPLIED BY    .35

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION     LS-6
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+     131.     12.50                  42.         13.          4.          2.
                                 (INCHES)      .488        .588        .591        .591
                                  (AC-FT)       21.         25.         25.         25.

                    CUMULATIVE AREA =     .79 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION     LS-6
                   TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.93, TOTAL EXCESS =    1.60

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+     352.     12.50                 112.         34.         11.          5.
                                 (INCHES)      1.312       1.585       1.592       1.592
                                  (AC-FT)       55.         67.         67.         67.

                    CUMULATIVE AREA =     .79 SQ MI
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                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-6
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     123.     12.50                 39.         12.          4.           2.
                        (INCHES)    .459        .555        .557         .557
                         (AC-FT)     19.         23.         24.          24.

                       CUMULATIVE AREA =     .79 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-6
                      TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.90, TOTAL EXCESS =    1.57

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     344.     12.50                109.         33.         11.           5.
                        (INCHES)   1.283       1.552       1.558        1.558
                         (AC-FT)     54.         66.         66.          66.

                       CUMULATIVE AREA =     .79 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-6
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     120.     12.50                 38.         12.          4.           2.
                        (INCHES)    .449        .543        .545         .545
                         (AC-FT)     19.         23.         23.          23.

                       CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***


                       INTERPOLATED HYDROGRAPH AT     LS-6

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     144.     12.50                 45.         14.          5.           2.
                        (INCHES)    .533        .640        .643         .643
                         (AC-FT)     23.         27.         27.          27.

                       CUMULATIVE AREA =     .79 SQ MI


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            *            *
  301 KK    *     LS-7   *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

  302 BA          SUBBASIN CHARACTERISTICS
                        TAREA          .60  SUBBASIN AREA
                         SNAP          .00  NORMAL ANNUAL PRECIPITATION
                        RATIO          .35  RATIO OF HYDROGRAPH

  303 LG          GREEN AND AMPT LOSS RATE
                        STRTL          .32  STARTING LOSS
                          DTH          .25  MOISTURE DEFICIT
                         PSIF         4.50  WETTING FRONT SUCTION
                        XKSAT          .39  HYDRAULIC CONDUCTIVITY
                        RTIMP         7.00  PERCENT IMPERVIOUS AREA
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304 UC          CLARK UNITGRAPH
                      TC          .96  TIME OF CONCENTRATION
                       R         1.04  STORAGE COEFFICIENT

305 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                  100.0

                                                  ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=   .96 HR,       R=  1.04 HR
                                        SNYDER   TP=   .61 HR,      CP=   .38

                                                UNIT HYDROGRAPH
                                            71 END-OF-PERIOD ORDINATES
              8.       30.       64.      118.      188.      231.      241.      242.      239.      232.
            224.      214.      200.      185.      170.      157.      145.      134.      124.      114.
            105.       97.       90.       83.       76.       70.       65.       60.       55.       51.
             47.       43.       40.       37.       34.       32.       29.       27.       25.       23.
             21.       19.       18.       17.       15.       14.       13.       12.       11.       10.
              9.        9.        8.        7.        7.        6.        6.        5.        5.        5.
              4.        4.        4.        3.        3.        3.        3.        2.        2.        2.
              2.

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-7
                    TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.74, TOTAL EXCESS =    1.36

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    287.     12.50                  81.         22.          7.          3.
                       (INCHES)    1.262      1.351       1.353       1.353
                        (AC-FT)     40.         43.         43.         43.

                      CUMULATIVE AREA =     .60 SQ MI

                                                HYDROGRAPH MULTIPLIED BY   .35

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-7
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    100.     12.50                  28.          8.          3.          1.
                       (INCHES)     .442       .473        .474        .474
                        (AC-FT)     14.         15.         15.         15.

                      CUMULATIVE AREA =     .60 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-7
                    TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.61, TOTAL EXCESS =    1.24

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    261.     12.50                  74.         20.          7.          3.
                       (INCHES)    1.149      1.233       1.235       1.235
                        (AC-FT)     37.         39.         39.         39.

                      CUMULATIVE AREA =     .60 SQ MI

                                                HYDROGRAPH MULTIPLIED BY   .35

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-7
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     92.     12.50                  26.          7.          2.          1.
                       (INCHES)     .402       .431        .432        .432
                        (AC-FT)     13.         14.         14.         14.
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                    CUMULATIVE AREA =     .60 SQ MI

     ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-7
                  TRANSPOSITION AREA     30.0 SQ MI

   TOTAL RAINFALL =   3.69, TOTAL LOSS =   2.53, TOTAL EXCESS =   1.16

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     244.     12.50                69.         19.          6.          3.
                        (INCHES)   1.075       1.154       1.156       1.156
                         (AC-FT)     34.         37.         37.         37.

                    CUMULATIVE AREA =     .60 SQ MI

                                                HYDROGRAPH MULTIPLIED BY   .35

     ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-7
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      86.     12.50                24.          6.          2.          1.
                        (INCHES)    .376        .404        .405        .405
                         (AC-FT)     12.         13.         13.         13.

                    CUMULATIVE AREA =     .60 SQ MI

     ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-7
                  TRANSPOSITION AREA     60.0 SQ MI

   TOTAL RAINFALL =   3.53, TOTAL LOSS =   2.44, TOTAL EXCESS =   1.08

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     227.     12.50                64.         17.          6.          2.
                        (INCHES)    .999       1.075       1.077       1.077
                         (AC-FT)     32.         34.         34.         34.

                    CUMULATIVE AREA =     .60 SQ MI

                                                HYDROGRAPH MULTIPLIED BY   .35

     ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-7
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      79.     12.50                22.          6.          2.          1.
                        (INCHES)    .350        .376        .377        .377
                         (AC-FT)     11.         12.         12.         12.

                    CUMULATIVE AREA =     .60 SQ MI

     ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-7
                  TRANSPOSITION AREA     90.0 SQ MI

   TOTAL RAINFALL =   3.47, TOTAL LOSS =   2.41, TOTAL EXCESS =   1.05

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     221.     12.50                62.         17.          6.          2.
                        (INCHES)    .973       1.048       1.049       1.049
                         (AC-FT)     31.         33.         33.         33.

                    CUMULATIVE AREA =     .60 SQ MI

                                                HYDROGRAPH MULTIPLIED BY   .35
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      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-7
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      77.     12.50                 22.          6.          2.           1.
                      (INCHES)      .340        .367        .367         .367
                       (AC-FT)       11.         12.         12.          12.

                       CUMULATIVE AREA =     .60 SQ MI

      ***             ***             ***             ***             ***


                       INTERPOLATED HYDROGRAPH AT     LS-7

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      95.     12.50                 27.          7.          2.           1.
                      (INCHES)      .418        .448        .449         .449
                       (AC-FT)       13.         14.         14.          14.

                       CUMULATIVE AREA =     .60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 307 KK     *      LS7C  *
            *            *
            **************
                       COMBINE RUNOFF FROM LS6 AND LS7 AT ADOBE POOL

 309 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS7C
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     252.     12.50                 76.         22.          7.           3.
                      (INCHES)      .510        .587        .589         .589
                       (AC-FT)       38.         43.         44.          44.

                       CUMULATIVE AREA =    1.39 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS7C
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     231.     12.50                 70.         20.          7.           3.
                      (INCHES)      .467        .540        .541         .541
                       (AC-FT)       35.         40.         40.          40.

                       CUMULATIVE AREA =    1.39 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS7C
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     217.     12.50                 66.         19.          6.           3.
                      (INCHES)      .440        .509        .511         .511
                       (AC-FT)       33.         38.         38.          38.

                       CUMULATIVE AREA =    1.39 SQ MI
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     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS7C
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     203.     12.50                  62.         18.          6.           3.
                        (INCHES)     .412        .478        .480         .480
                         (AC-FT)      31.         35.         36.          36.

                       CUMULATIVE AREA =    1.39 SQ MI


     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS7C
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     198.     12.50                  60.         17.          6.           3.
                        (INCHES)     .402        .467        .469         .469
                         (AC-FT)      30.         35.         35.          35.

                       CUMULATIVE AREA =    1.39 SQ MI

     ***            ***            ***            ***            ***


                       INTERPOLATED HYDROGRAPH AT     LS7C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     237.     12.50                  72.         21.          7.           3.
                        (INCHES)     .479        .553        .555         .555
                         (AC-FT)      36.         41.         41.          41.

                       CUMULATIVE AREA =    1.39 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  310 KK    *     LS-8   *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

  311 BA          SUBBASIN CHARACTERISTICS
                        TAREA          .57  SUBBASIN AREA
                         SNAP          .00  NORMAL ANNUAL PRECIPITATION
                        RATIO          .35  RATIO OF HYDROGRAPH

  312 LG          GREEN AND AMPT LOSS RATE
                        STRTL          .25  STARTING LOSS
                          DTH          .25  MOISTURE DEFICIT
                         PSIF         5.10  WETTING FRONT SUCTION
                        XKSAT          .31  HYDRAULIC CONDUCTIVITY
                        RTIMP        33.00  PERCENT IMPERVIOUS AREA

  313 UC          CLARK UNITGRAPH
                           TC          .67  TIME OF CONCENTRATION
                            R          .44  STORAGE COEFFICIENT

  314 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                          .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                       100.0

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .67 HR,       R=   .44 HR
                                         SNYDER   TP=   .39 HR,      CP=   .50

                                                UNIT HYDROGRAPH
                                          32 END-OF-PERIOD ORDINATES
                 29.      112.      275.      434.      473.      448.      411.      370.      321.      265.
                219.      181.      149.      123.      101.       84.       69.       57.       47.       39.
                 32.       26.       22.       18.       15.       12.       10.        8.        7.        6.
                  5.        4.
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***            ***            ***            ***            ***

                HYDROGRAPH AT STATION     LS-8
              TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.91, TOTAL EXCESS =    2.19

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     600.     12.25                109.         33.         11.          5.
                        (INCHES)   1.786      2.176       2.180      2.180
                         (AC-FT)    54.         66.         66.         66.

                       CUMULATIVE AREA =     .57 SQ MI


                                                HYDROGRAPH MULTIPLIED BY    .35

***            ***            ***            ***            ***

                HYDROGRAPH AT STATION     LS-8
              TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     210.     12.25                 38.         12.          4.          2.
                        (INCHES)    .625       .761       .763       .763
                         (AC-FT)    19.         23.         23.         23.

                       CUMULATIVE AREA =     .57 SQ MI

***            ***            ***            ***            ***

                HYDROGRAPH AT STATION     LS-8
              TRANSPOSITION AREA     10.0 SQ MI

   TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.83, TOTAL EXCESS =    2.03

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     555.     12.25                101.         31.         10.          4.
                        (INCHES)   1.649      2.015       2.019      2.019
                         (AC-FT)    50.         61.         61.         61.

                       CUMULATIVE AREA =     .57 SQ MI


                                                HYDROGRAPH MULTIPLIED BY    .35

***            ***            ***            ***            ***

                HYDROGRAPH AT STATION     LS-8
              TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     194.     12.25                 35.         11.          4.          2.
                        (INCHES)    .577       .705       .707       .707
                         (AC-FT)    17.         21.         21.         21.

                       CUMULATIVE AREA =     .57 SQ MI

***            ***            ***            ***            ***

                HYDROGRAPH AT STATION     LS-8
              TRANSPOSITION AREA     30.0 SQ MI

   TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.77, TOTAL EXCESS =    1.92

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     524.     12.25                 95.         29.         10.          4.
                        (INCHES)   1.557      1.908       1.912      1.912
                         (AC-FT)    47.         58.         58.         58.

                       CUMULATIVE AREA =     .57 SQ MI


                                                HYDROGRAPH MULTIPLIED BY    .35

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                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     183.     12.25                33.         10.          3.           1.
                        (INCHES)   .545        .668        .669         .669
                         (AC-FT)    16.         20.         20.          20.

                       CUMULATIVE AREA =     .57 SQ MI


      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.71, TOTAL EXCESS =    1.81

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     494.     12.25                90.         27.          9.           4.
                        (INCHES)  1.468       1.803       1.807        1.807
                         (AC-FT)    44.         55.         55.          55.

                       CUMULATIVE AREA =     .57 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     173.     12.25                31.         10.          3.           1.
                        (INCHES)   .514        .631        .632         .632
                         (AC-FT)    16.         19.         19.          19.

                       CUMULATIVE AREA =     .57 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.69, TOTAL EXCESS =    1.78

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     483.     12.25                88.         27.          9.           4.
                        (INCHES)  1.439       1.768       1.772        1.772
                         (AC-FT)    44.         53.         54.          54.

                       CUMULATIVE AREA =     .57 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     169.     12.25                31.          9.          3.           1.
                        (INCHES)   .503        .619        .620         .620
                         (AC-FT)    15.         19.         19.          19.

                       CUMULATIVE AREA =     .57 SQ MI

      ***            ***            ***            ***            ***


                  INTERPOLATED HYDROGRAPH AT     LS-8

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
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+     201.     12.25                    36.          11.          4.          2.
                          (INCHES)     .597         .729         .730        .730
                           (AC-FT)      18.          22.          22.         22.

                          CUMULATIVE AREA =     .57 SQ MI


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              *            *
 316 KK       *     LS-9   *        BASIN
              *            *
              **************

                SUBBASIN RUNOFF DATA

 317 BA           SUBBASIN CHARACTERISTICS
                        TAREA          .45  SUBBASIN AREA
                         SNAP          .00  NORMAL ANNUAL PRECIPITATION
                        RATIO          .35  RATIO OF HYDROGRAPH

 318 LG           GREEN AND AMPT LOSS RATE
                        STRTL          .20  STARTING LOSS
                          DTH          .25  MOISTURE DEFICIT
                         PSIF         5.20  WETTING FRONT SUCTION
                        XKSAT          .24  HYDRAULIC CONDUCTIVITY
                        RTIMP         9.00  PERCENT IMPERVIOUS AREA

 319 UC           CLARK UNITGRAPH
                           TC         1.02  TIME OF CONCENTRATION
                            R          .96  STORAGE COEFFICIENT

 320 UA           ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=  1.02 HR,       R=   .96 HR
                                          SNYDER    TP=   .61 HR,      CP=   .39

                                                      UNIT HYDROGRAPH
                                                 67 END-OF-PERIOD ORDINATES
                 6.       23.       47.       82.      139.      181.      189.      190.      188.      183.
               176.      168.      159.      147.      135.      123.      113.      104.       95.       87.
                80.       73.       67.       61.       56.       52.       47.       43.       40.       36.
                33.       31.       28.       26.       24.       22.       20.       18.       17.       15.
                14.       13.       12.       11.       10.        9.        8.        8.        7.        6.
                 6.        5.        5.        5.        4.        4.        3.        3.        3.        3.
                 2.        2.        2.        2.        2.        2.        1.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-9
                       TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.50, TOTAL EXCESS =    1.60

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     259.     12.50                  72.          19.          6.          3.
                       (INCHES)     1.480        1.592       1.594       1.594
                        (AC-FT)      36.          38.         38.         38.

                       CUMULATIVE AREA =     .45 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY    .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-9
                       TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      91.     12.50                  25.          7.          2.          1.
                       (INCHES)      .518        .557        .558        .558
                        (AC-FT)      12.          13.         13.         13.

                       CUMULATIVE AREA =     .45 SQ MI

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                        HYDROGRAPH AT STATION     LS-9
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                    TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.38, TOTAL EXCESS =    1.47

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     238.     12.50                 66.         18.          6.           3.
                        (INCHES)   1.360      1.464       1.467        1.467
                         (AC-FT)     33.         35.         35.          35.

                        CUMULATIVE AREA =     .45 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-9
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      83.     12.50                 23.          6.          2.           1.
                        (INCHES)    .476       .513        .513         .513
                         (AC-FT)     11.         12.         12.          12.

                        CUMULATIVE AREA =     .45 SQ MI


      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-9
                    TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.30, TOTAL EXCESS =    1.39

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     224.     12.50                 62.         17.          6.           2.
                        (INCHES)   1.279      1.379       1.381        1.381
                         (AC-FT)     31.         33.         33.          33.

                        CUMULATIVE AREA =     .45 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-9
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      78.     12.50                 22.          6.          2.           1.
                        (INCHES)    .448       .483        .483         .483
                         (AC-FT)     11.         12.         12.          12.

                        CUMULATIVE AREA =     .45 SQ MI


      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-9
                    TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.23, TOTAL EXCESS =    1.30

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     210.     12.50                 58.         16.          5.           2.
                        (INCHES)   1.197      1.293       1.295        1.295
                         (AC-FT)     29.         31.         31.          31.

                        CUMULATIVE AREA =     .45 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-9
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
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                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+      73.      12.50                   20.           5.           2.           1.
                           (INCHES)    .419         .452         .453         .453
                            (AC-FT)     10.           11.          11.          11.

                           CUMULATIVE AREA =     .45 SQ MI


      ***             ***             ***             ***             ***

                            HYDROGRAPH AT STATION     LS-9
                           TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.20, TOTAL EXCESS =    1.27

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     205.      12.50                   57.          15.           5.           2.
                           (INCHES)   1.168        1.262        1.265        1.265
                            (AC-FT)     28.           30.          30.          30.

                           CUMULATIVE AREA =     .45 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY    .35

      ***             ***             ***             ***             ***

                            HYDROGRAPH AT STATION     LS-9
                           TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+      72.      12.50                   20.           5.           2.           1.
                           (INCHES)    .409         .442         .443         .443
                            (AC-FT)     10.           11.          11.          11.

                           CUMULATIVE AREA =     .45 SQ MI

      ***             ***             ***             ***             ***


                           INTERPOLATED HYDROGRAPH AT     LS-9

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+      87.      12.50                   24.           6.           2.           1.
                           (INCHES)    .495         .533         .533         .533
                            (AC-FT)     12.           13.          13.          13.

                           CUMULATIVE AREA =     .45 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  322 KK    *     LS-10  *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

  323 BA          SUBBASIN CHARACTERISTICS
                        TAREA          .26  SUBBASIN AREA
                         SNAP          .00  NORMAL ANNUAL PRECIPITATION
                        RATIO          .35  RATIO OF HYDROGRAPH

  324 LG          GREEN AND AMPT LOSS RATE
                        STRTL          .25  STARTING LOSS
                          DTH          .25  MOISTURE DEFICIT
                         PSIF         5.80  WETTING FRONT SUCTION
                        XKSAT          .22  HYDRAULIC CONDUCTIVITY
                        RTIMP        32.00  PERCENT IMPERVIOUS AREA

  325 UC          CLARK UNITGRAPH
                           TC          .26  TIME OF CONCENTRATION
                            R          .19  STORAGE COEFFICIENT

  326 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                          .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                       100.0
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                                                UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=   .26 HR,       R=   .19 HR
                                       SNYDER   TP=   .18 HR,      CP=   .56

                                                UNIT HYDROGRAPH
                                            14 END-OF-PERIOD ORDINATES
            129.      392.      475.      354.      231.      148.       94.       60.       39.       25.
             16.       10.        6.        4.

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.87, TOTAL EXCESS =    2.23

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     484.     12.08                 51.         15.          5.           2.
                        (INCHES)    1.846       2.225       2.226        2.226
                         (AC-FT)     25.         30.         31.          31.

                       CUMULATIVE AREA =     .26 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     169.     12.08                 18.          5.          2.           1.
                        (INCHES)     .646        .779        .779         .779
                         (AC-FT)      9.         11.         11.          11.

                       CUMULATIVE AREA =     .26 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA     10.0 SQ MI

   TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.78, TOTAL EXCESS =    2.07

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     450.     12.08                 47.         14.          5.           2.
                        (INCHES)    1.710       2.066       2.067        2.067
                         (AC-FT)     23.         28.         28.          28.

                       CUMULATIVE AREA =     .26 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     157.     12.08                 17.          5.          2.           1.
                        (INCHES)     .598        .723        .724         .724
                         (AC-FT)      8.         10.         10.          10.

                       CUMULATIVE AREA =     .26 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA     30.0 SQ MI

   TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.72, TOTAL EXCESS =    1.97

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     427.     12.08                 45.         14.          5.           2.
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                    (INCHES)     1.619       1.960       1.961       1.961
                     (AC-FT)      22.         27.         27.         27.

                    CUMULATIVE AREA =     .26 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+     149.     12.08                16.         5.          2.          1.
                    (INCHES)      .567        .686        .686        .686
                     (AC-FT)       8.          9.          9.          9.

                    CUMULATIVE AREA =     .26 SQ MI


      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.66, TOTAL EXCESS =    1.86

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+     404.     12.08                42.        13.          4.          2.
                    (INCHES)     1.528       1.853       1.855       1.855
                     (AC-FT)      21.         25.         25.         25.

                    CUMULATIVE AREA =     .26 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+     141.     12.08                15.         4.          1.          1.
                    (INCHES)      .535        .649        .649        .649
                     (AC-FT)       7.          9.          9.          9.

                    CUMULATIVE AREA =     .26 SQ MI


      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.64, TOTAL EXCESS =    1.82

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+     396.     12.08                41.        13.          4.          2.
                    (INCHES)     1.496       1.816       1.818       1.818
                     (AC-FT)      21.         25.         25.         25.

                    CUMULATIVE AREA =     .26 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+     139.     12.08                14.         4.          1.          1.
                    (INCHES)      .523        .636        .636        .636
                     (AC-FT)       7.          9.          9.          9.

                    CUMULATIVE AREA =     .26 SQ MI
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      ***            ***            ***            ***            ***


                        INTERPOLATED HYDROGRAPH AT    LS-10

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     164.     12.08                 17.          5.          2.           1.
                        (INCHES)    .624        .753        .753         .753
                         (AC-FT)      9.         10.         10.          10.

                        CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  328 KK    *     RET10  *
            *            *
            **************
                          DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                           - 121.4 AC DEVELOPMENT WITH RETENTION
                           - C FACTOR = 0.63
                           - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                      ISTAD      R10OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       17.00  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ       DIVERTED FLOW        .00  10000.00
                                                                  ***

      ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   R10OUT
                       TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     169.     12.08                 18.          5.          2.           1.
                        (INCHES)    .646        .779        .779         .779
                         (AC-FT)      9.         11.         11.          11.

                        CUMULATIVE AREA =     .26 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    RET10
                       TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                  0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                        CUMULATIVE AREA =     .26 SQ MI

      ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   R10OUT
                       TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     157.     12.08                 17.          5.          2.           1.
                        (INCHES)    .598        .723        .724         .724
                         (AC-FT)      8.         10.         10.          10.

                        CUMULATIVE AREA =     .26 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    RET10
                       TRANSPOSITION AREA     10.0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+       0.       .00                  0.           0.           0.           0.
                                (INCHES)        .000         .000         .000         .000
                                 (AC-FT)           0.           0.           0.           0.

                                CUMULATIVE AREA =     .26 SQ MI

      ***                  ***            ***            ***            ***

                              DIVERSION HYDROGRAPH   R10OUT
                            TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     149.     12.08                 16.           5.           2.           1.
                                (INCHES)        .567         .686         .686         .686
                                 (AC-FT)           8.           9.           9.           9.

                                CUMULATIVE AREA =     .26 SQ MI

      ***                  ***            ***            ***            ***

                              HYDROGRAPH AT STATION    RET10
                            TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+       0.       .00                  0.           0.           0.           0.
                                (INCHES)        .000         .000         .000         .000
                                 (AC-FT)           0.           0.           0.           0.

                                CUMULATIVE AREA =     .26 SQ MI

      ***                  ***            ***            ***            ***

                              DIVERSION HYDROGRAPH   R10OUT
                            TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     141.     12.08                 15.           4.           1.           1.
                                (INCHES)        .535         .649         .649         .649
                                 (AC-FT)           7.           9.           9.           9.

                                CUMULATIVE AREA =     .26 SQ MI

      ***                  ***            ***            ***            ***

                              HYDROGRAPH AT STATION    RET10
                            TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+       0.       .00                  0.           0.           0.           0.
                                (INCHES)        .000         .000         .000         .000
                                 (AC-FT)           0.           0.           0.           0.

                                CUMULATIVE AREA =     .26 SQ MI

      ***                  ***            ***            ***            ***

                              DIVERSION HYDROGRAPH   R10OUT
                            TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     139.     12.08                 14.           4.           1.           1.
                                (INCHES)        .523         .636         .636         .636
                                 (AC-FT)           7.           9.           9.           9.

                                CUMULATIVE AREA =     .26 SQ MI

      ***                  ***            ***            ***            ***

                              HYDROGRAPH AT STATION    RET10
                            TRANSPOSITION AREA     90.0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)       0.          0.          0.           0.

                       CUMULATIVE AREA =     .26 SQ MI

      ***            ***            ***            ***            ***


                 INTERPOLATED DIVERSION HYDROGRAPH AT   R10OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     164.     12.08                 17.          5.          2.           1.
                       (INCHES)     .624        .753        .753         .753
                        (AC-FT)       9.         10.         10.          10.

                       CUMULATIVE AREA =     .26 SQ MI

      ***            ***            ***            ***            ***


                       INTERPOLATED HYDROGRAPH AT    RET10

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)       0.          0.          0.           0.

                       CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 336 KK     *    INFLOW  *
            *            *
            **************
                       COMBINE ALL INFLOW HYDROGRAPHS TO ADOBE DAM POOL AREA
                       (LS7C, LS5C, LS8, LS2C, LS9, LS10)

 339 HC          HYDROGRAPH COMBINATION
                      ICOMP           6  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   INFLOW
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15633.     14.42                6496.       1742.        582.         252.
                       (INCHES)     .722        .774        .776         .776
                        (AC-FT)    3221.       3456.       3465.        3465.

                       CUMULATIVE AREA =   83.69 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   INFLOW
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15620.     14.42                6445.       1727.        577.         249.
                       (INCHES)     .716        .767        .769         .769
                        (AC-FT)    3196.       3425.       3435.        3435.

                       CUMULATIVE AREA =   83.69 SQ MI

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                    HYDROGRAPH AT STATION   INFLOW
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15612.     14.42                6413.       1718.        574.         248.
                        (INCHES)     .712        .763        .765         .765
                         (AC-FT)    3180.       3407.       3416.        3416.

                        CUMULATIVE AREA =   83.69 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION   INFLOW
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15603.     14.42                6382.       1709.        571.         247.
                        (INCHES)     .709        .760        .762         .762
                         (AC-FT)    3165.       3390.       3400.        3400.

                        CUMULATIVE AREA =   83.69 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION   INFLOW
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15600.     14.42                6372.       1706.        570.         247.
                        (INCHES)     .708        .758        .760         .760
                         (AC-FT)    3160.       3384.       3394.        3394.

                        CUMULATIVE AREA =   83.69 SQ MI

      ***             ***             ***             ***             ***


                    INTERPOLATED HYDROGRAPH AT   INFLOW

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15601.     14.42                6374.       1707.        571.         247.
                        (INCHES)     .708        .758        .761         .761
                         (AC-FT)    3160.       3385.       3395.        3395.

                        CUMULATIVE AREA =   83.69 SQ MI


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            *            *
  340 KK    *     LS-11  *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

  341 BA          SUBBASIN CHARACTERISTICS
                        TAREA        2.84  SUBBASIN AREA
                         SNAP         .00  NORMAL ANNUAL PRECIPITATION
                        RATIO         .35  RATIO OF HYDROGRAPH

  342 LG          GREEN AND AMPT LOSS RATE
                        STRTL         .27  STARTING LOSS
                          DTH         .25  MOISTURE DEFICIT
                         PSIF        4.55  WETTING FRONT SUCTION
                        XKSAT         .38  HYDRAULIC CONDUCTIVITY
                        RTIMP       14.00  PERCENT IMPERVIOUS AREA

  343 UC          CLARK UNITGRAPH
                           TC        1.18  TIME OF CONCENTRATION
                            R         .41  STORAGE COEFFICIENT

  344 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0
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                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.18 HR,        R=   .41 HR
                                  SNYDER   TP=   .57 HR,       CP=   .63

                                          UNIT HYDROGRAPH
                                   33 END-OF-PERIOD ORDINATES
              71.     251.     490.     763.    1245.    1831.    2059.    1958.    1796.    1642.
            1480.    1312.    1161.    1032.     893.     737.     601.     490.     400.     326.
             266.     217.     177.     144.     118.      96.      78.      64.      52.      42.
              35.      28.      23.

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-11
                   TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.52, TOTAL EXCESS =    1.58

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+    2366.     12.42                 430.        120.         40.         17.
                      (INCHES)      1.409       1.575       1.576       1.576
                       (AC-FT)      213.        238.        239.        239.

                     CUMULATIVE AREA =    2.84 SQ MI


                                          HYDROGRAPH MULTIPLIED BY    .35

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-11
                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+     828.     12.42                 151.         42.         14.          6.
                      (INCHES)      .493        .551        .552        .552
                       (AC-FT)       75.         83.         84.         84.

                     CUMULATIVE AREA =    2.84 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-11
                   TRANSPOSITION AREA     10.0 SQ MI

   TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.40, TOTAL EXCESS =    1.45

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+    2166.     12.42                 393.        110.         37.         16.
                      (INCHES)      1.289       1.444       1.446       1.446
                       (AC-FT)      195.        219.        219.        219.

                     CUMULATIVE AREA =    2.84 SQ MI


                                          HYDROGRAPH MULTIPLIED BY    .35

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-11
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+     758.     12.42                 138.         39.         13.          6.
                      (INCHES)      .451        .505        .506        .506
                       (AC-FT)       68.         77.         77.         77.

                     CUMULATIVE AREA =    2.84 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-11
                   TRANSPOSITION AREA     30.0 SQ MI

   TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.32, TOTAL EXCESS =    1.37

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
```

```
+   (CFS)        (HR)
                   (CFS)
+    2034.      12.42                370.        104.         35.          15.
                (INCHES)            1.212       1.360       1.362       1.362
                 (AC-FT)             183.        206.        206.        206.

                 CUMULATIVE AREA =    2.84 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                   HYDROGRAPH AT STATION    LS-11
                 TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                   (CFS)
+     712.      12.42                129.         36.         12.           5.
                (INCHES)             .424        .476        .477        .477
                 (AC-FT)              64.         72.         72.         72.

                 CUMULATIVE AREA =    2.84 SQ MI


      ***            ***            ***            ***            ***

                   HYDROGRAPH AT STATION    LS-11
                 TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.24, TOTAL EXCESS =    1.28

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                   (CFS)
+    1900.      12.42                346.         97.         32.          14.
                (INCHES)            1.133       1.275       1.277       1.277
                 (AC-FT)             172.        193.        193.        193.

                 CUMULATIVE AREA =    2.84 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                   HYDROGRAPH AT STATION    LS-11
                 TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                   (CFS)
+     665.      12.42                121.         34.         11.           5.
                (INCHES)             .397        .446        .447        .447
                 (AC-FT)              60.         68.         68.         68.

                 CUMULATIVE AREA =    2.84 SQ MI


      ***            ***            ***            ***            ***

                   HYDROGRAPH AT STATION    LS-11
                 TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.22, TOTAL EXCESS =    1.25

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                   (CFS)
+    1853.      12.42                338.         95.         32.          14.
                (INCHES)            1.106       1.246       1.247       1.247
                 (AC-FT)             167.        189.        189.        189.

                 CUMULATIVE AREA =    2.84 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                   HYDROGRAPH AT STATION    LS-11
                 TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                   (CFS)
+     649.      12.42                118.         33.         11.           5.
                (INCHES)             .387        .436        .437        .437
                 (AC-FT)              59.         66.         66.         66.
```

```
                    CUMULATIVE AREA =    2.84 SQ MI

      ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT    LS-11

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     771.     12.42                140.         39.         13.           6.
                        (INCHES)    .459        .514        .514         .514
                         (AC-FT)     69.         78.         78.          78.

                    CUMULATIVE AREA =    2.84 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  346 KK    *     LS11C  *
            *            *
            **************
                    COMBINE ALL INFLOWS TO ADOBE POOL WITH RUNOFF FROM LS11

  348 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    LS11C
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15664.     14.42                6638.       1784.        596.         258.
                        (INCHES)    .713        .767        .769         .769
                         (AC-FT)    3292.       3538.       3549.        3549.

                    CUMULATIVE AREA =   86.53 SQ MI

      ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    LS11C
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15649.     14.42                6574.       1765.        590.         255.
                        (INCHES)    .706        .759        .761         .761
                         (AC-FT)    3260.       3501.       3511.        3511.

                    CUMULATIVE AREA =   86.53 SQ MI

      ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    LS11C
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15639.     14.42                6535.       1753.        586.         253.
                        (INCHES)    .702        .754        .756         .756
                         (AC-FT)    3240.       3478.       3488.        3488.

                    CUMULATIVE AREA =   86.53 SQ MI

      ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    LS11C
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15629.     14.42                6496.       1743.        583.         252.
```

```
                    (INCHES)      .698        .749        .751        .751
                     (AC-FT)     3221.       3457.       3467.       3467.

                    CUMULATIVE AREA =   86.53 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    LS11C
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15626.     14.42                6482.       1739.        581.        251.
                    (INCHES)      .696        .747        .750        .750
                     (AC-FT)     3214.       3450.       3460.       3460.

                    CUMULATIVE AREA =   86.53 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    9:  //LS11C/FLOW/31DEC1989/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //LS11C/FLOW/01JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //LS11C/FLOW/02JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //LS11C/FLOW/03JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //LS11C/FLOW/04JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //LS11C/FLOW/05JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //LS11C/FLOW/06JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //LS11C/FLOW/07JAN1990/5MIN//
      ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT    LS11C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   15626.     14.42                6483.       1740.        582.        251.
                    (INCHES)      .697        .748        .750        .750
                     (AC-FT)     3215.       3450.       3461.       3461.

                    CUMULATIVE AREA =   86.53 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
 350 KK   *     ADOBE  *
          *            *
          **************
                         ROUTE COMBINED FLOWS THROUGH ADOBE DAM RESERVOIR
                         DATA FROM FCDMC ALERT STATION DATA (TAKEN FROM COE DESIGN DATA)

            HYDROGRAPH ROUTING DATA

 353 RS          STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC         .00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 354 SV           STORAGE          .0      70.0     154.0     372.0    1154.0    2695.0    5068.0    8502.0   13100.0   18825.0
                                26896.0   34968.0   47757.0   60546.0   73335.0

 356 SE          ELEVATION     1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76
                               1382.80   1387.76   1392.76   1397.76   1402.76

 358 SQ          DISCHARGE          0.      200.      339.      600.      970.     1210.     1429.     1630.     1810.     1980.
                                 3471.     6350.     8000.    12300.    17200.

 360 SE          ELEVATION     1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76
                               1382.80   1387.76   1392.76   1397.76   1402.76

                                                          ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00     70.00    154.00    372.00   1154.00   2695.00   5068.00   8502.00  13100.00  18825.00
          OUTFLOW        .00    200.00    339.00    600.00    970.00   1210.00   1429.00   1630.00   1810.00   1980.00
        ELEVATION    1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76

          STORAGE   26896.00  34968.00  47757.00  60546.00  73335.00
          OUTFLOW    3471.00   6350.00   8000.00  12300.00  17200.00
        ELEVATION    1382.80   1387.76   1392.76   1397.76   1402.76

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    ADOBE
                    TRANSPOSITION AREA       .0 SQ MI
```

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1227.	17.25		1218.	1120.	596.	258.
		(INCHES)	.131	.481	.768	.769
		(AC-FT)	604.	2222.	3546.	3549.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
2881.	17.25	2784.	2128.	888.	384.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
1358.15	17.25	1357.94	1355.89	1348.20	1343.41

CUMULATIVE AREA = 86.53 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION ADOBE
TRANSPOSITION AREA 10.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1225.	17.25		1214.	1116.	590.	255.
		(INCHES)	.130	.480	.760	.761
		(AC-FT)	602.	2213.	3509.	3511.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
2852.	17.25	2754.	2098.	872.	377.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
1358.09	17.25	1357.87	1355.80	1348.10	1343.37

CUMULATIVE AREA = 86.53 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION ADOBE
TRANSPOSITION AREA 30.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1223.	17.25		1212.	1113.	586.	253.
		(INCHES)	.130	.479	.755	.756
		(AC-FT)	601.	2208.	3486.	3488.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
2834.	17.25	2736.	2081.	862.	373.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
1358.05	17.25	1357.82	1355.75	1348.05	1343.34

CUMULATIVE AREA = 86.53 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION ADOBE
TRANSPOSITION AREA 60.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1221.	17.25		1210.	1111.	582.	252.
		(INCHES)	.130	.477	.751	.751
		(AC-FT)	600.	2203.	3465.	3467.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
2816.	17.25	2718.	2064.	854.	369.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				

```
  1358.02     17.25                1357.78     1355.70     1347.99     1343.32

                        CUMULATIVE AREA =   86.53 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    ADOBE
                       TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+    1221.      17.25         1210.       1110.        581.         251.
                         (INCHES)      .130        .477        .749         .750
                          (AC-FT)      600.       2202.       3458.        3460.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
    2810.      17.25          2712.       2058.        851.         368.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
  1358.00      17.25        1357.76     1355.68     1347.97     1343.31

                        CUMULATIVE AREA =   86.53 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    9:  //ADOBE/FLOW/31DEC1989/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //ADOBE/FLOW/01JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //ADOBE/FLOW/02JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //ADOBE/FLOW/03JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //ADOBE/FLOW/04JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //ADOBE/FLOW/05JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //ADOBE/FLOW/06JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    9:  //ADOBE/FLOW/07JAN1990/5MIN//
      ***            ***            ***            ***            ***


                        INTERPOLATED HYDROGRAPH AT    ADOBE

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+    1221.      17.25         1210.       1110.        581.         251.
                         (INCHES)      .130        .477        .749         .750
                          (AC-FT)      600.       2202.       3458.        3461.

                        CUMULATIVE AREA =   86.53 SQ MI

1
                                   RUNOFF SUMMARY
                             FLOW IN CUBIC FEET PER SECOND
                          TIME IN HOURS,  AREA IN SQUARE MILES

                                     PEAK   TIME OF    AVERAGE FLOW FOR MAXIMUM PERIOD     BASIN    MAXIMUM    TIME OF
        OPERATION        STATION     FLOW    PEAK                                        AREA     STAGE     MAX STAGE
+                                                        6-HOUR     24-HOUR     72-HOUR

        HYDROGRAPH AT
+                          S23L    13417.   14.17        4105.       1082.        361.    50.29

        HYDROGRAPH AT
+                          C010     4852.   13.00        1231.        322.        108.    13.39

        2 COMBINED AT
+                           CAP    14941.   14.00        5335.       1404.        468.    63.68

        ROUTED TO
+                         CAPR2    14758.   14.17        5335.       1404.        468.    63.68

        HYDROGRAPH AT
+                           S24     1095.   12.17         102.         26.          9.      .64

        2 COMBINED AT
+                           S24C    14758.   14.17        5420.       1425.        476.    64.32

        ROUTED TO
+                        S24LS1    14690.   14.25        5418.       1425.        476.    64.32

        HYDROGRAPH AT
+                         RRB22C      945.   14.25         710.        200.         67.     9.62

        ROUTED TO
+                         B22LS1      935.   15.25         707.        200.         67.     9.62

        HYDROGRAPH AT
+                           LS-1     1204.   12.17         152.         42.         14.     2.47

        DIVERSION TO
+                          R1OUT     1053.   12.08          61.         16.          5.     2.47
```

+	HYDROGRAPH AT	RETLS1	1172.	12.25	98.	26.	9.	2.47
+	2 COMBINED AT	LS1CR	1327.	12.25	801.	225.	75.	12.09
+	2 COMBINED AT	LS1C	15589.	14.25	6196.	1643.	549.	76.41
+	ROUTED TO	LS1LS2	15441.	14.42	6168.	1642.	549.	76.41
+	HYDROGRAPH AT	LS-2	201.	12.42	47.	13.	4.	.94
+	2 COMBINED AT	LS2C	15461.	14.42	6200.	1653.	552.	77.35
+	HYDROGRAPH AT	LS-3	283.	12.17	36.	11.	4.	.54
+	ROUTED TO	LS3LS5	98.	13.25	35.	11.	4.	.54
+	HYDROGRAPH AT	LS-4	811.	12.17	108.	33.	11.	1.85
+	DIVERSION TO	R4OUT	811.	12.17	108.	31.	10.	1.85
+	HYDROGRAPH AT	RETLS4	6.	21.17	4.	1.	0.	1.85
+	ROUTED TO	LS4LS5	6.	24.42	4.	1.	0.	1.85
+	HYDROGRAPH AT	LS-5	332.	12.42	72.	21.	7.	1.28
+	DIVERSION TO	R5OUT	227.	12.17	17.	5.	2.	1.28
+	HYDROGRAPH AT	RETLS5	332.	12.42	60.	16.	5.	1.28
+	3 COMBINED AT	LS5C	343.	12.42	94.	28.	9.	3.67
+	HYDROGRAPH AT	LS-6	144.	12.50	45.	14.	5.	.79
+	HYDROGRAPH AT	LS-7	95.	12.50	27.	7.	2.	.60
+	2 COMBINED AT	LS7C	237.	12.50	72.	21.	7.	1.39
+	HYDROGRAPH AT	LS-8	201.	12.25	36.	11.	4.	.57
+	HYDROGRAPH AT	LS-9	87.	12.50	24.	6.	2.	.45
+	HYDROGRAPH AT	LS-10	164.	12.08	17.	5.	2.	.26
+	DIVERSION TO	R10OUT	164.	12.08	17.	5.	2.	.26
+	HYDROGRAPH AT	RET10	0.	.00	0.	0.	0.	.26
+	6 COMBINED AT	INFLOW	15601.	14.42	6374.	1707.	571.	83.69
+	HYDROGRAPH AT	LS-11	771.	12.42	140.	39.	13.	2.84
+	2 COMBINED AT	LS11C	15626.	14.42	6483.	1740.	582.	86.53
+	ROUTED TO	ADOBE	1221.	17.25	1210.	1110.	581.	86.53

*** NORMAL END OF HEC-1 ***

```
-----DSS---ZCLOSE Unit:  71,   File: LS1024E.DSS
          Pointer Utilization:   .25
          Number of Records:     24
          File Size:     51.6  Kbytes
```

```
Percent Inactive:    .0
```

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN  1998               *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   13AUG03  TIME  15:33:57  *
*                                      *
****************************************
```

```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*          (916) 756-1104              *
*                                      *
****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID       LOWER SKUNK CREEK HYDROLOGY                        FILENAME: LS224E.DAT
  2           ID       FOR: ADOBE DAM / DESERT HILLS ADMP                 ORIGINAL: 06/25/03
  3           ID       AUG. 2003                                          REVISED:  08/13/03
  4           ID       BY: JE FULLER/ HYDROLOGY & GEOMORPHOLOGY, INC.
  5           ID
  6           ID    THIS IS THE 2-YEAR 24-HOUR MODEL FOR EXISTING CONDITIONS
  7           ID
  8           ID    MODEL BASIS:
  9           ID      * 100-YEAR 24-HOUR MODEL (LS10024E.DAT)
 10           ID      * DDMSW PROJECT NAME: LS_EX24
 11           ID      * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
 12           ID      * MULTIPLE STORM OPTION (JD)
 13           ID      * GREEN & AMPT LOSS METHOD
 14           ID      * CLARK UNIT HYDROGRAPH METHOD
 15           ID      * TC & R COMPUTED WITH MCHUP1 THRU DDMSW 2.1.3
 16           ID      * MODIFIED PULS NORMAL-DEPTH CHANNEL ROUTING
 17           ID      * INFLOW HYDROGRAPHS AS QI RECORDS FROM:
 18           ID          * S23L - SKUNK CREEK - SKUNK CREEK WMP
 19           ID          * C010 - SONORAN (UNNAMED) WASH - SKUNK CREEK WMP
 20           ID          * RRB22C - BUCHANAN WASH - ADOBE ADMP PART 3, VOL. 3
 21           ID
 22           ID       2-YEAR 24-HOUR MODEL FOR EXISTING CONDITIONS
 23           ID       2-YEAR MODEL BASED ON:
 24           ID       2-YEAR INFLOW HYDROGRAPHS FROM SKUNK CREEK / SONORAN WASH WCMP
 25           ID       2-YEAR INFLOW HYDROGRAPH FROM BUCHANAN WASH FDS (PART OF ADOBE ADMP)
 26           ID       0.10 RATIO ON BA RECORD FIELD 3 PER DRAFT 2003 FCDMC HYDROLOGY MANUAL
 27           ID
 28           ID
              *DIAGRAM
 29           IT       5 01JAN90    0000    2000
 30           IO       3
 31           IN      15
 32           JD    4.10    0.01
 33           PC   0.000   0.002   0.005   0.008   0.011   0.014   0.017   0.020   0.023   0.026
 34           PC   0.029   0.032   0.035   0.038   0.041   0.044   0.048   0.052   0.056   0.060
 35           PC   0.064   0.068   0.072   0.076   0.080   0.085   0.090   0.095   0.100   0.105
 36           PC   0.110   0.115   0.120   0.126   0.133   0.140   0.147   0.155   0.163   0.172
 37           PC   0.181   0.191   0.203   0.218   0.236   0.257   0.283   0.387   0.663   0.707
 38           PC   0.735   0.758   0.776   0.791   0.804   0.815   0.825   0.834   0.842   0.849
 39           PC   0.856   0.863   0.869   0.875   0.881   0.887   0.893   0.898   0.903   0.908
 40           PC   0.913   0.918   0.922   0.926   0.930   0.934   0.938   0.942   0.946   0.950
 41           PC   0.953   0.956   0.959   0.962   0.965   0.968   0.971   0.974   0.977   0.980
 42           PC   0.983   0.986   0.989   0.992   0.995   0.998   1.000
 43           JD   3.854   10.00
 44           JD   3.690   30.00
 45           JD   3.526   60.00
 46           JD   3.469   90.00
              *
              * ***************************************************************************
              *
              *   INFLOW HYDROGRAPHS FOR SKUNK CREEK, SONORAN WASH, & SUBBASIN S24 FROM:
              *      Skunk Creek Watercourse Master Plan                    File: SCE2.IH1
              *          By: ASL Consulting Engineers                  Original: 09/01/1999
              *          For: Flood Control District of Maricopa County  Revised: 05/25/2001
              *
              *        This is an Existing Condition Model.
              *
```

```
*        Skunk Creek Watershed at the CAP Canal
*           This file is based on the original FIS HEC-1 model prepared by:
*
*                Montgomery Watson FCD 95-16
*                Skunk Creek Floodplain Delineation Study
*                Original model dated March 1996
*
*        Model Basis:
*
*        * 2-year, 24-hr rainfall with SCS Type II Rainfall Distribution
*        * Green & Ampt Loss Rate Method
*        * NMIN = 5
*        * Phoenix Mountain, Desert/Rangeland and Phoenix Valley S-Graphs
*        * Muskingum channel routing for Skunk Creek watershed
*        * Modified Puls normal depth channel routing for Unnamed Wash watershed
*        * 200 Scale 2' CI mapping of Skunk Creek by Kenney Aerial Mapping
*        * 200 Scale 2' CI mapping of Unnamed Wash by Aerial Mapping Company
*        * The Montgomery Watson HEC-1 model structure is used for Skunk Creek.
*
*      Model Adjustments:
*
*       * Rainfall JD records are revised for the 2-year 24-hour storm
*       * The Unnamed Wash watershed was modeled with a completely new HEC-1
*         model
*
1                                    HEC-1 INPUT                                    PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 47           KK    S23L
 48           KM     HYDROGRAPH FOR S23L FROM SKUNK CREEK WMP MODEL
 49           IN       5
 50           BA   50.29
 51           QI       0       0       0       0       0       0       0       0       0       0
 52           QI       0       0       0       0       0       0       0       1       1       2
 53           QI       3       4       6       7       9      11      13      15      17      19
 54           QI      21      23      24      26      27      29      30      31      32      32
 55           QI      33      33      34      34      34      34      34      34      34      34
 56           QI      34      35      35      35      35      35      35      35      35      35
 57           QI      35      35      35      35      36      36      37      37      38      38
 58           QI      39      40      40      41      42      42      43      43      44      44
 59           QI      45      45      45      46      46      46      46      46      46      47
 60           QI      47      47      48      48      49      49      50      51      51      52
 61           QI      53      53      54      55      55      56      56      56      57      57
 62           QI      57      58      58      59      59      60      61      62      63      65
 63           QI      66      68      70      72      74      76      78      80      81      83
 64           QI      85      86      88      89      91      92      94      95      97     104
 65           QI     113     132     167     215     282     354     442     524     610     705
 66           QI     822     969    1145    1348    1574    1823    2083    2341    2591    2832
 67           QI    3067    3306    3551    3802    4053    4288    4487    4631    4708    4712
 68           QI    4639    4497    4297    4050    3765    3452    3123    2781    2438    2103
 69           QI    1785    1494    1234    1010     821     666     541     443     366     306
 70           QI     260     224     197     175     157     143     132     122     115     108
 71           QI     103      98      95      91      88      86      84      82      80      78
 72           QI      77      76      75      74      73      72      71      71      70      69
 73           QI      68      67      66      65      65      64      63      62      61      60
 74           QI      59      58      57      56      55      54      54      53      52      51
 75           QI      50      50      49      49      48      48      47      47      47      47
 76           QI      47      46      46      46      46      46      45      45      44      44
 77           QI      43      42      42      41      40      40      39      38      38      37
 78           QI      37      36      36      36      36      35      35      35      35      35
 79           QI      35      35      35      35      35      35      35      35      35      35
 80           QI      35      35      35      35      35      35      35      34      34      34
 81           QI      34      34      33      33      32      31      30      28      27      25
 82           QI      23      21      19      17      15      13      11      10       8       7
 83           QI       5       4       3       2       2       1       1       0       0       0
 84           QI       0       0       0       0       0       0       0       0       0       0
              *

 85           KK    C010
 86           KM     HYDROGRAPH FOR SONORAN WASH FROM SKUNK CREEK WMP
 87           IN       5
 88           BA   13.39
 89           QI       0       0       0       0       0       0       0       0       0       0
 90           QI       0       0       0       0       1       1       1       1       1       1
 91           QI       1       1       1       1       2       2       2       2       2       2
 92           QI       3       3       3       3       3       4       4       4       4       4
 93           QI       5       5       5       5       6       6       6       6       7       7
 94           QI       7       7       7       8       8       8       8       8       8       8
 95           QI       9       9       9       9       9       9       9       9       9      10
 96           QI      10      10      10      10      10      10      10      11      11      11
 97           QI      11      11      11      11      11      12      12      12      12      12
 98           QI      12      12      12      12      12      13      13      13      13      13
1                                    HEC-1 INPUT                                    PAGE  3

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 99           QI      13      13      14      14      14      14      14      14      15      15
100           QI      15      15      15      15      16      16      16      16      16      17
101           QI      17      17      17      18      18      18      19      19      19      20
102           QI      20      21      22      22      23      23      24      25      26      28
103           QI      34      47      90     197     376     593     718     774     893    1233
104           QI    1622    1804    1810    1830    1877    1921    1953    1996    2048    2085
105           QI    2097    2067    1958    1678    1110     697     664     582     509     449
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106          QI     397     349     308     276     245     216     192     175     159     143
107          QI     128     114     103      94      88      83      78      72      67      62
108          QI      57      53      49      45      43      40      38      36      34      33
109          QI      31      30      29      29      28      28      28      28      27      27
110          QI      27      26      26      26      25      25      25      24      24      23
111          QI      23      23      22      22      22      21      21      21      20      20
112          QI      20      20      19      19      19      18      18      18      18      17
113          QI      17      17      16      16      16      16      15      15      15      15
114          QI      15      14      14      14      14      14      14      13      13      13
115          QI      13      13      13      13      12      12      12      12      12      12
116          QI      12      11      11      11      11      11      11      11      11      11
117          QI      11      10      10      10      10      10      10      10      10      10
118          QI      10       9       9       9       9       9       9       9       9       9
119          QI       8       8       8       8       8       8       8       8       8       7
120          QI       7       7       7       7       6       6       6       6       6       5
121          QI       5       5       5       4       4       4       4       3       3       3
122          QI       3       3       3       2       2       2       2       2       2       2
123          QI       1       1       1       1       1       1       1       1       1       1
124          QI       1       0       0       0       0       0       0       0       0       0
             *

125          KK     CAP
126          KM    COMBINE S23L+C010 (SUBAREAS S1-S23, CLINE CR, RODGER CR & UNNAMED WASH)
127          KM    COMBINED FLOW AT CAP OVERCHUTES
128          HC       2   63.68
             * DDM   ***** Preserved *****

129          KK   CAPR2
130          KM    ROUTE CAP OVERFLOW THROUGH S24 FROM CAP TO I-17
131          RM       3    0.23    0.25
             *

132          KK     S24
133          KM   BASIN S24
134          KM    THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
135          KM    L=      1.4  Lca=       .8   S=   38.0  Kn= .026  LAG=  19.0
136          KM    DESERT/RANGELAND S-GRAPH WAS USED FOR THE BASIN
137          BA     .64
138          LG     .35     .30    8.00     .09     .00
139          UI    140.    538.    935.   1070.    844.    535.    336.    212.    135.     82.
140          UI     47.     28.     28.      0.      0.      0.      0.      0.      0.      0.
141          UI      0.      0.      0.      0.      0.      0.      0.      0.      0.      0.
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

142          KK    S24C
143          KM     COMBINE ROUTED FLOWS FROM CAP WITH RUNOFF FROM S24 AT I-17
144          HC       2
             *
             * ************************* END OF INPUT FROM SKUNK CREEK WMP *****************
             *

145          KK  S24LS1   ROUTE   REACH
146          KM    ROUTE COMBINED FLOWS FROM I-17 TO CONFLUENCE WITH BUCHANAN WASH
147          RS       1    STOR      -1
148          RC   0.035   0.035   0.035    3394  0.0053   15.00
149          RX     0.0     8.0    15.0    50.0   320.0   355.0   362.0   370.0
150          RY    15.0    15.0    15.0     0.0     0.0    15.0    15.0    15.0
             *
             *    FROM BUCHANAN HYDROLOGY BY JEF, INC. AUG. 2003
             *

151          KK  RRB22C
152          KM     INFLOWS FROM BUCHANAN WASH UNDER CAP
153          KM       FROM BF224E.DAT
154          IN       5
155          BA    9.62
156          QI       0       0       0       0       0       0       0       0       0       0
157          QI       0       0       0       0       0       0       0       0       0       0
158          QI       0       0       0       0       0       0       0       0       0       0
159          QI       0       0       0       0       0       0       0       0       0       0
160          QI       0       0       0       0       0       0       0       0       0       0
161          QI       0       0       0       0       0       0       0       0       0       0
162          QI       0       0       0       0       0       0       0       0       0       0
163          QI       0       0       0       0       0       0       0       0       0       0
164          QI       0       0       0       0       0       0       0       0       0       0
165          QI       0       0       0       0       0       0       0       0       0       0
166          QI       0       0       0       0       0       0       1       1       1       1
167          QI       1       1       1       1       2       2       2       2       3       3
168          QI       3       4       4       5       5       6       7       7       8       9
169          QI      10      11      12      13      14      15      16      18      20      22
170          QI      25      30      38      53      74     110     154     209     252     296
171          QI     315     335     353     366     372     374     374     374     375     380
172          QI     388     394     397     395     390     381     369     356     341     325
173          QI     309     285     269     257     245     234     222     211     201     188
174          QI     180     171     164     156     150     142     136     129     122     116
175          QI     110     105     100      95      90      87      83      80      78      75
176          QI      73      71      69      67      65      64      62      60      59      57
177          QI      56      54      53      51      50      49      47      46      44      43
178          QI      41      40      38      37      36      34      33      32      31      30
179          QI      29      29      28      27      26      26      25      24      24      23
180          QI      23      22      21      21      20      20      19      19      18      18
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181        QI      17      17      16      16      16      15      15      14      14      14
182        QI      13      13      13      13      12      12      12      11      11      11
183        QI      11      10      10      10      10       9       9       9       9       9
184        QI       9       8       8       8       8       8       8       8       8       7
185        QI       7       7       7       7       7       7       7       7       6       6
186        QI       0       0       0       0       0       0       0       0       0       0
187        QI       0       0       0       0       0       0       0       0       0       0
           *
           *  THE REMAINING HEC-1 MODEL INPUT FROM ORIGINAL ADOBE DAM ADMP MODELING BY JEF
           *
1                                        HEC-1 INPUT                                          PAGE  5

LINE       ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

188        KK  B22LS1   ROUTE   REACH
189        KM    ROUTE IMPORTED FLOWS FROM BUCHANAN WASH FROM CAP TO CONFLUENCE WITH
190        KM    SKUNK CREEK
191        RS       4    STOR      -1
192        RC   0.055   0.040   0.055   10208  0.0040    7.00
193        RX     0.0   100.0   200.0   210.0   225.0   235.0   285.0   335.0
194        RY     7.0     6.0     5.0     0.0     0.0     5.0     6.0     7.0
195        ZW       C=FLOW
           *

196        KK    LS-1   BASIN
197        BA   2.469            0.10
198        LG    0.24    0.19    6.60    0.15      15
199        UC   0.529   0.270
200        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
201        UA     100
           *

202        KK  RETLS1
203        KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
204        KM      - 232 AC DEVELOPMENT WITH RETENTION
205        KM      - C FACTOR = 0.63
206        KM      - 100-YR 2-HR RAIN = 2.66"
207        DT   R1OUT    32.4
208        DI       0   10000
209        DQ       0   10000
           *

210        KK   LS1CR
211        KM     COMBINE RUNOFF FROM LS-1 WITH ROUTED FLOWS FROM BUCHANAN WASH AT CAP
212        KM     THIS IS THE TOTAL FLOW IN BUCHANAN WASH JUST U/S OF SKUNK CREEK
213        HC       2
           *

214        KK    LS1C
215        KM     COMBINE BUCHANAN WASH WITH ROUTED FLOWS IN SKUNK CREEK FROM I-17.
216        HC       2
           *

217        KK  LS1LS2   ROUTE   REACH
218        KM    ROUTE COMBINED FLOWS FROM CONFLUENCE OF BUCHANAN WASH AND SKUNK CREEK
219        KM    TO PINNACLE PEAK ROAD IN SKUNK CREEK
220        RS       3    STOR      -1
221        RC   0.035   0.035   0.035    9552  0.0063   15.00
222        RX     0.0     8.0    15.0    50.0   320.0   355.0   362.0   370.0
223        RY    15.0    15.0    15.0     0.0     0.0    15.0    15.0    15.0
           *
           *
1                                        HEC-1 INPUT                                          PAGE  6

LINE       ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

224        KK    LS-2   BASIN
225        BA   0.945            0.10
226        LG    0.23    0.25    4.80    0.28       7
227        UC   0.996   0.769
228        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
229        UA     100
           *

230        KK    LS2C
231        KM     COMBINE FLOWS IN SKUNK CREEK AT PINNACLE PEAK ROAD
232        HC       2
           *

233        KK    LS-3   BASIN
234        BA   0.543            0.10
235        LG    0.17    0.25    4.30    0.41      39
236        UC   0.413   0.224
237        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
238        UA     100
           *

239        KK  LS3LS5   ROUTE   REACH
240        KM    ROUTE RUNOFF FROM LS-3 THROUGH LS-5 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK
241        KM    ROAD
242        RS       4    STOR      -1
243        RC   0.080   0.040   0.080    8883  0.0040    6.00
244        RX     0.0   100.0   200.0   220.0   370.0   390.0   490.0   590.0
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 245          RY     6.0     5.0     4.0     0.0     0.0     4.0     5.0     6.0
              *

 246          KK    LS-4   BASIN
 247          BA   1.851            0.10
 248          LG    0.22    0.25    4.35    0.43      29
 249          UC   0.504   0.277
 250          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 251          UA     100
              *

 252          KK  RETLS4
 253          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
 254          KM      - 445 AC DEVELOPMENT WITH RETENTION
 255          KM      - C FACTOR = 0.63
 256          KM      - 100-YR 2-HR RAIN = 2.66"
 257          DT   R4OUT    62.2
 258          DI       0   10000
 259          DQ       0   10000
              *

 260          KK  LS4LS5   ROUTE   REACH
 261          KM    ROUTE RUNOFF FROM LS-4 THROUGH LS-5 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK
 262          KM    ROAD
 263          RS       4    STOR      -1
 264          RC   0.080   0.040   0.080    6160  0.0040    6.00
 265          RX     0.0   100.0   200.0   220.0   370.0   390.0   490.0   590.0
1                                          HEC-1 INPUT                                          PAGE  7

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 266          RY     6.0     5.0     4.0     0.0     0.0     4.0     5.0     6.0
              *

 267          KK    LS-5   BASIN
 268          BA   1.280            0.10
 269          LG    0.28    0.25    4.90    0.33      22
 270          UC   0.967   0.577
 271          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 272          UA     100
              *

 273          KK  RETLS5
 274          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
 275          KM      - 72.5 AC DEVELOPMENT WITH RETENTION
 276          KM      - C FACTOR = 0.63
 277          KM      - 100-YR 2-HR RAIN = 2.66"
 278          DT   R5OUT    10.1
 279          DI       0   10000
 280          DQ       0   10000
              *

 281          KK    LS5C
 282          KM     COMBINE ROUTED FLOWS FROM LS3 AND LS4 WITH RUNOFF FROM LS5 AT ADOBE POOL
 283          KM     AT PINNACLE PEAK ROAD
 284          HC       3
              *

 285          KK    LS-6   BASIN
 286          BA   0.792            0.10
 287          LG    0.26    0.25    4.50    0.38      26
 288          UC   1.125   0.986
 289          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 290          UA     100
              *

 291          KK    LS-7   BASIN
 292          BA   0.597            0.10
 293          LG    0.32    0.25    4.50    0.39       7
 294          UC   0.963   1.038
 295          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 296          UA     100
              *

 297          KK    LS7C
 298          KM    COMBINE RUNOFF FROM LS6 AND LS7 AT ADOBE POOL
 299          HC       2
              *

 300          KK    LS-8   BASIN
 301          BA   0.567            0.10
 302          LG    0.25    0.25    5.10    0.31      33
 303          UC   0.671   0.435
 304          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 305          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE  8

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 306          KK    LS-9   BASIN
 307          BA   0.451            0.10
 308          LG    0.20    0.25    5.20    0.24       9
 309          UC   1.025   0.958
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 310          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 311          UA     100
              *

 312          KK   LS-10   BASIN
 313          BA   0.257            0.10
 314          LG    0.25    0.25    5.80    0.22      32
 315          UC   0.263   0.189
 316          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 317          UA     100
              *

 318          KK   RET10
 319          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
 320          KM      - 121.4 AC DEVELOPMENT WITH RETENTION
 321          KM      - C FACTOR = 0.63
 322          KM      - 100-YR 2-HR RAIN = 2.66"
 323          DT  R100UT    17.0
 324          DI       0   10000
 325          DQ       0   10000
              *

 326          KK  INFLOW
 327          KM    COMBINE ALL INFLOW HYDROGRAPHS TO ADOBE DAM POOL AREA
 328          KM    (LS7C, LS5C, LS8, LS2C, LS9, LS10)
 329          HC       6
              *

 330          KK   LS-11   BASIN
 331          BA   2.838            0.10
 332          LG    0.27    0.25    4.55    0.38      14
 333          UC   1.183   0.410
 334          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 335          UA     100
              *

 336          KK   LS11C
 337          KM    COMBINE ALL INFLOWS TO ADOBE POOL WITH RUNOFF FROM LS11
 338          HC       2
 339          ZW      C=FLOW
              *

 340          KK   ADOBE
 341          KM     ROUTE COMBINED FLOWS THROUGH ADOBE DAM RESERVOIR
 342          KM     DATA FROM FCDMC ALERT STATION DATA (TAKEN FROM COE DESIGN DATA)
 343          RS       1    STOR       0
 344          SV       0      70     154     372    1154    2695    5068    8502   13100   18825
 345          SV   26896   34968   47757   60546   73335
 346          SE  1339.8 1342.76 1344.76 1347.76 1352.76 1357.76 1362.76 1367.76 1372.76 1377.76
 347          SE  1382.8 1387.76 1392.76 1397.76 1402.76
1                                          HEC-1 INPUT                                          PAGE  9

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 348          SQ       0     200     339     600     970    1210    1429    1630    1810    1980
 349          SQ    3471    6350    8000   12300   17200
 350          SE  1339.8 1342.76 1344.76 1347.76 1352.76 1357.76 1362.76 1367.76 1372.76 1377.76
 351          SE  1382.8 1387.76 1392.76 1397.76 1402.76
 352          ZW      C=FLOW
 353          ZZ
1
              SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

   NO.     (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    47       S23L
                .
                .
    85          .        C010
                .           .
                .           .
   125        CAP............
                V
                V
   129       CAPR2
                .
                .
   132          .         S24
                .           .
                .           .
   142       S24C............
                V
                V
   145      S24LS1
                .
                .
   151          .      RRB22C
                .           V
                .           V
   188          .      B22LS1
                .           .
                .           .
   196          .           .        LS-1
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                .          .          .
                .          .          .
  207           .          .          .-------->   R1OUT
  202           .          .     RETLS1
                .          .          .
                .          .          .
  210           .      LS1CR............
                .          .
                .          .
  214       LS1C............
                V
                V
  217     LS1LS2
                .
                .
  224           .       LS-2
                .          .
                .          .
  230       LS2C............
                .
                .
  233           .       LS-3
                .          V
                .          V
  239           .     LS3LS5
                .          .
                .          .
  246           .          .       LS-4
                .          .          .
                .          .          .
  257           .          .          .-------->   R4OUT
  252           .          .     RETLS4
                .          .          V
                .          .          V
  260           .          .     LS4LS5
                .          .          .
                .          .          .
  267           .          .          .       LS-5
                .          .          .          .
                .          .          .          .
  278           .          .          .          .-------->   R5OUT
  273           .          .          .     RETLS5
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  281           .       LS5C........................
                .          .
                .          .
  285           .          .       LS-6
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                .          .          .
  291           .          .          .       LS-7
                .          .          .          .
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  297           .          .       LS7C............
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                .          .          .
  300           .          .          .       LS-8
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  306           .          .          .          .       LS-9
                .          .          .          .          .
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  312           .          .          .          .          .      LS-10
                .          .          .          .          .          .
                .          .          .          .          .          .
  323           .          .          .          .          .          .-------->  R10OUT
  318           .          .          .          .          .      RET10
                .          .          .          .          .          .
                .          .          .          .          .          .
  326     INFLOW.............................................................
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                .
  330           .       LS-11
                .          .
                .          .
  336       LS11C............
                V
                V
  340       ADOBE
```

```
 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1****************************************                    ****************************************
 *                                      *                    *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                    *    U.S. ARMY CORPS OF ENGINEERS      *
 *              JUN   1998              *                    *    HYDROLOGIC ENGINEERING CENTER     *
 *            VERSION 4.1               *                    *          609 SECOND STREET           *
 *                                      *                    *       DAVIS, CALIFORNIA 95616        *
 *  RUN DATE   13AUG03  TIME  15:33:57  *                    *          (916) 756-1104              *
 *                                      *                    *                                      *
 ****************************************                    ****************************************
```

```
LOWER SKUNK CREEK HYDROLOGY                           FILENAME: LS224E.DAT
FOR: ADOBE DAM / DESERT HILLS ADMP                    ORIGINAL: 06/25/03
AUG. 2003                                             REVISED:  08/13/03
BY: JE FULLER/ HYDROLOGY & GEOMORPHOLOGY, INC.

THIS IS THE 2-YEAR 24-HOUR MODEL FOR EXISTING CONDITIONS

MODEL BASIS:
 * 100-YEAR 24-HOUR MODEL (LS10024E.DAT)
 * DDMSW PROJECT NAME: LS_EX24
 * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
 * MULTIPLE STORM OPTION (JD)
 * GREEN & AMPT LOSS METHOD
 * CLARK UNIT HYDROGRAPH METHOD
 * TC & R COMPUTED WITH MCHUP1 THRU DDMSW 2.1.3
 * MODIFIED PULS NORMAL-DEPTH CHANNEL ROUTING
 * INFLOW HYDROGRAPHS AS QI RECORDS FROM:
     * S23L - SKUNK CREEK - SKUNK CREEK WMP
     * C010 - SONORAN (UNNAMED) WASH - SKUNK CREEK WMP
     * RRB22C - BUCHANAN WASH - ADOBE ADMP PART 3, VOL. 3

2-YEAR 24-HOUR MODEL FOR EXISTING CONDITIONS
2-YEAR MODEL BASED ON;
2-YEAR INFLOW HYDROGRAPHS FROM SKUNK CREEK / SONORAN WASH WCMP
2-YEAR INFLOW HYDROGRAPH FROM BUCHANAN WASH FDS (PART OF ADOBE ADMP)
0.10 RATIO ON BA RECORD FIELD 3 PER DRAFT 2003 FCDMC HYDROLOGY MANUAL


30 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          3  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

31 IN        TIME DATA FOR INPUT TIME SERIES
                 JXMIN         15  TIME INTERVAL IN MINUTES
                 JXDATE    1JAN90  STARTING DATE
                 JXTIME         0  STARTING TIME

   IT        HYDROGRAPH TIME DATA
                 NMIN           5  MINUTES IN COMPUTATION INTERVAL
                 IDATE     1JAN90  STARTING DATE
                 ITIME       0000  STARTING TIME
                 NQ          2000  NUMBER OF HYDROGRAPH ORDINATES
                 NDDATE    7JAN90  ENDING DATE
                 NDTIME      2235  ENDING TIME
                 ICENT         19  CENTURY MARK

              COMPUTATION INTERVAL     .08 HOURS
                  TOTAL TIME BASE   166.58 HOURS

      ENGLISH UNITS
          DRAINAGE AREA          SQUARE MILES
          PRECIPITATION DEPTH    INCHES
          LENGTH, ELEVATION      FEET
          FLOW                   CUBIC FEET PER SECOND
          STORAGE VOLUME         ACRE-FEET
          SURFACE AREA           ACRES
          TEMPERATURE            DEGREES FAHRENHEIT

32 JD         INDEX STORM NO. 1
                 STRM        4.10  PRECIPITATION DEPTH
                 TRDA         .01  TRANSPOSITION DRAINAGE AREA

33 PI           PRECIPITATION PATTERN
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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43 JD          INDEX STORM NO. 2
                STRM        3.85  PRECIPITATION DEPTH
                TRDA       10.00  TRANSPOSITION DRAINAGE AREA

 0 PI           PRECIPITATION PATTERN
                 .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
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44 JD          INDEX STORM NO. 3
                STRM        3.69  PRECIPITATION DEPTH
                TRDA       30.00  TRANSPOSITION DRAINAGE AREA

 0 PI           PRECIPITATION PATTERN
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45 JD          INDEX STORM NO. 4
                STRM        3.53  PRECIPITATION DEPTH
                TRDA       60.00  TRANSPOSITION DRAINAGE AREA

 0 PI           PRECIPITATION PATTERN
                 .00        .00        .00        .00        .00        .00        .00        .00        .00        .00
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 46 JD        INDEX STORM NO. 5
                STRM        3.47  PRECIPITATION DEPTH
                TRDA       90.00  TRANSPOSITION DRAINAGE AREA

  0 PI          PRECIPITATION PATTERN
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            *            *
 47 KK      *     S23L   *
            *            *
            **************
                          HYDROGRAPH FOR S23L FROM SKUNK CREEK WMP MODEL

 49 IN        TIME DATA FOR INPUT TIME SERIES
                JXMIN           5  TIME INTERVAL IN MINUTES
               JXDATE      1JAN90  STARTING DATE
               JXTIME           0  STARTING TIME

            SUBBASIN RUNOFF DATA

 50 BA        SUBBASIN CHARACTERISTICS
                TAREA       50.29  SUBBASIN AREA

                                                          ***

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     S23L
                   TRANSPOSITION AREA       .0 SQ MI

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    4712.     14.08                1504.        411.        137.          59.
                        (INCHES)     .278        .304        .304         .304
                         (AC-FT)     746.        815.        815.         815.

                       CUMULATIVE AREA =   50.29 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     S23L
                   TRANSPOSITION AREA     10.0 SQ MI

 PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    4712.     14.08                1504.        411.        137.          59.
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```
                    (INCHES)      .278        .304        .304        .304
                     (AC-FT)      746.        815.        815.        815.

                    CUMULATIVE AREA =   50.29 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     S23L
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+    4712.     14.08              1504.        411.        137.         59.
                    (INCHES)      .278        .304        .304        .304
                     (AC-FT)      746.        815.        815.        815.

                    CUMULATIVE AREA =   50.29 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     S23L
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+    4712.     14.08              1504.        411.        137.         59.
                    (INCHES)      .278        .304        .304        .304
                     (AC-FT)      746.        815.        815.        815.

                    CUMULATIVE AREA =   50.29 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     S23L
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+    4712.     14.08              1504.        411.        137.         59.
                    (INCHES)      .278        .304        .304        .304
                     (AC-FT)      746.        815.        815.        815.

                    CUMULATIVE AREA =   50.29 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     S23L

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+    4712.     14.08              1504.        411.        137.         59.
                    (INCHES)      .278        .304        .304        .304
                     (AC-FT)      746.        815.        815.        815.

                    CUMULATIVE AREA =   50.29 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
  85 KK   *      C010  *
          *            *
          **************
                    HYDROGRAPH FOR SONORAN WASH FROM SKUNK CREEK WMP

  87 IN          TIME DATA FOR INPUT TIME SERIES
                      JXMIN           5  TIME INTERVAL IN MINUTES
                     JXDATE      1JAN90  STARTING DATE
                     JXTIME           0  STARTING TIME

              SUBBASIN RUNOFF DATA

  88 BA          SUBBASIN CHARACTERISTICS
                      TAREA       13.39  SUBBASIN AREA

                                                          ***

     ***            ***            ***            ***            ***
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                    HYDROGRAPH AT STATION     C010
                  TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2097.      13.33                553.        148.         50.          22.
                        (INCHES)    .384        .411        .417         .428
                         (AC-FT)    274.        293.        298.         305.

                    CUMULATIVE AREA =   13.39 SQ MI


      ***         ***          ***          ***          ***

                    HYDROGRAPH AT STATION     C010
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2097.      13.33                553.        148.         50.          22.
                        (INCHES)    .384        .411        .417         .428
                         (AC-FT)    274.        293.        298.         305.

                    CUMULATIVE AREA =   13.39 SQ MI


      ***         ***          ***          ***          ***

                    HYDROGRAPH AT STATION     C010
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2097.      13.33                553.        148.         50.          22.
                        (INCHES)    .384        .411        .417         .428
                         (AC-FT)    274.        293.        298.         305.

                    CUMULATIVE AREA =   13.39 SQ MI


      ***         ***          ***          ***          ***

                    HYDROGRAPH AT STATION     C010
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2097.      13.33                553.        148.         50.          22.
                        (INCHES)    .384        .411        .417         .428
                         (AC-FT)    274.        293.        298.         305.

                    CUMULATIVE AREA =   13.39 SQ MI


      ***         ***          ***          ***          ***

                    HYDROGRAPH AT STATION     C010
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2097.      13.33                553.        148.         50.          22.
                        (INCHES)    .384        .411        .417         .428
                         (AC-FT)    274.        293.        298.         305.

                    CUMULATIVE AREA =   13.39 SQ MI

      ***         ***          ***          ***          ***


                    INTERPOLATED HYDROGRAPH AT     C010

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2097.      13.33                553.        148.         50.          22.
                        (INCHES)    .384        .411        .417         .428
                         (AC-FT)    274.        293.        298.         305.

                    CUMULATIVE AREA =   13.39 SQ MI
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
  125 KK    *       CAP  *
            *            *
            **************
                           COMBINE S23L+C010 (SUBAREAS S1-S23, CLINE CR, RODGER CR & UNNAMED WASH)
                           COMBINED FLOW AT CAP OVERCHUTES

  128 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION      CAP
                       TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+    5509.     13.50                2056.        559.        187.          81.
                        (INCHES)     .300        .326        .328         .330
                         (AC-FT)    1020.       1108.       1113.        1121.

                        CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION      CAP
                       TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+    5509.     13.50                2056.        559.        187.          81.
                        (INCHES)     .300        .326        .328         .330
                         (AC-FT)    1020.       1108.       1113.        1121.

                        CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION      CAP
                       TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+    5509.     13.50                2056.        559.        187.          81.
                        (INCHES)     .300        .326        .328         .330
                         (AC-FT)    1020.       1108.       1113.        1121.

                        CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION      CAP
                       TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+    5509.     13.50                2056.        559.        187.          81.
                        (INCHES)     .300        .326        .328         .330
                         (AC-FT)    1020.       1108.       1113.        1121.

                        CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION      CAP
                       TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+    5509.     13.50                2056.        559.        187.          81.
                        (INCHES)     .300        .326        .328         .330
                         (AC-FT)    1020.       1108.       1113.        1121.
```

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                    CUMULATIVE AREA =   63.68 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT      CAP

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5509.     13.50                2056.        559.        187.          81.
                        (INCHES)     .300        .326        .328         .330
                         (AC-FT)    1020.       1108.       1113.        1121.

                    CUMULATIVE AREA =   63.68 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 129 KK     *     CAPR2  *
            *            *
            **************
                      ROUTE CAP OVERFLOW THROUGH S24 FROM CAP TO I-17

              HYDROGRAPH ROUTING DATA

 131 RM          MUSKINGUM ROUTING
                      NSTPS          3 NUMBER OF SUBREACHES
                      AMSKK        .23 MUSKINGUM K
                          X        .25 MUSKINGUM X

                                                                  ***

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CAPR2
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5412.     13.75                2056.        559.        187.          81.
                        (INCHES)     .300        .326        .328         .330
                         (AC-FT)    1020.       1108.       1113.        1121.

                    CUMULATIVE AREA =   63.68 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CAPR2
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5412.     13.75                2056.        559.        187.          81.
                        (INCHES)     .300        .326        .328         .330
                         (AC-FT)    1020.       1108.       1113.        1121.

                    CUMULATIVE AREA =   63.68 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CAPR2
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5412.     13.75                2056.        559.        187.          81.
                        (INCHES)     .300        .326        .328         .330
                         (AC-FT)    1020.       1108.       1113.        1121.

                    CUMULATIVE AREA =   63.68 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CAPR2
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
```

```
+   (CFS)        (HR)
                          (CFS)
+    5412.      13.75                2056.        559.        187.          81.
                        (INCHES)      .300        .326        .328         .330
                         (AC-FT)     1020.       1108.       1113.        1121.

                         CUMULATIVE AREA =   63.68 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    CAPR2
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+    5412.      13.75                2056.        559.        187.          81.
                        (INCHES)      .300        .326        .328         .330
                         (AC-FT)     1020.       1108.       1113.        1121.

                         CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***


                         INTERPOLATED HYDROGRAPH AT    CAPR2

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+    5412.      13.75                2056.        559.        187.          81.
                        (INCHES)      .300        .326        .328         .330
                         (AC-FT)     1020.       1108.       1113.        1121.

                         CUMULATIVE AREA =   63.68 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 132 KK     *       S24  *
            *            *
            **************
                          BASIN S24
                           THE FOLLOWING PARAMETERS WERE PROVIDED FOR THIS BASIN
                           L=      1.4  Lca=       .8   S=   38.0  Kn= .026  LAG=  19.0
                           DESERT/RANGELAND S-GRAPH WAS USED FOR THE BASIN

              SUBBASIN RUNOFF DATA

 137 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .64  SUBBASIN AREA

 138 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .35  STARTING LOSS
                         DTH         .30  MOISTURE DEFICIT
                        PSIF        8.00  WETTING FRONT SUCTION
                       XKSAT         .09  HYDRAULIC CONDUCTIVITY
                       RTIMP         .00  PERCENT IMPERVIOUS AREA

 133 UI          INPUT UNITGRAPH,  13 ORDINATES,  VOLUME =  .99
                     140.0     538.0     935.0    1070.0     844.0     535.0     336.0     212.0     135.0      82.0
                      47.0      28.0      28.0

                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION      S24
                        TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.52, TOTAL EXCESS =    1.58

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+    1145.      12.17                 108.         27.          9.           4.
                        (INCHES)     1.572       1.572       1.572        1.572
                         (AC-FT)      54.         54.         54.          54.

                         CUMULATIVE AREA =     .64 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION      S24
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                    TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.42, TOTAL EXCESS =    1.43

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1062.      12.17                 98.         25.          8.           4.
                        (INCHES)    1.424       1.424       1.424        1.424
                         (AC-FT)     49.         49.         49.          49.

                        CUMULATIVE AREA =     .64 SQ MI

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION      S24
                    TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.35, TOTAL EXCESS =    1.34

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1007.      12.17                 92.         23.          8.           3.
                        (INCHES)    1.332       1.332       1.332        1.332
                         (AC-FT)     45.         45.         45.          45.

                        CUMULATIVE AREA =     .64 SQ MI

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION      S24
                    TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.28, TOTAL EXCESS =    1.25

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     951.      12.17                 85.         21.          7.           3.
                        (INCHES)    1.241       1.241       1.241        1.241
                         (AC-FT)     42.         42.         42.          42.

                        CUMULATIVE AREA =     .64 SQ MI

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION      S24
                    TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.25, TOTAL EXCESS =    1.22

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     931.      12.17                 83.         21.          7.           3.
                        (INCHES)    1.209       1.209       1.209        1.209
                         (AC-FT)     41.         41.         41.          41.

                        CUMULATIVE AREA =     .64 SQ MI

      ***             ***            ***            ***            ***


                        INTERPOLATED HYDROGRAPH AT      S24

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1095.      12.17                102.         26.          9.           4.
                        (INCHES)    1.483       1.483       1.483        1.483
                         (AC-FT)     51.         51.         51.          51.

                        CUMULATIVE AREA =     .64 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  142 KK    *     S24C   *
            *            *
            **************
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                    COMBINE ROUTED FLOWS FROM CAP WITH RUNOFF FROM S24 AT I-17

 144 HC          HYDROGRAPH COMBINATION
                      ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S24C
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    5412.     13.75                2165.        586.        196.          85.
                      (INCHES)      .313        .339        .340         .342
                       (AC-FT)     1073.       1162.       1167.        1175.

                      CUMULATIVE AREA =   64.32 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S24C
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    5412.     13.75                2154.        583.        195.          85.
                      (INCHES)      .311        .337        .339         .341
                       (AC-FT)     1068.       1157.       1162.        1170.

                      CUMULATIVE AREA =   64.32 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S24C
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    5412.     13.75                2148.        581.        195.          85.
                      (INCHES)      .311        .336        .338         .340
                       (AC-FT)     1065.       1153.       1159.        1166.

                      CUMULATIVE AREA =   64.32 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S24C
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    5412.     13.75                2142.        580.        194.          84.
                      (INCHES)      .310        .335        .337         .339
                       (AC-FT)     1062.       1150.       1156.        1163.

                      CUMULATIVE AREA =   64.32 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     S24C
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    5412.     13.75                2140.        579.        194.          84.
                      (INCHES)      .309        .335        .337         .339
                       (AC-FT)     1061.       1149.       1154.        1162.

                      CUMULATIVE AREA =   64.32 SQ MI

      ***             ***             ***             ***             ***


                      INTERPOLATED HYDROGRAPH AT     S24C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

```
                          (CFS)
+    5412.      13.75                  2141.        580.        194.          84.
                        (INCHES)       .310        .335        .337         .339
                         (AC-FT)      1062.       1150.       1155.        1163.

                       CUMULATIVE AREA =   64.32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 145 KK     *   S24LS1   *        ROUTE   REACH
            *            *
            **************
                          ROUTE COMBINED FLOWS FROM I-17 TO CONFLUENCE WITH BUCHANAN WASH

               HYDROGRAPH ROUTING DATA

 147 RS          STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                      RSVRIC       -1.00  INITIAL CONDITION
                           X         .00 WORKING R AND D COEFFICIENT

 148 RC          NORMAL DEPTH CHANNEL
                        ANL        .035  LEFT OVERBANK N-VALUE
                       ANCH        .035  MAIN CHANNEL N-VALUE
                        ANR        .035  RIGHT OVERBANK N-VALUE
                      RLNTH       3394.  REACH LENGTH
                        SEL      .0053  ENERGY SLOPE
                      ELMAX       15.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 150 RY        ELEVATION     15.00     15.00     15.00       .00       .00     15.00     15.00     15.00
 149 RX        DISTANCE        .00      8.00     15.00     50.00    320.00    355.00    362.00    370.00

                                                                  ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

           STORAGE        .00     16.72     33.67     50.84     68.25     85.87    103.73    121.81    140.12    158.65
           OUTFLOW        .00    565.16   1797.10   3538.08   5724.48   8317.93  11291.97  14627.04  18307.96  22322.63
         ELEVATION        .00       .79      1.58      2.37      3.16      3.95      4.74      5.53      6.32      7.11

           STORAGE     177.41    196.40    215.62    235.06    254.73    274.62    294.74    315.09    335.66    356.46
           OUTFLOW   26661.13  31315.26  36278.10  41543.79  47107.33  52964.40  59111.29  65544.80  72262.11  79260.82
         ELEVATION       7.89      8.68      9.47     10.26     11.05     11.84     12.63     13.42     14.21     15.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN    47107. TO    79261.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   S24LS1
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+    5335.      13.83                  2163.        585.        196.          85.
                        (INCHES)       .313        .339        .340         .342
                         (AC-FT)      1073.       1161.       1167.        1175.

 PEAK STORAGE    TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)       (HR)
      65.      13.83                    32.          9.          3.           1.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+   (FEET)       (HR)
     3.02      13.83                  1.51         .44         .15          .06

                       CUMULATIVE AREA =   64.32 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   S24LS1
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+    5334.      13.83                  2153.        583.        195.          85.
                        (INCHES)       .311        .337        .339         .341
```

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                    (AC-FT)      1068.       1156.       1162.        1169.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      65.      13.83                32.          9.          3.           1.

  PEAK STAGE    TIME                         MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     3.02      13.83               1.51         .44         .15          .06

                    CUMULATIVE AREA =   64.32 SQ MI


      ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   S24LS1
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                         MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5334.     13.83                2147.        581.        195.          85.
                        (INCHES)    .310        .336        .338         .340
                         (AC-FT)    1065.       1153.       1159.        1166.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      65.      13.83                32.          9.          3.           1.

  PEAK STAGE    TIME                         MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     3.02      13.83               1.50         .44         .15          .06

                    CUMULATIVE AREA =   64.32 SQ MI


      ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   S24LS1
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                         MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5334.     13.83                2141.        580.        194.          84.
                        (INCHES)    .309        .335        .337         .339
                         (AC-FT)    1062.       1150.       1156.        1163.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      65.      13.83                32.          9.          3.           1.

  PEAK STAGE    TIME                         MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     3.02      13.83               1.50         .44         .15          .06

                    CUMULATIVE AREA =   64.32 SQ MI


      ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   S24LS1
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                         MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5334.     13.83                2138.        579.        194.          84.
                        (INCHES)    .309        .335        .337         .339
                         (AC-FT)    1060.       1149.       1154.        1162.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      65.      13.83                32.          9.          3.           1.

  PEAK STAGE    TIME                         MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     3.02      13.83               1.50         .44         .15          .06

                    CUMULATIVE AREA =   64.32 SQ MI

      ***            ***            ***            ***            ***
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                    INTERPOLATED HYDROGRAPH AT   S24LS1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5334.     13.83                2140.        580.        194.          84.
                        (INCHES)    .309        .335        .337         .339
                         (AC-FT)   1061.       1150.       1155.        1163.

                        CUMULATIVE AREA =   64.32 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 151 KK     *   RRB22C   *
            *            *
            **************
                          INFLOWS FROM BUCHANAN WASH UNDER CAP
                            FROM BF224E.DAT

 154 IN          TIME DATA FOR INPUT TIME SERIES
                       JXMIN           5  TIME INTERVAL IN MINUTES
                      JXDATE      1JAN90  STARTING DATE
                      JXTIME           0  STARTING TIME

               SUBBASIN RUNOFF DATA

 155 BA          SUBBASIN CHARACTERISTICS
                       TAREA        9.62  SUBBASIN AREA

                                                                  ***

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   RRB22C
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     397.     13.50                 197.         56.         19.           8.
                        (INCHES)    .191        .216        .216         .216
                         (AC-FT)     98.        111.        111.         111.

                        CUMULATIVE AREA =    9.62 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   RRB22C
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     397.     13.50                 197.         56.         19.           8.
                        (INCHES)    .191        .216        .216         .216
                         (AC-FT)     98.        111.        111.         111.

                        CUMULATIVE AREA =    9.62 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   RRB22C
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     397.     13.50                 197.         56.         19.           8.
                        (INCHES)    .191        .216        .216         .216
                         (AC-FT)     98.        111.        111.         111.

                        CUMULATIVE AREA =    9.62 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   RRB22C
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
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                    (CFS)
+     397.     13.50                197.        56.        19.         8.
                (INCHES)            .191       .216       .216       .216
                 (AC-FT)             98.        111.       111.       111.

                CUMULATIVE AREA =    9.62 SQ MI

      ***            ***            ***            ***            ***

                HYDROGRAPH AT STATION   RRB22C
               TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     397.     13.50                197.        56.        19.         8.
                (INCHES)            .191       .216       .216       .216
                 (AC-FT)             98.        111.       111.       111.

                CUMULATIVE AREA =    9.62 SQ MI

      ***            ***            ***            ***            ***


                INTERPOLATED HYDROGRAPH AT   RRB22C

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     397.     13.50                197.        56.        19.         8.
                (INCHES)            .191       .216       .216       .216
                 (AC-FT)             98.        111.       111.       111.

                CUMULATIVE AREA =    9.62 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 188 KK     *    B22LS1  *        ROUTE   REACH
            *            *
            **************
                        ROUTE IMPORTED FLOWS FROM BUCHANAN WASH FROM CAP TO CONFLUENCE WITH
                        SKUNK CREEK

          HYDROGRAPH ROUTING DATA

 191 RS       STORAGE ROUTING
                  NSTPS          4  NUMBER OF SUBREACHES
                   ITYP       STOR  TYPE OF INITIAL CONDITION
                 RSVRIC      -1.00  INITIAL CONDITION
                      X        .00 WORKING R AND D COEFFICIENT

 192 RC       NORMAL DEPTH CHANNEL
                    ANL       .055  LEFT OVERBANK N-VALUE
                   ANCH       .040  MAIN CHANNEL N-VALUE
                    ANR       .055  RIGHT OVERBANK N-VALUE
                  RLNTH      10208.  REACH LENGTH
                    SEL      .0040  ENERGY SLOPE
                  ELMAX        7.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                CROSS-SECTION DATA
                      --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 194 RY     ELEVATION     7.00      6.00      5.00       .00       .00      5.00      6.00      7.00
 193 RX     DISTANCE       .00    100.00    200.00    210.00    225.00    235.00    285.00    335.00

                                                  ***

                                COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

        STORAGE       .00      1.36      2.84      4.46      6.20      8.07     10.06     12.18     14.43     16.81
        OUTFLOW       .00      6.76     21.75     43.42     71.34    105.36    145.48    191.77    244.33    303.29
      ELEVATION       .00       .37       .74      1.11      1.47      1.84      2.21      2.58      2.95      3.32

        STORAGE     19.31     21.94     24.70     27.59     31.03     38.48     50.70     67.70     89.46    116.00
        OUTFLOW    368.81    441.04    520.14    606.30    708.61    843.01   1016.38   1242.18   1531.99   1896.29
      ELEVATION      3.68      4.05      4.42      4.79      5.16      5.53      5.89      6.26      6.63      7.00

      ***            ***            ***            ***            ***

                HYDROGRAPH AT STATION   B22LS1
               TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
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                                (CFS)
+     388.      13.92                    195.        56.        19.         8.
                            (INCHES)    .188       .216       .216       .216
                             (AC-FT)     97.       111.       111.       111.

 PEAK STORAGE    TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR      72-HR    166.58-HR
+  (AC-FT)       (HR)
        5.      13.92                     3.         1.         0.         0.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR      72-HR    166.58-HR
+   (FEET)       (HR)
      3.78      13.92                    2.46        .86        .29        .12

                            CUMULATIVE AREA =    9.62 SQ MI

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   B22LS1
                        TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR      72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     388.      13.92                    195.        56.        19.         8.
                            (INCHES)    .188       .216       .216       .216
                             (AC-FT)     97.       111.       111.       111.

 PEAK STORAGE    TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR      72-HR    166.58-HR
+  (AC-FT)       (HR)
        5.      13.92                     3.         1.         0.         0.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR      72-HR    166.58-HR
+   (FEET)       (HR)
      3.78      13.92                    2.46        .86        .29        .12

                            CUMULATIVE AREA =    9.62 SQ MI

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   B22LS1
                        TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR      72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     388.      13.92                    195.        56.        19.         8.
                            (INCHES)    .188       .216       .216       .216
                             (AC-FT)     97.       111.       111.       111.

 PEAK STORAGE    TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR      72-HR    166.58-HR
+  (AC-FT)       (HR)
        5.      13.92                     3.         1.         0.         0.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR      72-HR    166.58-HR
+   (FEET)       (HR)
      3.78      13.92                    2.46        .86        .29        .12

                            CUMULATIVE AREA =    9.62 SQ MI

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   B22LS1
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR      72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     388.      13.92                    195.        56.        19.         8.
                            (INCHES)    .188       .216       .216       .216
                             (AC-FT)     97.       111.       111.       111.

 PEAK STORAGE    TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR      72-HR    166.58-HR
+  (AC-FT)       (HR)
        5.      13.92                     3.         1.         0.         0.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR      72-HR    166.58-HR
+   (FEET)       (HR)
      3.78      13.92                    2.46        .86        .29        .12

                            CUMULATIVE AREA =    9.62 SQ MI
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      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   B22LS1
                       TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     388.     13.92                195.         56.         19.           8.
                         (INCHES)   .188        .216        .216         .216
                          (AC-FT)    97.        111.        111.         111.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       5.      13.92                  3.          1.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     3.78      13.92                2.46         .86         .29          .12

                        CUMULATIVE AREA =    9.62 SQ MI

    -----DSS---ZOPEN:  Existing File Opened,  File: LS224E.DSS
                       Unit:  71;  DSS Version: 6-JG
 -----DSS---ZWRITE Unit  71; Vers.    7:  //B22LS1/FLOW/31DEC1989/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    7:  //B22LS1/FLOW/01JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    7:  //B22LS1/FLOW/02JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    7:  //B22LS1/FLOW/03JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    7:  //B22LS1/FLOW/04JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    7:  //B22LS1/FLOW/05JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    7:  //B22LS1/FLOW/06JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    7:  //B22LS1/FLOW/07JAN1990/5MIN//
      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT   B22LS1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     388.     13.92                195.         56.         19.           8.
                         (INCHES)   .188        .216        .216         .216
                          (AC-FT)    97.        111.        111.         111.

                        CUMULATIVE AREA =    9.62 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 196 KK     *      LS-1  *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

 197 BA          SUBBASIN CHARACTERISTICS
                      TAREA        2.47  SUBBASIN AREA
                       SNAP         .00  NORMAL ANNUAL PRECIPITATION
                      RATIO         .10  RATIO OF HYDROGRAPH

 198 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .24  STARTING LOSS
                        DTH         .19  MOISTURE DEFICIT
                       PSIF        6.60  WETTING FRONT SUCTION
                      XKSAT         .15  HYDRAULIC CONDUCTIVITY
                      RTIMP       15.00  PERCENT IMPERVIOUS AREA

 199 UC          CLARK UNITGRAPH
                         TC         .53  TIME OF CONCENTRATION
                          R         .27  STORAGE COEFFICIENT

 200 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                   ***

                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=   .53 HR,       R=   .27 HR
                                       SNYDER   TP=   .31 HR,      CP=   .60

                                                UNIT HYDROGRAPH
                                           20 END-OF-PERIOD ORDINATES
              290.     1114.     2411.     3058.     2746.     2333.     1875.     1416.     1037.      760.
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557.     408.     299.     219.     160.     117.     86.     63.     46.     34.

***          ***          ***          ***          ***

                HYDROGRAPH AT STATION     LS-1
               TRANSPOSITION AREA        .0 SQ MI

   TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.16, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+    3647.     12.17                466.        128.         43.          18.
                              (INCHES)      1.755       1.932       1.933       1.933
                               (AC-FT)      231.        254.        255.        255.

                              CUMULATIVE AREA =    2.47 SQ MI

                                                HYDROGRAPH MULTIPLIED BY    .10

***          ***          ***          ***          ***

                HYDROGRAPH AT STATION     LS-1
               TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     365.     12.17                 47.         13.          4.           2.
                              (INCHES)       .176        .193        .193        .193
                               (AC-FT)       23.         25.         25.         25.

                              CUMULATIVE AREA =    2.47 SQ MI

***          ***          ***          ***          ***

                HYDROGRAPH AT STATION     LS-1
               TRANSPOSITION AREA     10.0 SQ MI

   TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.07, TOTAL EXCESS =    1.79

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+    3388.     12.17                428.        118.         39.          17.
                              (INCHES)      1.611       1.777       1.778       1.778
                               (AC-FT)      212.        234.        234.        234.

                              CUMULATIVE AREA =    2.47 SQ MI

                                                HYDROGRAPH MULTIPLIED BY    .10

***          ***          ***          ***          ***

                HYDROGRAPH AT STATION     LS-1
               TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     339.     12.17                 43.         12.          4.           2.
                              (INCHES)       .161        .178        .178        .178
                               (AC-FT)       21.         23.         23.         23.

                              CUMULATIVE AREA =    2.47 SQ MI

***          ***          ***          ***          ***

                HYDROGRAPH AT STATION     LS-1
               TRANSPOSITION AREA     30.0 SQ MI

   TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.00, TOTAL EXCESS =    1.69

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+    3216.     12.17                403.        111.         37.          16.
                              (INCHES)      1.517       1.677       1.678       1.678
                               (AC-FT)      200.        221.        221.        221.

                              CUMULATIVE AREA =    2.47 SQ MI

                                                HYDROGRAPH MULTIPLIED BY    .10

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                    HYDROGRAPH AT STATION     LS-1
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     322.      12.17                40.         11.          4.           2.
                        (INCHES)    .152        .168        .168         .168
                         (AC-FT)     20.         22.         22.          22.

                        CUMULATIVE AREA =    2.47 SQ MI

      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-1
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.94, TOTAL EXCESS =    1.59

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3045.      12.17               378.        105.         35.          15.
                        (INCHES)   1.425       1.578       1.579        1.579
                         (AC-FT)    188.        208.        208.         208.

                        CUMULATIVE AREA =    2.47 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY    .10

      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-1
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     304.      12.17                38.         10.          3.           2.
                        (INCHES)    .143        .158        .158         .158
                         (AC-FT)     19.         21.         21.          21.

                        CUMULATIVE AREA =    2.47 SQ MI

      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-1
                  TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.92, TOTAL EXCESS =    1.55

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2985.      12.17               370.        102.         34.          15.
                        (INCHES)   1.393       1.543       1.544        1.544
                         (AC-FT)    183.        203.        203.         203.

                        CUMULATIVE AREA =    2.47 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY    .10

      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-1
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     298.      12.17                37.         10.          3.           1.
                        (INCHES)    .139        .154        .154         .154
                         (AC-FT)     18.         20.         20.          20.

                        CUMULATIVE AREA =    2.47 SQ MI

      ***             ***            ***            ***            ***

                  INTERPOLATED HYDROGRAPH AT     LS-1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

```
                          (CFS)
+     344.     12.17                44.         12.          4.           2.
                        (INCHES)    .164        .181        .181         .181
                         (AC-FT)     22.         24.         24.          24.

                        CUMULATIVE AREA =    2.47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 202 KK     *    RETLS1  *
            *            *
            **************
                                DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                                 - 232 AC DEVELOPMENT WITH RETENTION
                                 - C FACTOR = 0.63
                                 - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                       ISTAD       R1OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX       32.40  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R1OUT
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     365.     12.17                47.         13.          4.           2.
                        (INCHES)    .176        .193        .193         .193
                         (AC-FT)     23.         25.         25.          25.

                        CUMULATIVE AREA =    2.47 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RETLS1
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                 0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                        CUMULATIVE AREA =    2.47 SQ MI

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R1OUT
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     339.     12.17                43.         12.          4.           2.
                        (INCHES)    .161        .178        .178         .178
                         (AC-FT)     21.         23.         23.          23.

                        CUMULATIVE AREA =    2.47 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RETLS1
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                 0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                        CUMULATIVE AREA =    2.47 SQ MI
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      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH    R1OUT
                     TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     322.     12.17                40.         11.          4.           2.
                       (INCHES)    .152        .168        .168         .168
                        (AC-FT)     20.         22.         22.          22.

                       CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   RETLS1
                     TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                       (INCHES)    .000        .000        .000         .000
                        (AC-FT)     0.          0.          0.           0.

                       CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH    R1OUT
                     TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     304.     12.17                38.         10.          3.           2.
                       (INCHES)    .143        .158        .158         .158
                        (AC-FT)     19.         21.         21.          21.

                       CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   RETLS1
                     TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                       (INCHES)    .000        .000        .000         .000
                        (AC-FT)     0.          0.          0.           0.

                       CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH    R1OUT
                     TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     298.     12.17                37.         10.          3.           1.
                       (INCHES)    .139        .154        .154         .154
                        (AC-FT)     18.         20.         20.          20.

                       CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   RETLS1
                     TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                       (INCHES)    .000        .000        .000         .000
                        (AC-FT)     0.          0.          0.           0.
```

```
                    CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***


                INTERPOLATED DIVERSION HYDROGRAPH AT    R1OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     344.     12.17                44.         12.          4.           2.
                          (INCHES)  .164        .181        .181         .181
                           (AC-FT)   22.         24.         24.          24.

                    CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT   RETLS1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+       0.        .00                 0.          0.          0.           0.
                          (INCHES)  .000        .000        .000         .000
                           (AC-FT)    0.          0.          0.           0.

                    CUMULATIVE AREA =    2.47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  210 KK    *     LS1CR  *
            *            *
            **************
                        COMBINE RUNOFF FROM LS-1 WITH ROUTED FLOWS FROM BUCHANAN WASH AT CAP
                        THIS IS THE TOTAL FLOW IN BUCHANAN WASH JUST U/S OF SKUNK CREEK

  213 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

      ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    LS1CR
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     388.     13.92                195.         56.         19.           8.
                          (INCHES)  .150        .172        .172         .172
                           (AC-FT)   97.        111.        111.         111.

                    CUMULATIVE AREA =   12.09 SQ MI

      ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    LS1CR
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     388.     13.92                195.         56.         19.           8.
                          (INCHES)  .150        .172        .172         .172
                           (AC-FT)   97.        111.        111.         111.

                    CUMULATIVE AREA =   12.09 SQ MI

      ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    LS1CR
                     TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     388.     13.92                195.         56.         19.           8.
```

```
                    (INCHES)      .150        .172        .172        .172
                     (AC-FT)       97.        111.        111.        111.

                    CUMULATIVE AREA =   12.09 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    LS1CR
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+    388.      13.92                195.         56.         19.          8.
                    (INCHES)      .150        .172        .172        .172
                     (AC-FT)       97.        111.        111.        111.

                    CUMULATIVE AREA =   12.09 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    LS1CR
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+    388.      13.92                195.         56.         19.          8.
                    (INCHES)      .150        .172        .172        .172
                     (AC-FT)       97.        111.        111.        111.

                    CUMULATIVE AREA =   12.09 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT    LS1CR

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+    388.      13.92                195.         56.         19.          8.
                    (INCHES)      .150        .172        .172        .172
                     (AC-FT)       97.        111.        111.        111.

                    CUMULATIVE AREA =   12.09 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  214 KK    *      LS1C  *
            *            *
            **************
                    COMBINE BUCHANAN WASH WITH ROUTED FLOWS IN SKUNK CREEK FROM I-17.

  216 HC          HYDROGRAPH COMBINATION
                    ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS1C
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+   5722.      13.83                2352.        641.        215.         93.
                    (INCHES)      .286        .312        .314        .315
                     (AC-FT)     1166.       1272.       1278.       1285.

                    CUMULATIVE AREA =   76.41 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS1C
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

```
                    (CFS)
+    5721.     13.83                2343.        639.        214.         93.
                  (INCHES)          .285        .311        .312        .314
                   (AC-FT)         1162.       1267.       1273.       1280.

                  CUMULATIVE AREA =    76.41 SQ MI

     ***            ***             ***          ***          ***

                  HYDROGRAPH AT STATION      LS1C
                TRANSPOSITION AREA      30.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                    (CFS)
+    5721.     13.83                2336.        637.        213.         93.
                  (INCHES)          .284        .310        .312        .313
                   (AC-FT)         1158.       1264.       1269.       1277.

                  CUMULATIVE AREA =    76.41 SQ MI

     ***            ***             ***          ***          ***

                  HYDROGRAPH AT STATION      LS1C
                TRANSPOSITION AREA      60.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                    (CFS)
+    5721.     13.83                2330.        635.        213.         93.
                  (INCHES)          .284        .309        .311        .313
                   (AC-FT)         1155.       1260.       1266.       1274.

                  CUMULATIVE AREA =    76.41 SQ MI

     ***            ***             ***          ***          ***

                  HYDROGRAPH AT STATION      LS1C
                TRANSPOSITION AREA      90.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                    (CFS)
+    5721.     13.83                2328.        635.        213.         92.
                  (INCHES)          .283        .309        .310        .312
                   (AC-FT)         1154.       1259.       1265.       1273.

                  CUMULATIVE AREA =    76.41 SQ MI

     ***            ***             ***          ***          ***


                  INTERPOLATED HYDROGRAPH AT      LS1C

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                    (CFS)
+    5721.     13.83                2329.        635.        213.         92.
                  (INCHES)          .283        .309        .311        .312
                   (AC-FT)         1155.       1260.       1266.       1273.

                  CUMULATIVE AREA =    76.41 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 217 KK     *    LS1LS2  *        ROUTE   REACH
            *            *
            **************
                          ROUTE COMBINED FLOWS FROM CONFLUENCE OF BUCHANAN WASH AND SKUNK CREEK
                          TO PINNACLE PEAK ROAD IN SKUNK CREEK

              HYDROGRAPH ROUTING DATA

 220 RS          STORAGE ROUTING
                      NSTPS          3  NUMBER OF SUBREACHES
                       ITYP       STOR  TYPE OF INITIAL CONDITION
                     RSVRIC      -1.00  INITIAL CONDITION
                          X        .00 WORKING R AND D COEFFICIENT

 221 RC          NORMAL DEPTH CHANNEL
                        ANL       .035  LEFT OVERBANK N-VALUE
```

```
                    ANCH        .035  MAIN CHANNEL N-VALUE
                     ANR        .035  RIGHT OVERBANK N-VALUE
                   RLNTH       9552.  REACH LENGTH
                     SEL      .0063  ENERGY SLOPE
                   ELMAX        15.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                  CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 223 RY      ELEVATION    15.00     15.00     15.00       .00       .00     15.00     15.00     15.00
 222 RX      DISTANCE       .00      8.00     15.00     50.00    320.00    355.00    362.00    370.00

                                                  ***

                                  COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00     47.06     94.76    143.10    192.07    241.68    291.93    342.82    394.35    446.51
          OUTFLOW        .00    616.17   1959.31   3857.45   6241.21   9068.75  12311.25  15947.36  19960.54  24337.59
        ELEVATION        .00       .79      1.58      2.37      3.16      3.95      4.74      5.53      6.32      7.11

          STORAGE     499.31    552.75    606.83    661.54    716.89    772.88    829.51    886.78    944.68   1003.22
          OUTFLOW   29067.71  34141.95  39552.77  45293.77  51359.50  57745.27  64447.01  71461.24  78784.90  86415.35
        ELEVATION       7.89      8.68      9.47     10.26     11.05     11.84     12.63     13.42     14.21     15.00


 *** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN    34142. TO    86415.
                 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION   LS1LS2
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5605.     14.17                2342.        641.        215.          93.
                        (INCHES)     .285        .312        .314         .315
                         (AC-FT)    1161.       1271.       1278.        1285.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       60.     14.17                  31.          9.          3.           1.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      2.95     14.17                 1.55         .46         .15          .07

                       CUMULATIVE AREA =   76.41 SQ MI

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION   LS1LS2
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5605.     14.17                2332.        638.        214.          93.
                        (INCHES)     .284        .311        .312         .314
                         (AC-FT)    1156.       1266.       1273.        1280.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       60.     14.17                  31.          9.          3.           1.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      2.95     14.17                 1.54         .46         .15          .07

                       CUMULATIVE AREA =   76.41 SQ MI

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION   LS1LS2
                     TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5604.     14.17                2326.        637.        213.          93.
                        (INCHES)     .283        .310        .312         .313
                         (AC-FT)    1153.       1263.       1269.        1277.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
```

```
+  (AC-FT)      (HR)
      60.     14.17                    31.          9.          3.           1.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     2.95     14.17                    1.54         .45         .15          .07

                        CUMULATIVE AREA =   76.41 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   LS1LS2
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+    5604.    14.17                 2320.        635.        213.          93.
                            (INCHES)   .282        .309        .311         .313
                             (AC-FT)  1150.       1260.       1266.        1274.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      60.     14.17                    31.          9.          3.           1.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     2.95     14.17                    1.53         .45         .15          .07

                        CUMULATIVE AREA =   76.41 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   LS1LS2
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+    5604.    14.17                 2318.        635.        213.          92.
                            (INCHES)   .282        .309        .310         .312
                             (AC-FT)  1149.       1259.       1265.        1273.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      60.     14.17                    31.          9.          3.           1.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     2.95     14.17                    1.53         .45         .15          .07

                        CUMULATIVE AREA =   76.41 SQ MI

      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT   LS1LS2

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+    5604.    14.17                 2319.        635.        213.          92.
                            (INCHES)   .282        .309        .311         .312
                             (AC-FT)  1150.       1259.       1266.        1273.

                        CUMULATIVE AREA =   76.41 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  224 KK    *     LS-2   *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

  225 BA          SUBBASIN CHARACTERISTICS
                        TAREA         .94  SUBBASIN AREA
                         SNAP         .00  NORMAL ANNUAL PRECIPITATION
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                    RATIO          .10  RATIO OF HYDROGRAPH

226 LG          GREEN AND AMPT LOSS RATE
                    STRTL          .23  STARTING LOSS
                      DTH          .25  MOISTURE DEFICIT
                     PSIF         4.80  WETTING FRONT SUCTION
                    XKSAT          .28  HYDRAULIC CONDUCTIVITY
                    RTIMP         7.00  PERCENT IMPERVIOUS AREA

227 UC          CLARK UNITGRAPH
                       TC         1.00  TIME OF CONCENTRATION
                        R          .77  STORAGE COEFFICIENT

228 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=  1.00 HR,       R=   .77 HR
                                        SNYDER   TP=   .56 HR,      CP=   .43

                                                UNIT HYDROGRAPH
                                          54 END-OF-PERIOD ORDINATES
              16.       61.      126.      225.      367.      461.      473.      466.      452.      432.
             408.      385.      354.      318.      285.      256.      230.      206.      185.      166.
             149.      133.      120.      107.       96.       86.       78.       70.       62.       56.
              50.       45.       40.       36.       33.       29.       26.       24.       21.       19.
              17.       15.       14.       12.       11.       10.        9.        8.        7.        6.
               6.        5.        5.        4.

     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS-2
                     TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.60, TOTAL EXCESS =    1.50

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     608.     12.42                143.         38.         13.          5.
                        (INCHES)    1.410       1.494       1.495       1.495
                         (AC-FT)     71.         75.         75.         75.

                       CUMULATIVE AREA =     .94 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS-2
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      61.     12.42                 14.          4.          1.          1.
                        (INCHES)     .141        .149        .150        .150
                         (AC-FT)      7.          8.          8.          8.

                       CUMULATIVE AREA =     .94 SQ MI

     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS-2
                     TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.48, TOTAL EXCESS =    1.38

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     558.     12.42                131.         35.         12.          5.
                        (INCHES)    1.290       1.368       1.370       1.370
                         (AC-FT)     65.         69.         69.         69.

                       CUMULATIVE AREA =     .94 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS-2
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
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+   (CFS)        (HR)
                          (CFS)
+      56.      12.42                13.          3.          1.          1.
                        (INCHES)     .129        .137        .137        .137
                         (AC-FT)       7.          7.          7.          7.

                        CUMULATIVE AREA =     .94 SQ MI


      ***             ***            ***          ***          ***

                        HYDROGRAPH AT STATION     LS-2
                      TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.40, TOTAL EXCESS =    1.29

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     524.      12.42               123.         33.         11.          5.
                        (INCHES)    1.209       1.283       1.285       1.285
                         (AC-FT)     61.         65.         65.         65.

                        CUMULATIVE AREA =     .94 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY    .10

      ***             ***            ***          ***          ***

                        HYDROGRAPH AT STATION     LS-2
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+      52.      12.42                12.          3.          1.          0.
                        (INCHES)     .121        .128        .128        .128
                         (AC-FT)       6.          6.          6.          6.

                        CUMULATIVE AREA =     .94 SQ MI


      ***             ***            ***          ***          ***

                        HYDROGRAPH AT STATION     LS-2
                      TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.32, TOTAL EXCESS =    1.21

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     490.      12.42               115.         30.         10.          4.
                        (INCHES)    1.127       1.198       1.200       1.200
                         (AC-FT)     57.         60.         60.         60.

                        CUMULATIVE AREA =     .94 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY    .10

      ***             ***            ***          ***          ***

                        HYDROGRAPH AT STATION     LS-2
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+      49.      12.42                11.          3.          1.          0.
                        (INCHES)     .113        .120        .120        .120
                         (AC-FT)       6.          6.          6.          6.

                        CUMULATIVE AREA =     .94 SQ MI


      ***             ***            ***          ***          ***

                        HYDROGRAPH AT STATION     LS-2
                      TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.29, TOTAL EXCESS =    1.18

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     478.      12.42               112.         30.         10.          4.
                        (INCHES)    1.098       1.168       1.170       1.170
                         (AC-FT)     55.         59.         59.         59.
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                    CUMULATIVE AREA =     .94 SQ MI

                                                HYDROGRAPH MULTIPLIED BY   .10

      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-2
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+      48.     12.42                11.          3.          1.          0.
                  (INCHES)       .110        .117        .117        .117
                   (AC-FT)         6.          6.          6.          6.

                    CUMULATIVE AREA =     .94 SQ MI

      ***          ***          ***          ***          ***


                    INTERPOLATED HYDROGRAPH AT     LS-2

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+      58.     12.42                14.          4.          1.          1.
                  (INCHES)       .133        .141        .141        .141
                   (AC-FT)         7.          7.          7.          7.

                    CUMULATIVE AREA =     .94 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  230 KK    *      LS2C  *
            *            *
            **************
                    COMBINE FLOWS IN SKUNK CREEK AT PINNACLE PEAK ROAD

  232 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS2C
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+    5615.      14.17              2353.        645.        216.         94.
                  (INCHES)       .283        .310        .312        .313
                   (AC-FT)      1167.       1279.       1285.       1293.

                    CUMULATIVE AREA =   77.35 SQ MI

      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS2C
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+    5614.      14.17              2343.        642.        215.         93.
                  (INCHES)       .282        .309        .310        .312
                   (AC-FT)      1162.       1273.       1279.       1287.

                    CUMULATIVE AREA =   77.35 SQ MI

      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS2C
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
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                          (CFS)
+    5613.     14.17                  2336.        640.        214.          93.
                         (INCHES)     .281        .308        .309         .311
                          (AC-FT)    1158.       1269.       1276.        1284.

                         CUMULATIVE AREA =   77.35 SQ MI

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     LS2C
                       TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5612.     14.17                  2329.        638.        214.          93.
                         (INCHES)     .280        .307        .308         .310
                          (AC-FT)    1155.       1266.       1272.        1280.

                         CUMULATIVE AREA =   77.35 SQ MI

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     LS2C
                       TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5612.     14.17                  2326.        638.        214.          93.
                         (INCHES)     .280        .307        .308         .310
                          (AC-FT)    1154.       1265.       1271.        1279.

                         CUMULATIVE AREA =   77.35 SQ MI

      ***             ***             ***             ***             ***


                         INTERPOLATED HYDROGRAPH AT     LS2C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5612.     14.17                  2327.        638.        214.          93.
                         (INCHES)     .280        .307        .308         .310
                          (AC-FT)    1154.       1265.       1272.        1279.

                         CUMULATIVE AREA =   77.35 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  233 KK    *     LS-3   *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

  234 BA          SUBBASIN CHARACTERISTICS
                        TAREA          .54  SUBBASIN AREA
                         SNAP          .00  NORMAL ANNUAL PRECIPITATION
                        RATIO          .10  RATIO OF HYDROGRAPH

  235 LG          GREEN AND AMPT LOSS RATE
                        STRTL          .17  STARTING LOSS
                          DTH          .25  MOISTURE DEFICIT
                         PSIF         4.30  WETTING FRONT SUCTION
                        XKSAT          .41  HYDRAULIC CONDUCTIVITY
                        RTIMP        39.00  PERCENT IMPERVIOUS AREA

  236 UC          CLARK UNITGRAPH
                           TC          .41  TIME OF CONCENTRATION
                            R          .22  STORAGE COEFFICIENT

  237 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .41 HR,       R=   .22 HR
                                         SNYDER   TP=   .23 HR,      CP=   .55
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                                                    UNIT HYDROGRAPH
                                                 17 END-OF-PERIOD ORDINATES
          107.     505.     796.     736.     608.     456.     313.     215.     147.     101.
           69.      48.      33.      22.      15.      11.       7.

   ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.79, TOTAL EXCESS =    2.31

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     845.     12.17                  107.         34.         11.          5.
                        (INCHES)    1.840      2.301       2.304       2.304
                         (AC-FT)     53.         67.         67.         67.

                        CUMULATIVE AREA =     .54 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

   ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      85.     12.17                   11.          3.          1.          0.
                        (INCHES)     .184       .230        .230        .230
                         (AC-FT)      5.          7.          7.          7.

                        CUMULATIVE AREA =     .54 SQ MI

   ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA     10.0 SQ MI

   TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.70, TOTAL EXCESS =    2.15

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     784.     12.17                  100.         31.         10.          5.
                        (INCHES)    1.707      2.141       2.143       2.143
                         (AC-FT)     49.         62.         62.         62.

                        CUMULATIVE AREA =     .54 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

   ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      78.     12.17                   10.          3.          1.          0.
                        (INCHES)     .171       .214        .214        .214
                         (AC-FT)      5.          6.          6.          6.

                        CUMULATIVE AREA =     .54 SQ MI

   ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA     30.0 SQ MI

   TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.65, TOTAL EXCESS =    2.04

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     743.     12.17                   95.         30.         10.          4.
                        (INCHES)    1.619      2.034       2.036       2.036
                         (AC-FT)     47.         59.         59.         59.

                        CUMULATIVE AREA =     .54 SQ MI
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                                                    HYDROGRAPH MULTIPLIED BY   .10

      ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-3
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     74.       12.17        9.          3.          1.           0.
                       (INCHES)      .162        .203        .204         .204
                        (AC-FT)        5.          6.          6.           6.

                      CUMULATIVE AREA =     .54 SQ MI


      ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-3
                    TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.59, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    702.       12.17       89.         28.          9.           4.
                       (INCHES)     1.531       1.928       1.930        1.930
                        (AC-FT)       44.         56.         56.          56.

                      CUMULATIVE AREA =     .54 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY   .10

      ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-3
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     70.       12.17        9.          3.          1.           0.
                       (INCHES)      .153        .193        .193         .193
                        (AC-FT)        4.          6.          6.           6.

                      CUMULATIVE AREA =     .54 SQ MI

      ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-3
                    TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.57, TOTAL EXCESS =    1.90

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    688.       12.17       88.         28.          9.           4.
                       (INCHES)     1.500       1.890       1.892        1.892
                        (AC-FT)       43.         55.         55.          55.

                      CUMULATIVE AREA =     .54 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY   .10

      ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-3
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     69.       12.17        9.          3.          1.           0.
                       (INCHES)      .150        .189        .189         .189
                        (AC-FT)        4.          5.          5.           5.

                      CUMULATIVE AREA =     .54 SQ MI

      ***            ***            ***            ***            ***


                      INTERPOLATED HYDROGRAPH AT     LS-3
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      81.     12.17                 10.          3.          1.           0.
                        (INCHES)    .176        .221        .221         .221
                         (AC-FT)      5.          6.          6.           6.

                       CUMULATIVE AREA =     .54 SQ MI


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            *            *
  239 KK    *    LS3LS5  *        ROUTE   REACH
            *            *
            **************
                           ROUTE RUNOFF FROM LS-3 THROUGH LS-5 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK
                           ROAD

              HYDROGRAPH ROUTING DATA

  242 RS          STORAGE ROUTING
                       NSTPS           4  NUMBER OF SUBREACHES
                        ITYP        STOR  TYPE OF INITIAL CONDITION
                       RSVRIC       -1.00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  243 RC          NORMAL DEPTH CHANNEL
                         ANL        .080  LEFT OVERBANK N-VALUE
                        ANCH        .040  MAIN CHANNEL N-VALUE
                         ANR        .080  RIGHT OVERBANK N-VALUE
                       RLNTH       8883.  REACH LENGTH
                         SEL       .0040  ENERGY SLOPE
                       ELMAX         6.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
                           --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  245 RY        ELEVATION      6.00      5.00      4.00       .00       .00      4.00      5.00      6.00
  244 RX        DISTANCE        .00    100.00    200.00    220.00    370.00    390.00    490.00    590.00

                                                                  ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00      9.76     19.73     29.89     40.27     50.84     61.62     72.60     83.78     95.17
            OUTFLOW        .00     51.92    165.40    326.25    528.86    769.95   1047.31   1359.35   1704.87   2082.97
          ELEVATION        .00       .32       .63       .95      1.26      1.58      1.89      2.21      2.53      2.84

            STORAGE     106.76    118.56    130.56    142.97    158.60    178.29    202.05    229.88    261.77    297.73
            OUTFLOW    2492.92   2934.16   3406.25   3923.13   4506.62   5139.55   5829.60   6583.30   7406.53   8304.72
          ELEVATION       3.16      3.47      3.79      4.11      4.42      4.74      5.05      5.37      5.68      6.00


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   LS3LS5
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      21.     14.00                 11.          3.          1.           0.
                        (INCHES)    .181        .229        .230         .230
                         (AC-FT)      5.          7.          7.           7.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.      14.00                  0.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .13      14.00                 .06         .02         .01          .00

                       CUMULATIVE AREA =     .54 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   LS3LS5
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      20.     14.00                 10.          3.          1.           0.
                        (INCHES)    .168        .213        .214         .214
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                          (AC-FT)        5.          6.          6.          6.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.      14.00                     0.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .12      14.00                    .06         .02         .01         .00

                          CUMULATIVE AREA =     .54 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   LS3LS5
                        TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+      19.      14.00                     9.          3.          1.          0.
                                (INCHES)  .159        .202        .204        .204
                                 (AC-FT)     5.          6.          6.          6.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.      14.00                     0.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .11      14.00                    .06         .02         .01         .00

                          CUMULATIVE AREA =     .54 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   LS3LS5
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+      18.      14.00                     9.          3.          1.          0.
                                (INCHES)  .150        .192        .193        .193
                                 (AC-FT)     4.          6.          6.          6.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.      14.00                     0.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .11      14.00                    .05         .02         .01         .00

                          CUMULATIVE AREA =     .54 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   LS3LS5
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+      17.      14.00                     9.          3.          1.          0.
                                (INCHES)  .147        .188        .189        .189
                                 (AC-FT)     4.          5.          5.          5.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.      14.00                     0.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .10      14.00                    .05         .02         .01         .00

                          CUMULATIVE AREA =     .54 SQ MI

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                    INTERPOLATED HYDROGRAPH AT   LS3LS5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     20.      14.00                 10.          3.          1.           0.
                        (INCHES)    .173        .220        .221         .221
                         (AC-FT)     5.          6.          6.           6.

                        CUMULATIVE AREA =     .54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 246 KK     *     LS-4   *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

 247 BA          SUBBASIN CHARACTERISTICS
                       TAREA        1.85  SUBBASIN AREA
                        SNAP         .00  NORMAL ANNUAL PRECIPITATION
                       RATIO         .10  RATIO OF HYDROGRAPH

 248 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .22  STARTING LOSS
                         DTH         .25  MOISTURE DEFICIT
                        PSIF        4.35  WETTING FRONT SUCTION
                       XKSAT         .43  HYDRAULIC CONDUCTIVITY
                       RTIMP       29.00  PERCENT IMPERVIOUS AREA

 249 UC          CLARK UNITGRAPH
                          TC         .50  TIME OF CONCENTRATION
                           R         .28  STORAGE COEFFICIENT

 250 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0
                                                                  ***

                                                     UNIT HYDROGRAPH PARAMETERS
                                              CLARK   TC=   .50 HR,       R=   .28 HR
                                             SNYDER   TP=   .30 HR,      CP=   .58

                                                        UNIT HYDROGRAPH
                                                 21 END-OF-PERIOD ORDINATES
                 228.      932.     1894.     2279.     2025.     1722.     1369.     1016.      750.      554.
                 409.      302.      223.      165.      122.       90.       66.       49.       36.       27.
                  20.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-4
                      TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.10, TOTAL EXCESS =    2.00

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   2462.      12.17                327.         99.         33.          14.
                        (INCHES)   1.645      1.987       1.990        1.990
                         (AC-FT)    162.        196.        196.         196.

                        CUMULATIVE AREA =    1.85 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-4
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    246.      12.17                 33.         10.          3.           1.
                        (INCHES)    .164        .199        .199         .199
                         (AC-FT)     16.         20.         20.          20.

                        CUMULATIVE AREA =    1.85 SQ MI
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      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-4
                      TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.00, TOTAL EXCESS =    1.85

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2270.     12.17                303.         92.         31.          13.
                        (INCHES)    1.519       1.842       1.844        1.844
                         (AC-FT)    150.        182.        182.         182.

                       CUMULATIVE AREA =    1.85 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-4
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     227.     12.17                 30.          9.          3.           1.
                        (INCHES)    .152        .184        .184         .184
                         (AC-FT)    15.         18.         18.          18.

                       CUMULATIVE AREA =    1.85 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-4
                      TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.94, TOTAL EXCESS =    1.75

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2142.     12.17                286.         87.         29.          13.
                        (INCHES)    1.436       1.744       1.746        1.746
                         (AC-FT)    142.        172.        172.         172.

                       CUMULATIVE AREA =    1.85 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-4
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     214.     12.17                 29.          9.          3.           1.
                        (INCHES)    .144        .174        .175         .175
                         (AC-FT)    14.         17.         17.          17.

                       CUMULATIVE AREA =    1.85 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-4
                      TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.87, TOTAL EXCESS =    1.65

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2012.     12.17                269.         82.         27.          12.
                        (INCHES)    1.351       1.646       1.648        1.648
                         (AC-FT)    133.        162.        163.         163.

                       CUMULATIVE AREA =    1.85 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-4
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                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     201.     12.17                27.          8.          3.           1.
                        (INCHES)   .135        .165        .165         .165
                         (AC-FT)    13.         16.         16.          16.

                        CUMULATIVE AREA =    1.85 SQ MI


      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-4
                      TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.85, TOTAL EXCESS =    1.62

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1967.     12.17               263.         80.         27.          12.
                        (INCHES)  1.322      1.612       1.614        1.614
                         (AC-FT)   130.        159.        159.         159.

                        CUMULATIVE AREA =    1.85 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY    .10

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-4
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     197.     12.17                26.          8.          3.           1.
                        (INCHES)   .132        .161        .161         .161
                         (AC-FT)    13.         16.         16.          16.

                        CUMULATIVE AREA =    1.85 SQ MI

      ***             ***            ***            ***            ***


                        INTERPOLATED HYDROGRAPH AT     LS-4

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     232.     12.17                31.          9.          3.           1.
                        (INCHES)   .155        .188        .188         .188
                         (AC-FT)    15.         19.         19.          19.

                        CUMULATIVE AREA =    1.85 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 252 KK     *    RETLS4  *
            *            *
            **************
                          DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                           - 445 AC DEVELOPMENT WITH RETENTION
                           - C FACTOR = 0.63
                           - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                      ISTAD       R4OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       62.20  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00  10000.00

     DQ      DIVERTED FLOW        .00  10000.00

                                                        ***

      ***             ***            ***            ***            ***

                        DIVERSION HYDROGRAPH    R4OUT
                      TRANSPOSITION AREA       .0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     246.     12.17                33.         10.          3.           1.
                              (INCHES)       .164        .199        .199         .199
                               (AC-FT)        16.         20.         20.          20.

                              CUMULATIVE AREA =    1.85 SQ MI


      ***                  ***            ***            ***            ***

                              HYDROGRAPH AT STATION   RETLS4
                             TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+       0.       .00                 0.          0.          0.           0.
                              (INCHES)      .000        .000        .000         .000
                               (AC-FT)         0.          0.          0.           0.

                              CUMULATIVE AREA =    1.85 SQ MI


      ***                  ***            ***            ***            ***

                              DIVERSION HYDROGRAPH    R4OUT
                             TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     227.     12.17                30.          9.          3.           1.
                              (INCHES)       .152        .184        .184         .184
                               (AC-FT)        15.         18.         18.          18.

                              CUMULATIVE AREA =    1.85 SQ MI


      ***                  ***            ***            ***            ***

                              HYDROGRAPH AT STATION   RETLS4
                             TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+       0.       .00                 0.          0.          0.           0.
                              (INCHES)      .000        .000        .000         .000
                               (AC-FT)         0.          0.          0.           0.

                              CUMULATIVE AREA =    1.85 SQ MI


      ***                  ***            ***            ***            ***

                              DIVERSION HYDROGRAPH    R4OUT
                             TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     214.     12.17                29.          9.          3.           1.
                              (INCHES)       .144        .174        .175         .175
                               (AC-FT)        14.         17.         17.          17.

                              CUMULATIVE AREA =    1.85 SQ MI


      ***                  ***            ***            ***            ***

                              HYDROGRAPH AT STATION   RETLS4
                             TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+       0.       .00                 0.          0.          0.           0.
                              (INCHES)      .000        .000        .000         .000
                               (AC-FT)         0.          0.          0.           0.

                              CUMULATIVE AREA =    1.85 SQ MI


      ***                  ***            ***            ***            ***

                              DIVERSION HYDROGRAPH    R4OUT
                             TRANSPOSITION AREA     60.0 SQ MI
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  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     201.       12.17                 27.           8.           3.           1.
                                (INCHES)          .135         .165         .165         .165
                                 (AC-FT)           13.          16.          16.          16.

                                CUMULATIVE AREA =    1.85 SQ MI

      ***                     ***          ***          ***          ***

                                HYDROGRAPH AT STATION   RETLS4
                               TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+       0.         .00                  0.           0.           0.           0.
                                (INCHES)          .000         .000         .000         .000
                                 (AC-FT)            0.           0.           0.           0.

                                CUMULATIVE AREA =    1.85 SQ MI

      ***                     ***          ***          ***          ***

                                DIVERSION HYDROGRAPH    R4OUT
                               TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     197.       12.17                 26.           8.           3.           1.
                                (INCHES)          .132         .161         .161         .161
                                 (AC-FT)           13.          16.          16.          16.

                                CUMULATIVE AREA =    1.85 SQ MI

      ***                     ***          ***          ***          ***

                                HYDROGRAPH AT STATION   RETLS4
                               TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+       0.         .00                  0.           0.           0.           0.
                                (INCHES)          .000         .000         .000         .000
                                 (AC-FT)            0.           0.           0.           0.

                                CUMULATIVE AREA =    1.85 SQ MI

      ***                     ***          ***          ***          ***

                          INTERPOLATED DIVERSION HYDROGRAPH AT    R4OUT

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     232.       12.17                 31.           9.           3.           1.
                                (INCHES)          .155         .188         .188         .188
                                 (AC-FT)           15.          19.          19.          19.

                                CUMULATIVE AREA =    1.85 SQ MI

      ***                     ***          ***          ***          ***

                               INTERPOLATED HYDROGRAPH AT   RETLS4

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+       0.         .00                  0.           0.           0.           0.
                                (INCHES)          .000         .000         .000         .000
                                 (AC-FT)            0.           0.           0.           0.

                                CUMULATIVE AREA =    1.85 SQ MI

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                *            *
260 KK          *   LS4LS5   *        ROUTE   REACH
                *            *
                **************
                                ROUTE RUNOFF FROM LS-4 THROUGH LS-5 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK
                                ROAD

                HYDROGRAPH ROUTING DATA

263 RS            STORAGE ROUTING
                       NSTPS            4  NUMBER OF SUBREACHES
                        ITYP         STOR  TYPE OF INITIAL CONDITION
                      RSVRIC        -1.00  INITIAL CONDITION
                           X          .00 WORKING R AND D COEFFICIENT

264 RC            NORMAL DEPTH CHANNEL
                         ANL         .080  LEFT OVERBANK N-VALUE
                        ANCH         .040  MAIN CHANNEL N-VALUE
                         ANR         .080  RIGHT OVERBANK N-VALUE
                       RLNTH        6160.  REACH LENGTH
                         SEL        .0040  ENERGY SLOPE
                       ELMAX          6.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
                                --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
266 RY        ELEVATION      6.00      5.00      4.00       .00       .00      4.00      5.00      6.00
265 RX        DISTANCE        .00    100.00    200.00    220.00    370.00    390.00    490.00    590.00

                                                                  ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      6.77     13.68     20.73     27.92     35.26     42.73     50.35     58.10     66.00
          OUTFLOW        .00     51.92    165.40    326.25    528.86    769.95   1047.31   1359.35   1704.87   2082.97
        ELEVATION        .00       .32       .63       .95      1.26      1.58      1.89      2.21      2.53      2.84

          STORAGE      74.04     82.22     90.54     99.15    109.98    123.64    140.11    159.41    181.53    206.46
          OUTFLOW    2492.92   2934.16   3406.25   3923.13   4506.62   5139.55   5829.60   6583.30   7406.53   8304.72
        ELEVATION       3.16      3.47      3.79      4.11      4.42      4.74      5.05      5.37      5.68      6.00

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   LS4LS5
                    TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+       0.        .00                  0.           0.           0.           0.
                                  (INCHES)       .000         .000         .000         .000
                                   (AC-FT)         0.           0.           0.           0.

 PEAK STORAGE    TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)       (HR)
       0.        .00                   0.           0.           0.           0.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR     166.58-HR
+   (FEET)       (HR)
      .00      14.00                   .00          .00          .00          .00

                      CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   LS4LS5
                    TRANSPOSITION AREA      10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+       0.        .00                  0.           0.           0.           0.
                                  (INCHES)       .000         .000         .000         .000
                                   (AC-FT)         0.           0.           0.           0.

 PEAK STORAGE    TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)       (HR)
       0.        .00                   0.           0.           0.           0.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR     166.58-HR
+   (FEET)       (HR)
      .00      14.00                   .00          .00          .00          .00

                      CUMULATIVE AREA =    1.85 SQ MI
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      ***            ***            ***            ***            ***

                  HYDROGRAPH AT STATION   LS4LS5
                TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+       0.       .00                 0.          0.          0.           0.
                          (INCHES)  .000        .000        .000         .000
                           (AC-FT)    0.          0.          0.           0.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.       .00                  0.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .00     13.25                  .00         .00         .00          .00

                  CUMULATIVE AREA =    1.85 SQ MI

      ***            ***            ***            ***            ***

                  HYDROGRAPH AT STATION   LS4LS5
                TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+       0.       .00                 0.          0.          0.           0.
                          (INCHES)  .000        .000        .000         .000
                           (AC-FT)    0.          0.          0.           0.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.       .00                  0.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .00     13.58                  .00         .00         .00          .00

                  CUMULATIVE AREA =    1.85 SQ MI

      ***            ***            ***            ***            ***

                  HYDROGRAPH AT STATION   LS4LS5
                TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+       0.       .00                 0.          0.          0.           0.
                          (INCHES)  .000        .000        .000         .000
                           (AC-FT)    0.          0.          0.           0.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.       .00                  0.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .00     13.42                  .00         .00         .00          .00

                  CUMULATIVE AREA =    1.85 SQ MI

      ***            ***            ***            ***            ***


                  INTERPOLATED HYDROGRAPH AT   LS4LS5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+       0.       .00                 0.          0.          0.           0.
                          (INCHES)  .000        .000        .000         .000
                           (AC-FT)    0.          0.          0.           0.

                  CUMULATIVE AREA =    1.85 SQ MI
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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            *            *
267 KK      *      LS-5  *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

268 BA           SUBBASIN CHARACTERISTICS
                      TAREA        1.28  SUBBASIN AREA
                       SNAP         .00  NORMAL ANNUAL PRECIPITATION
                      RATIO         .10  RATIO OF HYDROGRAPH

269 LG           GREEN AND AMPT LOSS RATE
                      STRTL         .28  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        4.90  WETTING FRONT SUCTION
                      XKSAT         .33  HYDRAULIC CONDUCTIVITY
                      RTIMP       22.00  PERCENT IMPERVIOUS AREA

270 UC           CLARK UNITGRAPH
                         TC         .97  TIME OF CONCENTRATION
                          R         .58  STORAGE COEFFICIENT

271 UA           ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .97 HR,       R=   .58 HR
                                         SNYDER   TP=   .50 HR,      CP=   .48

                                                    UNIT HYDROGRAPH
                                              42 END-OF-PERIOD ORDINATES
                29.      111.      229.      417.      658.      786.      784.      753.      710.      658.
               605.      552.      488.      422.      365.      316.      273.      237.      205.      177.
               153.      133.      115.       99.       86.       74.       64.       56.       48.       42.
                36.       31.       27.       23.       20.       17.       15.       13.       11.       10.
                 8.        7.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                       TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.24, TOTAL EXCESS =    1.86

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+    1008.     12.42                 218.         63.         21.          9.
                                 (INCHES)       1.583       1.843       1.847       1.847
                                  (AC-FT)        108.        126.        126.        126.

                        CUMULATIVE AREA =    1.28 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY    .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                       TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+     101.      12.42                  22.          6.          2.          1.
                                 (INCHES)        .158        .184        .185        .185
                                  (AC-FT)          11.         13.         13.         13.

                        CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                       TRANSPOSITION AREA      10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.15, TOTAL EXCESS =    1.71

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                    (CFS)
+     925.      12.42                 200.         58.         19.          8.
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                    (INCHES)      1.452       1.696       1.700       1.700
                     (AC-FT)       99.        116.        116.        116.

                    CUMULATIVE AREA =    1.28 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY   .10

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION     LS-5
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+      92.     12.42                20.          6.          2.          1.
                    (INCHES)      .145        .170        .170        .170
                     (AC-FT)       10.         12.         12.         12.

                    CUMULATIVE AREA =    1.28 SQ MI


      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION     LS-5
                    TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.08, TOTAL EXCESS =    1.61

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+     870.     12.42               188.         55.         18.          8.
                    (INCHES)     1.366       1.600       1.603       1.603
                     (AC-FT)       93.        109.        109.        109.

                    CUMULATIVE AREA =    1.28 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY   .10

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION     LS-5
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+      87.     12.42                19.          6.          2.          1.
                    (INCHES)      .137        .160        .160        .160
                     (AC-FT)        9.         11.         11.         11.

                    CUMULATIVE AREA =    1.28 SQ MI


      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION     LS-5
                    TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.01, TOTAL EXCESS =    1.52

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+     817.     12.42               177.         52.         17.          7.
                    (INCHES)     1.284       1.508       1.511       1.511
                     (AC-FT)       88.        103.        103.        103.

                    CUMULATIVE AREA =    1.28 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY   .10

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION     LS-5
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+      82.     12.42                18.          5.          2.          1.
                    (INCHES)      .128        .151        .151        .151
                     (AC-FT)        9.         10.         10.         10.

                    CUMULATIVE AREA =    1.28 SQ MI
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      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.98, TOTAL EXCESS =    1.49

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     798.     12.42                173.         51.         17.           7.
                        (INCHES)   1.256      1.476       1.479       1.479
                         (AC-FT)     86.        101.        101.        101.

                       CUMULATIVE AREA =    1.28 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY    .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      80.     12.42                 17.          5.          2.           1.
                        (INCHES)    .126        .148        .148        .148
                         (AC-FT)      9.         10.         10.         10.

                       CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***


                       INTERPOLATED HYDROGRAPH AT     LS-5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      95.     12.42                 21.          6.          2.           1.
                        (INCHES)    .149        .174        .174        .174
                         (AC-FT)     10.         12.         12.         12.

                       CUMULATIVE AREA =    1.28 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  273 KK    *    RETLS5  *
            *            *
            **************
                            DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                             - 72.5 AC DEVELOPMENT WITH RETENTION
                             - C FACTOR = 0.63
                             - 100-YR 2-HR RAIN = 2.66"

      DT          DIVERSION
                       ISTAD       R5OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX       10.10  MAXIMUM VOLUME TO BE DIVERTED

      DI             INFLOW         .00  10000.00

      DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R5OUT
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     101.     12.42                 19.          5.          2.           1.
                        (INCHES)    .140        .148        .148        .148
                         (AC-FT)     10.         10.         10.         10.

                       CUMULATIVE AREA =    1.28 SQ MI

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                    HYDROGRAPH AT STATION   RETLS5
                  TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                 (CFS)
+      24.      13.58                4.          1.          0.          0.
                            (INCHES)       .030        .037        .037        .037
                             (AC-FT)         2.          3.          3.          3.

                            CUMULATIVE AREA =    1.28 SQ MI

      ***                 ***          ***          ***          ***

                    DIVERSION HYDROGRAPH    R5OUT
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                 (CFS)
+      92.      12.42               19.          5.          2.          1.
                            (INCHES)       .139        .148        .148        .148
                             (AC-FT)         9.         10.         10.         10.

                            CUMULATIVE AREA =    1.28 SQ MI

      ***                 ***          ***          ***          ***

                    HYDROGRAPH AT STATION   RETLS5
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                 (CFS)
+       9.      14.25                2.          1.          0.          0.
                            (INCHES)       .017        .022        .022        .022
                             (AC-FT)         1.          2.          2.          2.

                            CUMULATIVE AREA =    1.28 SQ MI

      ***                 ***          ***          ***          ***

                    DIVERSION HYDROGRAPH    R5OUT
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                 (CFS)
+      87.      12.42               19.          5.          2.          1.
                            (INCHES)       .137        .148        .148        .148
                             (AC-FT)         9.         10.         10.         10.

                            CUMULATIVE AREA =    1.28 SQ MI

      ***                 ***          ***          ***          ***

                    HYDROGRAPH AT STATION   RETLS5
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                 (CFS)
+       2.      15.75                1.          0.          0.          0.
                            (INCHES)       .009        .012        .012        .012
                             (AC-FT)         1.          1.          1.          1.

                            CUMULATIVE AREA =    1.28 SQ MI

      ***                 ***          ***          ***          ***

                    DIVERSION HYDROGRAPH    R5OUT
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                 (CFS)
+      82.      12.42               18.          5.          2.          1.
                            (INCHES)       .128        .148        .148        .148
                             (AC-FT)         9.         10.         10.         10.

                            CUMULATIVE AREA =    1.28 SQ MI
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      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RETLS5
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       1.     21.58                 0.          0.          0.           0.
                        (INCHES)   .003        .003        .003         .003
                         (AC-FT)     0.          0.          0.           0.

                        CUMULATIVE AREA =    1.28 SQ MI


      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R5OUT
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      80.     12.42                17.          5.          2.           1.
                        (INCHES)   .126        .148        .148         .148
                         (AC-FT)     9.         10.         10.          10.

                        CUMULATIVE AREA =    1.28 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RETLS5
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                        (INCHES)   .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

                        CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***


                  INTERPOLATED DIVERSION HYDROGRAPH AT    R5OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      95.     12.42                19.          5.          2.           1.
                        (INCHES)   .139        .148        .148         .148
                         (AC-FT)     9.         10.         10.          10.

                        CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT   RETLS5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       9.     14.25                 3.          1.          0.           0.
                        (INCHES)   .020        .026        .026         .026
                         (AC-FT)     1.          2.          2.           2.

                        CUMULATIVE AREA =    1.28 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  281 KK    *     LS5C   *
            *            *
            **************
                          COMBINE ROUTED FLOWS FROM LS3 AND LS4 WITH RUNOFF FROM LS5 AT ADOBE POOL
                          AT PINNACLE PEAK ROAD

  284 HC          HYDROGRAPH COMBINATION
                       ICOMP          3  NUMBER OF HYDROGRAPHS TO COMBINE
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      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION     LS5C
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      44.     13.58                14.          5.          2.           1.
                        (INCHES)     .037        .047        .047         .047
                         (AC-FT)       7.          9.          9.           9.

                       CUMULATIVE AREA =    3.67 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION     LS5C
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      28.     14.25                12.          4.          1.           1.
                        (INCHES)     .030        .039        .039         .039
                         (AC-FT)       6.          8.          8.           8.

                       CUMULATIVE AREA =    3.67 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION     LS5C
                     TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      19.     14.00                10.          3.          1.           0.
                        (INCHES)     .025        .034        .034         .034
                         (AC-FT)       5.          7.          7.           7.

                       CUMULATIVE AREA =    3.67 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION     LS5C
                     TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      18.     14.00                 9.          3.          1.           0.
                        (INCHES)     .022        .029        .030         .030
                         (AC-FT)       4.          6.          6.           6.

                       CUMULATIVE AREA =    3.67 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION     LS5C
                     TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      17.     14.00                 9.          3.          1.           0.
                        (INCHES)     .022        .028        .028         .028
                         (AC-FT)       4.          5.          5.           5.

                       CUMULATIVE AREA =    3.67 SQ MI

      ***            ***            ***            ***            ***


                     INTERPOLATED HYDROGRAPH AT     LS5C

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      29.     14.25                12.          4.          1.           1.
                        (INCHES)     .031        .040        .040         .040
                         (AC-FT)       6.          8.          8.           8.
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                    CUMULATIVE AREA =    3.67 SQ MI

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          *            *
285 KK    *     LS-6   *        BASIN
          *            *
          **************

            SUBBASIN RUNOFF DATA

286 BA        SUBBASIN CHARACTERISTICS
                    TAREA          .79  SUBBASIN AREA
                     SNAP          .00  NORMAL ANNUAL PRECIPITATION
                    RATIO          .10  RATIO OF HYDROGRAPH

287 LG        GREEN AND AMPT LOSS RATE
                    STRTL          .26  STARTING LOSS
                      DTH          .25  MOISTURE DEFICIT
                     PSIF         4.50  WETTING FRONT SUCTION
                    XKSAT          .38  HYDRAULIC CONDUCTIVITY
                    RTIMP        26.00  PERCENT IMPERVIOUS AREA

288 UC        CLARK UNITGRAPH
                       TC         1.13  TIME OF CONCENTRATION
                        R          .99  STORAGE COEFFICIENT

289 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0      5.0     16.0     30.0     65.0     77.0     84.0     90.0     94.0     97.0
                  100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.13 HR,       R=   .99 HR
                                  SNYDER   TP=   .67 HR,      CP=   .41

                                          UNIT HYDROGRAPH
                                   69 END-OF-PERIOD ORDINATES
              9.      34.      70.     112.     191.     277.     313.     321.     319.     313.
            304.     292.     279.     265.     246.     226.     208.     191.     175.     161.
            148.     136.     125.     115.     106.      97.      89.      82.      75.      69.
             64.      58.      54.      49.      45.      42.      38.      35.      32.      30.
             27.      25.      23.      21.      19.      18.      16.      15.      14.      13.
             12.      11.      10.       9.       8.       8.       7.       6.       6.       5.
              5.       5.       4.       4.       4.       3.       3.       3.       3.

     ***            ***            ***            ***            ***

                   HYDROGRAPH AT STATION     LS-6
                 TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.16, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     432.     12.50                137.         41.         14.           6.
                        (INCHES)   1.604      1.921       1.929       1.929
                         (AC-FT)     68.         81.         81.         81.

                   CUMULATIVE AREA =     .79 SQ MI

                                          HYDROGRAPH MULTIPLIED BY   .10

     ***            ***            ***            ***            ***

                   HYDROGRAPH AT STATION     LS-6
                 TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      43.     12.50                 14.          4.          1.           1.
                        (INCHES)    .160       .192       .193        .193
                         (AC-FT)      7.          8.          8.          8.

                   CUMULATIVE AREA =     .79 SQ MI

     ***            ***            ***            ***            ***

                   HYDROGRAPH AT STATION     LS-6
                 TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.06, TOTAL EXCESS =    1.79
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     397.     12.50                 126.         38.         13.           5.
                          (INCHES)  1.477       1.775       1.782        1.782
                           (AC-FT)   62.         75.         75.          75.

                          CUMULATIVE AREA =     .79 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-6
                         TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      40.     12.50                  13.          4.          1.           1.
                          (INCHES)  .148        .177        .178         .178
                           (AC-FT)    6.          7.          8.           8.

                          CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-6
                         TRANSPOSITION AREA     30.0 SQ MI

     TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.99, TOTAL EXCESS =    1.70

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     375.     12.50                 119.         36.         12.           5.
                          (INCHES)  1.395       1.680       1.687        1.687
                           (AC-FT)   59.         71.         71.          71.

                          CUMULATIVE AREA =     .79 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-6
                         TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      37.     12.50                  12.          4.          1.           1.
                          (INCHES)  .139        .168        .169         .169
                           (AC-FT)    6.          7.          7.           7.

                          CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-6
                         TRANSPOSITION AREA     60.0 SQ MI

     TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.93, TOTAL EXCESS =    1.60

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     352.     12.50                 112.         34.         11.           5.
                          (INCHES)  1.312       1.585       1.592        1.592
                           (AC-FT)   55.         67.         67.          67.

                          CUMULATIVE AREA =     .79 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-6
                         TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
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+      35.     12.50                    11.          3.          1.          0.
                          (INCHES)     .131        .159        .159        .159
                           (AC-FT)      6.          7.          7.          7.

                          CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-6
                         TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.90, TOTAL EXCESS =    1.57

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+      344.     12.50                   109.         33.         11.          5.
                          (INCHES)    1.283       1.552       1.558       1.558
                           (AC-FT)      54.         66.         66.         66.

                          CUMULATIVE AREA =     .79 SQ MI

                                                HYDROGRAPH MULTIPLIED BY    .10

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-6
                         TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+       34.     12.50                    11.          3.          1.          0.
                          (INCHES)     .128        .155        .156        .156
                           (AC-FT)       5.          7.          7.          7.

                          CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***

                          INTERPOLATED HYDROGRAPH AT     LS-6

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+       41.     12.50                    13.          4.          1.          1.
                          (INCHES)     .152        .183        .184        .184
                           (AC-FT)       6.          8.          8.          8.

                          CUMULATIVE AREA =     .79 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  291 KK    *     LS-7   *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

  292 BA          SUBBASIN CHARACTERISTICS
                        TAREA          .60  SUBBASIN AREA
                         SNAP          .00  NORMAL ANNUAL PRECIPITATION
                        RATIO          .10  RATIO OF HYDROGRAPH

  293 LG          GREEN AND AMPT LOSS RATE
                        STRTL          .32  STARTING LOSS
                          DTH          .25  MOISTURE DEFICIT
                         PSIF         4.50  WETTING FRONT SUCTION
                        XKSAT          .39  HYDRAULIC CONDUCTIVITY
                        RTIMP         7.00  PERCENT IMPERVIOUS AREA

  294 UC          CLARK UNITGRAPH
                           TC          .96  TIME OF CONCENTRATION
                            R         1.04  STORAGE COEFFICIENT

  295 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                          .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                       100.0
                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
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                                        CLARK   TC=   .96 HR,       R=  1.04 HR
                                       SNYDER   TP=   .61 HR,      CP=   .38

                                                UNIT HYDROGRAPH
                                            71 END-OF-PERIOD ORDINATES
              8.      30.      64.     118.     188.     231.     241.     242.     239.     232.
            224.     214.     200.     185.     170.     157.     145.     134.     124.     114.
            105.      97.      90.      83.      76.      70.      65.      60.      55.      51.
             47.      43.      40.      37.      34.      32.      29.      27.      25.      23.
             21.      19.      18.      17.      15.      14.      13.      12.      11.      10.
              9.       9.       8.       7.       7.       6.       6.       5.       5.       5.
              4.       4.       4.       3.       3.       3.       3.       2.       2.       2.
              2.

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-7
                    TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.74, TOTAL EXCESS =    1.36

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     287.     12.50                  81.         22.          7.          3.
                        (INCHES)    1.262      1.351       1.353       1.353
                         (AC-FT)     40.         43.         43.         43.

                       CUMULATIVE AREA =     .60 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-7
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      29.     12.50                   8.          2.          1.          0.
                        (INCHES)     .126       .135        .135        .135
                         (AC-FT)      4.          4.          4.          4.

                       CUMULATIVE AREA =     .60 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-7
                    TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.61, TOTAL EXCESS =    1.24

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     261.     12.50                  74.         20.          7.          3.
                        (INCHES)    1.149      1.233       1.235       1.235
                         (AC-FT)     37.         39.         39.         39.

                       CUMULATIVE AREA =     .60 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-7
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      26.     12.50                   7.          2.          1.          0.
                        (INCHES)     .115       .123        .123        .123
                         (AC-FT)      4.          4.          4.          4.

                       CUMULATIVE AREA =     .60 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-7
                    TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.53, TOTAL EXCESS =    1.16

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
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+   (CFS)        (HR)
                          (CFS)
+     244.      12.50                  69.          19.          6.           3.
                        (INCHES)     1.075        1.154        1.156        1.156
                         (AC-FT)      34.          37.          37.          37.

                        CUMULATIVE AREA =     .60 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-7
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+      24.      12.50                   7.           2.           1.           0.
                        (INCHES)      .107         .115         .116         .116
                         (AC-FT)       3.           4.           4.           4.

                        CUMULATIVE AREA =     .60 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-7
                      TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.44, TOTAL EXCESS =    1.08

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     227.      12.50                  64.          17.          6.           2.
                        (INCHES)      .999        1.075        1.077        1.077
                         (AC-FT)      32.          34.          34.          34.

                        CUMULATIVE AREA =     .60 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-7
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+      23.      12.50                   6.           2.           1.           0.
                        (INCHES)      .100         .108         .108         .108
                         (AC-FT)       3.           3.           3.           3.

                        CUMULATIVE AREA =     .60 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-7
                      TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.41, TOTAL EXCESS =    1.05

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     221.      12.50                  62.          17.          6.           2.
                        (INCHES)      .973        1.048        1.049        1.049
                         (AC-FT)      31.          33.          33.          33.

                        CUMULATIVE AREA =     .60 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-7
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+      22.      12.50                   6.           2.           1.           0.
                        (INCHES)      .097         .105         .105         .105
                         (AC-FT)       3.           3.           3.           3.
```

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                    CUMULATIVE AREA =     .60 SQ MI
     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS-7

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      27.     12.50                 8.          2.          1.           0.
                       (INCHES)    .120        .128        .128         .128
                        (AC-FT)      4.          4.          4.           4.

                    CUMULATIVE AREA =     .60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 297 KK     *      LS7C  *
            *            *
            **************
                    COMBINE RUNOFF FROM LS6 AND LS7 AT ADOBE POOL

 299 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***
     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS7C
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      72.     12.50                22.          6.          2.           1.
                       (INCHES)    .146        .168        .168         .168
                        (AC-FT)     11.         12.         12.          12.

                    CUMULATIVE AREA =    1.39 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS7C
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      66.     12.50                20.          6.          2.           1.
                       (INCHES)    .134        .154        .155         .155
                        (AC-FT)     10.         11.         11.          11.

                    CUMULATIVE AREA =    1.39 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS7C
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      62.     12.50                19.          5.          2.           1.
                       (INCHES)    .126        .145        .146         .146
                        (AC-FT)      9.         11.         11.          11.

                    CUMULATIVE AREA =    1.39 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS7C
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      58.     12.50                18.          5.          2.           1.
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                    (INCHES)      .118        .137        .137        .137
                     (AC-FT)        9.         10.         10.         10.

                    CUMULATIVE AREA =    1.39 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS7C
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      56.     12.50                 17.          5.          2.           1.
                    (INCHES)      .115        .134        .134        .134
                     (AC-FT)        9.         10.         10.         10.

                    CUMULATIVE AREA =    1.39 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS7C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      68.     12.50                 20.          6.          2.           1.
                    (INCHES)      .137        .158        .159        .159
                     (AC-FT)       10.         12.         12.         12.

                    CUMULATIVE AREA =    1.39 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 300 KK     *      LS-8  *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

 301 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .57  SUBBASIN AREA
                       SNAP         .00  NORMAL ANNUAL PRECIPITATION
                      RATIO         .10  RATIO OF HYDROGRAPH

 302 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .25  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        5.10  WETTING FRONT SUCTION
                      XKSAT         .31  HYDRAULIC CONDUCTIVITY
                      RTIMP       33.00  PERCENT IMPERVIOUS AREA

 303 UC          CLARK UNITGRAPH
                         TC         .67  TIME OF CONCENTRATION
                          R         .44  STORAGE COEFFICIENT

 304 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                  ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=   .67 HR,       R=   .44 HR
                                        SNYDER   TP=   .39 HR,      CP=   .50

                                                UNIT HYDROGRAPH
                                           32 END-OF-PERIOD ORDINATES
                 29.      112.      275.      434.      473.      448.      411.      370.      321.      265.
                219.      181.      149.      123.      101.       84.       69.       57.       47.       39.
                 32.       26.       22.       18.       15.       12.       10.        8.        7.        6.
                  5.        4.

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-8
                    TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.91, TOTAL EXCESS =    2.19

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
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+     600.     12.25                    109.         33.         11.          5.
                          (INCHES)     1.786       2.176       2.180       2.180
                           (AC-FT)      54.         66.         66.         66.

                          CUMULATIVE AREA =     .57 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY    .10

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-8
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+      60.     12.25                     11.          3.          1.          0.
                          (INCHES)      .179        .218        .218        .218
                           (AC-FT)       5.          7.          7.          7.

                          CUMULATIVE AREA =     .57 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-8
                        TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.83, TOTAL EXCESS =    2.03

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     555.     12.25                    101.         31.         10.          4.
                          (INCHES)     1.649       2.015       2.019       2.019
                           (AC-FT)      50.         61.         61.         61.

                          CUMULATIVE AREA =     .57 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY    .10

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-8
                        TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+      55.     12.25                     10.          3.          1.          0.
                          (INCHES)      .165        .202        .202        .202
                           (AC-FT)       5.          6.          6.          6.

                          CUMULATIVE AREA =     .57 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-8
                        TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.77, TOTAL EXCESS =    1.92

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     524.     12.25                     95.         29.         10.          4.
                          (INCHES)     1.557       1.908       1.912       1.912
                           (AC-FT)      47.         58.         58.         58.

                          CUMULATIVE AREA =     .57 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY    .10

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-8
                        TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+      52.     12.25                      9.          3.          1.          0.
                          (INCHES)      .156        .191        .191        .191
                           (AC-FT)       5.          6.          6.          6.

                          CUMULATIVE AREA =     .57 SQ MI
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      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-8
                      TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.71, TOTAL EXCESS =    1.81

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     494.     12.25                 90.         27.          9.           4.
                        (INCHES)    1.468       1.803       1.807        1.807
                         (AC-FT)     44.         55.         55.          55.

                       CUMULATIVE AREA =     .57 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-8
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      49.     12.25                  9.          3.          1.           0.
                        (INCHES)     .147        .180        .181         .181
                         (AC-FT)      4.          5.          5.           5.

                       CUMULATIVE AREA =     .57 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-8
                      TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.69, TOTAL EXCESS =    1.78

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     483.     12.25                 88.         27.          9.           4.
                        (INCHES)    1.439       1.768       1.772        1.772
                         (AC-FT)     44.         53.         54.          54.

                       CUMULATIVE AREA =     .57 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-8
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      48.     12.25                  9.          3.          1.           0.
                        (INCHES)     .144        .177        .177         .177
                         (AC-FT)      4.          5.          5.           5.

                       CUMULATIVE AREA =     .57 SQ MI

      ***             ***             ***             ***             ***


                       INTERPOLATED HYDROGRAPH AT     LS-8

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      57.     12.25                 10.          3.          1.           0.
                        (INCHES)     .171        .208        .209         .209
                         (AC-FT)      5.          6.          6.           6.

                       CUMULATIVE AREA =     .57 SQ MI


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                *            *
306 KK          *     LS-9   *        BASIN
                *            *
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                   SUBBASIN RUNOFF DATA

307 BA             SUBBASIN CHARACTERISTICS
                        TAREA          .45  SUBBASIN AREA
                         SNAP          .00  NORMAL ANNUAL PRECIPITATION
                        RATIO          .10  RATIO OF HYDROGRAPH

308 LG             GREEN AND AMPT LOSS RATE
                        STRTL          .20  STARTING LOSS
                          DTH          .25  MOISTURE DEFICIT
                         PSIF         5.20  WETTING FRONT SUCTION
                        XKSAT          .24  HYDRAULIC CONDUCTIVITY
                        RTIMP         9.00  PERCENT IMPERVIOUS AREA

309 UC             CLARK UNITGRAPH
                           TC         1.02  TIME OF CONCENTRATION
                            R          .96  STORAGE COEFFICIENT

310 UA             ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                                  ***

                                                        UNIT HYDROGRAPH PARAMETERS
                                                 CLARK   TC=  1.02 HR,       R=   .96 HR
                                                SNYDER   TP=   .61 HR,      CP=   .39

                                                          UNIT HYDROGRAPH
                                                        67 END-OF-PERIOD ORDINATES
                     6.       23.       47.       82.      139.      181.      189.      190.      188.      183.
                   176.      168.      159.      147.      135.      123.      113.      104.       95.       87.
                    80.       73.       67.       61.       56.       52.       47.       43.       40.       36.
                    33.       31.       28.       26.       24.       22.       20.       18.       17.       15.
                    14.       13.       12.       11.       10.        9.        8.        8.        7.        6.
                     6.        5.        5.        5.        4.        4.        3.        3.        3.        3.
                     2.        2.        2.        2.        2.        2.        1.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-9
                       TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.50, TOTAL EXCESS =    1.60

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     259.     12.50                  72.         19.          6.           3.
                       (INCHES)     1.480       1.592       1.594        1.594
                        (AC-FT)      36.         38.         38.          38.

                       CUMULATIVE AREA =     .45 SQ MI


                                                        HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-9
                       TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      26.     12.50                   7.          2.          1.           0.
                       (INCHES)      .148        .159        .159         .159
                        (AC-FT)       4.          4.          4.           4.

                       CUMULATIVE AREA =     .45 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-9
                       TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.38, TOTAL EXCESS =    1.47

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     238.     12.50                  66.         18.          6.           3.
                       (INCHES)     1.360       1.464       1.467        1.467
                        (AC-FT)      33.         35.         35.          35.
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                    CUMULATIVE AREA =     .45 SQ MI

                                                    HYDROGRAPH MULTIPLIED BY   .10

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-9
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     24.      12.50                 7.          2.          1.          0.
                        (INCHES)   .136        .146        .147        .147
                         (AC-FT)     3.          4.          4.          4.

                    CUMULATIVE AREA =     .45 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-9
                  TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =   3.69, TOTAL LOSS =    2.30, TOTAL EXCESS =    1.39

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    224.      12.50                62.         17.          6.          2.
                        (INCHES)  1.279      1.379       1.381       1.381
                         (AC-FT)    31.         33.         33.         33.

                    CUMULATIVE AREA =     .45 SQ MI

                                                    HYDROGRAPH MULTIPLIED BY   .10

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-9
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     22.      12.50                 6.          2.          1.          0.
                        (INCHES)   .128        .138        .138        .138
                         (AC-FT)     3.          3.          3.          3.

                    CUMULATIVE AREA =     .45 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-9
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =   3.53, TOTAL LOSS =    2.23, TOTAL EXCESS =    1.30

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    210.      12.50                58.         16.          5.          2.
                        (INCHES)  1.197      1.293       1.295       1.295
                         (AC-FT)    29.         31.         31.         31.

                    CUMULATIVE AREA =     .45 SQ MI

                                                    HYDROGRAPH MULTIPLIED BY   .10

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-9
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     21.      12.50                 6.          2.          1.          0.
                        (INCHES)   .120        .129        .129        .129
                         (AC-FT)     3.          3.          3.          3.

                    CUMULATIVE AREA =     .45 SQ MI

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                    HYDROGRAPH AT STATION     LS-9
                  TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.20, TOTAL EXCESS =    1.27

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+     205.     12.50                57.         15.          5.           2.
                      (INCHES)    1.168       1.262       1.265        1.265
                       (AC-FT)     28.         30.         30.          30.

                      CUMULATIVE AREA =     .45 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS-9
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+      20.     12.50                 6.          2.          1.           0.
                      (INCHES)     .117        .126        .126         .126
                       (AC-FT)      3.          3.          3.           3.

                      CUMULATIVE AREA =     .45 SQ MI

      ***             ***             ***             ***             ***


                    INTERPOLATED HYDROGRAPH AT     LS-9

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+      25.     12.50                 7.          2.          1.           0.
                      (INCHES)     .141        .152        .152         .152
                       (AC-FT)      3.          4.          4.           4.

                      CUMULATIVE AREA =     .45 SQ MI


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            *            *
 312 KK     *    LS-10   *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

 313 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .26  SUBBASIN AREA
                        SNAP         .00  NORMAL ANNUAL PRECIPITATION
                       RATIO         .10  RATIO OF HYDROGRAPH

 314 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .25  STARTING LOSS
                         DTH         .25  MOISTURE DEFICIT
                        PSIF        5.80  WETTING FRONT SUCTION
                       XKSAT         .22  HYDRAULIC CONDUCTIVITY
                       RTIMP       32.00  PERCENT IMPERVIOUS AREA

 315 UC          CLARK UNITGRAPH
                          TC         .26  TIME OF CONCENTRATION
                           R         .19  STORAGE COEFFICIENT

 316 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                    ***

                                              UNIT HYDROGRAPH PARAMETERS
                                       CLARK   TC=    .26 HR,       R=    .19 HR
                                      SNYDER   TP=    .18 HR,      CP=    .56

                                                UNIT HYDROGRAPH
                                           14 END-OF-PERIOD ORDINATES
               129.      392.      475.      354.      231.      148.       94.       60.       39.       25.
                16.       10.        6.        4.

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                    HYDROGRAPH AT STATION     LS-10
                  TRANSPOSITION AREA        .0 SQ MI

     TOTAL RAINFALL =    4.10, TOTAL LOSS =     1.87, TOTAL EXCESS =     2.23

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+     484.      12.08                  51.          15.           5.           2.
                                  (INCHES)       1.846        2.225        2.226        2.226
                                   (AC-FT)         25.          30.          31.          31.

                   CUMULATIVE AREA =      .26 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY    .10

       ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-10
                  TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+      48.      12.08                   5.           2.           1.           0.
                                  (INCHES)        .185         .222         .223         .223
                                   (AC-FT)          3.           3.           3.           3.

                   CUMULATIVE AREA =      .26 SQ MI


       ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-10
                  TRANSPOSITION AREA     10.0 SQ MI

     TOTAL RAINFALL =    3.85, TOTAL LOSS =     1.78, TOTAL EXCESS =     2.07

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+     450.      12.08                  47.          14.           5.           2.
                                  (INCHES)       1.710        2.066        2.067        2.067
                                   (AC-FT)         23.          28.          28.          28.

                   CUMULATIVE AREA =      .26 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY    .10

       ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-10
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+      45.      12.08                   5.           1.           0.           0.
                                  (INCHES)        .171         .207         .207         .207
                                   (AC-FT)          2.           3.           3.           3.

                   CUMULATIVE AREA =      .26 SQ MI


       ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-10
                  TRANSPOSITION AREA     30.0 SQ MI

     TOTAL RAINFALL =    3.69, TOTAL LOSS =     1.72, TOTAL EXCESS =     1.97

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+     427.      12.08                  45.          14.           5.           2.
                                  (INCHES)       1.619        1.960        1.961        1.961
                                   (AC-FT)         22.          27.          27.          27.

                   CUMULATIVE AREA =      .26 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY    .10

       ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-10
                  TRANSPOSITION AREA     30.0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      43.     12.08                 4.          1.          0.           0.
                       (INCHES)    .162        .196        .196         .196
                        (AC-FT)      2.          3.          3.           3.

                       CUMULATIVE AREA =     .26 SQ MI


      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    LS-10
                      TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.66, TOTAL EXCESS =    1.86

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     404.     12.08                42.         13.          4.           2.
                       (INCHES)   1.528       1.853       1.855        1.855
                        (AC-FT)     21.         25.         25.          25.

                       CUMULATIVE AREA =     .26 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    LS-10
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      40.     12.08                 4.          1.          0.           0.
                       (INCHES)    .153        .185        .185         .185
                        (AC-FT)      2.          3.          3.           3.

                       CUMULATIVE AREA =     .26 SQ MI


      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    LS-10
                      TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.64, TOTAL EXCESS =    1.82

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     396.     12.08                41.         13.          4.           2.
                       (INCHES)   1.496       1.816       1.818        1.818
                        (AC-FT)     21.         25.         25.          25.

                       CUMULATIVE AREA =     .26 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    LS-10
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      40.     12.08                 4.          1.          0.           0.
                       (INCHES)    .150        .182        .182         .182
                        (AC-FT)      2.          2.          2.           2.

                       CUMULATIVE AREA =     .26 SQ MI

      ***            ***            ***            ***            ***


                       INTERPOLATED HYDROGRAPH AT    LS-10

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      47.     12.08                 5.          1.          0.           0.
                       (INCHES)    .178        .215        .215         .215
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                    (AC-FT)        2.          3.          3.          3.

                    CUMULATIVE AREA =     .26 SQ MI


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          *            *
 318 KK   *     RET10  *
          *            *
          **************
                         DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                          - 121.4 AC DEVELOPMENT WITH RETENTION
                          - C FACTOR = 0.63
                          - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                      ISTAD      R10OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       17.00  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW          .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH   R10OUT
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      48.     12.08                 5.          2.          1.           0.
                        (INCHES)   .185        .222        .223         .223
                         (AC-FT)     3.          3.          3.           3.

                       CUMULATIVE AREA =     .26 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION    RET10
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.           0.
                        (INCHES)   .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

                       CUMULATIVE AREA =     .26 SQ MI

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH   R10OUT
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      45.     12.08                 5.          1.          0.           0.
                        (INCHES)   .171        .207        .207         .207
                         (AC-FT)     2.          3.          3.           3.

                       CUMULATIVE AREA =     .26 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION    RET10
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.           0.
                        (INCHES)   .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

                       CUMULATIVE AREA =     .26 SQ MI

      ***            ***            ***            ***            ***
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                    DIVERSION HYDROGRAPH   R10OUT
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      43.     12.08                 4.          1.          0.           0.
                         (INCHES)  .162        .196        .196         .196
                          (AC-FT)   2.          3.          3.           3.

                         CUMULATIVE AREA =     .26 SQ MI

      ***             ***            ***         ***            ***

                    HYDROGRAPH AT STATION    RET10
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+       0.       .00                  0.          0.          0.           0.
                         (INCHES)  .000        .000        .000         .000
                          (AC-FT)   0.          0.          0.           0.

                         CUMULATIVE AREA =     .26 SQ MI

      ***             ***            ***         ***            ***

                    DIVERSION HYDROGRAPH   R10OUT
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      40.     12.08                 4.          1.          0.           0.
                         (INCHES)  .153        .185        .185         .185
                          (AC-FT)   2.          3.          3.           3.

                         CUMULATIVE AREA =     .26 SQ MI

      ***             ***            ***         ***            ***

                    HYDROGRAPH AT STATION    RET10
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+       0.       .00                  0.          0.          0.           0.
                         (INCHES)  .000        .000        .000         .000
                          (AC-FT)   0.          0.          0.           0.

                         CUMULATIVE AREA =     .26 SQ MI

      ***             ***            ***         ***            ***

                    DIVERSION HYDROGRAPH   R10OUT
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      40.     12.08                 4.          1.          0.           0.
                         (INCHES)  .150        .182        .182         .182
                          (AC-FT)   2.          2.          2.           2.

                         CUMULATIVE AREA =     .26 SQ MI

      ***             ***            ***         ***            ***

                    HYDROGRAPH AT STATION    RET10
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+       0.       .00                  0.          0.          0.           0.
                         (INCHES)  .000        .000        .000         .000
                          (AC-FT)   0.          0.          0.           0.

                         CUMULATIVE AREA =     .26 SQ MI

      ***             ***            ***         ***            ***
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                    INTERPOLATED DIVERSION HYDROGRAPH AT   R100UT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      47.     12.08                 5.          1.          0.          0.
                         (INCHES)  .178        .215        .215        .215
                          (AC-FT)    2.          3.          3.          3.

                         CUMULATIVE AREA =     .26 SQ MI

      ***             ***             ***             ***             ***


                         INTERPOLATED HYDROGRAPH AT    RET10

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                 0.          0.          0.          0.
                         (INCHES)  .000        .000        .000        .000
                          (AC-FT)    0.          0.          0.          0.

                         CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  326 KK    *    INFLOW  *
            *            *
            **************
                        COMBINE ALL INFLOW HYDROGRAPHS TO ADOBE DAM POOL AREA
                        (LS7C, LS5C, LS8, LS2C, LS9, LS10)

  329 HC          HYDROGRAPH COMBINATION
                       ICOMP           6  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   INFLOW
                       TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    5679.      14.08               2402.        661.        221.         96.
                         (INCHES)  .267        .294        .295        .297
                          (AC-FT)  1191.       1310.       1317.       1325.

                         CUMULATIVE AREA =   83.69 SQ MI

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   INFLOW
                       TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    5667.      14.17               2386.        656.        220.         96.
                         (INCHES)  .265        .292        .293        .295
                          (AC-FT)  1183.       1301.       1308.       1316.

                         CUMULATIVE AREA =   83.69 SQ MI

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   INFLOW
                       TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    5658.      14.17               2375.        653.        219.         95.
                         (INCHES)  .264        .290        .292        .294
                          (AC-FT)  1178.       1296.       1302.       1310.
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                    CUMULATIVE AREA =   83.69 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   INFLOW
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    5655.     14.17                2365.        650.        218.          95.
                       (INCHES)      .263        .289        .291         .292
                        (AC-FT)     1173.       1290.       1297.        1305.

                    CUMULATIVE AREA =   83.69 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   INFLOW
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    5654.     14.17                2362.        649.        218.          95.
                       (INCHES)      .262        .289        .290         .292
                        (AC-FT)     1171.       1288.       1295.        1303.

                    CUMULATIVE AREA =   83.69 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT   INFLOW

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    5654.     14.17                2362.        650.        218.          95.
                       (INCHES)      .262        .289        .290         .292
                        (AC-FT)     1171.       1288.       1295.        1303.

                    CUMULATIVE AREA =   83.69 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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          *            *
 330 KK   *     LS-11  *        BASIN
          *            *
          **************

             SUBBASIN RUNOFF DATA

 331 BA        SUBBASIN CHARACTERISTICS
                    TAREA        2.84  SUBBASIN AREA
                     SNAP         .00  NORMAL ANNUAL PRECIPITATION
                    RATIO         .10  RATIO OF HYDROGRAPH

 332 LG        GREEN AND AMPT LOSS RATE
                    STRTL         .27  STARTING LOSS
                      DTH         .25  MOISTURE DEFICIT
                     PSIF        4.55  WETTING FRONT SUCTION
                    XKSAT         .38  HYDRAULIC CONDUCTIVITY
                    RTIMP       14.00  PERCENT IMPERVIOUS AREA

 333 UC        CLARK UNITGRAPH
                       TC        1.18  TIME OF CONCENTRATION
                        R         .41  STORAGE COEFFICIENT

 334 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                  100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.18 HR,       R=   .41 HR
                                  SNYDER   TP=   .57 HR,      CP=   .63

                                             UNIT HYDROGRAPH
                                        33 END-OF-PERIOD ORDINATES
            71.      251.      490.      763.     1245.     1831.     2059.     1958.     1796.     1642.
          1480.     1312.     1161.     1032.      893.      737.      601.      490.      400.      326.
           266.      217.      177.      144.      118.       96.       78.       64.       52.       42.
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                35.       28.       23.

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-11
                  TRANSPOSITION AREA       .0 SQ MI

     TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.52, TOTAL EXCESS =    1.58

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+    2366.      12.42                430.        120.         40.          17.
                       (INCHES)     1.409       1.575       1.576        1.576
                        (AC-FT)     213.        238.        239.         239.

                    CUMULATIVE AREA =    2.84 SQ MI

                                                HYDROGRAPH MULTIPLIED BY    .10

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-11
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     237.      12.42                 43.         12.          4.           2.
                       (INCHES)      .141        .157        .158         .158
                        (AC-FT)      21.         24.         24.          24.

                    CUMULATIVE AREA =    2.84 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-11
                  TRANSPOSITION AREA     10.0 SQ MI

     TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.40, TOTAL EXCESS =    1.45

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+    2166.      12.42                393.        110.         37.          16.
                       (INCHES)     1.289       1.444       1.446        1.446
                        (AC-FT)     195.        219.        219.         219.

                    CUMULATIVE AREA =    2.84 SQ MI

                                                HYDROGRAPH MULTIPLIED BY    .10

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-11
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     217.      12.42                 39.         11.          4.           2.
                       (INCHES)      .129        .144        .145         .145
                        (AC-FT)      20.         22.         22.          22.

                    CUMULATIVE AREA =    2.84 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-11
                  TRANSPOSITION AREA     30.0 SQ MI

     TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.32, TOTAL EXCESS =    1.37

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+    2034.      12.42                370.        104.         35.          15.
                       (INCHES)     1.212       1.360       1.362        1.362
                        (AC-FT)     183.        206.        206.         206.

                    CUMULATIVE AREA =    2.84 SQ MI

                                                HYDROGRAPH MULTIPLIED BY    .10

     ***            ***            ***            ***            ***
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                    HYDROGRAPH AT STATION    LS-11
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     203.      12.42                37.         10.          3.           1.
                        (INCHES)    .121        .136        .136         .136
                         (AC-FT)     18.         21.         21.          21.

                        CUMULATIVE AREA =    2.84 SQ MI


      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-11
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.24, TOTAL EXCESS =    1.28

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1900.      12.42               346.         97.         32.          14.
                        (INCHES)   1.133       1.275       1.277        1.277
                         (AC-FT)    172.        193.        193.         193.

                        CUMULATIVE AREA =    2.84 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY    .10

      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-11
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     190.      12.42                35.         10.          3.           1.
                        (INCHES)    .113        .128        .128         .128
                         (AC-FT)     17.         19.         19.          19.

                        CUMULATIVE AREA =    2.84 SQ MI


      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-11
                  TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.22, TOTAL EXCESS =    1.25

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1853.      12.42               338.         95.         32.          14.
                        (INCHES)   1.106       1.246       1.247        1.247
                         (AC-FT)    167.        189.        189.         189.

                        CUMULATIVE AREA =    2.84 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY    .10

      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-11
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     185.      12.42                34.         10.          3.           1.
                        (INCHES)    .111        .125        .125         .125
                         (AC-FT)     17.         19.         19.          19.

                        CUMULATIVE AREA =    2.84 SQ MI

      ***             ***            ***            ***            ***


                  INTERPOLATED HYDROGRAPH AT    LS-11

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
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                          (CFS)
+     220.     12.42                  40.         11.          4.           2.
                        (INCHES)     .131        .147        .147         .147
                         (AC-FT)      20.         22.         22.          22.

                        CUMULATIVE AREA =    2.84 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 336 KK     *     LS11C  *
            *            *
            **************
                          COMBINE ALL INFLOWS TO ADOBE POOL WITH RUNOFF FROM LS11

 338 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS11C
                      TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5695.     14.08                 2442.        673.        225.          98.
                        (INCHES)      .262        .289        .291         .292
                         (AC-FT)     1211.       1334.       1341.        1349.

                        CUMULATIVE AREA =   86.53 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS11C
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5679.     14.17                 2422.        667.        224.          97.
                        (INCHES)      .260        .287        .288         .290
                         (AC-FT)     1201.       1323.       1330.        1338.

                        CUMULATIVE AREA =   86.53 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS11C
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5671.     14.08                 2409.        664.        222.          97.
                        (INCHES)      .259        .285        .287         .288
                         (AC-FT)     1194.       1316.       1323.        1331.

                        CUMULATIVE AREA =   86.53 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS11C
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5666.     14.08                 2396.        660.        221.          96.
                        (INCHES)      .257        .284        .285         .287
                         (AC-FT)     1188.       1309.       1316.        1324.

                        CUMULATIVE AREA =   86.53 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS11C
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
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                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+    5665.      14.08                 2392.         659.         221.          96.
                          (INCHES)     .257         .283         .285         .286
                           (AC-FT)    1186.        1307.        1314.        1321.

                          CUMULATIVE AREA =   86.53 SQ MI

-----DSS---ZWRITE Unit  71; Vers.    7:  //LS11C/FLOW/31DEC1989/5MIN//
-----DSS---ZWRITE Unit  71; Vers.    7:  //LS11C/FLOW/01JAN1990/5MIN//
-----DSS---ZWRITE Unit  71; Vers.    7:  //LS11C/FLOW/02JAN1990/5MIN//
-----DSS---ZWRITE Unit  71; Vers.    7:  //LS11C/FLOW/03JAN1990/5MIN//
-----DSS---ZWRITE Unit  71; Vers.    7:  //LS11C/FLOW/04JAN1990/5MIN//
-----DSS---ZWRITE Unit  71; Vers.    7:  //LS11C/FLOW/05JAN1990/5MIN//
-----DSS---ZWRITE Unit  71; Vers.    7:  //LS11C/FLOW/06JAN1990/5MIN//
-----DSS---ZWRITE Unit  71; Vers.    7:  //LS11C/FLOW/07JAN1990/5MIN//
      ***            ***            ***            ***            ***


                          INTERPOLATED HYDROGRAPH AT    LS11C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+    5665.      14.08                 2393.         659.         221.          96.
                          (INCHES)     .257         .283         .285         .286
                           (AC-FT)    1186.        1307.        1314.        1322.

                          CUMULATIVE AREA =   86.53 SQ MI


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            **************
            *            *
 340 KK     *     ADOBE  *
            *            *
            **************
                            ROUTE COMBINED FLOWS THROUGH ADOBE DAM RESERVOIR
                            DATA FROM FCDMC ALERT STATION DATA (TAKEN FROM COE DESIGN DATA)

               HYDROGRAPH ROUTING DATA

 343 RS          STORAGE ROUTING
                      NSTPS          1  NUMBER OF SUBREACHES
                       ITYP       STOR  TYPE OF INITIAL CONDITION
                     RSVRIC        .00  INITIAL CONDITION
                          X        .00 WORKING R AND D COEFFICIENT

 344 SV            STORAGE          .0      70.0     154.0     372.0    1154.0    2695.0    5068.0    8502.0   13100.0   18825.0
                                26896.0   34968.0   47757.0   60546.0   73335.0

 346 SE          ELEVATION      1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76
                                1382.80   1387.76   1392.76   1397.76   1402.76

 348 SQ          DISCHARGE           0.      200.      339.      600.      970.     1210.     1429.     1630.     1810.     1980.
                                  3471.     6350.     8000.    12300.    17200.

 350 SE          ELEVATION      1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76
                                1382.80   1387.76   1392.76   1397.76   1402.76

                                                          ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00     70.00    154.00    372.00   1154.00   2695.00   5068.00   8502.00  13100.00  18825.00
            OUTFLOW        .00    200.00    339.00    600.00    970.00   1210.00   1429.00   1630.00   1810.00   1980.00
          ELEVATION    1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76

            STORAGE   26896.00  34968.00  47757.00  60546.00  73335.00
            OUTFLOW    3471.00   6350.00   8000.00  12300.00  17200.00
          ELEVATION    1382.80   1387.76   1392.76   1397.76   1402.76

      ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION    ADOBE
                         TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     880.      16.42                  842.         613.         225.          98.
                          (INCHES)     .091         .264         .291         .292
                           (AC-FT)     418.        1216.        1341.        1348.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)       (HR)
```

```
      964.     16.42                884.        503.        175.          76.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1351.54     16.42             1351.03     1348.08     1342.88      1341.14

                        CUMULATIVE AREA =   86.53 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    ADOBE
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     876.      16.42              838.        609.        223.          97.
                         (INCHES)    .090        .262        .288         .290
                          (AC-FT)    416.       1208.       1330.        1337.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      955.     16.42               876.        497.        173.          75.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1351.49     16.42             1350.98     1348.02     1342.85      1341.13

                        CUMULATIVE AREA =   86.53 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    ADOBE
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     873.      16.42              836.        607.        222.          97.
                         (INCHES)    .090        .261        .287         .288
                          (AC-FT)    415.       1203.       1323.        1330.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      950.     16.42               871.        493.        171.          74.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1351.45     16.42             1350.95     1347.99     1342.84      1341.13

                        CUMULATIVE AREA =   86.53 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    ADOBE
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     871.      16.42              834.        604.        221.          96.
                         (INCHES)    .090        .260        .285         .287
                          (AC-FT)    413.       1198.       1316.        1324.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      945.     16.42               866.        490.        170.          74.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1351.42     16.42             1350.92     1347.96     1342.82      1341.12

                        CUMULATIVE AREA =   86.53 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    ADOBE
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
```

```
+   (CFS)        (HR)
                                (CFS)
+     870.      16.42                 833.        603.        221.          96.
                            (INCHES)      .090        .259        .285         .286
                             (AC-FT)      413.       1196.       1313.        1321.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)       (HR)
     943.      16.42                 865.        488.        170.          74.

  PEAK STAGE    TIME                           MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)       (HR)
   1351.41     16.42              1350.91     1347.94     1342.82      1341.12

                            CUMULATIVE AREA =   86.53 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    7:  //ADOBE/FLOW/31DEC1989/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    7:  //ADOBE/FLOW/01JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    7:  //ADOBE/FLOW/02JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    7:  //ADOBE/FLOW/03JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    7:  //ADOBE/FLOW/04JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    7:  //ADOBE/FLOW/05JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    7:  //ADOBE/FLOW/06JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    7:  //ADOBE/FLOW/07JAN1990/5MIN//
      ***             ***             ***             ***             ***


                            INTERPOLATED HYDROGRAPH AT    ADOBE

  PEAK FLOW     TIME                           MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     870.      16.42                 833.        603.        221.          96.
                            (INCHES)      .090        .259        .285         .286
                             (AC-FT)      413.       1196.       1314.        1321.

                            CUMULATIVE AREA =   86.53 SQ MI

1
                                        RUNOFF SUMMARY
                                   FLOW IN CUBIC FEET PER SECOND
                                TIME IN HOURS,  AREA IN SQUARE MILES

                                          PEAK   TIME OF     AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN     MAXIMUM     TIME OF
          OPERATION        STATION        FLOW    PEAK                                          AREA      STAGE     MAX STAGE
+                                                                6-HOUR     24-HOUR     72-HOUR

          HYDROGRAPH AT
+                            S23L        4712.   14.08         1504.        411.        137.      50.29

          HYDROGRAPH AT
+                            C010        2097.   13.33          553.        148.         50.      13.39

          2 COMBINED AT
+                             CAP        5509.   13.50         2056.        559.        187.      63.68

          ROUTED TO
+                           CAPR2        5412.   13.75         2056.        559.        187.      63.68

          HYDROGRAPH AT
+                             S24        1095.   12.17          102.         26.          9.        .64

          2 COMBINED AT
+                             S24C       5412.   13.75         2141.        580.        194.      64.32

          ROUTED TO
+                          S24LS1        5334.   13.83         2140.        580.        194.      64.32

          HYDROGRAPH AT
+                           RRB22C        397.   13.50          197.         56.         19.       9.62

          ROUTED TO
+                           B22LS1        388.   13.92          195.         56.         19.       9.62

          HYDROGRAPH AT
+                             LS-1        344.   12.17           44.         12.          4.       2.47

          DIVERSION TO
+                            R1OUT        344.   12.17           44.         12.          4.       2.47

          HYDROGRAPH AT
+                           RETLS1          0.     .00            0.          0.          0.       2.47

          2 COMBINED AT
+                            LS1CR        388.   13.92          195.         56.         19.      12.09

          2 COMBINED AT
+                             LS1C       5721.   13.83         2329.        635.        213.      76.41

          ROUTED TO
+                           LS1LS2       5604.   14.17         2319.        635.        213.      76.41
```

```
          HYDROGRAPH AT
+                          LS-2        58.   12.42        14.        4.        1.       .94
          2 COMBINED AT
+                          LS2C      5612.   14.17      2327.      638.      214.     77.35
          HYDROGRAPH AT
+                          LS-3        81.   12.17        10.        3.        1.       .54
          ROUTED TO
+                        LS3LS5        20.   14.00        10.        3.        1.       .54
          HYDROGRAPH AT
+                          LS-4       232.   12.17        31.        9.        3.      1.85
          DIVERSION TO
+                         R4OUT       232.   12.17        31.        9.        3.      1.85
          HYDROGRAPH AT
+                        RETLS4         0.     .00         0.        0.        0.      1.85
          ROUTED TO
+                        LS4LS5         0.     .00         0.        0.        0.      1.85
          HYDROGRAPH AT
+                          LS-5        95.   12.42        21.        6.        2.      1.28
          DIVERSION TO
+                         R5OUT        95.   12.42        19.        5.        2.      1.28
          HYDROGRAPH AT
+                        RETLS5         9.   14.25         3.        1.        0.      1.28
          3 COMBINED AT
+                          LS5C        29.   14.25        12.        4.        1.      3.67
          HYDROGRAPH AT
+                          LS-6        41.   12.50        13.        4.        1.       .79
          HYDROGRAPH AT
+                          LS-7        27.   12.50         8.        2.        1.       .60
          2 COMBINED AT
+                          LS7C        68.   12.50        20.        6.        2.      1.39
          HYDROGRAPH AT
+                          LS-8        57.   12.25        10.        3.        1.       .57
          HYDROGRAPH AT
+                          LS-9        25.   12.50         7.        2.        1.       .45
          HYDROGRAPH AT
+                         LS-10        47.   12.08         5.        1.        0.       .26
          DIVERSION TO
+                        R10OUT        47.   12.08         5.        1.        0.       .26
          HYDROGRAPH AT
+                         RET10         0.     .00         0.        0.        0.       .26
          6 COMBINED AT
+                        INFLOW      5654.   14.17      2362.      650.      218.     83.69
          HYDROGRAPH AT
+                         LS-11       220.   12.42        40.       11.        4.      2.84
          2 COMBINED AT
+                         LS11C      5665.   14.08      2393.      659.      221.     86.53
          ROUTED TO
+                         ADOBE       870.   16.42       833.      603.      221.     86.53

*** NORMAL END OF HEC-1 ***


    -----DSS---ZCLOSE Unit:  71,   File: LS224E.DSS
              Pointer Utilization:    .25
              Number of Records:      24
              File Size:      51.6  Kbytes
              Percent Inactive:     .0
```

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998              *
*           VERSION 4.1                *
*                                      *
*  RUN DATE   13AUG03  TIME  15:18:37  *
*                                      *
****************************************
```

```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
1                                    HEC-1 INPUT                                    PAGE  1

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID       LOWER SKUNK CREEK HYDROLOGY                      FILENAME: LS10024F.DAT
  2           ID       FOR: ADOBE DAM / DESERT HILLS ADMP               ORIGINAL: 06/24/03
  3           ID       AUG. 2003                                        REVISED:  08/13/03
  4           ID       BY: JE FULLER/ HYDROLOGY & GEOMORPHOLOGY, INC.
  5           ID
  6           ID    THIS IS THE 100-YEAR 24-HOUR MODEL FOR FUTURE CONDITIONS
  7           ID
  8           ID    MODEL BASIS:
  9           ID      * FUTURE LAND USES FROM MAG PLAN DATA PROVIDED BY FCDMC AND PHOTO INTERP
 10           ID        OF AVAILABLE LAND FOR DEVELOPMENT.
 11           ID      * DDMSW PROJECT NAME: LS_FU24
 12           ID      * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
 13           ID      * MULTIPLE STORM OPTION (JD)
 14           ID      * GREEN & AMPT LOSS METHOD
 15           ID      * CLARK UNIT HYDROGRAPH METHOD
 16           ID      * TC & R COMPUTED WITH MCHUP1 THRU DDMSW 2.1.3
 17           ID      * MODIFIED PULS NORMAL-DEPTH CHANNEL ROUTING
 18           ID      * INFLOW HYDROGRAPHS AS QI RECORDS FROM:
 19           ID          * S23L - SKUNK CREEK - SKUNK CREEK WMP
 20           ID          * C010 - SONORAN (UNNAMED) WASH - SKUNK CREEK WMP
 21           ID          * RRB22C - BUCHANAN WASH - ADOBE ADMP PART 3, VOL. 3
 22           ID
 23           ID
              *DIAGRAM
 24           IT       5 01JAN90    0000    2000
 25           IO       3
 26           IN      15
 27           JD    4.10    0.01
 28           PC   0.000   0.002   0.005   0.008   0.011   0.014   0.017   0.020   0.023   0.026
 29           PC   0.029   0.032   0.035   0.038   0.041   0.044   0.048   0.052   0.056   0.060
 30           PC   0.064   0.068   0.072   0.076   0.080   0.085   0.090   0.095   0.100   0.105
 31           PC   0.110   0.115   0.120   0.126   0.133   0.140   0.147   0.155   0.163   0.172
 32           PC   0.181   0.191   0.203   0.218   0.236   0.257   0.283   0.387   0.663   0.707
 33           PC   0.735   0.758   0.776   0.791   0.804   0.815   0.825   0.834   0.842   0.849
 34           PC   0.856   0.863   0.869   0.875   0.881   0.887   0.893   0.898   0.903   0.908
 35           PC   0.913   0.918   0.922   0.926   0.930   0.934   0.938   0.942   0.946   0.950
 36           PC   0.953   0.956   0.959   0.962   0.965   0.968   0.971   0.974   0.977   0.980
 37           PC   0.983   0.986   0.989   0.992   0.995   0.998   1.000
 38           JD   3.854      10
 39           JD   3.690      30
 40           JD   3.526      60
 41           JD   3.469      90

 42           KK    S23L
 43           BA   50.29
              *
              * ***********************************************************************
              *
              *   INFLOW HYDROGRAPHS FOR SKUNK CREEK, SONORAN WASH, & SUBBASIN S24 FROM:
              *      Skunk Creek Watercourse Master Plan                 File: SCF100.IH1
              *           By: ASL Consulting Engineers                 Original: 09/01/1999
              *          For: Flood Control District of Maricopa County  Revised: 03/02/2000
              *
              *       This is a Future Condition Model based on the MAG 1995 Projected
              *       Landuse Map. This model DOES NOT account for 100-yr 2-hr retention.
              *
              *       Skunk Creek Watershed at the CAP Canal
```

```
*          This file is based on the original FIS HEC-1 model prepared by:
*
*                Montgomery Watson FCD 95-16
*                Skunk Creek Floodplain Delineation Study
*                Original model dated March 1996
*
*       02/23/00  Landuse modified per North Black Canyon Corridor General Plan
*                 provided by City of Phoenix.  ArcView files dated 02/04/2000.
*
*       Model Basis:
*
*       * 100-year, 24-hr rainfall with SCS Type II Rainfall Distribution
*       * Green & Ampt Loss Rate Method
*       * NMIN = 5
*       * Phoenix Mountain, Desert/Rangeland and Phoenix Valley S-Graphs
*       * Muskingum channel routing for Skunk Creek watershed
*       * Modified Puls normal depth channel routing for Unnamed Wash watershed
*       * 200 Scale 2' CI mapping of Skunk Creek by Kenney Aerial Mapping
*       * 200 Scale 2' CI mapping of Unnamed Wash by Aerial Mapping Company
*       * The Montgomery Watson HEC-1 model structure is used for Skunk Creek.
*         The Unnamed Wash is modeled with completely new input
*
*       Model Adjustments:
*
*       * RTIMP values are adjusted to reflect future buildout conditions
*         estimated using the MAG 1995 Planning Study
*       * S-GRAPH types were changed where appropriate to simulate urban
*         conditions
*       * S-GRAPH parameters were adjusted to reflect urbanization
*       * Basin areas were adjusted slightly to match the ArcView coverages
*         created for this study.  This was done for conformity with the landuse
*         areas.  The basin boundaries were not available in digital format.
*         The basin boundaries were recreated with adjustments made where
*         appropriate
*
*
```

1 HEC-1 INPUT PAGE 2

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  44          KM     HYDROGRAPH FOR S23L FROM SKUNK CREEK WMP MODEL
  45          KM     FUTURE CONDITION 100-YR 24-HR HYDROGRAPH
  46          KM     NO RETENTION ASSUMED
  47          IN       5
  48          QI       0       0       0       0       1       2       3       6       8      10
  49          QI      13      15      18      20      22      24      27      29      33      36
  50          QI      41      46      52      59      67      75      84      94     104     114
  51          QI     124     134     144     153     162     171     179     186     192     198
  52          QI     203     207     211     214     216     218     220     221     222     224
  53          QI     225     226     227     229     230     231     232     233     234     235
  54          QI     235     236     237     239     240     242     244     246     249     252
  55          QI     255     258     261     265     268     272     276     279     283     287
  56          QI     290     294     297     299     302     304     306     307     309     311
  57          QI     312     314     316     319     321     324     327     330     334     337
  58          QI     341     346     350     355     361     366     372     377     382     386
  59          QI     390     393     396     400     404     408     413     419     425     432
  60          QI     441     450     460     470     482     493     506     520     534     550
  61          QI     569     588     610     636     662     691     728     770     828     919
  62          QI    1037    1221    1476    1782    2172    2681    3243    3792    4382    4977
  63          QI    5529    5934    6339    6811    7354    8028    8864    9883   11042   12313
  64          QI   13664   15075   16498   17886   19202   20408   21481   22390   23118   23658
  65          QI   24007   24155   24088   23786   23227   22400   21308   19975   18448   16789
  66          QI   15069   13356   11712   10183    8797    7568    6498    5579    4796    4134
  67          QI    3576    3105    2709    2374    2092    1852    1649    1477    1330    1205
  68          QI    1098    1006     926     856     796     744     699     660     627     598
  69          QI     573     552     534     517     503     491     480     469     460     452
  70          QI     445     439     432     427     421     416     410     405     400     394
  71          QI     389     384     378     373     367     362     357     352     347     342
  72          QI     337     333     329     324     320     316     313     309     307     304
  73          QI     302     300     298     296     295     293     291     289     287     284
  74          QI     281     278     275     272     268     265     261     258     254     251
  75          QI     248     245     243     240     238     236     234     233     232     231
  76          QI     230     230     229     229     228     228     228     227     227     226
  77          QI     225     223     221     219     216     214     211     209     206     204
  78          QI     202     199     197     194     190     185     180     174     167     159
  79          QI     151     142     132     122     112     102      92      82      73      64
  80          QI      55      47      40      34      28      23      19      16      13      10
  81          QI       8       7       5       4       3       3       2       2       1       1
  82          QI       1       0       0       0       0       0       0       0       0       0
  83          QI       0       0       0       0       0       0       0       0       0       0
              *
  84          KK     C010
  85          KM      HYDROGRAPH FOR SONORAN WASH FROM SKUNK CREEK WMP
  86          KM      FUTURE CONDITION WITH 100-YR 2-HR RETENTION
  87          IN       5
  88          BA   13.39
  89          QI       0       0       0       0       0       0       0       0       0       0
  90          QI       0       0       0       0       0       0       0       0       0       0
  91          QI       0       0       0       0       0       0       0       0       0       0
  92          QI       0       0       0       0       0       0       0       0       0       0
  93          QI       0       0       0       0       0       0       0       0       0       0
  94          QI       0       0       0       0       0       0       0       0       0       0
  95          QI       0       0       0       0       0       0       0       0       0       0
  96          QI       0       0       0       0       0       0       0       0       0       0
```

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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 97           QI       0       0       0       0       0       0       0       0       0       0
 98           QI       0       0       0       0       0       0       0       0       0       0
 99           QI       0       0       0       0       0       0       0       0       0       0
100           QI       0       0       0       0       0       0       0       0       0       0
101           QI       0       0       0       0       0       0       0       0       0       0
102           QI       0       0       0       0       0       0       0       0       0       0
103           QI       0       0       0       0       0     207    2282    2390    1700    1407
104           QI    1751    2350    2645    2876    3323    4177    5119    5810    6098    6020
105           QI    5685    5226    4755    4365    4009    3638    3285    2980    2738    2531
106           QI    2280    1954    1489    1005     873     806     752     707     666     629
107           QI     596     567     542     519     498     476     456     437     421     406
108           QI     393     381     371     361     352     344     336     328     322     316
109           QI     309     302     295     289     285     280     276     273     269     265
110           QI     262     259     255     252     249     244     239     234     230     227
111           QI     223     220     217     213     210     207     203     200     197     194
112           QI     191     189     186     184     182     180     178     176     175     173
113           QI     170     167     166     164     162     160     158     156     154     152
114           QI     150     147     145     143     142     140     138     137     136     134
115           QI     133     132     131     130     130     129     129     128     128     127
116           QI     127     127     127     127     126     126     126     126     126     126
117           QI     126     126     126     125     125     125     125     124     122     120
118           QI     117     113     108     104     102      99      96      92      88      84
119           QI      79      74      69      64      59      54      49      45      41      37
120           QI      34      31      29      28      27      26      25      24      23      23
121           QI      22      21      20      19      18      17      16      15      14      13
122           QI      12      11      10      10       9       8       8       7       7       6
123           QI       6       5       5       4       4       4       3       3       3       3
124           QI       2       2       2       2       2       1       1       1       1       1
125           QI       1       1       1       0       0       0       0       0       0       0
126           QI       0       0       0       0       0       0       0       0       0       0
127           QI       0       0       0       0       0       0       0       0       0       0
128           QI       0       0       0       0       0       0       0       0       0       0
              *

129           KK     CAP
130           KM    COMBINE S23L+C010 (SUBAREAS S1-S23, CLINE CR, RODGER CR & UNNAMED WASH)
131           KM    COMBINED FLOW AT CAP OVERCHUTES
132           HC       2   63.68
133           ZW      C=FLOW   F=100FU
              *
              *  Note: FLO-2D model results in Attachment 7 of the Skunk Creek WMP show that
              *        during the 100-yr event some flows overtop I-17 to the west (6,400 cfs)
              *        along the CAP Canal east (100 cfs), and over the CAP embankment around
              *        the Skunk Creek and Sonoran Wash overchutes (6,100 cfs).  Moreover, the
              *        FLO-2D model suggests that the bulk of the flow returns to Skunk Creek
              *        by the time it gets to the I-17 crossing of Skunk Creek.
              *

134           KK   CAPR2
135           KM    ROUTE CAP OVERFLOW THROUGH S24 FROM CAP TO I-17 IN SKUNK CREEK
136           RM       3    0.23    0.25
              *
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

137           KK     S24
138           KM   Sub-Basin    S24
139           KM
140           KM      The Phoenix Valley S-Graph is used for this basin.
141           KM          Lag Used =  16.0 minutes
142           KM
143           BA  0.6526
144           LG    0.21    0.22    7.60    0.10   28.60
145           UI     224     711    1243    1380     824     376     174      56      42       0
146           UI       0       0       0       0       0       0       0       0       0       0
              *

147           KK    S24C
148           KM     COMBINE ROUTED FLOWS FROM CAP WITH RUNOFF FROM S24 AT I-17
149           HC       2
              *
              * ************************* END OF INPUT FROM SKUNK CREEK WMP *****************
              *

150           KK  S24LS1   ROUTE   REACH
151           KM    ROUTE COMBINED FLOWS FROM 1-17 TO CONFLUENCE WITH BUCHANAN WASH
152           RS       1    STOR      -1
153           RC   0.035   0.035   0.035    3394  0.0053   15.00
154           RX     0.0     8.0    15.0    50.0   320.0   355.0   362.0   370.0
155           RY    15.0    15.0    15.0     0.0     0.0    15.0    15.0    15.0
              *
              *   FROM BUCHANAN HYDROLOGY ADOBE ADMP PART 3, VOL. 3 BY JEF, INC.  AUGUST 2003
              *

156           KK  RRB22C
157           KM     INFLOWS FROM BUCHANAN WASH UNDER CAP
158           KM       FROM BF10024F.DAT
159           IN       5
160           BA    9.62
```

```
161     QI     0     0     0     0     0     0     0     0     0     0
162     QI     0     0     0     0     0     0     0     0     0     0
163     QI     0     0     0     0     0     0     0     0     0     0
164     QI     0     0     0     0     0     0     0     0     0     0
165     QI     0     0     0     0     0     0     0     0     0     0
166     QI     0     0     0     0     0     0     0     0     0     0
167     QI     0     0     0     0     0     0     0     0     0     0
168     QI     0     0     0     0     0     0     0     0     0     0
169     QI     0     0     0     0     0     0     0     0     0     0
170     QI     0     0     0     0     0     0     0     0     0     0
171     QI     0     0     0     0     0     0     0     0     0     0
172     QI     0     0     0     0     0     0     0     0     0     0
173     QI     0     0     0     0     0     0     0     0     0     0
174     QI     0     0     0     0     0     0     0     0     0     0
175     QI     0     0     0     0     0     0     0     0     0     0
176     QI     0     0    20   274   326   345   350   325   287   241
177     QI   221   199   185   204   324   429   519   562   602   651
178     QI   708   755   788   809   824   840   855   870   885   899
179     QI   906   913   918   923   927   930   932   933   934   934
180     QI   933   932   931   929   927   924   922   919   916   912
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

181     QI   909   905   901   896   888   881   874   867   859   852
182     QI   844   837   829   821   814   806   796   778   760   742
183     QI   709   677   646   618   592   567   544   497   420   339
184     QI   285   265   265   259   256   252   249   246   243   240
185     QI   237   233   230   227   225   223   221   218   216   213
186     QI   210   207   204   201   197   194   191   189   187   185
187     QI   182   180   177   175   173   171   169   167   166   164
188     QI   163   162   161   160   159   158   157   157   156   155
189     QI   155   154   154   153   153   153   152   152   151   151
190     QI   149   148   146   143   140   136   133   129   125   121
191     QI   117   113   108   104    99    94    89    84    80    76
192     QI    72    68    65    61    58    56    53    51    49    48
193     QI    46    45    43    42    41    39    38    37    35    34
194     QI    33    31    30    28    27    26    24    23    22    21
195     QI    20    19    18    17    16    15    15    14    13    13
196     QI    12    11    11    10    10     9     9     9     8     8
197     QI     8     7     7     7     7     6     6     6     6     6
198     QI     6     6     5     5     5     5     5     5     5     5
199     QI     5     5     5     5     4     4     4     4     4     4
200     QI     4     4     4     4     4     3     3     3     3     3
201     QI     3     3     3     3     3     2     2     2     2     2
202     QI     2     2     2     2     2     2     1     1     1     1
203     QI     1     1     1     1     1     1     1     1     1     1
204     QI     0     0     0     0     0     0     0     0     0     0
205     ZW       C=FLOW
        *
        *  THE REMAINING HEC-1 MODEL INPUT FROM ORIGINAL ADOBE DAM ADMP MODELING BY JEF
        *

206     KK  B22LS1   ROUTE   REACH
207     KM    ROUTE IMPORTED FLOWS FROM BUCHANAN WASH FROM CAP TO CONFLUENCE WITH SKUNK
208     KM    CREEK IN BUCHANAN WASH
209     RS       5    STOR      -1
210     RC   0.055   0.040   0.055   10208  0.0040    7.00
211     RX     0.0   100.0   200.0   210.0   225.0   235.0   285.0   335.0
212     RY     7.0     6.0     5.0     0.0     0.0     5.0     6.0     7.0
213     ZW       C=FLOW
        *

214     KK    LS-1   BASIN
215     BA   2.469
216     LG    0.24    0.19    6.60    0.15      15
217     UC   0.529   0.270
218     UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
219     UA     100
        *

220     KK  RETLS1
221     KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
222     KM      - 232 AC DEVELOPMENT WITH RETENTION
223     KM      - C FACTOR = 0.63
224     KM      - 100-YR 2-HR RAIN = 2.66"
225     DT   R1OUT    32.4
226     DI       0   10000
227     DQ       0   10000
        *
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

228     KK   LS1CR
229     KM     COMBINE RUNOFF FROM LS-1 WITH ROUTED FLOWS FROM BUCHANAN WASH AT CAP
230     KM     THIS IS THE TOTAL FLOW IN BUCHANAN WASH JUST U/S OF SKUNK CREEK
231     HC       2
        *

232     KK    LS1C
233     KM     COMBINE BUCHANAN WASH WITH ROUTED FLOWS IN SKUNK CREEK FROM I-17.
234     HC       2
        *
```

```
 235          KK  LS1LS2   ROUTE   REACH
 236          KM    ROUTE COMBINED FLOWS FROM CONFLUENCE OF BUCHANAN WASH AND SKUNK CREEK TO
 237          KM    PINNACLE PEAK ROAD IN SKUNK CREEK
 238          RS       3    STOR      -1
 239          RC   0.035   0.035   0.035    9552  0.0063   15.00
 240          RX     0.0     8.0    15.0    50.0   320.0   355.0   362.0   370.0
 241          RY    15.0    15.0    15.0     0.0     0.0    15.0    15.0    15.0
              *
              *

 242          KK    LS-2   BASIN
 243          BA   0.945
 244          LG    0.19    0.25    4.80    0.30      20
 245          UC   0.871   0.662
 246          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 247          UA     100
              *

 248          KK  RETLS2
 249          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
 250          KM      - 78 AC DEVELOPMENT WITH RETENTION
 251          KM      - C FACTOR = 0.63
 252          KM      - 100-YR 2-HR RAIN = 2.66"
 253          DT   R2OUT    10.9
 254          DI       0   10000
 255          DQ       0   10000
              *

 256          KK    LS2C
 257          KM     COMBINE FLOWS IN SKUNK CREEK AT PINNACLE PEAK ROAD
 258          HC       2
              *

 259          KK    LS-3   BASIN
 260          BA   0.543
 261          LG    0.17    0.25    4.30    0.41      39
 262          UC   0.413   0.224
 263          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 264          UA     100
              *
1                                          HEC-1 INPUT                                          PAGE  7

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 265          KK  LS3LS5   ROUTE   REACH
 266          KM    ROUTE RUNOFF FROM LS-3 THROUGH LS-5 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK
 267          KM    ROAD
 268          RS       4    STOR      -1
 269          RC   0.080   0.040   0.080    8883  0.0040    6.00
 270          RX     0.0   100.0   200.0   220.0   370.0   390.0   490.0   590.0
 271          RY     6.0     5.0     4.0     0.0     0.0     4.0     5.0     6.0
              *

 272          KK    LS-4   BASIN
 273          BA   1.851
 274          LG    0.22    0.25    4.35    0.43      31
 275          UC   0.500   0.274
 276          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 277          UA     100
              *

 278          KK  RETLS4
 279          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
 280          KM      - 528 AC DEVELOPMENT WITH RETENTION
 281          KM      - C FACTOR = 0.63
 282          KM      - 100-YR 2-HR RAIN = 2.66"
 283          DT   R4OUT    73.7
 284          DI       0   10000
 285          DQ       0   10000
              *

 286          KK  LS4LS5   ROUTE   REACH
 287          KM    ROUTE RUNOFF FROM LS-4 THROUGH LS-5 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK
 288          KM    ROAD
 289          RS       2    STOR      -1
 290          RC   0.080   0.040   0.080    6160  0.0040    6.00
 291          RX     0.0   100.0   200.0   220.0   370.0   390.0   490.0   590.0
 292          RY     6.0     5.0     4.0     0.0     0.0     4.0     5.0     6.0
              *

 293          KK    LS-5   BASIN
 294          BA   1.280
 295          LG    0.28    0.25    4.90    0.33      22
 296          UC   0.967   0.577
 297          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 298          UA     100
              *

 299          KK  RETLS5
 300          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
 301          KM      - 72.5 AC DEVELOPMENT WITH RETENTION
 302          KM      - C FACTOR = 0.63
 303          KM      - 100-YR 2-HR RAIN = 2.66"
```

```
 304          DT   R5OUT    10.1
 305          DI       0   10000
 306          DQ       0   10000
              *
1                                          HEC-1 INPUT                                                    PAGE  8

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 307          KK    LS5C
 308          KM     COMBINE ROUTED FLOWS FROM LS3 AND LS4 WITH RUNOFF FROM LS5 AT ADOBE POOL
 309          KM     AT PINNACLE PEAK ROAD
 310          HC       3
              *

 311          KK    LS-6   BASIN
 312          BA   0.792
 313          LG    0.25    0.25    4.50    0.39      30
 314          UC   1.113   0.974
 315          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 316          UA     100
              *

 317          KK  RETLS6
 318          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
 319          KM      - 62.5 AC DEVELOPMENT WITH RETENTION
 320          KM      - C FACTOR = 0.63
 321          KM      - 100-YR 2-HR RAIN = 2.66"
 322          DT   R6OUT     8.7
 323          DI       0   10000
 324          DQ       0   10000
              *

 325          KK    LS-7   BASIN
 326          BA   0.597
 327          LG    0.28    0.25    4.50    0.42      21
 328          UC   0.900   0.963
 329          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 330          UA     100
              *

 331          KK  RETLS7
 332          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
 333          KM      - 171 AC DEVELOPMENT WITH RETENTION
 334          KM      - C FACTOR = 0.63
 335          KM      - 100-YR 2-HR RAIN = 2.66"
 336          DT   R7OUT    23.9
 337          DI       0   10000
 338          DQ       0   10000
              *

 339          KK    LS7C
 340          KM    COMBINE RUNOFF FROM LS6 AND LS7 AT ADOBE POOL
 341          HC       2
              *

 342          KK    LS-8   BASIN
 343          BA   0.567
 344          LG    0.25    0.25    5.10    0.31      32
 345          UC   0.683   0.444
 346          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 347          UA     100
              *
1                                          HEC-1 INPUT                                                    PAGE  9

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 348          KK    LS-9   BASIN
 349          BA   0.451
 350          LG    0.20    0.25    5.20    0.24       9
 351          UC   1.025   0.958
 352          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 353          UA     100
              *

 354          KK   LS-10   BASIN
 355          BA   0.257
 356          LG    0.25    0.25    5.80    0.22      32
 357          UC   0.263   0.189
 358          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 359          UA     100
              *

 360          KK   RET10
 361          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
 362          KM      - 121.4 AC DEVELOPMENT WITH RETENTION
 363          KM      - C FACTOR = 0.63
 364          KM      - 100-YR 2-HR RAIN = 2.66"
 365          DT  R10OUT    17.0
 366          DI       0   10000
 367          DQ       0   10000
              *

 368          KK  INFLOW
```

```
 369          KM    COMBINE ALL INFLOW HYDROGRAPHS TO ADOBE DAM POOL AREA
 370          KM    (LS7C, LS5C, LS8, LS2C, LS9, LS10)
 371          HC       6
              *

 372          KK   LS-11   BASIN
 373          BA   2.838
 374          LG    0.27    0.25    4.55    0.38      14
 375          UC   1.183   0.410
 376          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 377          UA     100
              *

 378          KK   LS11C
 379          KM    COMBINE ALL INFLOWS TO ADOBE POOL WITH RUNOFF FROM LS11
 380          HC       2
 381          ZW      C=FLOW
              *

 382          KK   ADOBE
 383          KM     ROUTE COMBINED FLOWS THROUGH ADOBE DAM RESERVOIR
 384          KM     DATA FROM FCDMC ALERT STATION DATA (TAKEN FROM COE DESIGN DATA)
 385          RS       1    STOR       0
 386          SV       0      70     154     372    1154    2695    5068    8502   13100   18825
 387          SV   26896   34968   47757   60546   73335
 388          SE  1339.8 1342.76 1344.76 1347.76 1352.76 1357.76 1362.76 1367.76 1372.76 1377.76
 389          SE  1382.8 1387.76 1392.76 1397.76 1402.76
1                                          HEC-1 INPUT                                          PAGE 10

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 390          SQ       0     200     339     600     970    1210    1429    1630    1810    1980
 391          SQ    3471    6350    8000   12300   17200
 392          SE  1339.8 1342.76 1344.76 1347.76 1352.76 1357.76 1362.76 1367.76 1372.76 1377.76
 393          SE  1382.8 1387.76 1392.76 1397.76 1402.76
 394          ZW      C=FLOW
 395          ZZ
1
          SCHEMATIC DIAGRAM OF STREAM NETWORK
INPUT
 LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.     (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

   42       S23L
              .
              .
   84         .        C010
              .           .
              .           .
  129       CAP...........
              V
              V
  134      CAPR2
              .
              .
  137         .         S24
              .           .
              .           .
  147      S24C...........
              V
              V
  150     S24LS1
              .
              .
  156         .      RRB22C
              .          V
              .          V
  206         .      B22LS1
              .           .
              .           .
  214         .           .        LS-1
              .           .          .
              .           .          .
  225         .           .          .------->   R1OUT
  220         .           .      RETLS1
              .           .          .
              .           .          .
  228         .       LS1CR...........
              .           .
              .           .
  232      LS1C...........
              V
              V
  235     LS1LS2
              .
              .
  242         .        LS-2
              .           .
              .           .
  253         .           .------->   R2OUT
  248         .      RETLS2
              .           .
              .           .
  256      LS2C...........
```

```
                .
                .
  259           .        LS-3
                .          V
                .          V
  265           .      LS3LS5
                .          .
                .          .
  272           .          .        LS-4
                .          .          .
                .          .          .
  283           .          .          .-------> R4OUT
  278           .          .      RETLS4
                .          .          V
                .          .          V
  286           .          .      LS4LS5
                .          .          .
                .          .          .
  293           .          .          .        LS-5
                .          .          .          .
                .          .          .          .
  304           .          .          .          .-------> R5OUT
  299           .          .          .      RETLS5
                .          .          .          .
                .          .          .          .
  307           .        LS5C.......................
                .          .
                .          .
  311           .          .        LS-6
                .          .          .
                .          .          .
  322           .          .          .-------> R6OUT
  317           .          .      RETLS6
                .          .          .
                .          .          .
  325           .          .          .        LS-7
                .          .          .          .
                .          .          .          .
  336           .          .          .          .-------> R7OUT
  331           .          .          .      RETLS7
                .          .          .          .
                .          .          .          .
  339           .          .        LS7C............
                .          .          .
                .          .          .
  342           .          .          .        LS-8
                .          .          .          .
                .          .          .          .
  348           .          .          .          .        LS-9
                .          .          .          .          .
                .          .          .          .          .
  354           .          .          .          .          .       LS-10
                .          .          .          .          .          .
                .          .          .          .          .          .-------> R10OUT
  365           .          .          .          .          .       RET10
  360           .          .          .          .          .          .
                .          .          .          .          .          .
  368       INFLOW.............................................................
                .
                .
  372           .        LS-11
                .          .
                .          .
  378       LS11C............
                V
                V
  382       ADOBE
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              JUN   1998              *
 *            VERSION 4.1               *
 *                                      *
 *  RUN DATE   13AUG03  TIME  15:18:37  *
 *                                      *
 ****************************************
```

```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
```

LOWER SKUNK CREEK HYDROLOGY
FOR: ADOBE DAM / DESERT HILLS ADMP
AUG. 2003
BY: JE FULLER/ HYDROLOGY & GEOMORPHOLOGY, INC.

FILENAME: LS10024F.DAT
ORIGINAL: 06/24/03
REVISED: 08/13/03

THIS IS THE 100-YEAR 24-HOUR MODEL FOR FUTURE CONDITIONS

MODEL BASIS:
* FUTURE LAND USES FROM MAG PLAN DATA PROVIDED BY FCDMC AND PHOTO INTERP OF AVAILABLE LAND FOR DEVELOPMENT.
* DDMSW PROJECT NAME: LS_FU24

```
                    * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
                    * MULTIPLE STORM OPTION (JD)
                    * GREEN & AMPT LOSS METHOD
                    * CLARK UNIT HYDROGRAPH METHOD
                    * TC & R COMPUTED WITH MCHUP1 THRU DDMSW 2.1.3
                    * MODIFIED PULS NORMAL-DEPTH CHANNEL ROUTING
                    * INFLOW HYDROGRAPHS AS QI RECORDS FROM:
                        * S23L - SKUNK CREEK - SKUNK CREEK WMP
                        * C010 - SONORAN (UNNAMED) WASH - SKUNK CREEK WMP
                        * RRB22C - BUCHANAN WASH - ADOBE ADMP PART 3, VOL. 3


 25 IO       OUTPUT CONTROL VARIABLES
                   IPRNT          3  PRINT CONTROL
                   IPLOT          0  PLOT CONTROL
                   QSCAL         0.  HYDROGRAPH PLOT SCALE

 26 IN       TIME DATA FOR INPUT TIME SERIES
                  JXMIN          15  TIME INTERVAL IN MINUTES
                 JXDATE      1JAN90  STARTING DATE
                 JXTIME           0  STARTING TIME

    IT       HYDROGRAPH TIME DATA
                   NMIN           5  MINUTES IN COMPUTATION INTERVAL
                  IDATE      1JAN90  STARTING DATE
                  ITIME        0000  STARTING TIME
                     NQ        2000  NUMBER OF HYDROGRAPH ORDINATES
                 NDDATE      7JAN90  ENDING DATE
                 NDTIME        2235  ENDING TIME
                  ICENT          19  CENTURY MARK

              COMPUTATION INTERVAL     .08 HOURS
                   TOTAL TIME BASE  166.58 HOURS

        ENGLISH UNITS
             DRAINAGE AREA          SQUARE MILES
             PRECIPITATION DEPTH    INCHES
             LENGTH, ELEVATION      FEET
             FLOW                   CUBIC FEET PER SECOND
             STORAGE VOLUME         ACRE-FEET
             SURFACE AREA           ACRES
             TEMPERATURE            DEGREES FAHRENHEIT

 27 JD       INDEX STORM NO. 1
                   STRM        4.10  PRECIPITATION DEPTH
                   TRDA         .01  TRANSPOSITION DRAINAGE AREA

 28 PI        PRECIPITATION PATTERN
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
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                .00      .00      .00      .00      .00      .00      .00      .01      .00      .01
                .01      .01      .01      .01      .01      .01      .01      .01      .03      .03
                .03      .09      .09      .09      .01      .01      .01      .01      .01      .01
                .01      .01      .01      .01      .01      .01      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
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                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00

 38 JD       INDEX STORM NO. 2
                   STRM        3.85  PRECIPITATION DEPTH
                   TRDA       10.00  TRANSPOSITION DRAINAGE AREA

  0 PI        PRECIPITATION PATTERN
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
                .00      .00      .00      .00      .00      .00      .00      .00      .00      .00
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.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00		

39 JD INDEX STORM NO. 3

STRM 3.69 PRECIPITATION DEPTH

TRDA 30.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
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40 JD INDEX STORM NO. 4

STRM 3.53 PRECIPITATION DEPTH

TRDA 60.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
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.00	.00	.00	.00	.00	.00	.00	.01	.00	.01
.01	.01	.01	.01	.01	.01	.01	.01	.03	.03
.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.00	.00	.00	.00
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41 JD INDEX STORM NO. 5

STRM 3.47 PRECIPITATION DEPTH

TRDA 90.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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.03    .09    .09    .09    .01    .01    .01    .01    .01    .01
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              **************
              *            *
  42 KK       *     S23L   *
              *            *
              **************
                              HYDROGRAPH FOR S23L FROM SKUNK CREEK WMP MODEL
                              FUTURE CONDITION 100-YR 24-HR HYDROGRAPH
                              NO RETENTION ASSUMED

  47 IN          TIME DATA FOR INPUT TIME SERIES
                      JXMIN           5  TIME INTERVAL IN MINUTES
                     JXDATE      1JAN90  STARTING DATE
                     JXTIME           0  STARTING TIME

               SUBBASIN RUNOFF DATA

  43 BA          SUBBASIN CHARACTERISTICS
                      TAREA       50.29  SUBBASIN AREA

                                                          ***

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     S23L
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   24155.     14.25                8882.       2451.        819.         354.
                        (INCHES)    1.642       1.813       1.816        1.816
                         (AC-FT)    4404.       4861.       4871.        4871.

                        CUMULATIVE AREA =   50.29 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     S23L
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   24155.     14.25                8882.       2451.        819.         354.
                        (INCHES)    1.642       1.813       1.816        1.816
                         (AC-FT)    4404.       4861.       4871.        4871.

                        CUMULATIVE AREA =   50.29 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     S23L
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
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                    (CFS)
+   24155.     14.25                8882.       2451.        819.         354.
                  (INCHES)         1.642       1.813       1.816        1.816
                   (AC-FT)         4404.       4861.       4871.        4871.

                  CUMULATIVE AREA =   50.29 SQ MI

      ***            ***             ***             ***             ***

                    HYDROGRAPH AT STATION     S23L
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+   24155.     14.25                8882.       2451.        819.         354.
                  (INCHES)         1.642       1.813       1.816        1.816
                   (AC-FT)         4404.       4861.       4871.        4871.

                  CUMULATIVE AREA =   50.29 SQ MI

      ***            ***             ***             ***             ***

                    HYDROGRAPH AT STATION     S23L
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+   24155.     14.25                8882.       2451.        819.         354.
                  (INCHES)         1.642       1.813       1.816        1.816
                   (AC-FT)         4404.       4861.       4871.        4871.

                  CUMULATIVE AREA =   50.29 SQ MI

      ***            ***             ***             ***             ***


                  INTERPOLATED HYDROGRAPH AT     S23L

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+   24155.     14.25                8882.       2451.        819.         354.
                  (INCHES)         1.642       1.813       1.816        1.816
                   (AC-FT)         4404.       4861.       4871.        4871.

                  CUMULATIVE AREA =   50.29 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  84 KK     *      C010  *
            *            *
            **************
                          HYDROGRAPH FOR SONORAN WASH FROM SKUNK CREEK WMP
                          FUTURE CONDITION WITH 100-YR 2-HR RETENTION

  87 IN          TIME DATA FOR INPUT TIME SERIES
                      JXMIN           5  TIME INTERVAL IN MINUTES
                     JXDATE      1JAN90  STARTING DATE
                     JXTIME           0  STARTING TIME

               SUBBASIN RUNOFF DATA

  88 BA          SUBBASIN CHARACTERISTICS
                      TAREA       13.39  SUBBASIN AREA

                                                                  ***

      ***            ***             ***             ***             ***

                    HYDROGRAPH AT STATION     C010
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+    6098.     13.17                1550.        434.        145.          63.
                  (INCHES)         1.076       1.207       1.207        1.207
                   (AC-FT)          768.        862.        862.         862.

                  CUMULATIVE AREA =   13.39 SQ MI
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***             ***             ***             ***             ***

                HYDROGRAPH AT STATION     C010
              TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    6098.      13.17                1550.       434.        145.        63.
                        (INCHES)     1.076      1.207       1.207      1.207
                         (AC-FT)      768.       862.        862.       862.

                       CUMULATIVE AREA =   13.39 SQ MI

***             ***             ***             ***             ***

                HYDROGRAPH AT STATION     C010
              TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    6098.      13.17                1550.       434.        145.        63.
                        (INCHES)     1.076      1.207       1.207      1.207
                         (AC-FT)      768.       862.        862.       862.

                       CUMULATIVE AREA =   13.39 SQ MI

***             ***             ***             ***             ***

                HYDROGRAPH AT STATION     C010
              TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    6098.      13.17                1550.       434.        145.        63.
                        (INCHES)     1.076      1.207       1.207      1.207
                         (AC-FT)      768.       862.        862.       862.

                       CUMULATIVE AREA =   13.39 SQ MI

***             ***             ***             ***             ***

                HYDROGRAPH AT STATION     C010
              TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    6098.      13.17                1550.       434.        145.        63.
                        (INCHES)     1.076      1.207       1.207      1.207
                         (AC-FT)      768.       862.        862.       862.

                       CUMULATIVE AREA =   13.39 SQ MI

***             ***             ***             ***             ***


              INTERPOLATED HYDROGRAPH AT     C010

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    6098.      13.17                1550.       434.        145.        63.
                        (INCHES)     1.076      1.207       1.207      1.207
                         (AC-FT)      768.       862.        862.       862.

                       CUMULATIVE AREA =   13.39 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 129 KK     *       CAP  *
            *            *
            **************
                       COMBINE S23L+C010 (SUBAREAS S1-S23, CLINE CR, RODGER CR & UNNAMED WASH)
                       COMBINED FLOW AT CAP OVERCHUTES
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132 HC          HYDROGRAPH COMBINATION
                     ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION      CAP
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+   26287.      14.17              10403.       2884.        963.         416.
                      (INCHES)      1.519       1.684       1.688        1.688
                       (AC-FT)      5159.       5721.       5733.        5733.

                      CUMULATIVE AREA =   63.68 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION      CAP
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+   26287.      14.17              10403.       2884.        963.         416.
                      (INCHES)      1.519       1.684       1.688        1.688
                       (AC-FT)      5159.       5721.       5733.        5733.

                      CUMULATIVE AREA =   63.68 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION      CAP
                     TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+   26287.      14.17              10403.       2884.        963.         416.
                      (INCHES)      1.519       1.684       1.688        1.688
                       (AC-FT)      5159.       5721.       5733.        5733.

                      CUMULATIVE AREA =   63.68 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION      CAP
                     TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+   26287.      14.17              10403.       2884.        963.         416.
                      (INCHES)      1.519       1.684       1.688        1.688
                       (AC-FT)      5159.       5721.       5733.        5733.

                      CUMULATIVE AREA =   63.68 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION      CAP
                     TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+   26287.      14.17              10403.       2884.        963.         416.
                      (INCHES)      1.519       1.684       1.688        1.688
                       (AC-FT)      5159.       5721.       5733.        5733.

                      CUMULATIVE AREA =   63.68 SQ MI

    -----DSS---ZOPEN:  Existing File Opened,  File: LS10024F.DSS
                      Unit:  71;  DSS Version: 6-JG
 -----DSS---ZWRITE Unit  71; Vers.    2:  //CAP/FLOW/31DEC1989/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //CAP/FLOW/01JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //CAP/FLOW/02JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //CAP/FLOW/03JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //CAP/FLOW/04JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //CAP/FLOW/05JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //CAP/FLOW/06JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //CAP/FLOW/07JAN1990/5MIN/100FU/
     ***            ***            ***            ***            ***
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                    INTERPOLATED HYDROGRAPH AT      CAP

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26287.      14.17                10403.       2884.        963.         416.
                        (INCHES)     1.519       1.684       1.688        1.688
                         (AC-FT)     5159.       5721.       5733.        5733.

                    CUMULATIVE AREA =   63.68 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  134 KK    *     CAPR2  *
            *            *
            **************
                    ROUTE CAP OVERFLOW THROUGH S24 FROM CAP TO I-17 IN SKUNK CREEK

              HYDROGRAPH ROUTING DATA

  136 RM          MUSKINGUM ROUTING
                       NSTPS          3 NUMBER OF SUBREACHES
                       AMSKK        .23 MUSKINGUM K
                           X        .25 MUSKINGUM X

                                                                  ***

      ***             ***             ***             ***             ***

                     HYDROGRAPH AT STATION    CAPR2
                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26092.      14.42                10402.       2884.        963.         416.
                        (INCHES)     1.519       1.684       1.688        1.688
                         (AC-FT)     5158.       5720.       5733.        5733.

                    CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***

                     HYDROGRAPH AT STATION    CAPR2
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26092.      14.42                10402.       2884.        963.         416.
                        (INCHES)     1.519       1.684       1.688        1.688
                         (AC-FT)     5158.       5720.       5733.        5733.

                    CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***

                     HYDROGRAPH AT STATION    CAPR2
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26092.      14.42                10402.       2884.        963.         416.
                        (INCHES)     1.519       1.684       1.688        1.688
                         (AC-FT)     5158.       5720.       5733.        5733.

                    CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***

                     HYDROGRAPH AT STATION    CAPR2
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26092.      14.42                10402.       2884.        963.         416.
```

```
                    (INCHES)      1.519        1.684        1.688        1.688
                     (AC-FT)      5158.        5720.        5733.        5733.

                    CUMULATIVE AREA =   63.68 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CAPR2
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+   26092.      14.42             10402.        2884.         963.         416.
                                (INCHES)      1.519        1.684        1.688        1.688
                                 (AC-FT)      5158.        5720.        5733.        5733.

                    CUMULATIVE AREA =   63.68 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT    CAPR2

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+   26092.      14.42             10402.        2884.         963.         416.
                                (INCHES)      1.519        1.684        1.688        1.688
                                 (AC-FT)      5158.        5720.        5733.        5733.

                    CUMULATIVE AREA =   63.68 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
 137 KK     *     S24    *
            *            *
            **************
                      Sub-Basin    S24

                   The Phoenix Valley S-Graph is used for this basin.
                       Lag Used =  16.0 minutes


            SUBBASIN RUNOFF DATA

 143 BA       SUBBASIN CHARACTERISTICS
                TAREA          .65  SUBBASIN AREA

 144 LG       GREEN AND AMPT LOSS RATE
                STRTL          .21  STARTING LOSS
                  DTH          .22  MOISTURE DEFICIT
                 PSIF         7.60  WETTING FRONT SUCTION
                XKSAT          .10  HYDRAULIC CONDUCTIVITY
                RTIMP        28.60  PERCENT IMPERVIOUS AREA

 138 UI       INPUT UNITGRAPH,   9 ORDINATES,  VOLUME = 1.00
                224.0     711.0    1243.0    1380.0     824.0     376.0     174.0      56.0      42.0
                                                                  ***

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION      S24
                    TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.72, TOTAL EXCESS =    2.38

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+    1389.      12.08               142.          42.          14.           6.
                                (INCHES)      2.028        2.366        2.367        2.367
                                 (AC-FT)        71.          82.          82.          82.

                    CUMULATIVE AREA =      .65 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION      S24
                    TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.66, TOTAL EXCESS =    2.20
```

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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1299.     12.08                 131.         38.         13.           6.
                         (INCHES)   1.869      2.187       2.188       2.188
                          (AC-FT)     65.         76.         76.          76.

                         CUMULATIVE AREA =     .65 SQ MI


      ***               ***          ***          ***          ***

                          HYDROGRAPH AT STATION      S24
                         TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.61, TOTAL EXCESS =    2.08

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1238.     12.08                 124.         36.         12.           5.
                         (INCHES)   1.767      2.072       2.073       2.073
                          (AC-FT)     61.         72.         72.          72.

                         CUMULATIVE AREA =     .65 SQ MI


      ***               ***          ***          ***          ***

                          HYDROGRAPH AT STATION      S24
                         TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.56, TOTAL EXCESS =    1.97

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1176.     12.08                 117.         34.         11.           5.
                         (INCHES)   1.665      1.956       1.957       1.957
                          (AC-FT)     58.         68.         68.          68.

                         CUMULATIVE AREA =     .65 SQ MI


      ***               ***          ***          ***          ***

                          HYDROGRAPH AT STATION      S24
                         TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.54, TOTAL EXCESS =    1.93

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1155.     12.08                 114.         34.         11.           5.
                         (INCHES)   1.629      1.916       1.917       1.917
                          (AC-FT)     57.         67.         67.          67.

                         CUMULATIVE AREA =     .65 SQ MI

      ***               ***          ***          ***          ***


                         INTERPOLATED HYDROGRAPH AT      S24

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1334.     12.08                 136.         40.         13.           6.
                         (INCHES)   1.932      2.258       2.259       2.259
                          (AC-FT)     67.         79.         79.          79.

                         CUMULATIVE AREA =     .65 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  147 KK    *     S24C   *
            *            *
            **************
                          COMBINE ROUTED FLOWS FROM CAP WITH RUNOFF FROM S24 AT I-17

  149 HC          HYDROGRAPH COMBINATION
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                    ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***           ***            ***            ***            ***

                      HYDROGRAPH AT STATION     S24C
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26109.      14.42               10537.      2925.        977.        422.
                        (INCHES)     1.523      1.691       1.695       1.695
                         (AC-FT)     5225.      5802.       5815.       5815.

                      CUMULATIVE AREA =   64.33 SQ MI

      ***           ***            ***            ***            ***

                      HYDROGRAPH AT STATION     S24C
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26108.      14.42               10526.      2922.        976.        422.
                        (INCHES)     1.521      1.689       1.693       1.693
                         (AC-FT)     5220.      5796.       5809.       5809.

                      CUMULATIVE AREA =   64.33 SQ MI

      ***           ***            ***            ***            ***

                      HYDROGRAPH AT STATION     S24C
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26108.      14.42               10520.      2920.        976.        422.
                        (INCHES)     1.520      1.688       1.692       1.692
                         (AC-FT)     5216.      5792.       5805.       5805.

                      CUMULATIVE AREA =   64.33 SQ MI

      ***           ***            ***            ***            ***

                      HYDROGRAPH AT STATION     S24C
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26107.      14.42               10513.      2918.        975.        421.
                        (INCHES)     1.519      1.687       1.691       1.691
                         (AC-FT)     5213.      5788.       5801.       5801.

                      CUMULATIVE AREA =   64.33 SQ MI

      ***           ***            ***            ***            ***

                      HYDROGRAPH AT STATION     S24C
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26107.      14.42               10511.      2917.        975.        421.
                        (INCHES)     1.519      1.686       1.690       1.690
                         (AC-FT)     5212.      5786.       5800.       5800.

                      CUMULATIVE AREA =   64.33 SQ MI

      ***           ***            ***            ***            ***


                      INTERPOLATED HYDROGRAPH AT     S24C

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26107.      14.42               10512.      2918.        975.        421.
                        (INCHES)     1.519      1.687       1.691       1.691
```

```
                    (AC-FT)     5213.       5787.       5801.       5801.

                    CUMULATIVE AREA =   64.33 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
150 KK    *    S24LS1  *        ROUTE   REACH
          *            *
          **************
                    ROUTE COMBINED FLOWS FROM 1-17 TO CONFLUENCE WITH BUCHANAN WASH

             HYDROGRAPH ROUTING DATA

152 RS          STORAGE ROUTING
                     NSTPS           1  NUMBER OF SUBREACHES
                      ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC       -1.00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

153 RC          NORMAL DEPTH CHANNEL
                       ANL        .035  LEFT OVERBANK N-VALUE
                      ANCH        .035  MAIN CHANNEL N-VALUE
                       ANR        .035  RIGHT OVERBANK N-VALUE
                     RLNTH       3394.  REACH LENGTH
                       SEL       .0053  ENERGY SLOPE
                     ELMAX        15.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
155 RY        ELEVATION     15.00     15.00     15.00       .00       .00     15.00     15.00     15.00
154 RX        DISTANCE        .00      8.00     15.00     50.00    320.00    355.00    362.00    370.00

                                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00     16.72     33.67     50.84     68.25     85.87    103.73    121.81    140.12    158.65
          OUTFLOW        .00    565.16   1797.10   3538.08   5724.48   8317.93  11291.97  14627.04  18307.96  22322.63
        ELEVATION        .00       .79      1.58      2.37      3.16      3.95      4.74      5.53      6.32      7.11

          STORAGE     177.41    196.40    215.62    235.06    254.73    274.62    294.74    315.09    335.66    356.46
          OUTFLOW   26661.13  31315.26  36278.10  41543.79  47107.33  52964.40  59111.29  65544.80  72262.11  79260.82
        ELEVATION       7.89      8.68      9.47     10.26     11.05     11.84     12.63     13.42     14.21     15.00


*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN    47107. TO    79261.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   S24LS1
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+   26089.     14.42                10533.       2924.        977.         422.
                        (INCHES)     1.522       1.691       1.695        1.695
                         (AC-FT)     5223.       5801.       5815.        5815.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     175.      14.42                  90.         31.         10.           4.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     7.79      14.42                4.08        1.42         .48          .21

                      CUMULATIVE AREA =   64.33 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   S24LS1
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+   26088.     14.42                10523.       2921.        976.         422.
                        (INCHES)     1.521       1.689       1.693        1.693
                         (AC-FT)     5218.       5794.       5809.        5809.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
```

```
                                        6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)      (HR)
     175.      14.42                    90.          31.          10.           4.

  PEAK STAGE    TIME                              MAXIMUM AVERAGE STAGE
                                        6-HR        24-HR        72-HR    166.58-HR
+   (FEET)      (HR)
     7.79      14.42                   4.08         1.42          .48          .21

                          CUMULATIVE AREA =   64.33 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   S24LS1
                        TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+   26087.    14.42               10516.        2919.         976.         422.
                            (INCHES)  1.520       1.688        1.692        1.692
                             (AC-FT)  5215.       5790.        5805.        5805.

 PEAK STORAGE   TIME                              MAXIMUM AVERAGE STORAGE
                                        6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)      (HR)
     175.      14.42                    90.          31.          10.           4.

  PEAK STAGE    TIME                              MAXIMUM AVERAGE STAGE
                                        6-HR        24-HR        72-HR    166.58-HR
+   (FEET)      (HR)
     7.79      14.42                   4.08         1.41          .47          .21

                          CUMULATIVE AREA =   64.33 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   S24LS1
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+   26086.    14.42               10510.        2917.         975.         421.
                            (INCHES)  1.519       1.686        1.691        1.691
                             (AC-FT)  5211.       5786.        5801.        5801.

 PEAK STORAGE   TIME                              MAXIMUM AVERAGE STORAGE
                                        6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)      (HR)
     175.      14.42                    90.          31.          10.           4.

  PEAK STAGE    TIME                              MAXIMUM AVERAGE STAGE
                                        6-HR        24-HR        72-HR    166.58-HR
+   (FEET)      (HR)
     7.79      14.42                   4.07         1.41          .47          .21

                          CUMULATIVE AREA =   64.33 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   S24LS1
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+   26086.    14.42               10507.        2917.         975.         421.
                            (INCHES)  1.519       1.686        1.690        1.690
                             (AC-FT)  5210.       5785.        5800.        5800.

 PEAK STORAGE   TIME                              MAXIMUM AVERAGE STORAGE
                                        6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)      (HR)
     175.      14.42                    90.          31.          10.           4.

  PEAK STAGE    TIME                              MAXIMUM AVERAGE STAGE
                                        6-HR        24-HR        72-HR    166.58-HR
+   (FEET)      (HR)
     7.79      14.42                   4.07         1.41          .47          .21

                          CUMULATIVE AREA =   64.33 SQ MI

      ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT   S24LS1
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```
  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26086.     14.42                10509.       2917.        975.         421.
                        (INCHES)     1.519       1.686       1.691        1.691
                         (AC-FT)     5211.       5786.       5801.        5801.

                        CUMULATIVE AREA =   64.33 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  156 KK    *    RRB22C  *
            *            *
            **************
                          INFLOWS FROM BUCHANAN WASH UNDER CAP
                            FROM BF10024F.DAT

  159 IN          TIME DATA FOR INPUT TIME SERIES
                        JXMIN           5  TIME INTERVAL IN MINUTES
                       JXDATE      1JAN90  STARTING DATE
                       JXTIME           0  STARTING TIME

                SUBBASIN RUNOFF DATA

  160 BA          SUBBASIN CHARACTERISTICS
                        TAREA        9.62  SUBBASIN AREA

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RRB22C
                       TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     934.     15.67                  748.        246.         82.          35.
                        (INCHES)      .723        .952        .952         .952
                         (AC-FT)      371.        489.        489.         489.

                        CUMULATIVE AREA =    9.62 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RRB22C
                       TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     934.     15.67                  748.        246.         82.          35.
                        (INCHES)      .723        .952        .952         .952
                         (AC-FT)      371.        489.        489.         489.

                        CUMULATIVE AREA =    9.62 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RRB22C
                       TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     934.     15.67                  748.        246.         82.          35.
                        (INCHES)      .723        .952        .952         .952
                         (AC-FT)      371.        489.        489.         489.

                        CUMULATIVE AREA =    9.62 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RRB22C
                       TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     934.     15.67                  748.        246.         82.          35.
                        (INCHES)      .723        .952        .952         .952
```

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                    (AC-FT)      371.        489.        489.        489.

                  CUMULATIVE AREA =    9.62 SQ MI

     ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION   RRB22C
                 TRANSPOSITION AREA     90.0 SQ MI

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+  (CFS)       (HR)
                          (CFS)
+    934.     15.67                748.        246.         82.          35.
                        (INCHES)   .723        .952        .952        .952
                         (AC-FT)   371.        489.        489.        489.

                  CUMULATIVE AREA =    9.62 SQ MI

-----DSS---ZWRITE Unit  71; Vers.    2:  //RRB22C/FLOW/31DEC1989/5MIN/100FU/
-----DSS---ZWRITE Unit  71; Vers.    2:  //RRB22C/FLOW/01JAN1990/5MIN/100FU/
-----DSS---ZWRITE Unit  71; Vers.    2:  //RRB22C/FLOW/02JAN1990/5MIN/100FU/
-----DSS---ZWRITE Unit  71; Vers.    2:  //RRB22C/FLOW/03JAN1990/5MIN/100FU/
-----DSS---ZWRITE Unit  71; Vers.    2:  //RRB22C/FLOW/04JAN1990/5MIN/100FU/
-----DSS---ZWRITE Unit  71; Vers.    2:  //RRB22C/FLOW/05JAN1990/5MIN/100FU/
-----DSS---ZWRITE Unit  71; Vers.    2:  //RRB22C/FLOW/06JAN1990/5MIN/100FU/
-----DSS---ZWRITE Unit  71; Vers.    2:  //RRB22C/FLOW/07JAN1990/5MIN/100FU/
     ***          ***          ***          ***          ***


                  INTERPOLATED HYDROGRAPH AT   RRB22C

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+  (CFS)       (HR)
                          (CFS)
+    934.     15.67                748.        246.         82.          35.
                        (INCHES)   .723        .952        .952        .952
                         (AC-FT)   371.        489.        489.        489.

                  CUMULATIVE AREA =    9.62 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
206 KK      *   B22LS1   *        ROUTE   REACH
            *            *
            **************
                          ROUTE IMPORTED FLOWS FROM BUCHANAN WASH FROM CAP TO CONFLUENCE WITH SKUNK
                          CREEK IN BUCHANAN WASH

              HYDROGRAPH ROUTING DATA

209 RS          STORAGE ROUTING
                     NSTPS          5  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC      -1.00  INITIAL CONDITION
                         X        .00 WORKING R AND D COEFFICIENT

210 RC          NORMAL DEPTH CHANNEL
                       ANL       .055  LEFT OVERBANK N-VALUE
                      ANCH       .040  MAIN CHANNEL N-VALUE
                       ANR       .055  RIGHT OVERBANK N-VALUE
                     RLNTH      10208.  REACH LENGTH
                       SEL      .0040  ENERGY SLOPE
                     ELMAX        7.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
212 RY        ELEVATION     7.00      6.00      5.00       .00       .00      5.00      6.00      7.00
211 RX        DISTANCE       .00    100.00    200.00    210.00    225.00    235.00    285.00    335.00

                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      1.36      2.84      4.46      6.20      8.07     10.06     12.18     14.43     16.81
          OUTFLOW        .00      6.76     21.75     43.42     71.34    105.36    145.48    191.77    244.33    303.29
        ELEVATION        .00       .37       .74      1.11      1.47      1.84      2.21      2.58      2.95      3.32

          STORAGE      19.31     21.94     24.70     27.59     31.03     38.48     50.70     67.70     89.46    116.00
          OUTFLOW     368.81    441.04    520.14    606.30    708.61    843.01   1016.38   1242.18   1531.99   1896.29
        ELEVATION       3.68      4.05      4.42      4.79      5.16      5.53      5.89      6.26      6.63      7.00

     ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION   B22LS1
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                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     927.     16.67                 746.        246.         82.          35.
                        (INCHES)     .721        .952        .952         .952
                         (AC-FT)     370.        488.        489.         489.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       9.     16.67                   7.          3.          1.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      5.71     16.67                5.13        2.24         .75          .32

                    CUMULATIVE AREA =    9.62 SQ MI

      ***           ***          ***          ***          ***

                  HYDROGRAPH AT STATION   B22LS1
                TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     927.     16.67                 746.        246.         82.          35.
                        (INCHES)     .721        .952        .952         .952
                         (AC-FT)     370.        488.        489.         489.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       9.     16.67                   7.          3.          1.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      5.71     16.67                5.13        2.24         .75          .32

                    CUMULATIVE AREA =    9.62 SQ MI

      ***           ***          ***          ***          ***

                  HYDROGRAPH AT STATION   B22LS1
                TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     927.     16.67                 746.        246.         82.          35.
                        (INCHES)     .721        .952        .952         .952
                         (AC-FT)     370.        488.        489.         489.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       9.     16.67                   7.          3.          1.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      5.71     16.67                5.13        2.24         .75          .32

                    CUMULATIVE AREA =    9.62 SQ MI

      ***           ***          ***          ***          ***

                  HYDROGRAPH AT STATION   B22LS1
                TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     927.     16.67                 746.        246.         82.          35.
                        (INCHES)     .721        .952        .952         .952
                         (AC-FT)     370.        488.        489.         489.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       9.     16.67                   7.          3.          1.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
```

```
+   (FEET)      (HR)
      5.71     16.67                    5.13        2.24         .75          .32

                          CUMULATIVE AREA =    9.62 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   B22LS1
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     927.     16.67               746.        246.         82.          35.
                             (INCHES)      .721        .952        .952         .952
                              (AC-FT)      370.        488.        489.         489.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        9.     16.67                  7.          3.          1.           0.

  PEAK STAGE    TIME                         MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      5.71     16.67                    5.13        2.24         .75          .32

                          CUMULATIVE AREA =    9.62 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    2:  //B22LS1/FLOW/31DEC1989/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //B22LS1/FLOW/01JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //B22LS1/FLOW/02JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //B22LS1/FLOW/03JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //B22LS1/FLOW/04JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //B22LS1/FLOW/05JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //B22LS1/FLOW/06JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //B22LS1/FLOW/07JAN1990/5MIN/100FU/
      ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT   B22LS1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     927.     16.67               746.        246.         82.          35.
                             (INCHES)      .721        .952        .952         .952
                              (AC-FT)      370.        488.        489.         489.

                          CUMULATIVE AREA =    9.62 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  214 KK    *     LS-1   *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

  215 BA          SUBBASIN CHARACTERISTICS
                        TAREA        2.47  SUBBASIN AREA

  216 LG          GREEN AND AMPT LOSS RATE
                        STRTL         .24  STARTING LOSS
                          DTH         .19  MOISTURE DEFICIT
                         PSIF        6.60  WETTING FRONT SUCTION
                        XKSAT         .15  HYDRAULIC CONDUCTIVITY
                        RTIMP       15.00  PERCENT IMPERVIOUS AREA

  217 UC          CLARK UNITGRAPH
                           TC         .53  TIME OF CONCENTRATION
                            R         .27  STORAGE COEFFICIENT

  218 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                    ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=   .53 HR,       R=   .27 HR
                                  SNYDER   TP=   .31 HR,      CP=   .60

                                          UNIT HYDROGRAPH
                                     20 END-OF-PERIOD ORDINATES
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          290.     1114.     2411.     3058.     2746.     2333.     1875.     1416.     1037.      760.
          557.      408.      299.      219.      160.      117.       86.       63.       46.       34.

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-1
                   TRANSPOSITION AREA       .0 SQ MI

     TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.16, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3647.     12.17                 466.        128.         43.         18.
                        (INCHES)    1.755       1.932       1.933       1.933
                         (AC-FT)     231.        254.        255.        255.

                       CUMULATIVE AREA =    2.47 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-1
                   TRANSPOSITION AREA     10.0 SQ MI

     TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.07, TOTAL EXCESS =    1.79

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3388.     12.17                 428.        118.         39.         17.
                        (INCHES)    1.611       1.777       1.778       1.778
                         (AC-FT)     212.        234.        234.        234.

                       CUMULATIVE AREA =    2.47 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-1
                   TRANSPOSITION AREA     30.0 SQ MI

     TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.00, TOTAL EXCESS =    1.69

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3216.     12.17                 403.        111.         37.         16.
                        (INCHES)    1.517       1.677       1.678       1.678
                         (AC-FT)     200.        221.        221.        221.

                       CUMULATIVE AREA =    2.47 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-1
                   TRANSPOSITION AREA     60.0 SQ MI

     TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.94, TOTAL EXCESS =    1.59

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3045.     12.17                 378.        105.         35.         15.
                        (INCHES)    1.425       1.578       1.579       1.579
                         (AC-FT)     188.        208.        208.        208.

                       CUMULATIVE AREA =    2.47 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-1
                   TRANSPOSITION AREA     90.0 SQ MI

     TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.92, TOTAL EXCESS =    1.55

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2985.     12.17                 370.        102.         34.         15.
                        (INCHES)    1.393       1.543       1.544       1.544
                         (AC-FT)     183.        203.        203.        203.

                       CUMULATIVE AREA =    2.47 SQ MI

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                    INTERPOLATED HYDROGRAPH AT      LS-1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+    3440.     12.17                436.        120.         40.          17.
                           (INCHES)  1.640       1.809       1.810        1.810
                            (AC-FT)   216.        238.        238.         238.

                     CUMULATIVE AREA =    2.47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 220 KK     *    RETLS1  *
            *            *
            **************
                        DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                         - 232 AC DEVELOPMENT WITH RETENTION
                         - C FACTOR = 0.63
                         - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                      ISTAD       R1OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       32.40  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***            ***            ***            ***            ***

                     DIVERSION HYDROGRAPH    R1OUT
                   TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     860.     11.83                 54.         16.          5.           2.
                           (INCHES)  .203        .246        .246         .246
                            (AC-FT)    27.         32.         32.          32.

                     CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   RETLS1
                   TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+    3647.     12.17                433.        112.         37.          16.
                           (INCHES)  1.631       1.687       1.687        1.687
                            (AC-FT)   215.        222.        222.         222.

                     CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***

                     DIVERSION HYDROGRAPH    R1OUT
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     868.     11.83                 54.         16.          5.           2.
                           (INCHES)  .204        .246        .246         .246
                            (AC-FT)    27.         32.         32.          32.

                     CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   RETLS1
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

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                                (CFS)
+    3388.      12.17                    393.        102.         34.          15.
                            (INCHES)    1.481       1.532       1.532        1.532
                             (AC-FT)     195.        202.        202.         202.

                            CUMULATIVE AREA =    2.47 SQ MI

      ***                 ***            ***            ***            ***

                            DIVERSION HYDROGRAPH    R1OUT
                          TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW      TIME                            MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     811.       11.83                     55.         16.          5.           2.
                            (INCHES)     .206        .246        .246         .246
                             (AC-FT)     27.         32.         32.          32.

                            CUMULATIVE AREA =    2.47 SQ MI

      ***                 ***            ***            ***            ***

                            HYDROGRAPH AT STATION   RETLS1
                          TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW      TIME                            MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+    3216.      12.17                    367.         95.         32.          14.
                            (INCHES)    1.382       1.431       1.431        1.431
                             (AC-FT)     182.        188.        188.         188.

                            CUMULATIVE AREA =    2.47 SQ MI

      ***                 ***            ***            ***            ***

                            DIVERSION HYDROGRAPH    R1OUT
                          TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                            MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     769.       11.92                     55.         16.          5.           2.
                            (INCHES)     .208        .246        .246         .246
                             (AC-FT)     27.         32.         32.          32.

                            CUMULATIVE AREA =    2.47 SQ MI

      ***                 ***            ***            ***            ***

                            HYDROGRAPH AT STATION   RETLS1
                          TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                            MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+    3045.      12.17                    341.         88.         29.          13.
                            (INCHES)    1.285       1.333       1.333        1.333
                             (AC-FT)     169.        175.        175.         175.

                            CUMULATIVE AREA =    2.47 SQ MI

      ***                 ***            ***            ***            ***

                            DIVERSION HYDROGRAPH    R1OUT
                          TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                            MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     842.       11.92                     55.         16.          5.           2.
                            (INCHES)     .209        .246        .246         .246
                             (AC-FT)     27.         32.         32.          32.

                            CUMULATIVE AREA =    2.47 SQ MI

      ***                 ***            ***            ***            ***

                            HYDROGRAPH AT STATION   RETLS1
                          TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                            MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR       72-HR    166.58-HR
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+   (CFS)        (HR)
                              (CFS)
+    2985.      12.17                    332.         86.         29.          12.
                           (INCHES)     1.252       1.298       1.298        1.298
                            (AC-FT)     165.         171.        171.         171.

                           CUMULATIVE AREA =    2.47 SQ MI

      ***              ***              ***              ***              ***


                    INTERPOLATED DIVERSION HYDROGRAPH AT    R1OUT

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     866.      11.83                     54.         16.          5.           2.
                           (INCHES)      .204        .246        .246         .246
                            (AC-FT)      27.          32.         32.          32.

                           CUMULATIVE AREA =    2.47 SQ MI

      ***              ***              ***              ***              ***


                           INTERPOLATED HYDROGRAPH AT   RETLS1

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+    3440.      12.17                    401.        104.         35.          15.
                           (INCHES)     1.511       1.564       1.564        1.564
                            (AC-FT)     199.         206.        206.         206.

                           CUMULATIVE AREA =    2.47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  228 KK    *     LS1CR  *
            *            *
            **************
                           COMBINE RUNOFF FROM LS-1 WITH ROUTED FLOWS FROM BUCHANAN WASH AT CAP
                           THIS IS THE TOTAL FLOW IN BUCHANAN WASH JUST U/S OF SKUNK CREEK

  231 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***              ***              ***              ***              ***

                           HYDROGRAPH AT STATION    LS1CR
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+    3647.      12.17                    984.        358.        119.          52.
                           (INCHES)      .757       1.102       1.103        1.103
                            (AC-FT)     488.         710.        711.         711.

                           CUMULATIVE AREA =   12.09 SQ MI


      ***              ***              ***              ***              ***

                           HYDROGRAPH AT STATION    LS1CR
                        TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+    3388.      12.17                    948.        348.        116.          50.
                           (INCHES)      .729       1.070       1.071        1.071
                            (AC-FT)     470.         690.        690.         690.

                           CUMULATIVE AREA =   12.09 SQ MI


      ***              ***              ***              ***              ***

                           HYDROGRAPH AT STATION    LS1CR
                        TRANSPOSITION AREA     30.0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3216.     12.17                925.        341.        114.         49.
                        (INCHES)    .711       1.050       1.050       1.050
                         (AC-FT)    458.        677.        677.        677.

                        CUMULATIVE AREA =   12.09 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS1CR
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3045.     12.17                901.        335.        112.         48.
                        (INCHES)    .693       1.029       1.030       1.030
                         (AC-FT)    447.        664.        664.        664.

                        CUMULATIVE AREA =   12.09 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS1CR
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2985.     12.17                893.        332.        111.         48.
                        (INCHES)    .686       1.022       1.023       1.023
                         (AC-FT)    443.        659.        660.        660.

                        CUMULATIVE AREA =   12.09 SQ MI

      ***             ***             ***             ***             ***


                       INTERPOLATED HYDROGRAPH AT    LS1CR

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3358.     12.17                944.        347.        116.         50.
                        (INCHES)    .726       1.067       1.067       1.067
                         (AC-FT)    468.        688.        688.        688.

                        CUMULATIVE AREA =   12.09 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  232 KK    *      LS1C  *
            *            *
            **************
                        COMBINE BUCHANAN WASH WITH ROUTED FLOWS IN SKUNK CREEK FROM I-17.

  234 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS1C
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26723.     14.42               11515.       3277.       1097.        474.
                        (INCHES)   1.401       1.595       1.601       1.601
                         (AC-FT)   5710.       6500.       6526.       6526.

                        CUMULATIVE AREA =   76.42 SQ MI

      ***             ***             ***             ***             ***
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                    HYDROGRAPH AT STATION     LS1C
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26719.      14.42                11466.       3264.        1092.        472.
                        (INCHES)     1.395       1.588        1.595       1.595
                         (AC-FT)     5686.       6474.        6500.       6500.

                       CUMULATIVE AREA =   76.42 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS1C
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26717.      14.42                11436.       3255.        1089.        471.
                        (INCHES)     1.391       1.584        1.590       1.590
                         (AC-FT)     5671.       6456.        6482.       6482.

                       CUMULATIVE AREA =   76.42 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS1C
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26715.      14.42                11406.       3246.        1087.        470.
                        (INCHES)     1.388       1.580        1.586       1.586
                         (AC-FT)     5656.       6439.        6465.       6465.

                       CUMULATIVE AREA =   76.42 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS1C
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26714.      14.42                11395.       3243.        1086.        469.
                        (INCHES)     1.386       1.578        1.585       1.585
                         (AC-FT)     5651.       6433.        6459.       6459.

                       CUMULATIVE AREA =   76.42 SQ MI

      ***             ***             ***             ***             ***


                    INTERPOLATED HYDROGRAPH AT     LS1C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26714.      14.42                11399.       3245.        1086.        469.
                        (INCHES)     1.387       1.579        1.585       1.585
                         (AC-FT)     5653.       6436.        6462.       6462.

                       CUMULATIVE AREA =   76.42 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  235 KK    *    LS1LS2  *        ROUTE   REACH
            *            *
            **************
                          ROUTE COMBINED FLOWS FROM CONFLUENCE OF BUCHANAN WASH AND SKUNK CREEK TO
                          PINNACLE PEAK ROAD IN SKUNK CREEK

              HYDROGRAPH ROUTING DATA

  238 RS          STORAGE ROUTING
                       NSTPS            3  NUMBER OF SUBREACHES
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                    ITYP        STOR  TYPE OF INITIAL CONDITION
                   RSVRIC       -1.00  INITIAL CONDITION
                       X         .00 WORKING R AND D COEFFICIENT

239 RC          NORMAL DEPTH CHANNEL
                     ANL        .035  LEFT OVERBANK N-VALUE
                    ANCH        .035  MAIN CHANNEL N-VALUE
                     ANR        .035  RIGHT OVERBANK N-VALUE
                   RLNTH       9552.  REACH LENGTH
                     SEL      .0063  ENERGY SLOPE
                   ELMAX       15.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL -------- + --- RIGHT OVERBANK ---
241 RY        ELEVATION    15.00     15.00     15.00       .00       .00     15.00     15.00     15.00
240 RX        DISTANCE       .00      8.00     15.00     50.00    320.00    355.00    362.00    370.00

                                                   ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00     47.06     94.76    143.10    192.07    241.68    291.93    342.82    394.35    446.51
          OUTFLOW        .00    616.17   1959.31   3857.45   6241.21   9068.75  12311.25  15947.36  19960.54  24337.59
        ELEVATION        .00       .79      1.58      2.37      3.16      3.95      4.74      5.53      6.32      7.11

          STORAGE     499.31    552.75    606.83    661.54    716.89    772.88    829.51    886.78    944.68   1003.22
          OUTFLOW   29067.71  34141.95  39552.77  45293.77  51359.50  57745.27  64447.01  71461.24  78784.90  86415.35
        ELEVATION       7.89      8.68      9.47     10.26     11.05     11.84     12.63     13.42     14.21     15.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN    34142. TO    86415.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   LS1LS2
                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26617.     14.58                11478.      3276.       1097.        474.
                        (INCHES)    1.396      1.594       1.601       1.601
                         (AC-FT)    5692.      6497.       6526.       6526.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     157.      14.58                  87.         31.         10.          5.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     7.49      14.58                 4.20        1.51         .51         .22

                       CUMULATIVE AREA =   76.42 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   LS1LS2
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   26613.     14.58                11431.      3262.       1092.        472.
                        (INCHES)    1.391      1.588       1.595       1.595
                         (AC-FT)    5668.      6471.       6500.       6500.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     157.      14.58                  86.         31.         10.          4.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     7.49      14.58                 4.19        1.51         .51         .22

                       CUMULATIVE AREA =   76.42 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   LS1LS2
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
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+   26611.     14.58                11400.       3254.       1089.        471.
                          (INCHES)   1.387       1.583       1.590       1.590
                           (AC-FT)   5653.       6454.       6482.       6482.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     157.      14.58                 86.         31.         10.           4.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     7.48      14.58                4.18        1.51         .51         .22

                          CUMULATIVE AREA =   76.42 SQ MI


      ***             ***            ***            ***            ***

                          HYDROGRAPH AT STATION   LS1LS2
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+   26609.     14.58               11369.       3245.       1087.        470.
                          (INCHES)   1.383       1.579       1.586       1.586
                           (AC-FT)   5638.       6437.       6465.       6465.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     157.      14.58                 86.         31.         10.           4.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     7.48      14.58                4.17        1.50         .51         .22

                          CUMULATIVE AREA =   76.42 SQ MI

      ***             ***            ***            ***            ***

                          HYDROGRAPH AT STATION   LS1LS2
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+   26608.     14.58               11358.       3242.       1086.        469.
                          (INCHES)   1.382       1.578       1.585       1.585
                           (AC-FT)   5632.       6431.       6459.       6459.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     157.      14.58                 86.         31.         10.           4.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     7.48      14.58                4.17        1.50         .51         .22

                          CUMULATIVE AREA =   76.42 SQ MI

      ***             ***            ***            ***            ***


                          INTERPOLATED HYDROGRAPH AT   LS1LS2

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+   26608.     14.58               11363.       3243.       1086.        469.
                          (INCHES)   1.382       1.578       1.585       1.585
                           (AC-FT)   5634.       6433.       6462.       6462.

                          CUMULATIVE AREA =   76.42 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  242 KK    *     LS-2   *        BASIN
            *            *
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                SUBBASIN RUNOFF DATA

243 BA          SUBBASIN CHARACTERISTICS
                     TAREA          .94  SUBBASIN AREA

244 LG          GREEN AND AMPT LOSS RATE
                     STRTL          .19  STARTING LOSS
                       DTH          .25  MOISTURE DEFICIT
                      PSIF         4.80  WETTING FRONT SUCTION
                     XKSAT          .30  HYDRAULIC CONDUCTIVITY
                     RTIMP        20.00  PERCENT IMPERVIOUS AREA

245 UC          CLARK UNITGRAPH
                        TC          .87  TIME OF CONCENTRATION
                         R          .66  STORAGE COEFFICIENT

246 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                  ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=   .87 HR,        R=   .66 HR
                                        SNYDER   TP=   .50 HR,       CP=   .44

                                                UNIT HYDROGRAPH
                                            47 END-OF-PERIOD ORDINATES
                 21.      83.     175.     344.     504.     545.     540.     521.     493.     461.
                424.     380.     335.     295.     260.     229.     202.     178.     157.     139.
                122.     108.      95.      84.      74.      65.      57.      51.      45.      39.
                 35.      31.      27.      24.      21.      18.      16.      14.      13.      11.
                 10.       9.       8.       7.       6.       5.       5.

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS-2
                     TRANSPOSITION AREA       .0 SQ MI

     TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.25, TOTAL EXCESS =    1.85

   PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     719.      12.42                163.         47.         16.           7.
                        (INCHES)    1.600      1.836       1.840       1.840
                         (AC-FT)     81.         93.         93.         93.

                       CUMULATIVE AREA =     .94 SQ MI

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS-2
                     TRANSPOSITION AREA     10.0 SQ MI

     TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.15, TOTAL EXCESS =    1.71

   PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     661.      12.42                150.         43.         14.           6.
                        (INCHES)    1.472      1.694       1.698       1.698
                         (AC-FT)     74.         85.         86.         86.

                       CUMULATIVE AREA =     .94 SQ MI

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS-2
                     TRANSPOSITION AREA     30.0 SQ MI

     TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.08, TOTAL EXCESS =    1.61

   PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     623.      12.42                141.         41.         14.           6.
                        (INCHES)    1.386      1.599       1.603       1.603
                         (AC-FT)     70.         81.         81.         81.

                       CUMULATIVE AREA =     .94 SQ MI

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS-2
                     TRANSPOSITION AREA     60.0 SQ MI

     TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.01, TOTAL EXCESS =    1.51
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```
  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     584.     12.42                 132.         38.         13.           6.
                        (INCHES)    1.300      1.503       1.507        1.507
                         (AC-FT)     66.         76.         76.          76.

                        CUMULATIVE AREA =     .94 SQ MI

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-2
                      TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.99, TOTAL EXCESS =    1.48

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     570.     12.42                 129.         37.         12.           5.
                        (INCHES)    1.270      1.470       1.473        1.473
                         (AC-FT)     64.         74.         74.          74.

                        CUMULATIVE AREA =     .94 SQ MI

      ***             ***            ***            ***            ***


                        INTERPOLATED HYDROGRAPH AT     LS-2

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     681.     12.42                 154.         44.         15.           6.
                        (INCHES)    1.516      1.743       1.747        1.747
                         (AC-FT)     76.         88.         88.          88.

                        CUMULATIVE AREA =     .94 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  248 KK    *    RETLS2  *
            *            *
            **************
                                DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                                 - 78 AC DEVELOPMENT WITH RETENTION
                                 - C FACTOR = 0.63
                                 - 100-YR 2-HR RAIN = 2.66"

      DT          DIVERSION
                       ISTAD       R2OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX       10.90  MAXIMUM VOLUME TO BE DIVERTED

      DI             INFLOW         .00  10000.00

      DQ       DIVERTED FLOW        .00  10000.00

                                                                  ***

      ***             ***            ***            ***            ***

                        DIVERSION HYDROGRAPH     R2OUT
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     100.     11.83                  17.          5.          2.           1.
                        (INCHES)     .164        .216        .216         .216
                         (AC-FT)      8.         11.         11.          11.

                        CUMULATIVE AREA =     .94 SQ MI

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION    RETLS2
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

```
                                  (CFS)
+     719.      12.42                    157.          41.          14.           6.
                              (INCHES)   1.542        1.624        1.624         1.624
                               (AC-FT)    78.          82.          82.           82.

                              CUMULATIVE AREA =     .94 SQ MI


      ***                    ***          ***          ***          ***

                              DIVERSION HYDROGRAPH    R2OUT
                             TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     153.      11.92                     17.           5.           2.           1.
                              (INCHES)    .166         .216         .216         .216
                               (AC-FT)     8.          11.          11.          11.

                              CUMULATIVE AREA =     .94 SQ MI


      ***                    ***          ***          ***          ***

                              HYDROGRAPH AT STATION   RETLS2
                             TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     661.      12.42                    143.          38.          13.           5.
                              (INCHES)   1.406        1.482        1.482         1.482
                               (AC-FT)    71.          75.          75.           75.

                              CUMULATIVE AREA =     .94 SQ MI


      ***                    ***          ***          ***          ***

                              DIVERSION HYDROGRAPH    R2OUT
                             TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     143.      11.92                     17.           5.           2.           1.
                              (INCHES)    .168         .216         .216         .216
                               (AC-FT)     8.          11.          11.          11.

                              CUMULATIVE AREA =     .94 SQ MI


      ***                    ***          ***          ***          ***

                              HYDROGRAPH AT STATION   RETLS2
                             TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     623.      12.42                    134.          35.          12.           5.
                              (INCHES)   1.314        1.386        1.386         1.386
                               (AC-FT)    66.          70.          70.           70.

                              CUMULATIVE AREA =     .94 SQ MI


      ***                    ***          ***          ***          ***

                              DIVERSION HYDROGRAPH    R2OUT
                             TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     161.      12.00                     17.           5.           2.           1.
                              (INCHES)    .170         .216         .216         .216
                               (AC-FT)     9.          11.          11.          11.

                              CUMULATIVE AREA =     .94 SQ MI


      ***                    ***          ***          ***          ***

                              HYDROGRAPH AT STATION   RETLS2
                             TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
```

```
+   (CFS)        (HR)
                                  (CFS)
+     584.      12.42                   124.         33.         11.          5.
                              (INCHES)  1.221       1.290       1.290       1.290
                               (AC-FT)    62.         65.         65.         65.

                          CUMULATIVE AREA =     .94 SQ MI

      ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH    R2OUT
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     187.      12.00                    17.          5.          2.          1.
                              (INCHES)  .171        .216        .216        .216
                               (AC-FT)     9.         11.         11.         11.

                          CUMULATIVE AREA =     .94 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   RETLS2
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     570.      12.42                   121.         32.         11.          5.
                              (INCHES)  1.189       1.257       1.257       1.257
                               (AC-FT)    60.         63.         63.         63.

                          CUMULATIVE AREA =     .94 SQ MI

      ***             ***             ***             ***             ***


                    INTERPOLATED DIVERSION HYDROGRAPH AT    R2OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     125.      11.92                    17.          5.          2.          1.
                              (INCHES)  .165        .216        .216        .216
                               (AC-FT)     8.         11.         11.         11.

                          CUMULATIVE AREA =     .94 SQ MI

      ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT   RETLS2

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     681.      12.42                   148.         39.         13.          6.
                              (INCHES)  1.452       1.530       1.530       1.530
                               (AC-FT)    73.         77.         77.         77.

                          CUMULATIVE AREA =     .94 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  256 KK    *      LS2C  *
            *            *
            **************
                          COMBINE FLOWS IN SKUNK CREEK AT PINNACLE PEAK ROAD

  258 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS2C
                        TRANSPOSITION AREA       .0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+   26675.      14.58                11624.       3317.        1111.        480.
                                 (INCHES)      1.397        1.594        1.602       1.602
                                  (AC-FT)      5764.        6579.        6608.       6608.

                                  CUMULATIVE AREA =   77.37 SQ MI

      ***                 ***            ***            ***            ***

                                HYDROGRAPH AT STATION     LS2C
                               TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+   26668.      14.58                11563.       3300.        1105.        478.
                                 (INCHES)      1.390        1.586        1.593       1.593
                                  (AC-FT)      5734.        6546.        6574.       6574.

                                  CUMULATIVE AREA =   77.37 SQ MI

      ***                 ***            ***            ***            ***

                                HYDROGRAPH AT STATION     LS2C
                               TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+   26662.      14.58                11524.       3289.        1101.        476.
                                 (INCHES)      1.385        1.581        1.588       1.588
                                  (AC-FT)      5714.        6523.        6552.       6552.

                                  CUMULATIVE AREA =   77.37 SQ MI

      ***                 ***            ***            ***            ***

                                HYDROGRAPH AT STATION     LS2C
                               TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+   26657.      14.58                11485.       3278.        1097.        474.
                                 (INCHES)      1.380        1.576        1.583       1.583
                                  (AC-FT)      5695.        6502.        6530.       6530.

                                  CUMULATIVE AREA =   77.37 SQ MI

      ***                 ***            ***            ***            ***

                                HYDROGRAPH AT STATION     LS2C
                               TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+   26655.      14.58                11472.       3274.        1096.        474.
                                 (INCHES)      1.379        1.574        1.581       1.581
                                  (AC-FT)      5689.        6494.        6523.       6523.

                                  CUMULATIVE AREA =   77.37 SQ MI

      ***                 ***            ***            ***            ***


                                INTERPOLATED HYDROGRAPH AT     LS2C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+   26656.      14.58                11477.       3275.        1097.        474.
                                 (INCHES)      1.379        1.575        1.581       1.581
                                  (AC-FT)      5691.        6497.        6526.       6526.

                                  CUMULATIVE AREA =   77.37 SQ MI


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              *            *
259 KK        *     LS-3   *        BASIN
              *            *
              **************

                 SUBBASIN RUNOFF DATA

260 BA             SUBBASIN CHARACTERISTICS
                         TAREA          .54  SUBBASIN AREA

261 LG             GREEN AND AMPT LOSS RATE
                         STRTL          .17  STARTING LOSS
                           DTH          .25  MOISTURE DEFICIT
                          PSIF         4.30  WETTING FRONT SUCTION
                         XKSAT          .41  HYDRAULIC CONDUCTIVITY
                         RTIMP        39.00  PERCENT IMPERVIOUS AREA

262 UC             CLARK UNITGRAPH
                            TC          .41  TIME OF CONCENTRATION
                             R          .22  STORAGE COEFFICIENT

263 UA             ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                           .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                        100.0

                                                                  ***

                                                          UNIT HYDROGRAPH PARAMETERS
                                                   CLARK   TC=   .41 HR,       R=   .22 HR
                                                  SNYDER   TP=   .23 HR,      CP=   .55

                                                          UNIT HYDROGRAPH
                                                   17 END-OF-PERIOD ORDINATES
                  107.      505.      796.      736.      608.      456.      313.      215.      147.      101.
                   69.       48.       33.       22.       15.       11.        7.

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-3
                       TRANSPOSITION AREA        .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.79, TOTAL EXCESS =    2.31

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     845.     12.17                 107.         34.         11.          5.
                        (INCHES)    1.840      2.301       2.304       2.304
                        (AC-FT)       53.         67.         67.         67.

                        CUMULATIVE AREA =     .54 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-3
                       TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.70, TOTAL EXCESS =    2.15

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     784.     12.17                 100.         31.         10.          5.
                        (INCHES)    1.707      2.141       2.143       2.143
                        (AC-FT)       49.         62.         62.         62.

                        CUMULATIVE AREA =     .54 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-3
                       TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.65, TOTAL EXCESS =    2.04

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     743.     12.17                  95.         30.         10.          4.
                        (INCHES)    1.619      2.034       2.036       2.036
                        (AC-FT)       47.         59.         59.         59.

                        CUMULATIVE AREA =     .54 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-3
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                    TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.59, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     702.      12.17                 89.         28.          9.           4.
                        (INCHES)    1.531       1.928       1.930        1.930
                         (AC-FT)     44.         56.         56.          56.

                        CUMULATIVE AREA =     .54 SQ MI

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-3
                    TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.57, TOTAL EXCESS =    1.90

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     688.      12.17                 88.         28.          9.           4.
                        (INCHES)    1.500       1.890       1.892        1.892
                         (AC-FT)     43.         55.         55.          55.

                        CUMULATIVE AREA =     .54 SQ MI

      ***             ***            ***            ***            ***


                        INTERPOLATED HYDROGRAPH AT     LS-3

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     810.      12.17                103.         32.         11.           5.
                        (INCHES)    1.763       2.208       2.211        2.211
                         (AC-FT)     51.         64.         64.          64.

                        CUMULATIVE AREA =     .54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 265 KK     *    LS3LS5  *        ROUTE   REACH
            *            *
            **************
                          ROUTE RUNOFF FROM LS-3 THROUGH LS-5 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK
                          ROAD

              HYDROGRAPH ROUTING DATA

 268 RS          STORAGE ROUTING
                      NSTPS           4  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC       -1.00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 269 RC          NORMAL DEPTH CHANNEL
                        ANL        .080  LEFT OVERBANK N-VALUE
                       ANCH        .040  MAIN CHANNEL N-VALUE
                        ANR        .080  RIGHT OVERBANK N-VALUE
                      RLNTH       8883.  REACH LENGTH
                        SEL       .0040  ENERGY SLOPE
                      ELMAX         6.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 271 RY        ELEVATION      6.00      5.00      4.00       .00       .00      4.00      5.00      6.00
 270 RX        DISTANCE        .00    100.00    200.00    220.00    370.00    390.00    490.00    590.00

                                                   ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      9.76     19.73     29.89     40.27     50.84     61.62     72.60     83.78     95.17
          OUTFLOW        .00     51.92    165.40    326.25    528.86    769.95   1047.31   1359.35   1704.87   2082.97
        ELEVATION        .00       .32       .63       .95      1.26      1.58      1.89      2.21      2.53      2.84

          STORAGE     106.76    118.56    130.56    142.97    158.60    178.29    202.05    229.88    261.77    297.73
          OUTFLOW    2492.92   2934.16   3406.25   3923.13   4506.62   5139.55   5829.60   6583.30   7406.53   8304.72
        ELEVATION       3.16      3.47      3.79      4.11      4.42      4.74      5.05      5.37      5.68      6.00
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      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   LS3LS5
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     454.      12.75                106.         33.         11.          5.
                        (INCHES)    1.819      2.288       2.304       2.304
                         (AC-FT)     53.         66.         67.         67.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        9.      12.75                  3.          1.          0.          0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      1.15      12.75                 .40         .14         .05         .02

                     CUMULATIVE AREA =     .54 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   LS3LS5
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     408.      12.83                 99.         31.         10.          5.
                        (INCHES)    1.687      2.128       2.143       2.143
                         (AC-FT)     49.         62.         62.         62.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        9.      12.83                  3.          1.          0.          0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      1.07      12.83                 .38         .13         .05         .02

                     CUMULATIVE AREA =     .54 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   LS3LS5
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     380.      12.83                 93.         30.         10.          4.
                        (INCHES)    1.600      2.022       2.036       2.036
                         (AC-FT)     46.         59.         59.         59.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        8.      12.83                  3.          1.          0.          0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      1.03      12.83                 .37         .13         .04         .02

                     CUMULATIVE AREA =     .54 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   LS3LS5
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     350.      12.83                 88.         28.          9.          4.
                        (INCHES)    1.512      1.916       1.930       1.930
                         (AC-FT)     44.         55.         56.         56.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
```

```
        8.     12.83                    3.          1.          0.          0.

  PEAK STAGE    TIME                              MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .98      12.83                     .36         .13         .04         .02

                          CUMULATIVE AREA =     .54 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   LS3LS5
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     339.     12.83                   87.         27.          9.          4.
                            (INCHES)  1.482       1.879       1.892       1.892
                             (AC-FT)    43.         54.         55.         55.

 PEAK STORAGE   TIME                              MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        8.     12.83                     3.          1.          0.          0.

  PEAK STAGE    TIME                              MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .97      12.83                     .35         .12         .04         .02

                          CUMULATIVE AREA =     .54 SQ MI

      ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT   LS3LS5

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     426.     12.75                  102.         32.         11.          5.
                            (INCHES)  1.743       2.195       2.211       2.211
                             (AC-FT)    50.         64.         64.         64.

                          CUMULATIVE AREA =     .54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 272 KK     *     LS-4   *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

 273 BA          SUBBASIN CHARACTERISTICS
                      TAREA        1.85  SUBBASIN AREA

 274 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .22  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        4.35  WETTING FRONT SUCTION
                      XKSAT         .43  HYDRAULIC CONDUCTIVITY
                      RTIMP       31.00  PERCENT IMPERVIOUS AREA

 275 UC          CLARK UNITGRAPH
                         TC         .50  TIME OF CONCENTRATION
                          R         .27  STORAGE COEFFICIENT

 276 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0
                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=   .50 HR,       R=   .27 HR
                                           SNYDER   TP=   .30 HR,      CP=   .58

                                                      UNIT HYDROGRAPH
                                                 20 END-OF-PERIOD ORDINATES
            233.      960.     1930.     2297.     2031.     1722.     1362.     1003.      738.      543.
            400.      294.      217.      159.      117.       86.       64.       47.       34.       25.

      ***             ***             ***             ***             ***
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                    HYDROGRAPH AT STATION     LS-4
                  TRANSPOSITION AREA        .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.04, TOTAL EXCESS =    2.06

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                   (CFS)
+    2498.      12.17                334.        102.         34.          15.
                              (INCHES)      1.678       2.044       2.046       2.046
                               (AC-FT)       166.        202.        202.        202.

                           CUMULATIVE AREA =    1.85 SQ MI

      ***                ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-4
                  TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.95, TOTAL EXCESS =    1.91

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                   (CFS)
+    2305.      12.17                309.         94.         31.          14.
                              (INCHES)      1.552       1.896       1.898       1.898
                               (AC-FT)       153.        187.        187.        187.

                           CUMULATIVE AREA =    1.85 SQ MI

      ***                ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-4
                  TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.88, TOTAL EXCESS =    1.81

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                   (CFS)
+    2175.      12.17                292.         89.         30.          13.
                              (INCHES)      1.467       1.796       1.799       1.799
                               (AC-FT)       145.        177.        178.        178.

                           CUMULATIVE AREA =    1.85 SQ MI

      ***                ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-4
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.82, TOTAL EXCESS =    1.71

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                   (CFS)
+    2045.      12.17                275.         84.         28.          12.
                              (INCHES)      1.382       1.697       1.699       1.699
                               (AC-FT)       136.        167.        168.        168.

                           CUMULATIVE AREA =    1.85 SQ MI

      ***                ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-4
                  TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.80, TOTAL EXCESS =    1.67

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                   (CFS)
+    2000.      12.17                269.         83.         28.          12.
                              (INCHES)      1.352       1.662       1.664       1.664
                               (AC-FT)       133.        164.        164.        164.

                           CUMULATIVE AREA =    1.85 SQ MI

      ***                ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS-4

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
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                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    2352.      12.17                 315.          96.          32.           14.
                              (INCHES)      1.583        1.932        1.934         1.934
                               (AC-FT)       156.         191.         191.          191.

                             CUMULATIVE AREA =    1.85 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 278 KK     *    RETLS4  *
            *            *
            **************
                                DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                                 - 528 AC DEVELOPMENT WITH RETENTION
                                 - C FACTOR = 0.63
                                 - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                      ISTAD       R4OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       73.70  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***            ***            ***            ***            ***

                          DIVERSION HYDROGRAPH    R4OUT
                         TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    2184.      12.08                 130.          37.          12.            5.
                              (INCHES)       .651        .747        .747          .747
                               (AC-FT)        64.          74.          74.           74.

                             CUMULATIVE AREA =    1.85 SQ MI

      ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION   RETLS4
                         TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    2498.      12.17                 237.          65.          22.            9.
                              (INCHES)      1.191        1.300        1.300         1.300
                               (AC-FT)       118.         128.         128.          128.

                             CUMULATIVE AREA =    1.85 SQ MI

      ***            ***            ***            ***            ***

                          DIVERSION HYDROGRAPH    R4OUT
                         TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    2050.      12.08                 130.          37.          12.            5.
                              (INCHES)       .655        .747        .747          .747
                               (AC-FT)        65.          74.          74.           74.

                             CUMULATIVE AREA =    1.85 SQ MI

      ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION   RETLS4
                         TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    2188.      12.25                 209.          57.          19.            8.
                              (INCHES)      1.051        1.151        1.151         1.151
                               (AC-FT)       104.         114.         114.          114.
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                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                    DIVERSION HYDROGRAPH    R4OUT
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1931.      12.08                131.         37.         12.          5.
                        (INCHES)    .659        .747        .747        .747
                         (AC-FT)     65.         74.         74.         74.

                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   RETLS4
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2068.      12.25                190.         52.         17.          8.
                        (INCHES)    .956       1.052       1.052       1.052
                         (AC-FT)     94.        104.        104.        104.

                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                    DIVERSION HYDROGRAPH    R4OUT
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1866.      12.17                132.         37.         12.          5.
                        (INCHES)    .663        .747        .747        .747
                         (AC-FT)     65.         74.         74.         74.

                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   RETLS4
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1947.      12.25                171.         47.         16.          7.
                        (INCHES)    .860        .952        .952        .952
                         (AC-FT)     85.         94.         94.         94.

                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                    DIVERSION HYDROGRAPH    R4OUT
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2000.      12.17                132.         37.         12.          5.
                        (INCHES)    .663        .747        .747        .747
                         (AC-FT)     65.         74.         74.         74.

                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   RETLS4
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1847.      12.25                165.         46.         15.          7.
                        (INCHES)    .828        .917        .917        .917
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                    (AC-FT)        82.         91.         91.         91.

                    CUMULATIVE AREA =    1.85 SQ MI

      ***          ***          ***          ***          ***


                INTERPOLATED DIVERSION HYDROGRAPH AT    R4OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2083.      12.08                130.         37.         12.          5.
                        (INCHES)    .654        .747        .747        .747
                         (AC-FT)     65.         74.         74.         74.

                    CUMULATIVE AREA =    1.85 SQ MI

      ***          ***          ***          ***          ***


                    INTERPOLATED HYDROGRAPH AT   RETLS4

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2232.      12.25                216.         59.         20.          9.
                        (INCHES)   1.085       1.188       1.188       1.188
                         (AC-FT)    107.        117.        117.        117.

                    CUMULATIVE AREA =    1.85 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
286 KK    *    LS4LS5  *        ROUTE   REACH
          *            *
          **************
                         ROUTE RUNOFF FROM LS-4 THROUGH LS-5 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK
                         ROAD

            HYDROGRAPH ROUTING DATA

289 RS        STORAGE ROUTING
                   NSTPS          2  NUMBER OF SUBREACHES
                    ITYP       STOR  TYPE OF INITIAL CONDITION
                  RSVRIC      -1.00  INITIAL CONDITION
                       X        .00 WORKING R AND D COEFFICIENT

290 RC        NORMAL DEPTH CHANNEL
                     ANL       .080  LEFT OVERBANK N-VALUE
                    ANCH       .040  MAIN CHANNEL N-VALUE
                     ANR       .080  RIGHT OVERBANK N-VALUE
                   RLNTH      6160.  REACH LENGTH
                     SEL      .0040  ENERGY SLOPE
                   ELMAX        6.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                      --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
292 RY      ELEVATION     6.00      5.00      4.00       .00       .00      4.00      5.00      6.00
291 RX      DISTANCE       .00    100.00    200.00    220.00    370.00    390.00    490.00    590.00

                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

        STORAGE       .00      6.77     13.68     20.73     27.92     35.26     42.73     50.35     58.10     66.00
        OUTFLOW       .00     51.92    165.40    326.25    528.86    769.95   1047.31   1359.35   1704.87   2082.97
      ELEVATION       .00       .32       .63       .95      1.26      1.58      1.89      2.21      2.53      2.84

        STORAGE     74.04     82.22     90.54     99.15    109.98    123.64    140.11    159.41    181.53    206.46
        OUTFLOW   2492.92   2934.16   3406.25   3923.13   4506.62   5139.55   5829.60   6583.30   7406.53   8304.72
      ELEVATION      3.16      3.47      3.79      4.11      4.42      4.74      5.05      5.37      5.68      6.00

      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   LS4LS5
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1302.      12.58                229.         65.         22.          9.
                        (INCHES)   1.150       1.300       1.300       1.300
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                    (AC-FT)      113.        128.        128.        128.

 PEAK STORAGE    TIME                    MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)       (HR)
      24.       12.58                 7.          2.          1.          0.

  PEAK STAGE     TIME                    MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)       (HR)
     2.15       12.58                .62         .20         .07         .03

                    CUMULATIVE AREA =    1.85 SQ MI

      ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION   LS4LS5
                TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW      TIME                    MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+    1100.       12.67          201.         57.         19.          8.
                            (INCHES)       1.011       1.151       1.151       1.151
                             (AC-FT)        100.        114.        114.        114.

 PEAK STORAGE    TIME                    MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)       (HR)
      22.       12.67                 6.          2.          1.          0.

  PEAK STAGE     TIME                    MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)       (HR)
     1.95       12.67                .58         .19         .06         .03

                    CUMULATIVE AREA =    1.85 SQ MI

      ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION   LS4LS5
                TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW      TIME                    MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     960.       12.67          183.         52.         17.          8.
                            (INCHES)        .918       1.052       1.052       1.052
                             (AC-FT)         91.        104.        104.        104.

 PEAK STORAGE    TIME                    MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)       (HR)
      20.       12.67                 6.          2.          1.          0.

  PEAK STAGE     TIME                    MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)       (HR)
     1.80       12.67                .55         .18         .06         .03

                    CUMULATIVE AREA =    1.85 SQ MI

      ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION   LS4LS5
                TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                    MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     826.       12.75          164.         47.         16.          7.
                            (INCHES)        .825        .952        .952        .952
                             (AC-FT)         81.         94.         94.         94.

 PEAK STORAGE    TIME                    MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)       (HR)
      18.       12.75                 6.          2.          1.          0.

  PEAK STAGE     TIME                    MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)       (HR)
     1.64       12.75                .52         .17         .06         .02

                    CUMULATIVE AREA =    1.85 SQ MI

      ***          ***          ***          ***          ***
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                    HYDROGRAPH AT STATION   LS4LS5
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     780.     12.75                158.         46.         15.           7.
                          (INCHES)  .792        .917        .917         .917
                           (AC-FT)   78.         91.         91.          91.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      18.      12.75                  6.          2.          1.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
     1.59      12.75                 .51         .17         .06          .02

                  CUMULATIVE AREA =    1.85 SQ MI

      ***            ***            ***            ***            ***


                  INTERPOLATED HYDROGRAPH AT   LS4LS5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    1146.     12.67                208.         59.         20.           9.
                          (INCHES) 1.045       1.188       1.188        1.188
                           (AC-FT)  103.        117.        117.         117.

                  CUMULATIVE AREA =    1.85 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 293 KK     *     LS-5   *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

 294 BA          SUBBASIN CHARACTERISTICS
                       TAREA        1.28  SUBBASIN AREA

 295 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .28  STARTING LOSS
                         DTH         .25  MOISTURE DEFICIT
                        PSIF        4.90  WETTING FRONT SUCTION
                       XKSAT         .33  HYDRAULIC CONDUCTIVITY
                       RTIMP       22.00  PERCENT IMPERVIOUS AREA

 296 UC          CLARK UNITGRAPH
                          TC         .97  TIME OF CONCENTRATION
                           R         .58  STORAGE COEFFICIENT

 297 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                   ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .97 HR,       R=   .58 HR
                                         SNYDER   TP=   .50 HR,      CP=   .48

                                                  UNIT HYDROGRAPH
                                             42 END-OF-PERIOD ORDINATES
              29.      111.      229.      417.      658.      786.      784.      753.      710.      658.
             605.      552.      488.      422.      365.      316.      273.      237.      205.      177.
             153.      133.      115.       99.       86.       74.       64.       56.       48.       42.
              36.       31.       27.       23.       20.       17.       15.       13.       11.       10.
               8.        7.

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-5
                  TRANSPOSITION AREA        .0 SQ MI

   TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.24, TOTAL EXCESS =    1.86

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
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                                  (CFS)
+    1008.      12.42                    218.         63.         21.          9.
                                (INCHES)  1.583       1.843       1.847        1.847
                                 (AC-FT)   108.        126.        126.         126.

                                CUMULATIVE AREA =    1.28 SQ MI

      ***              ***              ***              ***              ***

                                HYDROGRAPH AT STATION     LS-5
                               TRANSPOSITION AREA     10.0 SQ MI

     TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.15, TOTAL EXCESS =    1.71

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     925.       12.42                    200.         58.         19.          8.
                                (INCHES)  1.452       1.696       1.700        1.700
                                 (AC-FT)    99.        116.        116.         116.

                                CUMULATIVE AREA =    1.28 SQ MI

      ***              ***              ***              ***              ***

                                HYDROGRAPH AT STATION     LS-5
                               TRANSPOSITION AREA     30.0 SQ MI

     TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.08, TOTAL EXCESS =    1.61

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     870.       12.42                    188.         55.         18.          8.
                                (INCHES)  1.366       1.600       1.603        1.603
                                 (AC-FT)    93.        109.        109.         109.

                                CUMULATIVE AREA =    1.28 SQ MI

      ***              ***              ***              ***              ***

                                HYDROGRAPH AT STATION     LS-5
                               TRANSPOSITION AREA     60.0 SQ MI

     TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.01, TOTAL EXCESS =    1.52

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     817.       12.42                    177.         52.         17.          7.
                                (INCHES)  1.284       1.508       1.511        1.511
                                 (AC-FT)    88.        103.        103.         103.

                                CUMULATIVE AREA =    1.28 SQ MI

      ***              ***              ***              ***              ***

                                HYDROGRAPH AT STATION     LS-5
                               TRANSPOSITION AREA     90.0 SQ MI

     TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.98, TOTAL EXCESS =    1.49

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     798.       12.42                    173.         51.         17.          7.
                                (INCHES)  1.256       1.476       1.479        1.479
                                 (AC-FT)    86.        101.        101.         101.

                                CUMULATIVE AREA =    1.28 SQ MI

      ***              ***              ***              ***              ***


                                INTERPOLATED HYDROGRAPH AT     LS-5

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     950.       12.42                    205.         60.         20.          9.
                                (INCHES)  1.491       1.740       1.743        1.743
                                 (AC-FT)   102.        119.        119.         119.

                                CUMULATIVE AREA =    1.28 SQ MI
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

              **************
              *            *
  299 KK      *    RETLS5  *
              *            *
              **************
                                DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                                 - 72.5 AC DEVELOPMENT WITH RETENTION
                                 - C FACTOR = 0.63
                                 - 100-YR 2-HR RAIN = 2.66"

      DT          DIVERSION
                        ISTAD       R5OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                       DSTRMX       10.10  MAXIMUM VOLUME TO BE DIVERTED

      DI             INFLOW         .00  10000.00

      DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

       ***             ***             ***             ***             ***

                         DIVERSION HYDROGRAPH    R5OUT
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      25.     10.33                15.          5.          2.           1.
                        (INCHES)    .110        .148        .148         .148
                         (AC-FT)      8.         10.         10.          10.

                        CUMULATIVE AREA =    1.28 SQ MI

       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   RETLS5
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1008.      12.42               218.         58.         19.           8.
                        (INCHES)   1.580      1.699       1.699        1.699
                         (AC-FT)    108.        116.        116.         116.

                        CUMULATIVE AREA =    1.28 SQ MI

       ***             ***             ***             ***             ***

                         DIVERSION HYDROGRAPH    R5OUT
                        TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      26.     10.67                15.          5.          2.           1.
                        (INCHES)    .109        .148        .148         .148
                         (AC-FT)      7.         10.         10.          10.

                        CUMULATIVE AREA =    1.28 SQ MI

       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   RETLS5
                        TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     925.      12.42               199.         53.         18.           8.
                        (INCHES)   1.446      1.552       1.552        1.552
                         (AC-FT)     99.        106.        106.         106.

                        CUMULATIVE AREA =    1.28 SQ MI

       ***             ***             ***             ***             ***

                         DIVERSION HYDROGRAPH    R5OUT
                        TRANSPOSITION AREA     30.0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     27.      10.83                15.           5.           2.            1.
                              (INCHES)          .108         .148         .148          .148
                               (AC-FT)            7.          10.          10.           10.

                              CUMULATIVE AREA =    1.28 SQ MI

      ***                 ***            ***            ***            ***

                              HYDROGRAPH AT STATION   RETLS5
                             TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+    870.      12.42               187.          50.          17.            7.
                              (INCHES)         1.358        1.455        1.455         1.455
                               (AC-FT)           93.          99.          99.           99.

                              CUMULATIVE AREA =    1.28 SQ MI

      ***                 ***            ***            ***            ***

                              DIVERSION HYDROGRAPH    R5OUT
                             TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     29.      11.08                15.           5.           2.            1.
                              (INCHES)          .108         .148         .148          .148
                               (AC-FT)            7.          10.          10.           10.

                              CUMULATIVE AREA =    1.28 SQ MI

      ***                 ***            ***            ***            ***

                              HYDROGRAPH AT STATION   RETLS5
                             TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+    817.      12.42               175.          47.          16.            7.
                              (INCHES)         1.273        1.363        1.363         1.363
                               (AC-FT)           87.          93.          93.           93.

                              CUMULATIVE AREA =    1.28 SQ MI

      ***                 ***            ***            ***            ***

                              DIVERSION HYDROGRAPH    R5OUT
                             TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     29.      11.08                15.           5.           2.            1.
                              (INCHES)          .108         .148         .148          .148
                               (AC-FT)            7.          10.          10.           10.

                              CUMULATIVE AREA =    1.28 SQ MI

      ***                 ***            ***            ***            ***

                              HYDROGRAPH AT STATION   RETLS5
                             TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+    798.      12.42               171.          46.          15.            7.
                              (INCHES)         1.244        1.331        1.331         1.331
                               (AC-FT)           85.          91.          91.           91.

                              CUMULATIVE AREA =    1.28 SQ MI

      ***                 ***            ***            ***            ***

                      INTERPOLATED DIVERSION HYDROGRAPH AT    R5OUT
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      24.     10.42                 15.          5.          2.           1.
                        (INCHES)    .108        .148        .148         .148
                         (AC-FT)      7.         10.         10.          10.

                        CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT   RETLS5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     950.     12.42                204.         55.         18.           8.
                        (INCHES)   1.485       1.595       1.595        1.595
                         (AC-FT)    101.        109.        109.         109.

                        CUMULATIVE AREA =    1.28 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 307 KK     *      LS5C  *
            *            *
            **************
                        COMBINE ROUTED FLOWS FROM LS3 AND LS4 WITH RUNOFF FROM LS5 AT ADOBE POOL
                        AT PINNACLE PEAK ROAD

 310 HC          HYDROGRAPH COMBINATION
                       ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS5C
                       TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2599.     12.58                546.        156.         52.          23.
                        (INCHES)   1.382       1.583       1.587        1.587
                         (AC-FT)    271.        310.        311.         311.

                        CUMULATIVE AREA =    3.67 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS5C
                       TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2268.     12.67                493.        142.         47.          20.
                        (INCHES)   1.247       1.434       1.437        1.437
                         (AC-FT)    244.        281.        282.         282.

                        CUMULATIVE AREA =    3.67 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS5C
                       TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2042.     12.67                457.        132.         44.          19.
                        (INCHES)   1.158       1.335       1.338        1.338
                         (AC-FT)    227.        261.        262.         262.

                        CUMULATIVE AREA =    3.67 SQ MI

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                    HYDROGRAPH AT STATION     LS5C
                  TRANSPOSITION AREA     60.0 SQ MI

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    1812.     12.67                423.        122.         41.          18.
                       (INCHES)    1.070       1.236       1.240        1.240
                        (AC-FT)     210.        242.        243.         243.

                      CUMULATIVE AREA =    3.67 SQ MI

     ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS5C
                  TRANSPOSITION AREA     90.0 SQ MI

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    1735.     12.75                411.        119.         40.          17.
                       (INCHES)    1.039       1.202       1.205        1.205
                        (AC-FT)     204.        236.        236.         236.

                      CUMULATIVE AREA =    3.67 SQ MI

     ***             ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS5C

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    2313.     12.67                500.        144.         48.          21.
                       (INCHES)    1.266       1.456       1.459        1.459
                        (AC-FT)     248.        285.        286.         286.

                      CUMULATIVE AREA =    3.67 SQ MI


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          *            *
311 KK    *     LS-6   *        BASIN
          *            *
          **************

            SUBBASIN RUNOFF DATA

312 BA        SUBBASIN CHARACTERISTICS
                    TAREA          .79  SUBBASIN AREA

313 LG        GREEN AND AMPT LOSS RATE
                    STRTL          .25  STARTING LOSS
                      DTH          .25  MOISTURE DEFICIT
                     PSIF         4.50  WETTING FRONT SUCTION
                    XKSAT          .39  HYDRAULIC CONDUCTIVITY
                    RTIMP        30.00  PERCENT IMPERVIOUS AREA

314 UC        CLARK UNITGRAPH
                       TC         1.11  TIME OF CONCENTRATION
                        R          .97  STORAGE COEFFICIENT

315 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                  100.0

                                                   ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.11 HR,       R=   .97 HR
                                  SNYDER   TP=   .66 HR,      CP=   .42

                                          UNIT HYDROGRAPH
                                   68 END-OF-PERIOD ORDINATES
                 9.       35.       72.      115.      197.      284.      318.      325.      323.      316.
               306.      294.      281.      265.      246.      225.      207.      190.      174.      160.
               147.      135.      124.      114.      104.       96.       88.       81.       74.       68.
                62.       57.       53.       48.       44.       41.       37.       34.       31.       29.
                27.       24.       22.       21.       19.       17.       16.       15.       13.       12.
                11.       10.        9.        9.        8.        7.        7.        6.        6.        5.
                 5.        4.        4.        4.        3.        3.        3.        3.

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                    HYDROGRAPH AT STATION     LS-6
                  TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.05, TOTAL EXCESS =    2.05

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     445.     12.50                142.         43.         14.          6.
                              (INCHES)      1.664       2.029       2.038       2.038
                               (AC-FT)        70.         86.         86.         86.

                              CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS-6
                  TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.96, TOTAL EXCESS =    1.90

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     410.     12.50                131.         40.         13.          6.
                              (INCHES)      1.537       1.879       1.888       1.888
                               (AC-FT)        65.         79.         80.         80.

                              CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS-6
                  TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.89, TOTAL EXCESS =    1.80

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     387.     12.50                124.         38.         13.          5.
                              (INCHES)      1.453       1.781       1.789       1.789
                               (AC-FT)        61.         75.         76.         76.

                              CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS-6
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.83, TOTAL EXCESS =    1.70

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     363.     12.50                117.         36.         12.          5.
                              (INCHES)      1.369       1.682       1.690       1.690
                               (AC-FT)        58.         71.         71.         71.

                              CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS-6
                  TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.81, TOTAL EXCESS =    1.66

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     355.     12.50                114.         35.         12.          5.
                              (INCHES)      1.339       1.648       1.655       1.655
                               (AC-FT)        57.         70.         70.         70.

                              CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***


                    INTERPOLATED HYDROGRAPH AT     LS-6

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
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                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     423.      12.50                   135.          41.          14.           6.
                          (INCHES)     1.583        1.934        1.943        1.943
                           (AC-FT)       67.          82.          82.          82.

                          CUMULATIVE AREA =      .79 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
 317 KK       *    RETLS6  *
              *            *
              **************
                                  DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                                   - 62.5 AC DEVELOPMENT WITH RETENTION
                                   - C FACTOR = 0.63
                                   - 100-YR 2-HR RAIN = 2.66"

      DT          DIVERSION
                       ISTAD       R6OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX        8.70  MAXIMUM VOLUME TO BE DIVERTED

      DI             INFLOW         .00  10000.00

      DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

       ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH    R6OUT
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+      22.      10.83                    13.           4.           1.           1.
                          (INCHES)      .153         .206         .206         .206
                           (AC-FT)        6.           9.           9.           9.

                          CUMULATIVE AREA =      .79 SQ MI

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   RETLS6
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     445.      12.50                   142.          39.          13.           6.
                          (INCHES)     1.664        1.832        1.832        1.832
                           (AC-FT)       70.          77.          77.          77.

                          CUMULATIVE AREA =      .79 SQ MI

       ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH    R6OUT
                        TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+      24.      11.08                    13.           4.           1.           1.
                          (INCHES)      .152         .206         .206         .206
                           (AC-FT)        6.           9.           9.           9.

                          CUMULATIVE AREA =      .79 SQ MI

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   RETLS6
                        TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     410.      12.50                   131.          36.          12.           5.
                          (INCHES)     1.534        1.682        1.682        1.682
                           (AC-FT)       65.          71.          71.          71.
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                    CUMULATIVE AREA =     .79 SQ MI

     ***            ***            ***            ***            ***

                     DIVERSION HYDROGRAPH    R6OUT
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     26.      11.33                13.          4.          1.           1.
                        (INCHES)    .151        .206        .206         .206
                         (AC-FT)      6.          9.          9.           9.

                    CUMULATIVE AREA =     .79 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   RETLS6
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    387.      12.50               123.         34.         11.           5.
                        (INCHES)   1.448      1.583       1.583        1.583
                         (AC-FT)     61.         67.         67.          67.

                    CUMULATIVE AREA =     .79 SQ MI

     ***            ***            ***            ***            ***

                     DIVERSION HYDROGRAPH    R6OUT
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     28.      11.50                13.          4.          1.           1.
                        (INCHES)    .151        .206        .206         .206
                         (AC-FT)      6.          9.          9.           9.

                    CUMULATIVE AREA =     .79 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   RETLS6
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    363.      12.50               116.         32.         11.           5.
                        (INCHES)   1.359      1.484       1.484        1.484
                         (AC-FT)     57.         63.         63.          63.

                    CUMULATIVE AREA =     .79 SQ MI

     ***            ***            ***            ***            ***

                     DIVERSION HYDROGRAPH    R6OUT
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     27.      11.50                13.          4.          1.           1.
                        (INCHES)    .151        .206        .206         .206
                         (AC-FT)      6.          9.          9.           9.

                    CUMULATIVE AREA =     .79 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   RETLS6
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    355.      12.50               113.         31.         10.           4.
                        (INCHES)   1.328      1.449       1.449        1.449
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                    (AC-FT)        56.          61.          61.          61.

                    CUMULATIVE AREA =      .79 SQ MI

     ***            ***            ***            ***            ***


                INTERPOLATED DIVERSION HYDROGRAPH AT    R6OUT

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     22.      10.83                13.          4.          1.           1.
                        (INCHES)    .151        .206        .206         .206
                         (AC-FT)      6.          9.          9.           9.

                    CUMULATIVE AREA =      .79 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT   RETLS6

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    423.      12.50               135.         37.         12.           5.
                        (INCHES)   1.581      1.737       1.737        1.737
                         (AC-FT)     67.         73.         73.          73.

                    CUMULATIVE AREA =      .79 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  325 KK    *     LS-7   *        BASIN
            *            *
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              SUBBASIN RUNOFF DATA

  326 BA        SUBBASIN CHARACTERISTICS
                      TAREA          .60  SUBBASIN AREA

  327 LG        GREEN AND AMPT LOSS RATE
                      STRTL          .28  STARTING LOSS
                        DTH          .25  MOISTURE DEFICIT
                       PSIF         4.50  WETTING FRONT SUCTION
                      XKSAT          .42  HYDRAULIC CONDUCTIVITY
                      RTIMP        21.00  PERCENT IMPERVIOUS AREA

  328 UC        CLARK UNITGRAPH
                         TC          .90  TIME OF CONCENTRATION
                          R          .96  STORAGE COEFFICIENT

  329 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0
                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                             CLARK   TC=   .90 HR,       R=   .96 HR
                                            SNYDER   TP=   .58 HR,      CP=   .39

                                                      UNIT HYDROGRAPH
                                                 66 END-OF-PERIOD ORDINATES
                 9.       36.       75.      146.      222.      254.      260.      259.      253.      244.
               233.      218.      200.      184.      168.      154.      142.      130.      119.      109.
               100.       92.       84.       77.       71.       65.       60.       55.       50.       46.
                42.       39.       35.       32.       30.       27.       25.       23.       21.       19.
                18.       16.       15.       14.       13.       11.       11.       10.        9.        8.
                 7.        7.        6.        6.        5.        5.        4.        4.        4.        3.
                 3.        3.        3.        2.        2.        2.

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-7
                  TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.35, TOTAL EXCESS =    1.75

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
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+     330.     12.42                    95.         28.          9.           4.
                          (INCHES)    1.484       1.740       1.746        1.746
                           (AC-FT)     47.         55.         56.          56.

                           CUMULATIVE AREA =     .60 SQ MI

      ***              ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-7
                         TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.24, TOTAL EXCESS =    1.62

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     302.     12.42                    88.         26.          9.           4.
                          (INCHES)    1.364       1.604       1.610        1.610
                           (AC-FT)     43.         51.         51.          51.

                           CUMULATIVE AREA =     .60 SQ MI

      ***              ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-7
                         TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.16, TOTAL EXCESS =    1.53

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     284.     12.42                    82.         24.          8.           4.
                          (INCHES)    1.284       1.514       1.519        1.519
                           (AC-FT)     41.         48.         48.          48.

                           CUMULATIVE AREA =     .60 SQ MI

      ***              ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-7
                         TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.09, TOTAL EXCESS =    1.43

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     265.     12.42                    77.         23.          8.           3.
                          (INCHES)    1.203       1.422       1.428        1.428
                           (AC-FT)     38.         45.         45.          45.

                           CUMULATIVE AREA =     .60 SQ MI

      ***              ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-7
                         TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.07, TOTAL EXCESS =    1.40

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     259.     12.42                    75.         22.          7.           3.
                          (INCHES)    1.174       1.390       1.396        1.396
                           (AC-FT)     37.         44.         44.          44.

                           CUMULATIVE AREA =     .60 SQ MI

      ***              ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT     LS-7

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     313.     12.42                    91.         27.          9.           4.
                          (INCHES)    1.413       1.660       1.665        1.665
                           (AC-FT)     45.         53.         53.          53.

                           CUMULATIVE AREA =     .60 SQ MI
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            *            *
331 KK      *    RETLS7  *
            *            *
            **************
                                DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                                 - 171 AC DEVELOPMENT WITH RETENTION
                                 - C FACTOR = 0.63
                                 - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                      ISTAD       R7OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       23.90  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R7OUT
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     330.     12.42                44.         12.          4.           2.
                        (INCHES)   .688        .751        .751         .751
                         (AC-FT)    22.         24.         24.          24.

                        CUMULATIVE AREA =     .60 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RETLS7
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     279.     12.83                59.         16.          5.           2.
                        (INCHES)   .917        .995        .995         .995
                         (AC-FT)    29.         32.         32.          32.

                        CUMULATIVE AREA =     .60 SQ MI

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R7OUT
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     302.     12.42                44.         12.          4.           2.
                        (INCHES)   .690        .751        .751         .751
                         (AC-FT)    22.         24.         24.          24.

                        CUMULATIVE AREA =     .60 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RETLS7
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     239.     12.92                51.         14.          5.           2.
                        (INCHES)   .788        .860        .860         .860
                         (AC-FT)    25.         27.         27.          27.

                        CUMULATIVE AREA =     .60 SQ MI

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R7OUT
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
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                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                 (CFS)
+     284.      12.42                   44.          12.           4.            2.
                              (INCHES)  .692         .751         .751          .751
                               (AC-FT)  22.          24.          24.           24.

                            CUMULATIVE AREA =     .60 SQ MI

      ***                 ***          ***          ***          ***

                            HYDROGRAPH AT STATION   RETLS7
                          TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW      TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                 (CFS)
+     208.      13.00                   45.          12.           4.            2.
                              (INCHES)  .701         .769         .769          .769
                               (AC-FT)  22.          24.          24.           24.

                            CUMULATIVE AREA =     .60 SQ MI

      ***                 ***          ***          ***          ***

                            DIVERSION HYDROGRAPH    R7OUT
                          TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                 (CFS)
+     265.      12.42                   45.          12.           4.            2.
                              (INCHES)  .693         .751         .751          .751
                               (AC-FT)  22.          24.          24.           24.

                            CUMULATIVE AREA =     .60 SQ MI

      ***                 ***          ***          ***          ***

                            HYDROGRAPH AT STATION   RETLS7
                          TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                 (CFS)
+     181.      13.08                   39.          11.           4.            2.
                              (INCHES)  .613         .677         .677          .677
                               (AC-FT)  20.          22.          22.           22.

                            CUMULATIVE AREA =     .60 SQ MI

      ***                 ***          ***          ***          ***

                            DIVERSION HYDROGRAPH    R7OUT
                          TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                 (CFS)
+     259.      12.42                   45.          12.           4.            2.
                              (INCHES)  .694         .751         .751          .751
                               (AC-FT)  22.          24.          24.           24.

                            CUMULATIVE AREA =     .60 SQ MI

      ***                 ***          ***          ***          ***

                            HYDROGRAPH AT STATION   RETLS7
                          TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                 (CFS)
+     177.      13.08                   37.          10.           3.            1.
                              (INCHES)  .582         .645         .645          .645
                               (AC-FT)  19.          21.          21.           21.

                            CUMULATIVE AREA =     .60 SQ MI

      ***                 ***          ***          ***          ***


                  INTERPOLATED DIVERSION HYDROGRAPH AT    R7OUT
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 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR        72-HR    166.58-HR
+  (CFS)       (HR)
                          (CFS)
+    313.     12.42                44.          12.           4.           2.
                        (INCHES)  .689         .751         .751         .751
                         (AC-FT)   22.          24.          24.          24.

                        CUMULATIVE AREA =     .60 SQ MI

     ***            ***            ***            ***            ***


                        INTERPOLATED HYDROGRAPH AT   RETLS7

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR        72-HR    166.58-HR
+  (CFS)       (HR)
                          (CFS)
+    247.     12.92                54.          15.           5.           2.
                        (INCHES)  .840         .915         .915         .915
                         (AC-FT)   27.          29.          29.          29.

                        CUMULATIVE AREA =     .60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 339 KK     *     LS7C   *
            *            *
            **************
                        COMBINE RUNOFF FROM LS6 AND LS7 AT ADOBE POOL

 341 HC          HYDROGRAPH COMBINATION
                      ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS7C
                      TRANSPOSITION AREA        .0 SQ MI

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR        72-HR    166.58-HR
+  (CFS)       (HR)
                          (CFS)
+    688.     12.83               199.          55.          18.           8.
                        (INCHES) 1.330        1.472        1.472        1.472
                         (AC-FT)   99.         109.         109.         109.

                        CUMULATIVE AREA =    1.39 SQ MI

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS7C
                      TRANSPOSITION AREA     10.0 SQ MI

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR        72-HR    166.58-HR
+  (CFS)       (HR)
                          (CFS)
+    600.     12.92               180.          50.          17.           7.
                        (INCHES) 1.202        1.328        1.328        1.328
                         (AC-FT)   89.          98.          98.          98.

                        CUMULATIVE AREA =    1.39 SQ MI

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS7C
                      TRANSPOSITION AREA     30.0 SQ MI

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR        72-HR    166.58-HR
+  (CFS)       (HR)
                          (CFS)
+    533.     13.00               167.          46.          15.           7.
                        (INCHES) 1.117        1.233        1.233        1.233
                         (AC-FT)   83.          91.          91.          91.

                        CUMULATIVE AREA =    1.39 SQ MI

     ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS7C
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                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     468.     13.08                154.         42.         14.           6.
                        (INCHES)    1.030       1.137       1.137        1.137
                         (AC-FT)     76.         84.         84.          84.

                        CUMULATIVE AREA =    1.39 SQ MI


      ***             ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS7C
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     458.     13.08                149.         41.         14.           6.
                        (INCHES)     .999       1.104       1.104        1.104
                         (AC-FT)     74.         82.         82.          82.

                        CUMULATIVE AREA =    1.39 SQ MI

      ***             ***            ***            ***            ***


                      INTERPOLATED HYDROGRAPH AT     LS7C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     615.     12.92                185.         51.         17.           7.
                        (INCHES)    1.238       1.369       1.369        1.369
                         (AC-FT)     92.        101.        101.         101.

                        CUMULATIVE AREA =    1.39 SQ MI


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            **************
            *            *
  342 KK    *     LS-8   *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

  343 BA          SUBBASIN CHARACTERISTICS
                        TAREA          .57  SUBBASIN AREA

  344 LG          GREEN AND AMPT LOSS RATE
                        STRTL          .25  STARTING LOSS
                          DTH          .25  MOISTURE DEFICIT
                         PSIF         5.10  WETTING FRONT SUCTION
                        XKSAT          .31  HYDRAULIC CONDUCTIVITY
                        RTIMP        32.00  PERCENT IMPERVIOUS AREA

  345 UC          CLARK UNITGRAPH
                           TC          .68  TIME OF CONCENTRATION
                            R          .44  STORAGE COEFFICIENT

  346 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                   ***

                                              UNIT HYDROGRAPH PARAMETERS
                                       CLARK   TC=    .68 HR,       R=    .44 HR
                                      SNYDER   TP=    .40 HR,      CP=    .51

                                                UNIT HYDROGRAPH
                                           32 END-OF-PERIOD ORDINATES
                28.      107.      260.      417.      464.      444.      409.      369.      322.      270.
               223.      185.      153.      127.      105.       87.       72.       60.       50.       41.
                34.       28.       23.       19.       16.       13.       11.        9.        8.        6.
                 5.        4.

      ***             ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-8
                    TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.94, TOTAL EXCESS =    2.16
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     588.     12.25                108.         33.         11.           5.
                              (INCHES)      1.769       2.146       2.150       2.150
                               (AC-FT)        53.         65.         65.         65.

                              CUMULATIVE AREA =     .57 SQ MI

      ***                   ***          ***          ***          ***

                              HYDROGRAPH AT STATION     LS-8
                             TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.85, TOTAL EXCESS =    2.00

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     543.     12.25                100.         30.         10.           4.
                              (INCHES)      1.632       1.987       1.991       1.991
                               (AC-FT)        49.         60.         60.         60.

                              CUMULATIVE AREA =     .57 SQ MI

      ***                   ***          ***          ***          ***

                              HYDROGRAPH AT STATION     LS-8
                             TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.80, TOTAL EXCESS =    1.89

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     512.     12.25                 94.         29.         10.           4.
                              (INCHES)      1.541       1.881       1.884       1.884
                               (AC-FT)        47.         57.         57.         57.

                              CUMULATIVE AREA =     .57 SQ MI

      ***                   ***          ***          ***          ***

                              HYDROGRAPH AT STATION     LS-8
                             TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.74, TOTAL EXCESS =    1.79

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     483.     12.25                 89.         27.          9.           4.
                              (INCHES)      1.452       1.777       1.781       1.781
                               (AC-FT)        44.         54.         54.         54.

                              CUMULATIVE AREA =     .57 SQ MI

      ***                   ***          ***          ***          ***

                              HYDROGRAPH AT STATION     LS-8
                             TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.72, TOTAL EXCESS =    1.75

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     472.     12.25                 87.         27.          9.           4.
                              (INCHES)      1.423       1.742       1.746       1.746
                               (AC-FT)        43.         53.         53.         53.

                              CUMULATIVE AREA =     .57 SQ MI

      ***                   ***          ***          ***          ***


                            INTERPOLATED HYDROGRAPH AT     LS-8

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     561.     12.25                103.         31.         10.           5.
                              (INCHES)      1.689       2.053       2.057       2.057
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                    (AC-FT)        51.         62.         62.         62.

                    CUMULATIVE AREA =     .57 SQ MI


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          *            *
 348 KK   *      LS-9  *        BASIN
          *            *
          **************

            SUBBASIN RUNOFF DATA

 349 BA       SUBBASIN CHARACTERISTICS
                    TAREA          .45  SUBBASIN AREA

 350 LG       GREEN AND AMPT LOSS RATE
                    STRTL          .20  STARTING LOSS
                      DTH          .25  MOISTURE DEFICIT
                     PSIF         5.20  WETTING FRONT SUCTION
                    XKSAT          .24  HYDRAULIC CONDUCTIVITY
                    RTIMP         9.00  PERCENT IMPERVIOUS AREA

 351 UC       CLARK UNITGRAPH
                       TC         1.02  TIME OF CONCENTRATION
                        R          .96  STORAGE COEFFICIENT

 352 UA       ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                   ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=  1.02 HR,       R=   .96 HR
                                        SNYDER   TP=   .61 HR,      CP=   .39

                                                UNIT HYDROGRAPH
                                           67 END-OF-PERIOD ORDINATES
              6.       23.       47.       82.      139.      181.      189.      190.      188.      183.
            176.      168.      159.      147.      135.      123.      113.      104.       95.       87.
             80.       73.       67.       61.       56.       52.       47.       43.       40.       36.
             33.       31.       28.       26.       24.       22.       20.       18.       17.       15.
             14.       13.       12.       11.       10.        9.        8.        8.        7.        6.
              6.        5.        5.        5.        4.        4.        3.        3.        3.        3.
              2.        2.        2.        2.        2.        2.        1.

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-9
                   TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.50, TOTAL EXCESS =    1.60

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     259.     12.50                  72.         19.          6.          3.
                        (INCHES)    1.480       1.592       1.594       1.594
                         (AC-FT)       36.         38.         38.         38.

                        CUMULATIVE AREA =     .45 SQ MI


     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-9
                   TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.38, TOTAL EXCESS =    1.47

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     238.     12.50                  66.         18.          6.          3.
                        (INCHES)    1.360       1.464       1.467       1.467
                         (AC-FT)       33.         35.         35.         35.

                        CUMULATIVE AREA =     .45 SQ MI


     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-9
                   TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.30, TOTAL EXCESS =    1.39
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     224.     12.50                 62.         17.          6.           2.
                           (INCHES)     1.279       1.379       1.381        1.381
                            (AC-FT)       31.         33.         33.          33.

                            CUMULATIVE AREA =     .45 SQ MI


      ***             ***             ***             ***             ***

                            HYDROGRAPH AT STATION     LS-9
                          TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.23, TOTAL EXCESS =    1.30

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     210.     12.50                 58.         16.          5.           2.
                           (INCHES)     1.197       1.293       1.295        1.295
                            (AC-FT)       29.         31.         31.          31.

                            CUMULATIVE AREA =     .45 SQ MI


      ***             ***             ***             ***             ***

                            HYDROGRAPH AT STATION     LS-9
                          TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.20, TOTAL EXCESS =    1.27

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     205.     12.50                 57.         15.          5.           2.
                           (INCHES)     1.168       1.262       1.265        1.265
                            (AC-FT)       28.         30.         30.          30.

                            CUMULATIVE AREA =     .45 SQ MI

      ***             ***             ***             ***             ***


                            INTERPOLATED HYDROGRAPH AT     LS-9

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     247.     12.50                 69.         18.          6.           3.
                           (INCHES)     1.414       1.521       1.524        1.524
                            (AC-FT)       34.         37.         37.          37.

                            CUMULATIVE AREA =     .45 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  354 KK    *    LS-10   *        BASIN
            *            *
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              SUBBASIN RUNOFF DATA

  355 BA          SUBBASIN CHARACTERISTICS
                        TAREA          .26  SUBBASIN AREA

  356 LG          GREEN AND AMPT LOSS RATE
                        STRTL          .25  STARTING LOSS
                          DTH          .25  MOISTURE DEFICIT
                         PSIF         5.80  WETTING FRONT SUCTION
                        XKSAT          .22  HYDRAULIC CONDUCTIVITY
                        RTIMP        32.00  PERCENT IMPERVIOUS AREA

  357 UC          CLARK UNITGRAPH
                           TC          .26  TIME OF CONCENTRATION
                            R          .19  STORAGE COEFFICIENT

  358 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

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                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=   .26 HR,       R=   .19 HR
                                 SNYDER   TP=   .18 HR,      CP=   .56

                                          UNIT HYDROGRAPH
                                     14 END-OF-PERIOD ORDINATES
            129.      392.      475.      354.      231.      148.       94.       60.       39.       25.
             16.       10.        6.        4.

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.87, TOTAL EXCESS =    2.23

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     484.     12.08                 51.         15.          5.           2.
                         (INCHES)   1.846       2.225       2.226        2.226
                          (AC-FT)    25.         30.         31.          31.

                         CUMULATIVE AREA =     .26 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.78, TOTAL EXCESS =    2.07

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     450.     12.08                 47.         14.          5.           2.
                         (INCHES)   1.710       2.066       2.067        2.067
                          (AC-FT)    23.         28.         28.          28.

                         CUMULATIVE AREA =     .26 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.72, TOTAL EXCESS =    1.97

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     427.     12.08                 45.         14.          5.           2.
                         (INCHES)   1.619       1.960       1.961        1.961
                          (AC-FT)    22.         27.         27.          27.

                         CUMULATIVE AREA =     .26 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.66, TOTAL EXCESS =    1.86

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     404.     12.08                 42.         13.          4.           2.
                         (INCHES)   1.528       1.853       1.855        1.855
                          (AC-FT)    21.         25.         25.          25.

                         CUMULATIVE AREA =     .26 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.64, TOTAL EXCESS =    1.82

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     396.     12.08                 41.         13.          4.           2.
                         (INCHES)   1.496       1.816       1.818        1.818
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                    (AC-FT)        21.         25.         25.         25.

                    CUMULATIVE AREA =     .26 SQ MI

      ***           ***           ***           ***           ***


                    INTERPOLATED HYDROGRAPH AT    LS-10

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+     468.     12.08                 49.         15.          5.          2.
                    (INCHES)      1.782       2.150       2.152       2.152
                    (AC-FT)        24.         29.         29.         29.

                    CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  360 KK    *     RET10  *
            *            *
            **************
                         DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                          - 121.4 AC DEVELOPMENT WITH RETENTION
                          - C FACTOR = 0.63
                          - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                      ISTAD      R10OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       17.00  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ       DIVERTED FLOW        .00  10000.00

                                                                  ***

      ***           ***           ***           ***           ***

                      DIVERSION HYDROGRAPH   R10OUT
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+     484.     12.08                 31.          9.          3.          1.
                    (INCHES)      1.136       1.240       1.240       1.240
                    (AC-FT)        16.         17.         17.         17.

                    CUMULATIVE AREA =     .26 SQ MI

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION    RET10
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+     310.     12.25                 24.          7.          2.          1.
                    (INCHES)       .879        .986        .986        .986
                    (AC-FT)        12.         14.         14.         14.

                    CUMULATIVE AREA =     .26 SQ MI

      ***           ***           ***           ***           ***

                      DIVERSION HYDROGRAPH   R10OUT
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+     450.     12.08                 32.          9.          3.          1.
                    (INCHES)      1.143       1.240       1.240       1.240
                    (AC-FT)        16.         17.         17.         17.

                    CUMULATIVE AREA =     .26 SQ MI

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                    HYDROGRAPH AT STATION    RET10
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     287.      12.25                 20.          6.          2.           1.
                                (INCHES)       .727        .827        .827         .827
                                 (AC-FT)        10.         11.         11.          11.

                                CUMULATIVE AREA =     .26 SQ MI

      ***                 ***            ***            ***            ***

                    DIVERSION HYDROGRAPH   R10OUT
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     427.      12.08                 32.          9.          3.           1.
                                (INCHES)      1.145       1.240       1.240        1.240
                                 (AC-FT)        16.         17.         17.          17.

                                CUMULATIVE AREA =     .26 SQ MI

      ***                 ***            ***            ***            ***

                    HYDROGRAPH AT STATION    RET10
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     208.      12.25                 17.          5.          2.           1.
                                (INCHES)       .627        .721        .721         .721
                                 (AC-FT)         9.         10.         10.          10.

                                CUMULATIVE AREA =     .26 SQ MI

      ***                 ***            ***            ***            ***

                    DIVERSION HYDROGRAPH   R10OUT
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     404.      12.08                 32.          9.          3.           1.
                                (INCHES)      1.149       1.240       1.240        1.240
                                 (AC-FT)        16.         17.         17.          17.

                                CUMULATIVE AREA =     .26 SQ MI

      ***                 ***            ***            ***            ***

                    HYDROGRAPH AT STATION    RET10
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     179.      12.33                 14.          4.          1.           1.
                                (INCHES)       .524        .614        .614         .614
                                 (AC-FT)         7.          8.          8.           8.

                                CUMULATIVE AREA =     .26 SQ MI

      ***                 ***            ***            ***            ***

                    DIVERSION HYDROGRAPH   R10OUT
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     396.      12.08                 32.          9.          3.           1.
                                (INCHES)      1.151       1.240       1.240        1.240
                                 (AC-FT)        16.         17.         17.          17.

                                CUMULATIVE AREA =     .26 SQ MI
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     ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION    RET10
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     175.       12.33                14.           4.           1.           1.
                          (INCHES)   .489         .577         .577         .577
                           (AC-FT)     7.           8.           8.           8.

                        CUMULATIVE AREA =     .26 SQ MI

     ***             ***             ***             ***             ***


              INTERPOLATED DIVERSION HYDROGRAPH AT   R10OUT

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     468.       12.08                31.           9.           3.           1.
                          (INCHES)  1.139       1.240        1.240        1.240
                           (AC-FT)    16.          17.          17.          17.

                        CUMULATIVE AREA =     .26 SQ MI

     ***             ***             ***             ***             ***


                     INTERPOLATED HYDROGRAPH AT    RET10

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+     299.       12.25                22.           6.           2.           1.
                          (INCHES)   .808         .911         .911         .911
                           (AC-FT)    11.          12.          12.          12.

                        CUMULATIVE AREA =     .26 SQ MI


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            *            *
  368 KK    *    INFLOW  *
            *            *
            **************
                         COMBINE ALL INFLOW HYDROGRAPHS TO ADOBE DAM POOL AREA
                         (LS7C, LS5C, LS8, LS2C, LS9, LS10)

  371 HC          HYDROGRAPH COMBINATION
                       ICOMP           6  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

     ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION   INFLOW
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+   27139.       14.58             12544.        3586.        1201.         519.
                          (INCHES)  1.393       1.593        1.601        1.601
                           (AC-FT)  6220.        7113.        7145.        7145.

                        CUMULATIVE AREA =   83.70 SQ MI

     ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION   INFLOW
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                              (CFS)
+   27102.       14.58             12392.        3544.        1187.         513.
                          (INCHES)  1.376       1.575        1.582        1.582
                           (AC-FT)  6145.        7030.        7061.        7061.
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                    CUMULATIVE AREA =   83.70 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   INFLOW
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   27078.     14.58                12292.      3516.       1177.        509.
                        (INCHES)    1.365      1.562       1.569       1.569
                         (AC-FT)    6095.      6974.       7006.       7006.

                    CUMULATIVE AREA =   83.70 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   INFLOW
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   27054.     14.58                12193.      3489.       1168.        505.
                        (INCHES)    1.354      1.550       1.557       1.557
                         (AC-FT)    6046.      6920.       6951.       6951.

                    CUMULATIVE AREA =   83.70 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   INFLOW
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   27046.     14.58                12159.      3479.       1165.        504.
                        (INCHES)    1.351      1.546       1.553       1.553
                         (AC-FT)    6029.      6901.       6932.       6932.

                    CUMULATIVE AREA =   83.70 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT   INFLOW

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   27047.     14.58                12165.      3481.       1166.        504.
                        (INCHES)    1.351      1.547       1.554       1.554
                         (AC-FT)    6032.      6904.       6935.       6935.

                    CUMULATIVE AREA =   83.70 SQ MI


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            *            *
 372 KK     *     LS-11  *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

 373 BA          SUBBASIN CHARACTERISTICS
                      TAREA        2.84  SUBBASIN AREA

 374 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .27  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        4.55  WETTING FRONT SUCTION
                      XKSAT         .38  HYDRAULIC CONDUCTIVITY
                      RTIMP       14.00  PERCENT IMPERVIOUS AREA

 375 UC          CLARK UNITGRAPH
                         TC        1.18  TIME OF CONCENTRATION
                          R         .41  STORAGE COEFFICIENT

 376 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
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      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
   100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.18 HR,       R=   .41 HR
                                  SNYDER   TP=   .57 HR,      CP=   .63

                                          UNIT HYDROGRAPH
                                   33 END-OF-PERIOD ORDINATES
      71.     251.     490.     763.    1245.    1831.    2059.    1958.    1796.    1642.
    1480.    1312.    1161.    1032.     893.     737.     601.     490.     400.     326.
     266.     217.     177.     144.     118.      96.      78.      64.      52.      42.
      35.      28.      23.

  ***          ***          ***          ***          ***

                HYDROGRAPH AT STATION    LS-11
               TRANSPOSITION AREA       .0 SQ MI

  TOTAL RAINFALL =   4.10, TOTAL LOSS =   2.52, TOTAL EXCESS =   1.58

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                              6-HR       24-HR       72-HR    166.58-HR
+  (CFS)       (HR)
                 (CFS)
+   2366.      12.42          430.        120.         40.         17.
               (INCHES)      1.409       1.575       1.576       1.576
                (AC-FT)      213.        238.        239.        239.

               CUMULATIVE AREA =    2.84 SQ MI

  ***          ***          ***          ***          ***

                HYDROGRAPH AT STATION    LS-11
               TRANSPOSITION AREA     10.0 SQ MI

  TOTAL RAINFALL =   3.85, TOTAL LOSS =   2.40, TOTAL EXCESS =   1.45

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                              6-HR       24-HR       72-HR    166.58-HR
+  (CFS)       (HR)
                 (CFS)
+   2166.      12.42          393.        110.         37.         16.
               (INCHES)      1.289       1.444       1.446       1.446
                (AC-FT)      195.        219.        219.        219.

               CUMULATIVE AREA =    2.84 SQ MI

  ***          ***          ***          ***          ***

                HYDROGRAPH AT STATION    LS-11
               TRANSPOSITION AREA     30.0 SQ MI

  TOTAL RAINFALL =   3.69, TOTAL LOSS =   2.32, TOTAL EXCESS =   1.37

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                              6-HR       24-HR       72-HR    166.58-HR
+  (CFS)       (HR)
                 (CFS)
+   2034.      12.42          370.        104.         35.         15.
               (INCHES)      1.212       1.360       1.362       1.362
                (AC-FT)      183.        206.        206.        206.

               CUMULATIVE AREA =    2.84 SQ MI

  ***          ***          ***          ***          ***

                HYDROGRAPH AT STATION    LS-11
               TRANSPOSITION AREA     60.0 SQ MI

  TOTAL RAINFALL =   3.53, TOTAL LOSS =   2.24, TOTAL EXCESS =   1.28

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                              6-HR       24-HR       72-HR    166.58-HR
+  (CFS)       (HR)
                 (CFS)
+   1900.      12.42          346.         97.         32.         14.
               (INCHES)      1.133       1.275       1.277       1.277
                (AC-FT)      172.        193.        193.        193.

               CUMULATIVE AREA =    2.84 SQ MI

  ***          ***          ***          ***          ***

                HYDROGRAPH AT STATION    LS-11
               TRANSPOSITION AREA     90.0 SQ MI

  TOTAL RAINFALL =   3.47, TOTAL LOSS =   2.22, TOTAL EXCESS =   1.25
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1853.     12.42                338.         95.          32.          14.
                        (INCHES)    1.106        1.246        1.247        1.247
                         (AC-FT)    167.         189.         189.         189.

                        CUMULATIVE AREA =    2.84 SQ MI

      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT    LS-11

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2202.     12.42                400.         112.         37.          16.
                        (INCHES)    1.311        1.468        1.470        1.470
                         (AC-FT)    198.         222.         222.         222.

                        CUMULATIVE AREA =    2.84 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 378 KK     *     LS11C  *
            *            *
            **************
                        COMBINE ALL INFLOWS TO ADOBE POOL WITH RUNOFF FROM LS11

 380 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS11C
                       TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   27204.     14.58               12955.       3705.        1241.         536.
                        (INCHES)    1.392        1.592        1.600        1.600
                         (AC-FT)    6424.        7349.        7384.        7384.

                        CUMULATIVE AREA =   86.54 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS11C
                       TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   27163.     14.58               12767.       3653.        1223.         529.
                        (INCHES)    1.372        1.570        1.577        1.577
                         (AC-FT)    6331.        7245.        7280.        7280.

                        CUMULATIVE AREA =   86.54 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS11C
                       TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   27136.     14.58               12644.       3619.        1212.         524.
                        (INCHES)    1.358        1.555        1.563        1.563
                         (AC-FT)    6270.        7178.        7212.        7212.

                        CUMULATIVE AREA =   86.54 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS11C
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```
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   27109.     14.58               12521.       3585.        1201.         519.
                        (INCHES)    1.345       1.540        1.548        1.548
                         (AC-FT)    6209.       7110.        7144.        7144.

                        CUMULATIVE AREA =   86.54 SQ MI

      ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    LS11C
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   27100.     14.58               12479.       3573.        1197.         517.
                        (INCHES)    1.341       1.535        1.543        1.543
                         (AC-FT)    6188.       7087.        7121.        7121.

                        CUMULATIVE AREA =   86.54 SQ MI

-----DSS---ZWRITE Unit  71; Vers.    2:  //LS11C/FLOW/31DEC1989/5MIN/100FU/
-----DSS---ZWRITE Unit  71; Vers.    2:  //LS11C/FLOW/01JAN1990/5MIN/100FU/
-----DSS---ZWRITE Unit  71; Vers.    2:  //LS11C/FLOW/02JAN1990/5MIN/100FU/
-----DSS---ZWRITE Unit  71; Vers.    2:  //LS11C/FLOW/03JAN1990/5MIN/100FU/
-----DSS---ZWRITE Unit  71; Vers.    2:  //LS11C/FLOW/04JAN1990/5MIN/100FU/
-----DSS---ZWRITE Unit  71; Vers.    2:  //LS11C/FLOW/05JAN1990/5MIN/100FU/
-----DSS---ZWRITE Unit  71; Vers.    2:  //LS11C/FLOW/06JAN1990/5MIN/100FU/
-----DSS---ZWRITE Unit  71; Vers.    2:  //LS11C/FLOW/07JAN1990/5MIN/100FU/
      ***            ***            ***            ***            ***

                      INTERPOLATED HYDROGRAPH AT     LS11C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   27100.     14.58               12483.       3574.        1197.         517.
                        (INCHES)    1.341       1.536        1.543        1.543
                         (AC-FT)    6190.       7089.        7123.        7123.

                        CUMULATIVE AREA =   86.54 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
  382 KK    *    ADOBE   *
            *            *
            **************
                        ROUTE COMBINED FLOWS THROUGH ADOBE DAM RESERVOIR
                        DATA FROM FCDMC ALERT STATION DATA (TAKEN FROM COE DESIGN DATA)

              HYDROGRAPH ROUTING DATA

  385 RS        STORAGE ROUTING
                     NSTPS          1  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC        .00  INITIAL CONDITION
                         X        .00 WORKING R AND D COEFFICIENT

  386 SV          STORAGE          .0      70.0     154.0     372.0    1154.0    2695.0    5068.0    8502.0   13100.0   18825.0
                                26896.0   34968.0   47757.0   60546.0   73335.0

  388 SE        ELEVATION      1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76
                               1382.80   1387.76   1392.76   1397.76   1402.76

  390 SQ        DISCHARGE          0.       200.      339.      600.      970.      1210.     1429.     1630.     1810.     1980.
                                 3471.     6350.     8000.    12300.    17200.

  392 SE        ELEVATION      1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76
                               1382.80   1387.76   1392.76   1397.76   1402.76

                                                        ***

                                  COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00     70.00    154.00    372.00   1154.00   2695.00   5068.00   8502.00  13100.00  18825.00
          OUTFLOW        .00    200.00    339.00    600.00    970.00   1210.00   1429.00   1630.00   1810.00   1980.00
        ELEVATION    1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76

          STORAGE   26896.00  34968.00  47757.00  60546.00  73335.00
```

OUTFLOW	3471.00	6350.00	8000.00	12300.00	17200.00
ELEVATION	1382.80	1387.76	1392.76	1397.76	1402.76

*** *** *** *** ***

HYDROGRAPH AT STATION ADOBE
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1484.	19.25		1481.	1438.	1171.	536.
		(INCHES)	.159	.618	1.509	1.600
		(AC-FT)	734.	2853.	6967.	7384.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
6009.	19.25	5953.	5316.	3096.	1351.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
1364.13	19.25	1364.05	1363.02	1357.49	1347.87

CUMULATIVE AREA = 86.54 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION ADOBE
TRANSPOSITION AREA 10.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1479.	19.25		1475.	1432.	1159.	529.
		(INCHES)	.159	.615	1.494	1.577
		(AC-FT)	732.	2840.	6896.	7280.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
5916.	19.25	5860.	5225.	3022.	1318.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
1363.99	19.25	1363.91	1362.87	1357.28	1347.75

CUMULATIVE AREA = 86.54 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION ADOBE
TRANSPOSITION AREA 30.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1475.	19.25		1472.	1428.	1151.	524.
		(INCHES)	.158	.614	1.484	1.563
		(AC-FT)	730.	2832.	6848.	7212.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
5855.	19.25	5799.	5165.	2973.	1296.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
1363.91	19.25	1363.83	1362.77	1357.13	1347.66

CUMULATIVE AREA = 86.54 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION ADOBE
TRANSPOSITION AREA 60.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 1472.	19.25		1468.	1423.	1143.	519.
		(INCHES)	.158	.612	1.473	1.548
		(AC-FT)	728.	2823.	6799.	7144.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE

```
                                        6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)       (HR)
     5794.      19.25                  5739.        5106.        2925.         1275.

  PEAK STAGE    TIME                                MAXIMUM AVERAGE STAGE
                                        6-HR        24-HR        72-HR     166.58-HR
+   (FEET)       (HR)
   1363.82      19.25                1363.74      1362.66      1356.99       1347.58

                          CUMULATIVE AREA =   86.54 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    ADOBE
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                     (CFS)
+    1470.      19.25                 1467.        1422.        1140.          517.
                                   (INCHES)        .158         .611        1.469        1.543
                                    (AC-FT)        727.        2820.        6782.        7121.

 PEAK STORAGE   TIME                                MAXIMUM AVERAGE STORAGE
                                        6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)       (HR)
     5773.      19.25                  5718.        5086.        2909.         1267.

  PEAK STAGE    TIME                                MAXIMUM AVERAGE STAGE
                                        6-HR        24-HR        72-HR     166.58-HR
+   (FEET)       (HR)
   1363.79      19.25                1363.71      1362.63      1356.94       1347.55

                          CUMULATIVE AREA =   86.54 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    2:  //ADOBE/FLOW/31DEC1989/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //ADOBE/FLOW/01JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //ADOBE/FLOW/02JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //ADOBE/FLOW/03JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //ADOBE/FLOW/04JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //ADOBE/FLOW/05JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //ADOBE/FLOW/06JAN1990/5MIN/100FU/
 -----DSS---ZWRITE Unit  71; Vers.    2:  //ADOBE/FLOW/07JAN1990/5MIN/100FU/
      ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT    ADOBE

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                     (CFS)
+    1470.      19.25                 1467.        1422.        1140.          517.
                                   (INCHES)        .158         .611        1.470        1.543
                                    (AC-FT)        728.        2821.        6784.        7123.

                          CUMULATIVE AREA =   86.54 SQ MI

1
                                                RUNOFF SUMMARY
                                          FLOW IN CUBIC FEET PER SECOND
                                       TIME IN HOURS,  AREA IN SQUARE MILES

                                     PEAK   TIME OF     AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN     MAXIMUM     TIME OF
          OPERATION       STATION    FLOW    PEAK                                          AREA      STAGE     MAX STAGE
+                                                        6-HOUR     24-HOUR     72-HOUR

          HYDROGRAPH AT
+                           S23L    24155.   14.25        8882.       2451.        819.     50.29

          HYDROGRAPH AT
+                           C010     6098.   13.17        1550.        434.        145.     13.39

          2 COMBINED AT
+                            CAP    26287.   14.17       10403.       2884.        963.     63.68

          ROUTED TO
+                          CAPR2    26092.   14.42       10402.       2884.        963.     63.68

          HYDROGRAPH AT
+                            S24     1334.   12.08         136.         40.         13.       .65

          2 COMBINED AT
+                            S24C   26107.   14.42       10512.       2918.        975.     64.33

          ROUTED TO
+                          S24LS1   26086.   14.42       10509.       2917.        975.     64.33

          HYDROGRAPH AT
+                          RRB22C     934.   15.67         748.        246.         82.      9.62

          ROUTED TO
```

+		B22LS1	927.	16.67	746.	246.	82.	9.62
+	HYDROGRAPH AT	LS-1	3440.	12.17	436.	120.	40.	2.47
+	DIVERSION TO	R1OUT	866.	11.83	54.	16.	5.	2.47
+	HYDROGRAPH AT	RETLS1	3440.	12.17	401.	104.	35.	2.47
+	2 COMBINED AT	LS1CR	3358.	12.17	944.	347.	116.	12.09
+	2 COMBINED AT	LS1C	26714.	14.42	11399.	3245.	1086.	76.42
+	ROUTED TO	LS1LS2	26608.	14.58	11363.	3243.	1086.	76.42
+	HYDROGRAPH AT	LS-2	681.	12.42	154.	44.	15.	.94
+	DIVERSION TO	R2OUT	125.	11.92	17.	5.	2.	.94
+	HYDROGRAPH AT	RETLS2	681.	12.42	148.	39.	13.	.94
+	2 COMBINED AT	LS2C	26656.	14.58	11477.	3275.	1097.	77.37
+	HYDROGRAPH AT	LS-3	810.	12.17	103.	32.	11.	.54
+	ROUTED TO	LS3LS5	426.	12.75	102.	32.	11.	.54
+	HYDROGRAPH AT	LS-4	2352.	12.17	315.	96.	32.	1.85
+	DIVERSION TO	R4OUT	2083.	12.08	130.	37.	12.	1.85
+	HYDROGRAPH AT	RETLS4	2232.	12.25	216.	59.	20.	1.85
+	ROUTED TO	LS4LS5	1146.	12.67	208.	59.	20.	1.85
+	HYDROGRAPH AT	LS-5	950.	12.42	205.	60.	20.	1.28
+	DIVERSION TO	R5OUT	24.	10.42	15.	5.	2.	1.28
+	HYDROGRAPH AT	RETLS5	950.	12.42	204.	55.	18.	1.28
+	3 COMBINED AT	LS5C	2313.	12.67	500.	144.	48.	3.67
+	HYDROGRAPH AT	LS-6	423.	12.50	135.	41.	14.	.79
+	DIVERSION TO	R6OUT	22.	10.83	13.	4.	1.	.79
+	HYDROGRAPH AT	RETLS6	423.	12.50	135.	37.	12.	.79
+	HYDROGRAPH AT	LS-7	313.	12.42	91.	27.	9.	.60
+	DIVERSION TO	R7OUT	313.	12.42	44.	12.	4.	.60
+	HYDROGRAPH AT	RETLS7	247.	12.92	54.	15.	5.	.60
+	2 COMBINED AT	LS7C	615.	12.92	185.	51.	17.	1.39
+	HYDROGRAPH AT	LS-8	561.	12.25	103.	31.	10.	.57
+	HYDROGRAPH AT	LS-9	247.	12.50	69.	18.	6.	.45
+	HYDROGRAPH AT	LS-10	468.	12.08	49.	15.	5.	.26
+	DIVERSION TO	R10OUT	468.	12.08	31.	9.	3.	.26

```
        HYDROGRAPH AT
+                       RET10      299.  12.25        22.        6.        2.       .26

        6 COMBINED AT
+                      INFLOW    27047.  14.58     12165.     3481.     1166.     83.70

        HYDROGRAPH AT
+                       LS-11     2202.  12.42       400.      112.       37.      2.84

        2 COMBINED AT
+                       LS11C    27100.  14.58     12483.     3574.     1197.     86.54

        ROUTED TO
+                       ADOBE     1470.  19.25      1467.     1422.     1140.     86.54


 *** NORMAL END OF HEC-1 ***


   -----DSS---ZCLOSE Unit:  71,   File: LS10024F.DSS
            Pointer Utilization:    .26
            Number of Records:      72
            File Size:    141.8  Kbytes
            Percent Inactive:    .0
```

```
1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              JUN  1998               *
 *           VERSION 4.1                *
 *                                      *
 *  RUN DATE   13AUG03  TIME  15:19:12  *
 *                                      *
 ****************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*          609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 756-1104          *
*                                   *
*************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
1                                    HEC-1 INPUT                                                    PAGE  1

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID       LOWER SKUNK CREEK HYDROLOGY                        FILENAME: LS1024F.DAT
  2           ID       FOR: ADOBE DAM / DESERT HILLS ADMP                 ORIGINAL: 06/26/03
  3           ID       AUG. 2003                                          REVISED:  08/13/03
  4           ID       BY: JE FULLER/ HYDROLOGY & GEOMORPHOLOGY, INC.
  5           ID
  6           ID    THIS IS THE 10-YEAR 24-HOUR MODEL FOR FUTURE CONDITIONS
  7           ID
  8           ID    MODEL BASIS:
  9           ID      * 100-YEAR 24-HOUR FUTURE CONDITION MODEL (LS10024F.DAT)
 10           ID      * FUTURE LAND USES FROM MAG PLAN DATA PROVIDED BY FCDMC AND PHOTO INTERP
 11           ID        OF AVAILABLE LAND FOR DEVELOPMENT.
 12           ID      * DDMSW PROJECT NAME: LS_FU24
 13           ID      * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
 14           ID      * MULTIPLE STORM OPTION (JD)
 15           ID      * GREEN & AMPT LOSS METHOD
 16           ID      * CLARK UNIT HYDROGRAPH METHOD
 17           ID      * TC & R COMPUTED WITH MCHUP1 THRU DDMSW 2.1.3
 18           ID      * MODIFIED PULS NORMAL-DEPTH CHANNEL ROUTING
 19           ID      * INFLOW HYDROGRAPHS AS QI RECORDS FROM:
 20           ID          * S23L - SKUNK CREEK - SKUNK CREEK WMP
 21           ID          * C010 - SONORAN (UNNAMED) WASH - SKUNK CREEK WMP
 22           ID          * RRB22C - BUCHANAN WASH - ADOBE ADMP, PART 3, VOL. 3
 23           ID
 24           ID       10-YEAR MODEL BASED ON:
 25           ID       10-YEAR INFLOW HYDROGRAPHS FROM SKUNK CREEK / SONORAN WASH WCMP
 26           ID       10-YEAR INFLOW HYDROGRAPH FROM BUCHANAN WASH (PART 3, VOL. 3 ADOBE ADMP)
 27           ID       0.35 RATIO ON BA RECORD FIELD 3 PER DRAFT 2003 FCDMC HYDROLOGY MANUAL
 28           ID
 29           ID
              *DIAGRAM
 30           IT       5 01JAN90    0000    2000
 31           IO       3
 32           IN      15
 33           JD    4.10    0.01
 34           PC   0.000   0.002   0.005   0.008   0.011   0.014   0.017   0.020   0.023   0.026
 35           PC   0.029   0.032   0.035   0.038   0.041   0.044   0.048   0.052   0.056   0.060
 36           PC   0.064   0.068   0.072   0.076   0.080   0.085   0.090   0.095   0.100   0.105
 37           PC   0.110   0.115   0.120   0.126   0.133   0.140   0.147   0.155   0.163   0.172
 38           PC   0.181   0.191   0.203   0.218   0.236   0.257   0.283   0.387   0.663   0.707
 39           PC   0.735   0.758   0.776   0.791   0.804   0.815   0.825   0.834   0.842   0.849
 40           PC   0.856   0.863   0.869   0.875   0.881   0.887   0.893   0.898   0.903   0.908
 41           PC   0.913   0.918   0.922   0.926   0.930   0.934   0.938   0.942   0.946   0.950
 42           PC   0.953   0.956   0.959   0.962   0.965   0.968   0.971   0.974   0.977   0.980
 43           PC   0.983   0.986   0.989   0.992   0.995   0.998   1.000
 44           JD   3.854      10
 45           JD   3.690      30
 46           JD   3.526      60
 47           JD   3.469      90

 48           KK    S23L
 49           BA   50.29
              *
              * ***********************************************************************
              *
              *   INFLOW HYDROGRAPHS FOR SKUNK CREEK, SONORAN WASH, & SUBBASIN S24 FROM:
              *      Skunk Creek Watercourse Master Plan                    File: SCF10.IH1
              *           By: ASL Consulting Engineers                  Original: 09/01/1999
```

```
*          For: Flood Control District of Maricopa County   Revised: 05/25/2001
*
*       This is a Future Condition Model based on the MAG 1995 Projected
*       Landuse Map. This model DOES NOT account for 100-yr 2-hr retention.
*
*       Skunk Creek Watershed at the CAP Canal
*          This file is based on the original FIS HEC-1 model prepared by:
*
*                Montgomery Watson FCD 95-16
*                Skunk Creek Floodplain Delineation Study
*                Original model dated March 1996
*
*       02/23/00  Landuse modified per North Black Canyon Corridor General Plan
*                 provided by City of Phoenix.  ArcView files dated 02/04/2000.
*       05/25/01  Point Precipitation and JD records revised based on revised
*                 NOAA information. jad
*
*
*       Model Basis:
*
*       * 10-year, 24-hr rainfall with SCS Type II Rainfall Distribution
*       * Green & Ampt Loss Rate Method
*       * NMIN = 5
*       * Phoenix Mountain, Desert/Rangeland and Phoenix Valley S-Graphs
*       * Muskingum channel routing for Skunk Creek watershed
*       * Modified Puls normal depth channel routing for Unnamed Wash watershed
*       * 200 Scale 2' CI mapping of Skunk Creek by Kenney Aerial Mapping
*       * 200 Scale 2' CI mapping of Unnamed Wash by Aerial Mapping Company
*       * The Montgomery Watson HEC-1 model structure is used for Skunk Creek.
*         The Unnamed Wash is modeled with completely new input
*
*       Model Adjustments:
*
*       * RTIMP values are adjusted to reflect future buildout conditions
*         estimated using the MAG 1995 Planning Study
*       * S-GRAPH types were changed where appropriate to simulate urban
*         conditions
*       * S-GRAPH parameters were adjusted to reflect urbanization
*       * Basin areas were adjusted slightly to match the ArcView coverages
*         created for this study.  This was done for conformity with the landuse
*         areas.  The basin boundaries were not available in digital format.
*         The basin boundaries were recreated with adjustments made where
*         appropriate
*
*
1                                   HEC-1 INPUT                                    PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 50           KM     HYDROGRAPH FOR S23L FROM SKUNK CREEK WMP MODEL
 51           KM     FUTURE CONDITION 10-YR 24-HR HYDROGRAPH
 52           KM     NO RETENTION ASSUMED
 53           IN       5
 54           QI       0       0       0       0       1       1       2       3       5       7
 55           QI       8      10      11      13      14      16      17      19      21      24
 56           QI      27      30      34      38      44      49      55      61      68      74
 57           QI      81      88      94     100     106     112     117     122     126     129
 58           QI     133     135     138     140     141     142     144     144     145     146
 59           QI     147     148     149     149     150     151     152     152     153     153
 60           QI     154     154     155     156     157     158     159     161     163     165
 61           QI     167     169     171     173     176     178     180     183     185     187
 62           QI     190     192     194     196     197     199     200     201     202     203
 63           QI     204     205     207     208     210     212     214     216     218     221
 64           QI     223     226     229     232     236     239     243     247     250     252
 65           QI     255     257     259     262     264     267     270     274     278     283
 66           QI     288     294     301     307     315     323     331     339     348     357
 67           QI     367     376     386     397     407     418     433     452     479     528
 68           QI     592     697     844    1016    1233    1517    1828    2124    2446    2774
 69           QI    3077    3288    3498    3749    4040    4403    4859    5419    6056    6752
 70           QI    7489    8258    9031    9780   10482   11114   11663   12106   12437   12653
 71           QI   12758   12752   12634   12398   12037   11547   10930   10200    9381    8503
 72           QI    7604    6718    5876    5100    4403    3790    3261    2809    2427    2106
 73           QI    1835    1608    1417    1255    1118    1001     902     818     746     684
 74           QI     631     585     544     509     478     451     428     407     390     375
 75           QI     362     351     341     332     325     318     311     305     300     295
 76           QI     291     287     283     279     275     272     268     265     261     258
 77           QI     254     251     247     244     240     237     233     230     227     224
 78           QI     221     218     215     212     209     207     204     202     200     199
 79           QI     197     196     195     194     193     191     190     189     187     186
 80           QI     184     182     180     178     175     173     171     168     166     164
 81           QI     162     160     159     157     156     154     153     152     152     151
 82           QI     150     150     150     149     149     149     149     149     148     148
 83           QI     147     146     144     143     141     140     138     136     135     133
 84           QI     132     130     129     127     124     121     118     114     109     104
 85           QI      99      93      86      80      73      67      60      54      47      42
 86           QI      36      31      26      22      18      15      12      10       8       7
 87           QI       5       4       3       3       2       2       1       1       1       0
 88           QI       0       0       0       0       0       0       0       0       0       0
              *

 89           KK     C010
 90           KM      HYDROGRAPH FOR SONORAN WASH FROM SKUNK CREEK WMP
 91           KM      FUTURE CONDITION WITH 100-YR 2-HR RETENTION
 92           IN       5
 93           BA    13.39
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```
 94        QI      0       0       0       0       0       0       0       0       0       0
 95        QI      0       0       0       0       0       0       0       0       0       0
 96        QI      0       0       0       0       0       0       0       0       0       0
 97        QI      0       0       0       0       0       0       0       0       0       0
 98        QI      0       0       0       0       0       0       0       0       0       0
 99        QI      0       0       0       0       0       0       0       0       0       0
100        QI      0       0       0       0       0       0       0       0       0       0
101        QI      0       0       0       0       0       0       0       0       0       0
102        QI      0       0       0       0       0       0       0       0       0       0
1                                          HEC-1 INPUT                                          PAGE  3

LINE       ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

103        QI      0       0       0       0       0       0       0       0       0       0
104        QI      0       0       0       0       0       0       0       0       0       0
105        QI      0       0       0       0       0       0       0       0       0       0
106        QI      0       0       0       0       0       0       0       0       0       0
107        QI      0       0       0       0       0       0       0       0       0       0
108        QI      0       0       0       0       0       0       0       0       0     256
109        QI    385     313     249     197     162     139     155     293     491     637
110        QI    702     717     703     683     656     625     594     562     550     516
111        QI    483     452     425     397     368     340     315     295     278     262
112        QI    247     233     220     208     199     190     182     174     167     160
113        QI    156     152     147     143     139     136     133     130     128     125
114        QI    123     120     117     115     114     113     112     112     112     112
115        QI    112     113     113     113     113     112     110     108     107     106
116        QI    105     104     104     103     102     101     100      99      98      97
117        QI     96      94      93      92      92      91      91      90      90      90
118        QI     89      88      88      88      88      88      87      87      87      87
119        QI     86      85      84      83      83      82      81      80      79      78
120        QI     77      76      76      75      75      74      74      73      73      73
121        QI     72      72      72      72      72      72      71      71      71      71
122        QI     71      71      71      71      71      71      70      70      69      67
123        QI     65      63      60      58      57      56      55      53      52      50
124        QI     48      45      43      40      37      34      32      30      28      27
125        QI     26      26      25      24      24      23      22      21      20      19
126        QI     18      17      16      15      14      13      12      12      11      10
127        QI      9       8       8       7       7       6       6       5       5       4
128        QI      4       4       3       3       3       2       2       2       2       2
129        QI      2       1       1       1       1       1       1       1       1       1
130        QI      0       0       0       0       0       0       0       0       0       0
           *

131        KK     CAP
132        KM    COMBINE S23L+C010 (SUBAREAS S1-S23, CLINE CR, RODGER CR & UNNAMED WASH)
133        KM    COMBINED FLOW AT CAP OVERCHUTES
134        HC       2   63.68
           *

135        KK   CAPR2
136        KM    ROUTE CAP OVERFLOW THROUGH S24 FROM CAP TO I-17
137        RM       3    0.23    0.25
           *

138        KK     S24
139        KM   Sub-Basin    S24
140        KM
141        KM      The Phoenix Valley S-Graph is used for this basin.
142        KM          Lag Used =  16.0 minutes
143        KM
144        BA  0.6526            0.35
145        LG    0.21    0.22    7.60    0.10   28.60
146        UI     224     711    1243    1380     824     376     174      56      42       0
147        UI       0       0       0       0       0       0       0       0       0       0
           *
1                                          HEC-1 INPUT                                          PAGE  4

LINE       ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

148        KK    S24C
149        KM     COMBINE ROUTED FLOWS FROM CAP WITH RUNOFF FROM S24 AT I-17
150        HC       2
           *
           * ************************** END OF INPUT FROM SKUNK CREEK WMP ****************
           *

151        KK  S24LS1   ROUTE   REACH
152        KM    ROUTE COMBINED FLOWS FROM I-17 TO CONFLUENCE WITH BUCHANAN WASH
153        RS       1    STOR      -1
154        RC   0.035   0.035   0.035    3394  0.0053   15.00
155        RX     0.0     8.0    15.0    50.0   320.0   355.0   362.0   370.0
156        RY    15.0    15.0    15.0     0.0     0.0    15.0    15.0    15.0
           *
           *  FROM BUCHANAN HYDROLOGY FOR ADOBE ADMP PART 3, VOL. 3 BY JEF, INC. AUG. 2003
           *

157        KK  RRB22C
158        KM     INFLOWS FROM BUCHANAN WASH UNDER CAP
159        KM       FROM BF1024F.DAT
160        IN       5
161        BA    9.62
162        QI       0       0       0       0       0       0       0       0       0       0
163        QI       0       0       0       0       0       0       0       0       0       0
164        QI       0       0       0       0       0       0       0       0       0       0
```

```
 165        QI      0       0       0       0       0       0       0       0       0       0
 166        QI      0       0       0       0       0       0       0       0       0       0
 167        QI      0       0       0       0       0       0       0       0       0       0
 168        QI      0       0       0       0       0       0       0       0       0       0
 169        QI      0       0       0       0       0       0       0       0       0       0
 170        QI      0       0       0       0       0       0       0       0       0       0
 171        QI      0       0       0       0       0       0       0       0       0       0
 172        QI      0       0       0       0       0       0       0       0       0       0
 173        QI      0       0       0       0       0       0       0       0       0       0
 174        QI      0       0       0       0       0       0       0       0       0       0
 175        QI      0       0       0       0       0       0       0       0       0       0
 176        QI      0       0       0       0       0       0       0       0       0       0
 177        QI      0       0       0       0       0       0       0       0       0       0
 178        QI      0       0       0       0       0       0       0       0       0       0
 179        QI      0       0       0       0       0       0       0       0       0       0
 180        QI      0       0       0       0       0       0       0       0       0       0
 181        QI      0       0       0       0       0       0       0       0       0       0
 182        QI      0       0       0       0       0       0       0       0       0       0
 183        QI      0       0       0       0       0       1       1       1       2       2
 184        QI      3       3       4       4       5       6       6       7       8       8
 185        QI      9       9      10      11      11      11      12      12      12      13
 186        QI     13      13      13      13      13      13      13      13      13      13
 187        QI     13      12      12      12      12      12      11      11      11      11
 188        QI     11      10      10      10      10      10       9       9       9       9
 189        QI      9       8       8       8       8       8       8       7       7       7
 190        QI      7       7       7       7       6       6       6       6       6       6
 191        QI      6       6       6       6       6       6       5       5       5       5
 192        QI      5       5       5       5       5       5       5       5       5       5
 193        QI      5       5       5       5       5       5       5       5       5       5
1                                          HEC-1 INPUT                                          PAGE  5

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 194        QI      5       5       5       5       4       4       4       4       4       4
 195        QI      4       4       4       4       4       4       4       4       4       4
 196        QI      4       4       4       4       4       4       3       3       3       3
 197        QI      3       3       3       3       3       3       3       3       3       3
 198        QI      3       3       3       3       3       3       3       3       3       3
 199        QI      3       2       2       2       2       2       2       2       2       2
 200        QI      2       2       2       2       2       2       2       2       2       2
 201        QI      2       2       1       1       1       1       1       1       1       1
 202        QI      1       1       1       1       1       1       1       1       1       1
 203        QI      1       0       0       0       0       0       0       0       0       0
            *
            *  THE REMAINING HEC-1 MODEL INPUT FROM ORIGINAL ADOBE DAM ADMP MODELING BY JEF
            *

 204        KK  B22LS1   ROUTE   REACH
 205        KM   ROUTE IMPORTED FLOWS FROM CAP TO SKUNK CREEK IN BUCHANAN WASH
 206        RS       5    STOR      -1
 207        RC   0.055   0.040   0.055   10208  0.0040    7.00
 208        RX     0.0   100.0   200.0   210.0   225.0   235.0   285.0   335.0
 209        RY     7.0     6.0     5.0     0.0     0.0     5.0     6.0     7.0
 210        ZW       C=FLOW
            *

 211        KK    LS-1   BASIN
 212        BA   2.469           0.35
 213        LG    0.24    0.19    6.60    0.15      15
 214        UC   0.529   0.270
 215        UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 216        UA     100
            *

 217        KK  RETLS1
 218        KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
 219        KM      - 232 AC DEVELOPMENT WITH RETENTION
 220        KM      - C FACTOR = 0.63
 221        KM      - 100-YR 2-HR RAIN = 2.66"
 222        DT   R10UT    32.4
 223        DI       0   10000
 224        DQ       0   10000
            *

 225        KK   LS1CR
 226        KM     COMBINE RUNOFF FROM LS-1 WITH ROUTED FLOWS FROM BUCHANAN WASH AT CAP
 227        KM     THIS IS THE TOTAL FLOW IN BUCHANAN WASH JUST U/S OF SKUNK CREEK
 228        HC       2
            *

 229        KK    LS1C
 230        KM     COMBINE BUCHANAN WASH WITH ROUTED FLOWS IN SKUNK CREEK FROM I-17.
 231        HC       2
            *
1                                          HEC-1 INPUT                                          PAGE  6

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 232        KK  LS1LS2   ROUTE   REACH
 233        KM    ROUTE COMBINED FLOWS FROM CONFLUENCE OF BUCHANAN AND SKUNK TO
 234        KM    PINNACLE PEAK ROAD
 235        RS       3    STOR      -1
 236        RC   0.035   0.035   0.035    9552  0.0063   15.00
 237        RX     0.0     8.0    15.0    50.0   320.0   355.0   362.0   370.0
```

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238          RY    15.0    15.0    15.0     0.0     0.0    15.0    15.0    15.0
             *
             *

239          KK    LS-2   BASIN
240          BA   0.945            0.35
241          LG    0.19    0.25    4.80    0.30      20
242          UC   0.871   0.662
243          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
244          UA     100
             *

245          KK  RETLS2
246          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
247          KM      - 78 AC DEVELOPMENT WITH RETENTION
248          KM      - C FACTOR = 0.63
249          KM      - 100-YR 2-HR RAIN = 2.66"
250          DT   R2OUT    10.9
251          DI       0   10000
252          DQ       0   10000
             *

253          KK    LS2C
254          KM     COMBINE FLOWS IN SKUNK CREEK AT PINNACLE PEAK ROAD
255          HC       2
             *

256          KK    LS-3   BASIN
257          BA   0.543            0.35
258          LG    0.17    0.25    4.30    0.41      39
259          UC   0.413   0.224
260          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
261          UA     100
             *

262          KK  LS3LS5   ROUTE   REACH
263          KM    ROUTE RUNOFF FROM LS-3 THROUGH LS-5 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK
264          KM    ROAD
265          RS       4    STOR      -1
266          RC   0.080   0.040   0.080    8883  0.0040    6.00
267          RX     0.0   100.0   200.0   220.0   370.0   390.0   490.0   590.0
268          RY     6.0     5.0     4.0     0.0     0.0     4.0     5.0     6.0
             *
```



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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

269          KK    LS-4   BASIN
270          BA   1.851            0.35
271          LG    0.22    0.25    4.35    0.43      31
272          UC   0.500   0.274
273          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
274          UA     100
             *

275          KK  RETLS4
276          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
277          KM      - 528 AC DEVELOPMENT WITH RETENTION
278          KM      - C FACTOR = 0.63
279          KM      - 100-YR 2-HR RAIN = 2.66"
280          DT   R4OUT    73.7
281          DI       0   10000
282          DQ       0   10000
             *

283          KK  LS4LS5   ROUTE   REACH
284          KM    ROUTE RUNOFF FROM LS-4 THROUGH LS-5 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK
285          KM    ROAD
286          RS       2    STOR      -1
287          RC   0.080   0.040   0.080    6160  0.0040    6.00
288          RX     0.0   100.0   200.0   220.0   370.0   390.0   490.0   590.0
289          RY     6.0     5.0     4.0     0.0     0.0     4.0     5.0     6.0
             *

290          KK    LS-5   BASIN
291          BA   1.280            0.35
292          LG    0.28    0.25    4.90    0.33      22
293          UC   0.967   0.577
294          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
295          UA     100
             *

296          KK  RETLS5
297          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
298          KM      - 72.5 AC DEVELOPMENT WITH RETENTION
299          KM      - C FACTOR = 0.63
300          KM      - 100-YR 2-HR RAIN = 2.66"
301          DT   R5OUT    10.1
302          DI       0   10000
303          DQ       0   10000
             *

304          KK    LS5C
305          KM     COMBINE ROUTED FLOWS FROM LS3 AND LS4 WITH RUNOFF FROM LS5 AT ADOBE POOL
```

```
306          KM     AT PINNACLE PEAK ROAD
307          HC       3
             *
1                                        HEC-1 INPUT                                                PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

308          KK    LS-6   BASIN
309          BA   0.792            0.35
310          LG    0.25    0.25    4.50    0.39      30
311          UC   1.113   0.974
312          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
313          UA     100
             *

314          KK  RETLS6
315          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
316          KM      - 62.5 AC DEVELOPMENT WITH RETENTION
317          KM      - C FACTOR = 0.63
318          KM      - 100-YR 2-HR RAIN = 2.66"
319          DT   R6OUT     8.7
320          DI       0   10000
321          DQ       0   10000
             *

322          KK    LS-7   BASIN
323          BA   0.597            0.35
324          LG    0.28    0.25    4.50    0.42      21
325          UC   0.900   0.963
326          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
327          UA     100
             *

328          KK  RETLS7
329          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
330          KM      - 171 AC DEVELOPMENT WITH RETENTION
331          KM      - C FACTOR = 0.63
332          KM      - 100-YR 2-HR RAIN = 2.66"
333          DT   R7OUT    23.9
334          DI       0   10000
335          DQ       0   10000
             *

336          KK    LS7C
337          KM    COMBINE RUNOFF FROM LS6 AND LS7 AT ADOBE POOL
338          HC       2
             *

339          KK    LS-8   BASIN
340          BA   0.567            0.35
341          LG    0.25    0.25    5.10    0.31      32
342          UC   0.683   0.444
343          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
344          UA     100
             *
1                                        HEC-1 INPUT                                                PAGE  9

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

345          KK    LS-9   BASIN
346          BA   0.451            0.35
347          LG    0.20    0.25    5.20    0.24       9
348          UC   1.025   0.958
349          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
350          UA     100
             *

351          KK   LS-10   BASIN
352          BA   0.257            0.35
353          LG    0.25    0.25    5.80    0.22      32
354          UC   0.263   0.189
355          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
356          UA     100
             *

357          KK   RET10
358          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
359          KM      - 121.4 AC DEVELOPMENT WITH RETENTION
360          KM      - C FACTOR = 0.63
361          KM      - 100-YR 2-HR RAIN = 2.66"
362          DT  R10OUT    17.0
363          DI       0   10000
364          DQ       0   10000
             *

365          KK  INFLOW
366          KM    COMBINE ALL INFLOW HYDROGRAPHS TO ADOBE DAM POOL AREA
367          KM    (LS7C, LS5C, LS8, LS2C, LS9, LS10)
368          HC       6
             *

369          KK   LS-11   BASIN
370          BA   2.838            0.35
```

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 371          LG    0.27    0.25    4.55    0.38      14
 372          UC   1.183   0.410
 373          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 374          UA     100
              *

 375          KK   LS11C
 376          KM    COMBINE ALL INFLOWS TO ADOBE POOL WITH RUNOFF FROM LS11
 377          HC       2
 378          ZW      C=FLOW
              *

 379          KK   ADOBE
 380          KM     ROUTE COMBINED FLOWS THROUGH ADOBE DAM RESERVOIR
 381          KM     DATA FROM FCDMC ALERT STATION DATA (TAKEN FROM COE DESIGN DATA)
 382          RS       1    STOR       0
 383          SV       0      70     154     372    1154    2695    5068    8502   13100   18825
 384          SV   26896   34968   47757   60546   73335
 385          SE  1339.8 1342.76 1344.76 1347.76 1352.76 1357.76 1362.76 1367.76 1372.76 1377.76
 386          SE  1382.8 1387.76 1392.76 1397.76 1402.76
1                                                HEC-1 INPUT                                          PAGE 10

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 387          SQ       0     200     339     600     970    1210    1429    1630    1810    1980
 388          SQ    3471    6350    8000   12300   17200
 389          SE  1339.8 1342.76 1344.76 1347.76 1352.76 1357.76 1362.76 1367.76 1372.76 1377.76
 390          SE  1382.8 1387.76 1392.76 1397.76 1402.76
 391          ZW      C=FLOW
 392          ZZ
1
              SCHEMATIC DIAGRAM OF STREAM NETWORK
INPUT
 LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

 NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

  48        S23L
            .
            .
  89        .        C010
            .           .
            .           .
 131      CAP...........
            V
            V
 135     CAPR2
            .
            .
 138        .         S24
            .           .
            .           .
 148      S24C...........
            V
            V
 151    S24LS1
            .
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 157        .      RRB22C
            .          V
            .          V
 204        .      B22LS1
            .           .
            .           .
 211        .           .        LS-1
            .           .          .
            .           .          .
 222        .           .          .-------->   R1OUT
 217        .           .      RETLS1
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            .           .          .
 225        .       LS1CR...........
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            .           .
 229      LS1C...........
            V
            V
 232    LS1LS2
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 239        .        LS-2
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            .           .
 250        .           .-------->   R2OUT
 245        .      RETLS2
            .           .
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 253      LS2C...........
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 256        .        LS-3
            .          V
            .          V
 262        .      LS3LS5
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 269          .          .        LS-4
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              .          .          .
 280          .          .          .-------->   R4OUT
 275          .          .      RETLS4
              .          .          V
              .          .          V
 283          .          .      LS4LS5
              .          .          .
              .          .          .
 290          .          .          .        LS-5
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 301          .          .          .          .-------->   R5OUT
 296          .          .          .      RETLS5
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 304          .       LS5C.......................
              .          .
              .          .
 308          .          .        LS-6
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              .          .          .
 319          .          .          .-------->   R6OUT
 314          .          .      RETLS6
              .          .          .
              .          .          .
 322          .          .          .        LS-7
              .          .          .          .
              .          .          .          .
 333          .          .          .          .-------->   R7OUT
 328          .          .          .      RETLS7
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 336          .          .        LS7C............
              .          .          .
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 339          .          .          .        LS-8
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 345          .          .          .          .        LS-9
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 351          .          .          .          .          .       LS-10
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 362          .          .          .          .          .          .-------->  R10OUT
 357          .          .          .          .          .       RET10
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 365      INFLOW.............................................................
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              .
 369          .       LS-11
              .          .
              .          .
 375       LS11C............
               V
               V
 379       ADOBE
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *              JUN   1998              *
 *           VERSION 4.1                *
 *                                      *
 *  RUN DATE   13AUG03  TIME  15:19:12  *
 *                                      *
 ****************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*          609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 756-1104          *
*                                   *
*************************************
```

LOWER SKUNK CREEK HYDROLOGY
FOR: ADOBE DAM / DESERT HILLS ADMP
AUG. 2003
BY: JE FULLER/ HYDROLOGY & GEOMORPHOLOGY, INC.

FILENAME: LS1024F.DAT
ORIGINAL: 06/26/03
REVISED: 08/13/03

THIS IS THE 10-YEAR 24-HOUR MODEL FOR FUTURE CONDITIONS

MODEL BASIS:
* 100-YEAR 24-HOUR FUTURE CONDITION MODEL (LS10024F.DAT)
* FUTURE LAND USES FROM MAG PLAN DATA PROVIDED BY FCDMC AND PHOTO INTERP OF AVAILABLE LAND FOR DEVELOPMENT.
* DDMSW PROJECT NAME: LS_FU24
* PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
* MULTIPLE STORM OPTION (JD)
* GREEN & AMPT LOSS METHOD
* CLARK UNIT HYDROGRAPH METHOD
* TC & R COMPUTED WITH MCHUP1 THRU DDMSW 2.1.3
* MODIFIED PULS NORMAL-DEPTH CHANNEL ROUTING

```
                        * INFLOW HYDROGRAPHS AS QI RECORDS FROM:
                            * S23L - SKUNK CREEK - SKUNK CREEK WMP
                            * C010 - SONORAN (UNNAMED) WASH - SKUNK CREEK WMP
                            * RRB22C - BUCHANAN WASH - ADOBE ADMP, PART 3, VOL. 3

                        10-YEAR MODEL BASED ON:
                        10-YEAR INFLOW HYDROGRAPHS FROM SKUNK CREEK / SONORAN WASH WCMP
                        10-YEAR INFLOW HYDROGRAPH FROM BUCHANAN WASH (PART 3, VOL. 3 ADOBE ADMP)
                        0.35 RATIO ON BA RECORD FIELD 3 PER DRAFT 2003 FCDMC HYDROLOGY MANUAL


 31 IO        OUTPUT CONTROL VARIABLES
                    IPRNT           3  PRINT CONTROL
                    IPLOT           0  PLOT CONTROL
                    QSCAL          0.  HYDROGRAPH PLOT SCALE

 32 IN        TIME DATA FOR INPUT TIME SERIES
                    JXMIN          15  TIME INTERVAL IN MINUTES
                   JXDATE      1JAN90  STARTING DATE
                   JXTIME           0  STARTING TIME

    IT        HYDROGRAPH TIME DATA
                     NMIN           5  MINUTES IN COMPUTATION INTERVAL
                    IDATE      1JAN90  STARTING DATE
                    ITIME        0000  STARTING TIME
                       NQ        2000  NUMBER OF HYDROGRAPH ORDINATES
                   NDDATE      7JAN90  ENDING DATE
                   NDTIME        2235  ENDING TIME
                    ICENT          19  CENTURY MARK

                COMPUTATION INTERVAL     .08 HOURS
                     TOTAL TIME BASE  166.58 HOURS

       ENGLISH UNITS
            DRAINAGE AREA         SQUARE MILES
            PRECIPITATION DEPTH   INCHES
            LENGTH, ELEVATION     FEET
            FLOW                  CUBIC FEET PER SECOND
            STORAGE VOLUME        ACRE-FEET
            SURFACE AREA          ACRES
            TEMPERATURE           DEGREES FAHRENHEIT

 33 JD        INDEX STORM NO. 1
                    STRM         4.10  PRECIPITATION DEPTH
                    TRDA          .01  TRANSPOSITION DRAINAGE AREA

 34 PI          PRECIPITATION PATTERN
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 44 JD        INDEX STORM NO. 2
                    STRM         3.85  PRECIPITATION DEPTH
                    TRDA        10.00  TRANSPOSITION DRAINAGE AREA

  0 PI          PRECIPITATION PATTERN
                  .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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45 JD INDEX STORM NO. 3

STRM 3.69 PRECIPITATION DEPTH

TRDA 30.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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.03	.09	.09	.09	.01	.01	.01	.01	.01	.01
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46 JD INDEX STORM NO. 4

STRM 3.53 PRECIPITATION DEPTH

TRDA 60.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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47 JD INDEX STORM NO. 5

STRM 3.47 PRECIPITATION DEPTH

TRDA 90.00 TRANSPOSITION DRAINAGE AREA

0 PI PRECIPITATION PATTERN

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              *            *
  48 KK       *     S23L   *
              *            *
              **************
                          HYDROGRAPH FOR S23L FROM SKUNK CREEK WMP MODEL
                          FUTURE CONDITION 10-YR 24-HR HYDROGRAPH
                          NO RETENTION ASSUMED

  53 IN          TIME DATA FOR INPUT TIME SERIES
                       JXMIN          5  TIME INTERVAL IN MINUTES
                      JXDATE      1JAN90  STARTING DATE
                      JXTIME          0  STARTING TIME

               SUBBASIN RUNOFF DATA

  49 BA          SUBBASIN CHARACTERISTICS
                       TAREA       50.29  SUBBASIN AREA

                                                          ***

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     S23L
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   12758.     14.17                4719.       1330.        444.         192.
                        (INCHES)     .872        .983        .986         .986
                         (AC-FT)    2340.       2638.       2644.        2644.

                        CUMULATIVE AREA =   50.29 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     S23L
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   12758.     14.17                4719.       1330.        444.         192.
                        (INCHES)     .872        .983        .986         .986
                         (AC-FT)    2340.       2638.       2644.        2644.

                        CUMULATIVE AREA =   50.29 SQ MI

      ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION     S23L
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
```

```
+   12758.     14.17                  4719.       1330.        444.         192.
                          (INCHES)     .872        .983        .986         .986
                           (AC-FT)    2340.       2638.       2644.        2644.

                          CUMULATIVE AREA =   50.29 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     S23L
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+   12758.     14.17                  4719.       1330.        444.         192.
                          (INCHES)     .872        .983        .986         .986
                           (AC-FT)    2340.       2638.       2644.        2644.

                          CUMULATIVE AREA =   50.29 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     S23L
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+   12758.     14.17                  4719.       1330.        444.         192.
                          (INCHES)     .872        .983        .986         .986
                           (AC-FT)    2340.       2638.       2644.        2644.

                          CUMULATIVE AREA =   50.29 SQ MI

      ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT     S23L

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+   12758.     14.17                  4719.       1330.        444.         192.
                          (INCHES)     .872        .983        .986         .986
                           (AC-FT)    2340.       2638.       2644.        2644.

                          CUMULATIVE AREA =   50.29 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  89 KK     *      C010  *
            *            *
            **************
                          HYDROGRAPH FOR SONORAN WASH FROM SKUNK CREEK WMP
                          FUTURE CONDITION WITH 100-YR 2-HR RETENTION

  92 IN          TIME DATA FOR INPUT TIME SERIES
                        JXMIN           5  TIME INTERVAL IN MINUTES
                       JXDATE      1JAN90  STARTING DATE
                       JXTIME           0  STARTING TIME

                SUBBASIN RUNOFF DATA

  93 BA          SUBBASIN CHARACTERISTICS
                        TAREA       13.39  SUBBASIN AREA

                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     C010
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     717.     13.42                   262.         90.         30.          13.
                          (INCHES)    .182        .251        .251         .251
                           (AC-FT)     130.        179.        179.         179.

                          CUMULATIVE AREA =   13.39 SQ MI
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      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     C010
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     717.     13.42                262.         90.         30.          13.
                        (INCHES)    .182        .251        .251         .251
                         (AC-FT)    130.        179.        179.         179.

                       CUMULATIVE AREA =   13.39 SQ MI


      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     C010
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     717.     13.42                262.         90.         30.          13.
                        (INCHES)    .182        .251        .251         .251
                         (AC-FT)    130.        179.        179.         179.

                       CUMULATIVE AREA =   13.39 SQ MI


      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     C010
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     717.     13.42                262.         90.         30.          13.
                        (INCHES)    .182        .251        .251         .251
                         (AC-FT)    130.        179.        179.         179.

                       CUMULATIVE AREA =   13.39 SQ MI


      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     C010
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     717.     13.42                262.         90.         30.          13.
                        (INCHES)    .182        .251        .251         .251
                         (AC-FT)    130.        179.        179.         179.

                       CUMULATIVE AREA =   13.39 SQ MI

      ***            ***            ***            ***            ***


                  INTERPOLATED HYDROGRAPH AT     C010

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     717.     13.42                262.         90.         30.          13.
                        (INCHES)    .182        .251        .251         .251
                         (AC-FT)    130.        179.        179.         179.

                       CUMULATIVE AREA =   13.39 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  131 KK    *      CAP   *
            *            *
            **************
                        COMBINE S23L+C010 (SUBAREAS S1-S23, CLINE CR, RODGER CR & UNNAMED WASH)
                        COMBINED FLOW AT CAP OVERCHUTES

  134 HC          HYDROGRAPH COMBINATION
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                    ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***           ***            ***            ***            ***

                      HYDROGRAPH AT STATION      CAP
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13241.      14.17                4963.       1419.        474.         205.
                        (INCHES)     .725        .829        .831         .831
                         (AC-FT)    2461.       2815.       2823.        2823.

                       CUMULATIVE AREA =   63.68 SQ MI

      ***           ***            ***            ***            ***

                      HYDROGRAPH AT STATION      CAP
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13241.      14.17                4963.       1419.        474.         205.
                        (INCHES)     .725        .829        .831         .831
                         (AC-FT)    2461.       2815.       2823.        2823.

                       CUMULATIVE AREA =   63.68 SQ MI

      ***           ***            ***            ***            ***

                      HYDROGRAPH AT STATION      CAP
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13241.      14.17                4963.       1419.        474.         205.
                        (INCHES)     .725        .829        .831         .831
                         (AC-FT)    2461.       2815.       2823.        2823.

                       CUMULATIVE AREA =   63.68 SQ MI

      ***           ***            ***            ***            ***

                      HYDROGRAPH AT STATION      CAP
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13241.      14.17                4963.       1419.        474.         205.
                        (INCHES)     .725        .829        .831         .831
                         (AC-FT)    2461.       2815.       2823.        2823.

                       CUMULATIVE AREA =   63.68 SQ MI

      ***           ***            ***            ***            ***

                      HYDROGRAPH AT STATION      CAP
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13241.      14.17                4963.       1419.        474.         205.
                        (INCHES)     .725        .829        .831         .831
                         (AC-FT)    2461.       2815.       2823.        2823.

                       CUMULATIVE AREA =   63.68 SQ MI

      ***           ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT       CAP

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13241.      14.17                4963.       1419.        474.         205.
                        (INCHES)     .725        .829        .831         .831
```

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                    (AC-FT)      2461.       2815.       2823.        2823.

                    CUMULATIVE AREA =   63.68 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
135 KK    *     CAPR2  *
          *            *
          **************
                         ROUTE CAP OVERFLOW THROUGH S24 FROM CAP TO I-17

                HYDROGRAPH ROUTING DATA

137 RM            MUSKINGUM ROUTING
                       NSTPS          3 NUMBER OF SUBREACHES
                       AMSKK        .23 MUSKINGUM K
                           X        .25 MUSKINGUM X

                                                                  ***

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CAPR2
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13172.     14.42                4963.       1419.        474.         205.
                       (INCHES)     .725        .829        .831         .831
                        (AC-FT)    2461.       2815.       2823.        2823.

                       CUMULATIVE AREA =   63.68 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CAPR2
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13172.     14.42                4963.       1419.        474.         205.
                       (INCHES)     .725        .829        .831         .831
                        (AC-FT)    2461.       2815.       2823.        2823.

                       CUMULATIVE AREA =   63.68 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CAPR2
                     TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13172.     14.42                4963.       1419.        474.         205.
                       (INCHES)     .725        .829        .831         .831
                        (AC-FT)    2461.       2815.       2823.        2823.

                       CUMULATIVE AREA =   63.68 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CAPR2
                     TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13172.     14.42                4963.       1419.        474.         205.
                       (INCHES)     .725        .829        .831         .831
                        (AC-FT)    2461.       2815.       2823.        2823.

                       CUMULATIVE AREA =   63.68 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CAPR2
                     TRANSPOSITION AREA     90.0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   13172.     14.42                 4963.       1419.        474.         205.
                          (INCHES)   .725        .829        .831         .831
                           (AC-FT)  2461.       2815.       2823.        2823.

                          CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT    CAPR2

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   13172.     14.42                 4963.       1419.        474.         205.
                          (INCHES)   .725        .829        .831         .831
                           (AC-FT)  2461.       2815.       2823.        2823.

                          CUMULATIVE AREA =   63.68 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 138 KK     *       S24  *
            *            *
            **************
                          Sub-Basin    S24

                             The Phoenix Valley S-Graph is used for this basin.
                                 Lag Used =  16.0 minutes


            SUBBASIN RUNOFF DATA

 144 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .65  SUBBASIN AREA
                        SNAP         .00  NORMAL ANNUAL PRECIPITATION
                       RATIO         .35  RATIO OF HYDROGRAPH

 145 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .21  STARTING LOSS
                         DTH         .22  MOISTURE DEFICIT
                        PSIF        7.60  WETTING FRONT SUCTION
                       XKSAT         .10  HYDRAULIC CONDUCTIVITY
                       RTIMP       28.60  PERCENT IMPERVIOUS AREA

 139 UI          INPUT UNITGRAPH,   9 ORDINATES,  VOLUME = 1.00
                     224.0     711.0    1243.0    1380.0     824.0     376.0     174.0      56.0      42.0
                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION      S24
                       TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.72, TOTAL EXCESS =    2.38

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+    1389.     12.08                  142.         42.         14.           6.
                          (INCHES)  2.028       2.366       2.367        2.367
                           (AC-FT)    71.         82.         82.          82.

                          CUMULATIVE AREA =     .65 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION      S24
                       TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     486.     12.08                   50.         15.          5.           2.
                          (INCHES)   .710        .828        .829         .829
                           (AC-FT)    25.         29.         29.          29.
```

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                    CUMULATIVE AREA =     .65 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      S24
                   TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.66, TOTAL EXCESS =    2.20

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1299.     12.08                131.         38.         13.           6.
                        (INCHES)   1.869      2.187       2.188       2.188
                         (AC-FT)     65.         76.         76.          76.

                    CUMULATIVE AREA =     .65 SQ MI

                                                HYDROGRAPH MULTIPLIED BY   .35

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      S24
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     454.     12.08                 46.         13.          4.           2.
                        (INCHES)    .654       .765        .766        .766
                         (AC-FT)     23.         27.         27.          27.

                    CUMULATIVE AREA =     .65 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      S24
                   TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.61, TOTAL EXCESS =    2.08

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1238.     12.08                124.         36.         12.           5.
                        (INCHES)   1.767      2.072       2.073       2.073
                         (AC-FT)     61.         72.         72.          72.

                    CUMULATIVE AREA =     .65 SQ MI

                                                HYDROGRAPH MULTIPLIED BY   .35

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      S24
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     433.     12.08                 43.         13.          4.           2.
                        (INCHES)    .618       .725        .725        .725
                         (AC-FT)     22.         25.         25.          25.

                    CUMULATIVE AREA =     .65 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION      S24
                   TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.56, TOTAL EXCESS =    1.97

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1176.     12.08                117.         34.         11.           5.
                        (INCHES)   1.665      1.956       1.957       1.957
                         (AC-FT)     58.         68.         68.          68.

                    CUMULATIVE AREA =     .65 SQ MI

                                                HYDROGRAPH MULTIPLIED BY   .35
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     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION      S24
                     TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     412.      12.08                 41.         12.          4.           2.
                        (INCHES)     .583        .685        .685         .685
                         (AC-FT)      20.         24.         24.          24.

                       CUMULATIVE AREA =     .65 SQ MI


     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION      S24
                     TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.54, TOTAL EXCESS =    1.93

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1155.      12.08                114.         34.         11.           5.
                        (INCHES)    1.629       1.916       1.917        1.917
                         (AC-FT)      57.         67.         67.          67.

                       CUMULATIVE AREA =     .65 SQ MI


                                                HYDROGRAPH MULTIPLIED BY    .35

     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION      S24
                     TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     404.      12.08                 40.         12.          4.           2.
                        (INCHES)     .570        .671        .671         .671
                         (AC-FT)      20.         23.         23.          23.

                       CUMULATIVE AREA =     .65 SQ MI

     ***             ***             ***             ***             ***


                       INTERPOLATED HYDROGRAPH AT      S24

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     467.      12.08                 47.         14.          5.           2.
                        (INCHES)     .676        .790        .791         .791
                         (AC-FT)      24.         28.         28.          28.

                       CUMULATIVE AREA =     .65 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  148 KK    *     S24C   *
            *            *
            **************
                       COMBINE ROUTED FLOWS FROM CAP WITH RUNOFF FROM S24 AT I-17

  150 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

     ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     S24C
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13178.      14.42                5010.       1433.        479.         207.
```

```
                    (INCHES)      .724        .829        .831        .831
                     (AC-FT)     2484.       2843.       2852.       2852.

                    CUMULATIVE AREA =   64.33 SQ MI

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION     S24C
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+   13178.     14.42              5006.       1432.        479.        207.
                    (INCHES)      .724        .828        .831        .831
                     (AC-FT)     2483.       2841.       2850.       2850.

                    CUMULATIVE AREA =   64.33 SQ MI

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION     S24C
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+   13178.     14.42              5004.       1432.        479.        207.
                    (INCHES)      .723        .828        .830        .830
                     (AC-FT)     2481.       2839.       2848.       2848.

                    CUMULATIVE AREA =   64.33 SQ MI

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION     S24C
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+   13178.     14.42              5002.       1431.        478.        207.
                    (INCHES)      .723        .827        .830        .830
                     (AC-FT)     2480.       2838.       2847.       2847.

                    CUMULATIVE AREA =   64.33 SQ MI

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION     S24C
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+   13178.     14.42              5001.       1431.        478.        207.
                    (INCHES)      .723        .827        .830        .830
                     (AC-FT)     2480.       2838.       2846.       2846.

                    CUMULATIVE AREA =   64.33 SQ MI

      ***           ***           ***           ***           ***


                    INTERPOLATED HYDROGRAPH AT     S24C

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+   13178.     14.42              5002.       1431.        478.        207.
                    (INCHES)      .723        .827        .830        .830
                     (AC-FT)     2480.       2838.       2847.       2847.

                    CUMULATIVE AREA =   64.33 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  151 KK    *    S24LS1  *        ROUTE   REACH
            *            *
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                    ROUTE COMBINED FLOWS FROM I-17 TO CONFLUENCE WITH BUCHANAN WASH

            HYDROGRAPH ROUTING DATA

 153 RS          STORAGE ROUTING
                      NSTPS          1  NUMBER OF SUBREACHES
                       ITYP       STOR  TYPE OF INITIAL CONDITION
                     RSVRIC      -1.00  INITIAL CONDITION
                          X        .00 WORKING R AND D COEFFICIENT

 154 RC          NORMAL DEPTH CHANNEL
                        ANL       .035  LEFT OVERBANK N-VALUE
                       ANCH       .035  MAIN CHANNEL N-VALUE
                        ANR       .035  RIGHT OVERBANK N-VALUE
                      RLNTH      3394.  REACH LENGTH
                        SEL      .0053  ENERGY SLOPE
                      ELMAX       15.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 156 RY        ELEVATION    15.00     15.00     15.00       .00       .00     15.00     15.00     15.00
 155 RX        DISTANCE       .00      8.00     15.00     50.00    320.00    355.00    362.00    370.00

                                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00     16.72     33.67     50.84     68.25     85.87    103.73    121.81    140.12    158.65
          OUTFLOW        .00    565.16   1797.10   3538.08   5724.48   8317.93  11291.97  14627.04  18307.96  22322.63
        ELEVATION        .00       .79      1.58      2.37      3.16      3.95      4.74      5.53      6.32      7.11

          STORAGE     177.41    196.40    215.62    235.06    254.73    274.62    294.74    315.09    335.66    356.46
          OUTFLOW   26661.13  31315.26  36278.10  41543.79  47107.33  52964.40  59111.29  65544.80  72262.11  79260.82
        ELEVATION       7.89      8.68      9.47     10.26     11.05     11.84     12.63     13.42     14.21     15.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN    47107. TO    79261.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   S24LS1
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                              (CFS)
+   13140.      14.50          5005.        1433.         479.          207.
                         (INCHES)   .723        .828         .831          .831
                          (AC-FT)  2482.        2842.        2852.         2852.

 PEAK STORAGE    TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)       (HR)
      114.      14.50                 57.          20.           7.            3.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+   (FEET)       (HR)
      5.17      14.50                2.61          .91          .30           .13

                       CUMULATIVE AREA =   64.33 SQ MI

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   S24LS1
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                              (CFS)
+   13139.      14.50          5001.        1432.         479.          207.
                         (INCHES)   .723        .828         .831          .831
                          (AC-FT)  2480.        2840.        2850.         2850.

 PEAK STORAGE    TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)       (HR)
      114.      14.50                 57.          20.           7.            3.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+   (FEET)       (HR)
      5.17      14.50                2.61          .91          .30           .13

                       CUMULATIVE AREA =   64.33 SQ MI

     ***             ***             ***             ***             ***
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HYDROGRAPH AT STATION S24LS1
TRANSPOSITION AREA 30.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 13139.	14.50		4999.	1431.	479.	207.
		(INCHES)	.722	.827	.830	.830
		(AC-FT)	2479.	2839.	2848.	2848.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
114.	14.50	57.	19.	7.	3.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
5.17	14.50	2.61	.90	.30	.13

CUMULATIVE AREA = 64.33 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION S24LS1
TRANSPOSITION AREA 60.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 13139.	14.50		4997.	1430.	478.	207.
		(INCHES)	.722	.827	.830	.830
		(AC-FT)	2478.	2837.	2847.	2847.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
114.	14.50	56.	19.	7.	3.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
5.17	14.50	2.60	.90	.30	.13

CUMULATIVE AREA = 64.33 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION S24LS1
TRANSPOSITION AREA 90.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 13139.	14.50		4996.	1430.	478.	207.
		(INCHES)	.722	.827	.830	.830
		(AC-FT)	2477.	2837.	2846.	2846.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
114.	14.50	56.	19.	7.	3.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
5.17	14.50	2.60	.90	.30	.13

CUMULATIVE AREA = 64.33 SQ MI

*** *** *** *** ***

INTERPOLATED HYDROGRAPH AT S24LS1

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 13139.	14.50		4996.	1430.	478.	207.
		(INCHES)	.722	.827	.830	.830
		(AC-FT)	2478.	2837.	2847.	2847.

CUMULATIVE AREA = 64.33 SQ MI

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              **************
              *            *
 157 KK       *   RRB22C   *
              *            *
              **************
                              INFLOWS FROM BUCHANAN WASH UNDER CAP
                                FROM BF1024F.DAT

 160 IN            TIME DATA FOR INPUT TIME SERIES
                        JXMIN           5  TIME INTERVAL IN MINUTES
                       JXDATE      1JAN90  STARTING DATE
                       JXTIME           0  STARTING TIME

                 SUBBASIN RUNOFF DATA

 161 BA            SUBBASIN CHARACTERISTICS
                        TAREA        9.62  SUBBASIN AREA
                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RRB22C
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      13.     19.92                 9.          4.          2.           1.
                        (INCHES)    .009        .015        .023         .036
                         (AC-FT)      5.          8.         12.          18.

                       CUMULATIVE AREA =    9.62 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RRB22C
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      13.     19.92                 9.          4.          2.           1.
                        (INCHES)    .009        .015        .023         .036
                         (AC-FT)      5.          8.         12.          18.

                       CUMULATIVE AREA =    9.62 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RRB22C
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      13.     19.92                 9.          4.          2.           1.
                        (INCHES)    .009        .015        .023         .036
                         (AC-FT)      5.          8.         12.          18.

                       CUMULATIVE AREA =    9.62 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RRB22C
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      13.     19.92                 9.          4.          2.           1.
                        (INCHES)    .009        .015        .023         .036
                         (AC-FT)      5.          8.         12.          18.

                       CUMULATIVE AREA =    9.62 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RRB22C
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
```

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+      13.     19.92                    9.          4.          2.          1.
                          (INCHES)    .009        .015        .023        .036
                           (AC-FT)      5.          8.         12.         18.

                          CUMULATIVE AREA =    9.62 SQ MI

      ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT   RRB22C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      13.     19.92                    9.          4.          2.          1.
                          (INCHES)    .009        .015        .023        .036
                           (AC-FT)      5.          8.         12.         18.

                          CUMULATIVE AREA =    9.62 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  204 KK    *    B22LS1  *        ROUTE   REACH
            *            *
            **************
                          ROUTE IMPORTED FLOWS FROM CAP TO SKUNK CREEK IN BUCHANAN WASH

               HYDROGRAPH ROUTING DATA

  206 RS          STORAGE ROUTING
                        NSTPS           5  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                        RSVRIC       -1.00  INITIAL CONDITION
                            X         .00 WORKING R AND D COEFFICIENT

  207 RC          NORMAL DEPTH CHANNEL
                          ANL        .055  LEFT OVERBANK N-VALUE
                         ANCH        .040  MAIN CHANNEL N-VALUE
                          ANR        .055  RIGHT OVERBANK N-VALUE
                        RLNTH      10208.  REACH LENGTH
                          SEL      .0040  ENERGY SLOPE
                        ELMAX        7.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  209 RY        ELEVATION      7.00      6.00      5.00       .00       .00      5.00      6.00      7.00
  208 RX        DISTANCE        .00    100.00    200.00    210.00    225.00    235.00    285.00    335.00

                                                                  ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00      1.36      2.84      4.46      6.20      8.07     10.06     12.18     14.43     16.81
            OUTFLOW        .00      6.76     21.75     43.42     71.34    105.36    145.48    191.77    244.33    303.29
          ELEVATION        .00       .37       .74      1.11      1.47      1.84      2.21      2.58      2.95      3.32

            STORAGE      19.31     21.94     24.70     27.59     31.03     38.48     50.70     67.70     89.46    116.00
            OUTFLOW     368.81    441.04    520.14    606.30    708.61    843.01   1016.38   1242.18   1531.99   1896.29
          ELEVATION       3.68      4.05      4.42      4.79      5.16      5.53      5.89      6.26      6.63      7.00

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   B22LS1
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      12.     21.83                    9.          4.          2.          1.
                          (INCHES)    .008        .015        .023        .035
                           (AC-FT)      4.          8.         12.         18.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                        6-HR        24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.      21.83                     0.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR        24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .50      21.83                    .41         .20         .10         .07

                          CUMULATIVE AREA =    9.62 SQ MI
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      ***             ***             ***             ***             ***

                   HYDROGRAPH AT STATION   B22LS1
                 TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+      12.      21.83                 9.           4.           2.           1.
                                 (INCHES)       .008         .015         .023         .035
                                  (AC-FT)         4.           8.          12.          18.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.      21.83                 0.           0.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+   (FEET)      (HR)
      .50      21.83                .41          .20          .10          .07

                   CUMULATIVE AREA =    9.62 SQ MI

      ***             ***             ***             ***             ***

                   HYDROGRAPH AT STATION   B22LS1
                 TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+      12.      21.83                 9.           4.           2.           1.
                                 (INCHES)       .008         .015         .023         .035
                                  (AC-FT)         4.           8.          12.          18.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.      21.83                 0.           0.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+   (FEET)      (HR)
      .50      21.83                .41          .20          .10          .07

                   CUMULATIVE AREA =    9.62 SQ MI

      ***             ***             ***             ***             ***

                   HYDROGRAPH AT STATION   B22LS1
                 TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+      12.      21.83                 9.           4.           2.           1.
                                 (INCHES)       .008         .015         .023         .035
                                  (AC-FT)         4.           8.          12.          18.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.      21.83                 0.           0.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+   (FEET)      (HR)
      .50      21.83                .41          .20          .10          .07

                   CUMULATIVE AREA =    9.62 SQ MI

      ***             ***             ***             ***             ***

                   HYDROGRAPH AT STATION   B22LS1
                 TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+      12.      21.83                 9.           4.           2.           1.
                                 (INCHES)       .008         .015         .023         .035
                                  (AC-FT)         4.           8.          12.          18.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.      21.83                 0.           0.           0.           0.
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  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .50     21.83                   .41         .20         .10          .07

                        CUMULATIVE AREA =    9.62 SQ MI

    -----DSS---ZOPEN:  Existing File Opened,  File: LS1024F.DSS
                       Unit:  71;  DSS Version: 6-JG
 -----DSS---ZWRITE Unit  71; Vers.    4:  //B22LS1/FLOW/31DEC1989/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //B22LS1/FLOW/01JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //B22LS1/FLOW/02JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //B22LS1/FLOW/03JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //B22LS1/FLOW/04JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //B22LS1/FLOW/05JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //B22LS1/FLOW/06JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //B22LS1/FLOW/07JAN1990/5MIN//
      ***            ***            ***            ***            ***


                        INTERPOLATED HYDROGRAPH AT   B22LS1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     12.       21.83                   9.          4.          2.           1.
                        (INCHES)      .008        .015        .023         .035
                         (AC-FT)        4.          8.         12.          18.

                        CUMULATIVE AREA =    9.62 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  211 KK    *     LS-1   *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

  212 BA          SUBBASIN CHARACTERISTICS
                        TAREA        2.47  SUBBASIN AREA
                         SNAP         .00  NORMAL ANNUAL PRECIPITATION
                        RATIO         .35  RATIO OF HYDROGRAPH

  213 LG          GREEN AND AMPT LOSS RATE
                        STRTL         .24  STARTING LOSS
                          DTH         .19  MOISTURE DEFICIT
                         PSIF        6.60  WETTING FRONT SUCTION
                        XKSAT         .15  HYDRAULIC CONDUCTIVITY
                        RTIMP       15.00  PERCENT IMPERVIOUS AREA

  214 UC          CLARK UNITGRAPH
                           TC         .53  TIME OF CONCENTRATION
                            R         .27  STORAGE COEFFICIENT

  215 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                   ***

                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=   .53 HR,       R=   .27 HR
                                       SNYDER   TP=   .31 HR,      CP=   .60

                                                 UNIT HYDROGRAPH
                                            20 END-OF-PERIOD ORDINATES
               290.     1114.     2411.     3058.     2746.     2333.     1875.     1416.     1037.      760.
               557.      408.      299.      219.      160.      117.       86.       63.       46.       34.

      ***            ***            ***            ***            ***

                         HYDROGRAPH AT STATION     LS-1
                       TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.16, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3647.      12.17                 466.        128.         43.          18.
                        (INCHES)     1.755       1.932       1.933        1.933
                         (AC-FT)     231.        254.        255.         255.

                        CUMULATIVE AREA =    2.47 SQ MI
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                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-1
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1276.     12.17                163.         45.         15.           6.
                        (INCHES)    .614        .676        .677         .677
                         (AC-FT)     81.         89.         89.          89.

                        CUMULATIVE AREA =    2.47 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-1
                      TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.07, TOTAL EXCESS =    1.79

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3388.     12.17                428.        118.         39.          17.
                        (INCHES)   1.611       1.777       1.778        1.778
                         (AC-FT)    212.        234.        234.         234.

                        CUMULATIVE AREA =    2.47 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-1
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1186.     12.17                150.         41.         14.           6.
                        (INCHES)    .564        .622        .622         .622
                         (AC-FT)     74.         82.         82.          82.

                        CUMULATIVE AREA =    2.47 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-1
                      TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.00, TOTAL EXCESS =    1.69

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3216.     12.17                403.        111.         37.          16.
                        (INCHES)   1.517       1.677       1.678        1.678
                         (AC-FT)    200.        221.        221.         221.

                        CUMULATIVE AREA =    2.47 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-1
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1126.     12.17                141.         39.         13.           6.
                        (INCHES)    .531        .587        .587         .587
                         (AC-FT)     70.         77.         77.          77.

                        CUMULATIVE AREA =    2.47 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-1
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                    TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.94, TOTAL EXCESS =    1.59

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3045.     12.17                378.        105.         35.          15.
                         (INCHES)  1.425       1.578       1.579        1.579
                          (AC-FT)   188.        208.        208.         208.

                         CUMULATIVE AREA =    2.47 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     LS-1
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1066.     12.17                132.         37.         12.           5.
                         (INCHES)   .499        .552        .553         .553
                          (AC-FT)    66.         73.         73.          73.

                         CUMULATIVE AREA =    2.47 SQ MI


      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     LS-1
                    TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.92, TOTAL EXCESS =    1.55

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2985.     12.17                370.        102.         34.          15.
                         (INCHES)  1.393       1.543       1.544        1.544
                          (AC-FT)   183.        203.        203.         203.

                         CUMULATIVE AREA =    2.47 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     LS-1
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1045.     12.17                129.         36.         12.           5.
                         (INCHES)   .488        .540        .540         .540
                          (AC-FT)    64.         71.         71.          71.

                         CUMULATIVE AREA =    2.47 SQ MI

      ***             ***             ***             ***             ***


                         INTERPOLATED HYDROGRAPH AT     LS-1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1204.     12.17                152.         42.         14.           6.
                         (INCHES)   .574        .633        .633         .633
                          (AC-FT)    76.         83.         83.          83.

                         CUMULATIVE AREA =    2.47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 217 KK     *    RETLS1  *
            *            *
            **************
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                    DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                     - 232 AC DEVELOPMENT WITH RETENTION
                     - C FACTOR = 0.63
                     - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                      ISTAD       R1OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       32.40  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH    R1OUT
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1118.     12.08                61.         16.          5.           2.
                       (INCHES)    .230        .246        .246         .246
                        (AC-FT)    30.         32.         32.          32.

                       CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   RETLS1
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1243.     12.25               110.         29.         10.           4.
                       (INCHES)    .412        .431        .431         .431
                        (AC-FT)    54.         57.         57.          57.

                       CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH    R1OUT
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1037.     12.08                61.         16.          5.           2.
                       (INCHES)    .231        .246        .246         .246
                        (AC-FT)    30.         32.         32.          32.

                       CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   RETLS1
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1154.     12.25                95.         25.          8.           4.
                       (INCHES)    .359        .376        .376         .376
                        (AC-FT)    47.         50.         50.          50.

                       CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH    R1OUT
                     TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1090.     12.17                61.         16.          5.           2.
                       (INCHES)    .231        .246        .246         .246
                        (AC-FT)    30.         32.         32.          32.

                       CUMULATIVE AREA =    2.47 SQ MI
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      ***            ***            ***            ***            ***

                   HYDROGRAPH AT STATION   RETLS1
                 TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+    1095.     12.25                 86.         23.          8.           3.
                                (INCHES)       .325        .341        .341         .341
                                 (AC-FT)        43.         45.         45.          45.

                                CUMULATIVE AREA =    2.47 SQ MI


      ***            ***            ***            ***            ***

                   DIVERSION HYDROGRAPH    R1OUT
                 TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+    1066.     12.17                 62.         16.          5.           2.
                                (INCHES)       .232        .246        .246         .246
                                 (AC-FT)        31.         32.         32.          32.

                                CUMULATIVE AREA =    2.47 SQ MI


      ***            ***            ***            ***            ***

                   HYDROGRAPH AT STATION   RETLS1
                 TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     902.     12.33                 77.         20.          7.           3.
                                (INCHES)       .291        .306        .306         .306
                                 (AC-FT)        38.         40.         40.          40.

                                CUMULATIVE AREA =    2.47 SQ MI


      ***            ***            ***            ***            ***

                   DIVERSION HYDROGRAPH    R1OUT
                 TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+    1045.     12.17                 62.         16.          5.           2.
                                (INCHES)       .232        .246        .246         .246
                                 (AC-FT)        31.         32.         32.          32.

                                CUMULATIVE AREA =    2.47 SQ MI


      ***            ***            ***            ***            ***

                   HYDROGRAPH AT STATION   RETLS1
                 TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     883.     12.33                 74.         20.          7.           3.
                                (INCHES)       .279        .294        .294         .294
                                 (AC-FT)        37.         39.         39.          39.

                                CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***


              INTERPOLATED DIVERSION HYDROGRAPH AT    R1OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+    1053.     12.08                 61.         16.          5.           2.
                                (INCHES)       .230        .246        .246         .246
                                 (AC-FT)        30.         32.         32.          32.

                                CUMULATIVE AREA =    2.47 SQ MI
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      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT   RETLS1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    1172.     12.25                 98.         26.          9.           4.
                         (INCHES)   .370        .387        .387         .387
                          (AC-FT)    49.         51.         51.          51.

                        CUMULATIVE AREA =    2.47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  225 KK    *     LS1CR  *
            *            *
            **************
                             COMBINE RUNOFF FROM LS-1 WITH ROUTED FLOWS FROM BUCHANAN WASH AT CAP
                             THIS IS THE TOTAL FLOW IN BUCHANAN WASH JUST U/S OF SKUNK CREEK

  228 HC          HYDROGRAPH COMBINATION
                        ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    LS1CR
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    1243.     12.25                110.         32.         11.           5.
                         (INCHES)   .084        .099        .105         .116
                          (AC-FT)    54.         64.         68.          75.

                        CUMULATIVE AREA =   12.09 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    LS1CR
                        TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    1154.     12.25                 95.         29.         10.           5.
                         (INCHES)   .073        .088        .094         .105
                          (AC-FT)    47.         57.         61.          68.

                        CUMULATIVE AREA =   12.09 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    LS1CR
                        TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    1095.     12.25                 86.         26.          9.           5.
                         (INCHES)   .066        .081        .087         .098
                          (AC-FT)    43.         52.         56.          63.

                        CUMULATIVE AREA =   12.09 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION    LS1CR
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     902.     12.33                 77.         24.          9.           4.
                         (INCHES)   .059        .074        .080         .091
                          (AC-FT)    38.         48.         52.          58.
```

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                    CUMULATIVE AREA =   12.09 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION    LS1CR
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     883.      12.33                74.         23.          8.           4.
                        (INCHES)    .057        .071        .078         .088
                         (AC-FT)     37.         46.         50.          57.

                    CUMULATIVE AREA =   12.09 SQ MI

      ***           ***           ***           ***           ***


                    INTERPOLATED HYDROGRAPH AT    LS1CR

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1144.      12.25                94.         28.         10.           5.
                        (INCHES)    .072        .087        .093         .104
                         (AC-FT)     47.         56.         60.          67.

                    CUMULATIVE AREA =   12.09 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  229 KK    *      LS1C  *
            *            *
            **************
                    COMBINE BUCHANAN WASH WITH ROUTED FLOWS IN SKUNK CREEK FROM I-17.

  231 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION     LS1C
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13153.      14.50               5114.       1464.        491.         213.
                        (INCHES)    .622        .712        .716         .718
                         (AC-FT)    2536.       2904.       2919.        2927.

                    CUMULATIVE AREA =   76.42 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION     LS1C
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13151.      14.50               5096.       1459.        489.         212.
                        (INCHES)    .620        .710        .714         .716
                         (AC-FT)    2527.       2894.       2910.        2917.

                    CUMULATIVE AREA =   76.42 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION     LS1C
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13151.      14.50               5085.       1456.        488.         211.
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                    (INCHES)      .619        .709        .712        .714
                     (AC-FT)     2521.       2888.       2903.       2911.

                    CUMULATIVE AREA =   76.42 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS1C
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13150.     14.50                5074.       1453.        487.        211.
                     (INCHES)      .617        .707        .711        .713
                      (AC-FT)     2516.       2882.       2898.       2905.

                    CUMULATIVE AREA =   76.42 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS1C
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13150.     14.50                5070.       1452.        487.        211.
                     (INCHES)      .617        .707        .710        .712
                      (AC-FT)     2514.       2880.       2895.       2903.

                    CUMULATIVE AREA =   76.42 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS1C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13150.     14.50                5071.       1453.        487.        211.
                     (INCHES)      .617        .707        .711        .713
                      (AC-FT)     2515.       2881.       2896.       2904.

                    CUMULATIVE AREA =   76.42 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
  232 KK  *    LS1LS2  *        ROUTE   REACH
          *            *
          **************
                         ROUTE COMBINED FLOWS FROM CONFLUENCE OF BUCHANAN AND SKUNK TO
                         PINNACLE PEAK ROAD

            HYDROGRAPH ROUTING DATA

  235 RS        STORAGE ROUTING
                     NSTPS          3  NUMBER OF SUBREACHES
                      ITYP       STOR  TYPE OF INITIAL CONDITION
                    RSVRIC      -1.00  INITIAL CONDITION
                         X        .00 WORKING R AND D COEFFICIENT

  236 RC        NORMAL DEPTH CHANNEL
                       ANL       .035  LEFT OVERBANK N-VALUE
                      ANCH       .035  MAIN CHANNEL N-VALUE
                       ANR       .035  RIGHT OVERBANK N-VALUE
                     RLNTH      9552.  REACH LENGTH
                       SEL      .0063  ENERGY SLOPE
                     ELMAX       15.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                         --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
  238 RY      ELEVATION    15.00     15.00     15.00       .00       .00     15.00     15.00     15.00
  237 RX      DISTANCE       .00      8.00     15.00     50.00    320.00    355.00    362.00    370.00

                                                  ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

        STORAGE        .00     47.06     94.76    143.10    192.07    241.68    291.93    342.82    394.35    446.51
       OUTFLOW         .00    616.17   1959.31   3857.45   6241.21   9068.75  12311.25  15947.36  19960.54  24337.59
      ELEVATION        .00       .79      1.58      2.37      3.16      3.95      4.74      5.53      6.32      7.11
```

STORAGE	499.31	552.75	606.83	661.54	716.89	772.88	829.51	886.78	944.68	1003.22
OUTFLOW	29067.71	34141.95	39552.77	45293.77	51359.50	57745.27	64447.01	71461.24	78784.90	86415.35
ELEVATION	7.89	8.68	9.47	10.26	11.05	11.84	12.63	13.42	14.21	15.00

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 34142. TO 86415.
THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

*** *** *** *** ***

HYDROGRAPH AT STATION LS1LS2
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 13075.	14.67		5096.	1463.	491.	213.
		(INCHES)	.620	.712	.716	.718
		(AC-FT)	2527.	2902.	2919.	2927.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
101.	14.67	51.	18.	6.	3.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
4.90	14.67	2.53	.87	.30	.13

CUMULATIVE AREA = 76.42 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION LS1LS2
TRANSPOSITION AREA 10.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 13074.	14.67		5079.	1458.	489.	212.
		(INCHES)	.618	.710	.714	.716
		(AC-FT)	2518.	2893.	2910.	2917.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
101.	14.67	51.	18.	6.	3.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
4.90	14.67	2.52	.87	.29	.13

CUMULATIVE AREA = 76.42 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION LS1LS2
TRANSPOSITION AREA 30.0 SQ MI

PEAK FLOW	TIME		MAXIMUM AVERAGE FLOW			
			6-HR	24-HR	72-HR	166.58-HR
+ (CFS)	(HR)					
		(CFS)				
+ 13074.	14.67		5068.	1455.	488.	211.
		(INCHES)	.617	.708	.712	.714
		(AC-FT)	2513.	2887.	2903.	2911.

PEAK STORAGE	TIME	MAXIMUM AVERAGE STORAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (AC-FT)	(HR)				
101.	14.67	51.	18.	6.	3.

PEAK STAGE	TIME	MAXIMUM AVERAGE STAGE			
		6-HR	24-HR	72-HR	166.58-HR
+ (FEET)	(HR)				
4.90	14.67	2.51	.87	.29	.13

CUMULATIVE AREA = 76.42 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION LS1LS2
TRANSPOSITION AREA 60.0 SQ MI

PEAK FLOW	TIME	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	166.58-HR

```
+   (CFS)        (HR)
                              (CFS)
+   13073.      14.67                  5056.        1452.        487.         211.
                            (INCHES)    .615         .707        .711         .713
                             (AC-FT)   2507.        2881.       2898.        2905.

 PEAK STORAGE   TIME                            MAXIMUM AVERAGE STORAGE
                                          6-HR        24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      101.     14.67                      51.          18.          6.           3.

  PEAK STAGE    TIME                            MAXIMUM AVERAGE STAGE
                                          6-HR        24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      4.90     14.67                     2.51          .87         .29          .13

                            CUMULATIVE AREA =   76.42 SQ MI


      ***             ***             ***             ***             ***

                             HYDROGRAPH AT STATION   LS1LS2
                           TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   13072.      14.67                  5052.        1451.        487.         211.
                            (INCHES)    .615         .706        .710         .712
                             (AC-FT)   2505.        2879.       2895.        2903.

 PEAK STORAGE   TIME                            MAXIMUM AVERAGE STORAGE
                                          6-HR        24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      101.     14.67                      51.          18.          6.           3.

  PEAK STAGE    TIME                            MAXIMUM AVERAGE STAGE
                                          6-HR        24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      4.90     14.67                     2.51          .87         .29          .13

                            CUMULATIVE AREA =   76.42 SQ MI

      ***             ***             ***             ***             ***


                            INTERPOLATED HYDROGRAPH AT   LS1LS2

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+   13073.      14.67                  5054.        1452.        487.         211.
                            (INCHES)    .615         .706        .711         .712
                             (AC-FT)   2506.        2879.       2896.        2904.

                            CUMULATIVE AREA =   76.42 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  239 KK    *     LS-2   *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

  240 BA          SUBBASIN CHARACTERISTICS
                        TAREA          .94  SUBBASIN AREA
                         SNAP          .00  NORMAL ANNUAL PRECIPITATION
                        RATIO          .35  RATIO OF HYDROGRAPH

  241 LG          GREEN AND AMPT LOSS RATE
                        STRTL          .19  STARTING LOSS
                          DTH          .25  MOISTURE DEFICIT
                         PSIF         4.80  WETTING FRONT SUCTION
                        XKSAT          .30  HYDRAULIC CONDUCTIVITY
                        RTIMP        20.00  PERCENT IMPERVIOUS AREA

  242 UC          CLARK UNITGRAPH
                           TC          .87  TIME OF CONCENTRATION
                            R          .66  STORAGE COEFFICIENT

  243 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0
                                                                  ***
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                                        UNIT HYDROGRAPH PARAMETERS
                                  CLARK   TC=   .87 HR,       R=   .66 HR
                                 SNYDER   TP=   .50 HR,      CP=   .44

                                          UNIT HYDROGRAPH
                                     47 END-OF-PERIOD ORDINATES
          21.      83.     175.     344.     504.     545.     540.     521.     493.     461.
         424.     380.     335.     295.     260.     229.     202.     178.     157.     139.
         122.     108.      95.      84.      74.      65.      57.      51.      45.      39.
          35.      31.      27.      24.      21.      18.      16.      14.      13.      11.
          10.       9.       8.       7.       6.       5.       5.

   ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION     LS-2
                TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.25, TOTAL EXCESS =    1.85

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     719.     12.42                163.         47.         16.          7.
                        (INCHES)    1.600       1.836       1.840       1.840
                         (AC-FT)     81.         93.         93.         93.

                        CUMULATIVE AREA =     .94 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

   ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION     LS-2
                TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     252.     12.42                 57.         16.          5.          2.
                        (INCHES)     .560        .643        .644        .644
                         (AC-FT)     28.         32.         32.         32.

                        CUMULATIVE AREA =     .94 SQ MI

   ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION     LS-2
                TRANSPOSITION AREA     10.0 SQ MI

   TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.15, TOTAL EXCESS =    1.71

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     661.     12.42                150.         43.         14.          6.
                        (INCHES)    1.472       1.694       1.698       1.698
                         (AC-FT)     74.         85.         86.         86.

                        CUMULATIVE AREA =     .94 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

   ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION     LS-2
                TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     231.     12.42                 52.         15.          5.          2.
                        (INCHES)     .515        .593        .594        .594
                         (AC-FT)     26.         30.         30.         30.

                        CUMULATIVE AREA =     .94 SQ MI

   ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION     LS-2
                TRANSPOSITION AREA     30.0 SQ MI

   TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.08, TOTAL EXCESS =    1.61

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
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                                (CFS)
+     623.      12.42                    141.         41.         14.          6.
                            (INCHES)     1.386       1.599       1.603        1.603
                             (AC-FT)      70.         81.         81.          81.

                            CUMULATIVE AREA =     .94 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***                 ***            ***            ***            ***

                            HYDROGRAPH AT STATION     LS-2
                           TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     218.      12.42                     49.         14.          5.           2.
                            (INCHES)      .485        .560        .561         .561
                             (AC-FT)      24.         28.         28.          28.

                            CUMULATIVE AREA =     .94 SQ MI

      ***                 ***            ***            ***            ***

                            HYDROGRAPH AT STATION     LS-2
                           TRANSPOSITION AREA     60.0 SQ MI

     TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.01, TOTAL EXCESS =    1.51

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     584.      12.42                    132.         38.         13.          6.
                            (INCHES)     1.300       1.503       1.507        1.507
                             (AC-FT)      66.         76.         76.          76.

                            CUMULATIVE AREA =     .94 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***                 ***            ***            ***            ***

                            HYDROGRAPH AT STATION     LS-2
                           TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     204.      12.42                     46.         13.          4.           2.
                            (INCHES)      .455        .526        .527         .527
                             (AC-FT)      23.         27.         27.          27.

                            CUMULATIVE AREA =     .94 SQ MI

      ***                 ***            ***            ***            ***

                            HYDROGRAPH AT STATION     LS-2
                           TRANSPOSITION AREA     90.0 SQ MI

     TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.99, TOTAL EXCESS =    1.48

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     570.      12.42                    129.         37.         12.          5.
                            (INCHES)     1.270       1.470       1.473        1.473
                             (AC-FT)      64.         74.         74.          74.

                            CUMULATIVE AREA =     .94 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***                 ***            ***            ***            ***

                            HYDROGRAPH AT STATION     LS-2
                           TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     200.      12.42                     45.         13.          4.           2.
                            (INCHES)      .445        .514        .516         .516
                             (AC-FT)      22.         26.         26.          26.
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                    CUMULATIVE AREA =     .94 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS-2

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     238.     12.42                 54.         16.          5.           2.
                       (INCHES)     .531        .610        .611         .611
                        (AC-FT)      27.         31.         31.          31.

                    CUMULATIVE AREA =     .94 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 245 KK     *    RETLS2  *
            *            *
            **************
                         DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                          - 78 AC DEVELOPMENT WITH RETENTION
                          - C FACTOR = 0.63
                          - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                      ISTAD       R2OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       10.90  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00  10000.00

     DQ      DIVERTED FLOW        .00  10000.00

                                                                  ***

     ***            ***            ***            ***            ***

                      DIVERSION HYDROGRAPH    R2OUT
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     250.     12.33                 20.          5.          2.           1.
                       (INCHES)     .196        .216        .216         .216
                        (AC-FT)      10.         11.         11.          11.

                    CUMULATIVE AREA =     .94 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   RETLS2
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     244.     12.50                 41.         11.          4.           2.
                       (INCHES)     .402        .428        .428         .428
                        (AC-FT)      20.         22.         22.          22.

                    CUMULATIVE AREA =     .94 SQ MI

     ***            ***            ***            ***            ***

                      DIVERSION HYDROGRAPH    R2OUT
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     230.     12.33                 20.          5.          2.           1.
                       (INCHES)     .197        .216        .216         .216
                        (AC-FT)      10.         11.         11.          11.

                    CUMULATIVE AREA =     .94 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   RETLS2
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                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     224.     12.50                36.         10.          3.           1.
                        (INCHES)   .354        .378        .378         .378
                         (AC-FT)    18.         19.         19.          19.

                     CUMULATIVE AREA =     .94 SQ MI


      ***           ***          ***          ***          ***

                     DIVERSION HYDROGRAPH    R2OUT
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     218.     12.42                20.          5.          2.           1.
                        (INCHES)   .197        .216        .216         .216
                         (AC-FT)    10.         11.         11.          11.

                     CUMULATIVE AREA =     .94 SQ MI


      ***           ***          ***          ***          ***

                     HYDROGRAPH AT STATION   RETLS2
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     200.     12.58                33.          9.          3.           1.
                        (INCHES)   .322        .345        .345         .345
                         (AC-FT)    16.         17.         17.          17.

                     CUMULATIVE AREA =     .94 SQ MI


      ***           ***          ***          ***          ***

                     DIVERSION HYDROGRAPH    R2OUT
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     204.     12.42                20.          5.          2.           1.
                        (INCHES)   .198        .216        .216         .216
                         (AC-FT)    10.         11.         11.          11.

                     CUMULATIVE AREA =     .94 SQ MI


      ***           ***          ***          ***          ***

                     HYDROGRAPH AT STATION   RETLS2
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     188.     12.58                29.          8.          3.           1.
                        (INCHES)   .289        .311        .311         .311
                         (AC-FT)    15.         16.         16.          16.

                     CUMULATIVE AREA =     .94 SQ MI


      ***           ***          ***          ***          ***

                     DIVERSION HYDROGRAPH    R2OUT
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     200.     12.42                20.          5.          2.           1.
                        (INCHES)   .198        .216        .216         .216
                         (AC-FT)    10.         11.         11.          11.

                     CUMULATIVE AREA =     .94 SQ MI


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                    HYDROGRAPH AT STATION   RETLS2
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+    183.      12.58                28.          8.          3.           1.
                  (INCHES)        .278        .299        .299         .299
                   (AC-FT)         14.         15.         15.          15.

                  CUMULATIVE AREA =     .94 SQ MI

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              INTERPOLATED DIVERSION HYDROGRAPH AT    R2OUT

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+    237.      12.33                20.          5.          2.           1.
                  (INCHES)        .196        .216        .216         .216
                   (AC-FT)         10.         11.         11.          11.

                  CUMULATIVE AREA =     .94 SQ MI

      ***         ***          ***          ***          ***
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                 INTERPOLATED HYDROGRAPH AT   RETLS2

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+    231.      12.50                38.         10.          3.           1.
                  (INCHES)        .370        .395        .395         .395
                   (AC-FT)         19.         20.         20.          20.

                  CUMULATIVE AREA =     .94 SQ MI
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
  253 KK    *      LS2C  *
            *            *
            **************
                    COMBINE FLOWS IN SKUNK CREEK AT PINNACLE PEAK ROAD

  255 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***         ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS2C
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+  13094.      14.67               5137.       1474.        494.         214.
                  (INCHES)        .617        .709        .713         .714
                   (AC-FT)       2547.       2924.       2940.        2948.

                  CUMULATIVE AREA =   77.37 SQ MI

      ***         ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS2C
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+  13092.      14.67               5115.       1468.        492.         213.
                  (INCHES)        .615        .706        .710         .712
                   (AC-FT)       2536.       2912.       2929.        2936.

                  CUMULATIVE AREA =   77.37 SQ MI
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      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS2C
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+   13090.     14.67                5100.       1464.        491.         213.
                            (INCHES)      .613        .704        .708         .710
                             (AC-FT)     2529.       2904.       2921.        2929.

                         CUMULATIVE AREA =   77.37 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS2C
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+   13088.     14.67                5086.       1460.        490.         212.
                            (INCHES)      .611        .702        .706         .708
                             (AC-FT)     2522.       2896.       2913.        2921.

                         CUMULATIVE AREA =   77.37 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS2C
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+   13088.     14.67                5081.       1459.        489.         212.
                            (INCHES)      .611        .701        .705         .707
                             (AC-FT)     2519.       2894.       2911.        2918.

                         CUMULATIVE AREA =   77.37 SQ MI

      ***             ***             ***             ***             ***


                         INTERPOLATED HYDROGRAPH AT     LS2C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+   13088.     14.67                5083.       1459.        489.         212.
                            (INCHES)      .611        .702        .706         .707
                             (AC-FT)     2520.       2895.       2912.        2919.

                         CUMULATIVE AREA =   77.37 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  256 KK    *      LS-3  *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

  257 BA          SUBBASIN CHARACTERISTICS
                        TAREA         .54  SUBBASIN AREA
                         SNAP         .00  NORMAL ANNUAL PRECIPITATION
                        RATIO         .35  RATIO OF HYDROGRAPH

  258 LG          GREEN AND AMPT LOSS RATE
                        STRTL         .17  STARTING LOSS
                          DTH         .25  MOISTURE DEFICIT
                         PSIF        4.30  WETTING FRONT SUCTION
                        XKSAT         .41  HYDRAULIC CONDUCTIVITY
                        RTIMP       39.00  PERCENT IMPERVIOUS AREA

  259 UC          CLARK UNITGRAPH
                           TC         .41  TIME OF CONCENTRATION
                            R         .22  STORAGE COEFFICIENT

  260 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
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                    100.0

                                                                  ***

                                                        UNIT HYDROGRAPH PARAMETERS
                                                 CLARK   TC=   .41 HR,       R=   .22 HR
                                                SNYDER   TP=   .23 HR,      CP=   .55

                                                          UNIT HYDROGRAPH
                                                 17 END-OF-PERIOD ORDINATES
              107.      505.      796.      736.      608.      456.      313.      215.      147.      101.
               69.       48.       33.       22.       15.       11.        7.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-3
                      TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.79, TOTAL EXCESS =    2.31

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     845.     12.17                 107.         34.         11.          5.
                        (INCHES)    1.840      2.301       2.304       2.304
                         (AC-FT)     53.         67.         67.         67.

                       CUMULATIVE AREA =     .54 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-3
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     296.     12.17                  38.         12.          4.          2.
                        (INCHES)     .644       .805        .806        .806
                         (AC-FT)     19.         23.         23.         23.

                       CUMULATIVE AREA =     .54 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-3
                      TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.70, TOTAL EXCESS =    2.15

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     784.     12.17                 100.         31.         10.          5.
                        (INCHES)    1.707      2.141       2.143       2.143
                         (AC-FT)     49.         62.         62.         62.

                       CUMULATIVE AREA =     .54 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-3
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     274.     12.17                  35.         11.          4.          2.
                        (INCHES)     .597       .749        .750        .750
                         (AC-FT)     17.         22.         22.         22.

                       CUMULATIVE AREA =     .54 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-3
                      TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.65, TOTAL EXCESS =    2.04

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
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                    (CFS)
+     743.     12.17                95.         30.         10.          4.
                  (INCHES)      1.619       2.034       2.036       2.036
                   (AC-FT)       47.         59.         59.         59.

                  CUMULATIVE AREA =     .54 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     260.     12.17                33.         10.          3.          1.
                  (INCHES)       .567        .712        .713        .713
                   (AC-FT)       16.         21.         21.         21.

                  CUMULATIVE AREA =     .54 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.59, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     702.     12.17                89.         28.          9.          4.
                  (INCHES)      1.531       1.928       1.930       1.930
                   (AC-FT)       44.         56.         56.         56.

                  CUMULATIVE AREA =     .54 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     246.     12.17                31.         10.          3.          1.
                  (INCHES)       .536        .675        .675        .675
                   (AC-FT)       16.         20.         20.         20.

                  CUMULATIVE AREA =     .54 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.57, TOTAL EXCESS =    1.90

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     688.     12.17                88.         28.          9.          4.
                  (INCHES)      1.500       1.890       1.892       1.892
                   (AC-FT)       43.         55.         55.         55.

                  CUMULATIVE AREA =     .54 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     241.     12.17                31.         10.          3.          1.
                  (INCHES)       .525        .662        .662        .662
                   (AC-FT)       15.         19.         19.         19.
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                    CUMULATIVE AREA =     .54 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS-3

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     283.     12.17                36.         11.          4.           2.
                        (INCHES)   .617        .773        .774         .774
                         (AC-FT)    18.         22.         22.          22.

                    CUMULATIVE AREA =     .54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 262 KK     *    LS3LS5  *        ROUTE   REACH
            *            *
            **************
                           ROUTE RUNOFF FROM LS-3 THROUGH LS-5 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK
                           ROAD

               HYDROGRAPH ROUTING DATA

 265 RS          STORAGE ROUTING
                      NSTPS            4  NUMBER OF SUBREACHES
                       ITYP         STOR  TYPE OF INITIAL CONDITION
                     RSVRIC        -1.00  INITIAL CONDITION
                          X          .00 WORKING R AND D COEFFICIENT

 266 RC          NORMAL DEPTH CHANNEL
                        ANL         .080  LEFT OVERBANK N-VALUE
                       ANCH         .040  MAIN CHANNEL N-VALUE
                        ANR         .080  RIGHT OVERBANK N-VALUE
                      RLNTH        8883.  REACH LENGTH
                        SEL       .0040  ENERGY SLOPE
                      ELMAX         6.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                      CROSS-SECTION DATA
                           --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 268 RY        ELEVATION      6.00      5.00      4.00       .00       .00      4.00      5.00      6.00
 267 RX        DISTANCE        .00    100.00    200.00    220.00    370.00    390.00    490.00    590.00

                                                                  ***

                                      COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

           STORAGE        .00      9.76     19.73     29.89     40.27     50.84     61.62     72.60     83.78     95.17
           OUTFLOW        .00     51.92    165.40    326.25    528.86    769.95   1047.31   1359.35   1704.87   2082.97
         ELEVATION        .00       .32       .63       .95      1.26      1.58      1.89      2.21      2.53      2.84

           STORAGE     106.76    118.56    130.56    142.97    158.60    178.29    202.05    229.88    261.77    297.73
           OUTFLOW    2492.92   2934.16   3406.25   3923.13   4506.62   5139.55   5829.60   6583.30   7406.53   8304.72
         ELEVATION       3.16      3.47      3.79      4.11      4.42      4.74      5.05      5.37      5.68      6.00

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   LS3LS5
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     104.     13.25                37.         12.          4.           2.
                        (INCHES)   .634        .801        .806         .806
                         (AC-FT)    18.         23.         23.          23.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       4.      13.17                 2.          1.          0.           0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .46      13.25                .20         .07         .02          .01

                    CUMULATIVE AREA =     .54 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   LS3LS5
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                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      93.     13.25                 34.         11.          4.           2.
                        (INCHES)    .588        .745        .750         .750
                         (AC-FT)     17.         22.         22.          22.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        3.     13.25                  1.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .43      13.25                 .19         .06         .02          .01

                     CUMULATIVE AREA =     .54 SQ MI

      ***          ***          ***          ***          ***

                     HYDROGRAPH AT STATION   LS3LS5
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      85.     13.25                 33.         10.          3.           1.
                        (INCHES)    .558        .708        .713         .713
                         (AC-FT)     16.         20.         21.          21.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        3.     13.25                  1.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .41      13.25                 .18         .06         .02          .01

                     CUMULATIVE AREA =     .54 SQ MI

      ***          ***          ***          ***          ***

                     HYDROGRAPH AT STATION   LS3LS5
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      78.     13.33                 31.         10.          3.           1.
                        (INCHES)    .527        .671        .675         .675
                         (AC-FT)     15.         19.         20.          20.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        3.     13.33                  1.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .39      13.33                 .18         .06         .02          .01

                     CUMULATIVE AREA =     .54 SQ MI

      ***          ***          ***          ***          ***

                     HYDROGRAPH AT STATION   LS3LS5
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      75.     13.33                 30.         10.          3.           1.
                        (INCHES)    .516        .658        .662         .662
                         (AC-FT)     15.         19.         19.          19.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
        3.     13.33                  1.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
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```
+   (FEET)      (HR)
      .38      13.33                    .18          .06          .02          .01

                        CUMULATIVE AREA =     .54 SQ MI

     ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT   LS3LS5

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     98.       13.25                     35.          11.           4.           2.
                        (INCHES)        .608         .768         .774         .774
                         (AC-FT)         18.          22.          22.          22.

                        CUMULATIVE AREA =     .54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 269 KK     *     LS-4   *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

 270 BA          SUBBASIN CHARACTERISTICS
                       TAREA         1.85  SUBBASIN AREA
                        SNAP          .00  NORMAL ANNUAL PRECIPITATION
                       RATIO          .35  RATIO OF HYDROGRAPH

 271 LG          GREEN AND AMPT LOSS RATE
                       STRTL          .22  STARTING LOSS
                         DTH          .25  MOISTURE DEFICIT
                        PSIF         4.35  WETTING FRONT SUCTION
                       XKSAT          .43  HYDRAULIC CONDUCTIVITY
                       RTIMP        31.00  PERCENT IMPERVIOUS AREA

 272 UC          CLARK UNITGRAPH
                           TC          .50  TIME OF CONCENTRATION
                            R          .27  STORAGE COEFFICIENT

 273 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=   .50 HR,       R=   .27 HR
                                           SNYDER   TP=   .30 HR,      CP=   .58

                                                       UNIT HYDROGRAPH
                                                   20 END-OF-PERIOD ORDINATES
              233.      960.     1930.     2297.     2031.     1722.     1362.     1003.      738.      543.
              400.      294.      217.      159.      117.       86.       64.       47.       34.       25.

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-4
                       TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.04, TOTAL EXCESS =    2.06

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   2498.       12.17                    334.         102.          34.          15.
                        (INCHES)       1.678        2.044        2.046        2.046
                         (AC-FT)        166.         202.         202.         202.

                        CUMULATIVE AREA =    1.85 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY   .35

     ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-4
                       TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
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+     874.     12.17                    117.          36.          12.           5.
                              (INCHES)      .587        .715        .716         .716
                               (AC-FT)       58.         71.         71.          71.

                              CUMULATIVE AREA =    1.85 SQ MI

      ***                 ***             ***             ***             ***

                              HYDROGRAPH AT STATION     LS-4
                             TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.95, TOTAL EXCESS =    1.91

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+    2305.      12.17                    309.          94.          31.          14.
                              (INCHES)     1.552       1.896       1.898        1.898
                               (AC-FT)      153.        187.        187.         187.

                              CUMULATIVE AREA =    1.85 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY    .35

      ***                 ***             ***             ***             ***

                              HYDROGRAPH AT STATION     LS-4
                             TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     807.      12.17                    108.          33.          11.           5.
                              (INCHES)      .543        .664        .664         .664
                               (AC-FT)       54.         66.         66.          66.

                              CUMULATIVE AREA =    1.85 SQ MI

      ***                 ***             ***             ***             ***

                              HYDROGRAPH AT STATION     LS-4
                             TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.88, TOTAL EXCESS =    1.81

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+    2175.      12.17                    292.          89.          30.          13.
                              (INCHES)     1.467       1.796       1.799        1.799
                               (AC-FT)      145.        177.        178.         178.

                              CUMULATIVE AREA =    1.85 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY    .35

      ***                 ***             ***             ***             ***

                              HYDROGRAPH AT STATION     LS-4
                             TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+     761.      12.17                    102.          31.          10.           5.
                              (INCHES)      .513        .629        .630         .630
                               (AC-FT)       51.         62.         62.          62.

                              CUMULATIVE AREA =    1.85 SQ MI

      ***                 ***             ***             ***             ***

                              HYDROGRAPH AT STATION     LS-4
                             TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.82, TOTAL EXCESS =    1.71

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+    2045.      12.17                    275.          84.          28.          12.
                              (INCHES)     1.382       1.697       1.699        1.699
                               (AC-FT)      136.        167.        168.         168.

                              CUMULATIVE AREA =    1.85 SQ MI
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                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-4
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     716.     12.17                 96.         30.         10.           4.
                        (INCHES)    .484        .594        .595         .595
                         (AC-FT)     48.         59.         59.          59.

                       CUMULATIVE AREA =    1.85 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-4
                      TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.80, TOTAL EXCESS =    1.67

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2000.     12.17                269.         83.         28.          12.
                        (INCHES)   1.352       1.662       1.664        1.664
                         (AC-FT)    133.        164.        164.         164.

                       CUMULATIVE AREA =    1.85 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-4
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     700.     12.17                 94.         29.         10.           4.
                        (INCHES)    .473        .582        .582         .582
                         (AC-FT)     47.         57.         57.          57.

                       CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***


                       INTERPOLATED HYDROGRAPH AT     LS-4

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     823.     12.17                110.         34.         11.           5.
                        (INCHES)    .554        .676        .677         .677
                         (AC-FT)     55.         67.         67.          67.

                       CUMULATIVE AREA =    1.85 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  275 KK    *    RETLS4  *
            *            *
            **************
                                DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                                 - 528 AC DEVELOPMENT WITH RETENTION
                                 - C FACTOR = 0.63
                                 - 100-YR 2-HR RAIN = 2.66"

      DT          DIVERSION
                       ISTAD       R4OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX       73.70  MAXIMUM VOLUME TO BE DIVERTED

      DI            INFLOW         .00  10000.00

      DQ      DIVERTED FLOW        .00  10000.00
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      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R4OUT
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     874.     12.17                117.         36.         12.           5.
                        (INCHES)    .587        .715        .716         .716
                         (AC-FT)     58.         71.         71.          71.

                        CUMULATIVE AREA =    1.85 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RETLS4
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                  0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                        CUMULATIVE AREA =    1.85 SQ MI


      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R4OUT
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     807.     12.17                108.         33.         11.           5.
                        (INCHES)    .543        .664        .664         .664
                         (AC-FT)     54.         66.         66.          66.

                        CUMULATIVE AREA =    1.85 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RETLS4
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                  0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                        CUMULATIVE AREA =    1.85 SQ MI


      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R4OUT
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     761.     12.17                102.         31.         10.           5.
                        (INCHES)    .513        .629        .630         .630
                         (AC-FT)     51.         62.         62.          62.

                        CUMULATIVE AREA =    1.85 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RETLS4
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                  0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.
```

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                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                  DIVERSION HYDROGRAPH    R4OUT
                TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     716.     12.17                 96.         30.         10.           4.
                        (INCHES)    .484        .594        .595         .595
                         (AC-FT)     48.         59.         59.          59.

                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                  HYDROGRAPH AT STATION   RETLS4
                TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                  0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                  DIVERSION HYDROGRAPH    R4OUT
                TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     700.     12.17                 94.         29.         10.           4.
                        (INCHES)    .473        .582        .582         .582
                         (AC-FT)     47.         57.         57.          57.

                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                  HYDROGRAPH AT STATION   RETLS4
                TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                  0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

              INTERPOLATED DIVERSION HYDROGRAPH AT    R4OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     823.     12.17                110.         34.         11.           5.
                        (INCHES)    .554        .676        .677         .677
                         (AC-FT)     55.         67.         67.          67.

                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                    INTERPOLATED HYDROGRAPH AT    RETLS4

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                  0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.
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                    CUMULATIVE AREA =    1.85 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 283 KK     *    LS4LS5  *        ROUTE   REACH
            *            *
            **************
                            ROUTE RUNOFF FROM LS-4 THROUGH LS-5 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK
                            ROAD

              HYDROGRAPH ROUTING DATA

 286 RS         STORAGE ROUTING
                      NSTPS           2  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC       -1.00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 287 RC         NORMAL DEPTH CHANNEL
                        ANL        .080  LEFT OVERBANK N-VALUE
                       ANCH        .040  MAIN CHANNEL N-VALUE
                        ANR        .080  RIGHT OVERBANK N-VALUE
                      RLNTH       6160.  REACH LENGTH
                        SEL       .0040  ENERGY SLOPE
                      ELMAX         6.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                      CROSS-SECTION DATA
                            --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 289 RY       ELEVATION      6.00      5.00      4.00       .00       .00      4.00      5.00      6.00
 288 RX       DISTANCE        .00    100.00    200.00    220.00    370.00    390.00    490.00    590.00

                                                          ***

                                      COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      6.77     13.68     20.73     27.92     35.26     42.73     50.35     58.10     66.00
          OUTFLOW        .00     51.92    165.40    326.25    528.86    769.95   1047.31   1359.35   1704.87   2082.97
        ELEVATION        .00       .32       .63       .95      1.26      1.58      1.89      2.21      2.53      2.84

          STORAGE      74.04     82.22     90.54     99.15    109.98    123.64    140.11    159.41    181.53    206.46
          OUTFLOW    2492.92   2934.16   3406.25   3923.13   4506.62   5139.55   5829.60   6583.30   7406.53   8304.72
        ELEVATION       3.16      3.47      3.79      4.11      4.42      4.74      5.05      5.37      5.68      6.00

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   LS4LS5
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                 0.          0.          0.           0.
                        (INCHES)   .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.       .00                 0.          0.          0.           0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .00     13.00                 .00         .00         .00          .00

                    CUMULATIVE AREA =    1.85 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION   LS4LS5
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                 0.          0.          0.           0.
                        (INCHES)   .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                    6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.       .00                 0.          0.          0.           0.
```

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  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+   (FEET)      (HR)
      .00      13.75                  .00          .00          .00          .00

                          CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   LS4LS5
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+      0.        .00                  0.           0.           0.           0.
                              (INCHES)       .000         .000         .000         .000
                               (AC-FT)         0.           0.           0.           0.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)      (HR)
      0.        .00                  0.           0.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+   (FEET)      (HR)
      .00      15.83                  .00          .00          .00          .00

                          CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   LS4LS5
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+      0.        .00                  0.           0.           0.           0.
                              (INCHES)       .000         .000         .000         .000
                               (AC-FT)         0.           0.           0.           0.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)      (HR)
      0.        .00                  0.           0.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+   (FEET)      (HR)
      .00      13.17                  .00          .00          .00          .00

                          CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   LS4LS5
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+      0.        .00                  0.           0.           0.           0.
                              (INCHES)       .000         .000         .000         .000
                               (AC-FT)         0.           0.           0.           0.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)      (HR)
      0.        .00                  0.           0.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+   (FEET)      (HR)
      .00      13.67                  .00          .00          .00          .00

                          CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***


                      INTERPOLATED HYDROGRAPH AT   LS4LS5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                   (CFS)
```

```
+      0.       .00                    0.          0.          0.          0.
                          (INCHES)     .000        .000        .000        .000
                           (AC-FT)       0.          0.          0.          0.

                          CUMULATIVE AREA =    1.85 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 290 KK     *      LS-5  *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

 291 BA          SUBBASIN CHARACTERISTICS
                       TAREA        1.28  SUBBASIN AREA
                        SNAP         .00  NORMAL ANNUAL PRECIPITATION
                       RATIO         .35  RATIO OF HYDROGRAPH

 292 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .28  STARTING LOSS
                         DTH         .25  MOISTURE DEFICIT
                        PSIF        4.90  WETTING FRONT SUCTION
                       XKSAT         .33  HYDRAULIC CONDUCTIVITY
                       RTIMP       22.00  PERCENT IMPERVIOUS AREA

 293 UC          CLARK UNITGRAPH
                          TC         .97  TIME OF CONCENTRATION
                           R         .58  STORAGE COEFFICIENT

 294 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=   .97 HR,       R=   .58 HR
                                           SNYDER   TP=   .50 HR,      CP=   .48

                                                     UNIT HYDROGRAPH
                                              42 END-OF-PERIOD ORDINATES
              29.      111.      229.      417.      658.      786.      784.      753.      710.      658.
             605.      552.      488.      422.      365.      316.      273.      237.      205.      177.
             153.      133.      115.       99.       86.       74.       64.       56.       48.       42.
              36.       31.       27.       23.       20.       17.       15.       13.       11.       10.
               8.        7.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                       TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.24, TOTAL EXCESS =    1.86

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1008.     12.42                218.         63.         21.          9.
                       (INCHES)     1.583       1.843       1.847       1.847
                        (AC-FT)     108.        126.        126.        126.

                       CUMULATIVE AREA =    1.28 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                       TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     353.     12.42                 76.         22.          7.          3.
                       (INCHES)      .554        .645        .646        .646
                        (AC-FT)      38.         44.         44.         44.

                       CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                       TRANSPOSITION AREA     10.0 SQ MI
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    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.15, TOTAL EXCESS =    1.71

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     925.     12.42                 200.         58.         19.           8.
                        (INCHES)    1.452      1.696       1.700       1.700
                         (AC-FT)     99.        116.        116.        116.

                        CUMULATIVE AREA =    1.28 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                       TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     324.     12.42                  70.         20.          7.           3.
                        (INCHES)     .508       .594        .595        .595
                         (AC-FT)     35.         41.         41.         41.

                        CUMULATIVE AREA =    1.28 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                       TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.08, TOTAL EXCESS =    1.61

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     870.     12.42                 188.         55.         18.           8.
                        (INCHES)    1.366      1.600       1.603       1.603
                         (AC-FT)     93.        109.        109.        109.

                        CUMULATIVE AREA =    1.28 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                       TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     304.     12.42                  66.         19.          6.           3.
                        (INCHES)     .478       .560        .561        .561
                         (AC-FT)     33.         38.         38.         38.

                        CUMULATIVE AREA =    1.28 SQ MI


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                       TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.01, TOTAL EXCESS =    1.52

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     817.     12.42                 177.         52.         17.           7.
                        (INCHES)    1.284      1.508       1.511       1.511
                         (AC-FT)     88.        103.        103.        103.

                        CUMULATIVE AREA =    1.28 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                       TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

```
                                (CFS)
+     286.      12.42                    62.          18.          6.           3.
                            (INCHES)    .450         .528         .529         .529
                             (AC-FT)     31.          36.          36.          36.

                            CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-5
                        TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.98, TOTAL EXCESS =    1.49

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                (CFS)
+     798.      12.42                   173.          51.          17.           7.
                            (INCHES)   1.256        1.476        1.479        1.479
                             (AC-FT)     86.         101.         101.         101.

                            CUMULATIVE AREA =    1.28 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY    .35

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-5
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                (CFS)
+     279.      12.42                    61.          18.           6.           3.
                            (INCHES)    .440         .516         .518         .518
                             (AC-FT)     30.          35.          35.          35.

                            CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***

                            INTERPOLATED HYDROGRAPH AT     LS-5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                (CFS)
+     332.      12.42                    72.          21.           7.           3.
                            (INCHES)    .522         .609         .610         .610
                             (AC-FT)     36.          42.          42.          42.

                            CUMULATIVE AREA =    1.28 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  296 KK    *    RETLS5  *
            *            *
            **************
                            DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                             - 72.5 AC DEVELOPMENT WITH RETENTION
                             - C FACTOR = 0.63
                             - 100-YR 2-HR RAIN = 2.66"

      DT          DIVERSION
                       ISTAD       R5OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX       10.10  MAXIMUM VOLUME TO BE DIVERTED

      DI             INFLOW         .00  10000.00

      DQ       DIVERTED FLOW        .00  10000.00

                                                                  ***

      ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH     R5OUT
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                (CFS)
+     241.      12.17                    17.           5.           2.           1.
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                    (INCHES)      .126        .148        .148        .148
                     (AC-FT)       9.         10.         10.         10.

                    CUMULATIVE AREA =    1.28 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION   RETLS5
                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+     353.      12.42                65.         17.          6.          2.
                    (INCHES)      .469        .498        .498        .498
                     (AC-FT)      32.         34.         34.         34.

                    CUMULATIVE AREA =    1.28 SQ MI

      ***           ***           ***           ***           ***

                     DIVERSION HYDROGRAPH    R5OUT
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+     221.      12.17                18.          5.          2.          1.
                    (INCHES)      .127        .148        .148        .148
                     (AC-FT)       9.         10.         10.         10.

                    CUMULATIVE AREA =    1.28 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION   RETLS5
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+     324.      12.42                58.         15.          5.          2.
                    (INCHES)      .419        .447        .447        .447
                     (AC-FT)      29.         31.         31.         31.

                    CUMULATIVE AREA =    1.28 SQ MI

      ***           ***           ***           ***           ***

                     DIVERSION HYDROGRAPH    R5OUT
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+     243.      12.25                18.          5.          2.          1.
                    (INCHES)      .128        .148        .148        .148
                     (AC-FT)       9.         10.         10.         10.

                    CUMULATIVE AREA =    1.28 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION   RETLS5
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+     304.      12.42                53.         14.          5.          2.
                    (INCHES)      .387        .413        .413        .413
                     (AC-FT)      26.         28.         28.         28.

                    CUMULATIVE AREA =    1.28 SQ MI

      ***           ***           ***           ***           ***

                     DIVERSION HYDROGRAPH    R5OUT
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
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+     245.     12.25                    18.          5.          2.          1.
                          (INCHES)     .129        .148        .148        .148
                           (AC-FT)      9.          10.         10.         10.

                          CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   RETLS5
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     286.     12.42                    49.         13.          4.          2.
                          (INCHES)     .356        .381        .381        .381
                           (AC-FT)      24.         26.         26.         26.

                          CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH    R5OUT
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     240.     12.25                    18.          5.          2.          1.
                          (INCHES)     .129        .148        .148        .148
                           (AC-FT)      9.          10.         10.         10.

                          CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   RETLS5
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     279.     12.42                    48.         13.          4.          2.
                          (INCHES)     .345        .370        .370        .370
                           (AC-FT)      24.         25.         25.         25.

                          CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***

                    INTERPOLATED DIVERSION HYDROGRAPH AT    R5OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     227.     12.17                    17.          5.          2.          1.
                          (INCHES)     .127        .148        .148        .148
                           (AC-FT)      9.          10.         10.         10.

                          CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***

                          INTERPOLATED HYDROGRAPH AT   RETLS5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+     332.     12.42                    60.         16.          5.          2.
                          (INCHES)     .434        .462        .462        .462
                           (AC-FT)      30.         32.         32.         32.

                          CUMULATIVE AREA =    1.28 SQ MI

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            *            *
  304 KK    *      LS5C  *
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                    COMBINE ROUTED FLOWS FROM LS3 AND LS4 WITH RUNOFF FROM LS5 AT ADOBE POOL
                    AT PINNACLE PEAK ROAD

307 HC          HYDROGRAPH COMBINATION
                     ICOMP          3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS5C
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     370.      12.42                102.         29.         10.          4.
                        (INCHES)    .257        .292        .293        .293
                         (AC-FT)     50.         57.         57.         57.

                       CUMULATIVE AREA =    3.67 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS5C
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     339.      12.42                 92.         26.          9.          4.
                        (INCHES)    .233        .266        .267        .267
                         (AC-FT)     46.         52.         52.         52.

                       CUMULATIVE AREA =    3.67 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS5C
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     318.      12.42                 86.         25.          8.          4.
                        (INCHES)    .217        .249        .249        .249
                         (AC-FT)     43.         49.         49.         49.

                       CUMULATIVE AREA =    3.67 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS5C
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     299.      12.42                 80.         23.          8.          3.
                        (INCHES)    .202        .232        .233        .233
                         (AC-FT)     40.         45.         46.         46.

                       CUMULATIVE AREA =    3.67 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS5C
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     292.      12.42                 78.         22.          7.          3.
                        (INCHES)    .196        .226        .227        .227
                         (AC-FT)     38.         44.         44.         44.

                       CUMULATIVE AREA =    3.67 SQ MI

     ***            ***            ***            ***            ***


                       INTERPOLATED HYDROGRAPH AT     LS5C
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     343.     12.42                 93.         27.          9.           4.
                        (INCHES)    .236        .270        .270         .270
                         (AC-FT)     46.         53.         53.          53.

                        CUMULATIVE AREA =    3.67 SQ MI


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            *            *
 308 KK     *     LS-6   *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

 309 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .79  SUBBASIN AREA
                        SNAP         .00  NORMAL ANNUAL PRECIPITATION
                       RATIO         .35  RATIO OF HYDROGRAPH

 310 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .25  STARTING LOSS
                         DTH         .25  MOISTURE DEFICIT
                        PSIF        4.50  WETTING FRONT SUCTION
                       XKSAT         .39  HYDRAULIC CONDUCTIVITY
                       RTIMP       30.00  PERCENT IMPERVIOUS AREA

 311 UC          CLARK UNITGRAPH
                          TC        1.11  TIME OF CONCENTRATION
                           R         .97  STORAGE COEFFICIENT

 312 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=  1.11 HR,       R=   .97 HR
                                        SNYDER   TP=   .66 HR,      CP=   .42

                                                UNIT HYDROGRAPH
                                          68 END-OF-PERIOD ORDINATES
                 9.       35.       72.      115.      197.      284.      318.      325.      323.      316.
               306.      294.      281.      265.      246.      225.      207.      190.      174.      160.
               147.      135.      124.      114.      104.       96.       88.       81.       74.       68.
                62.       57.       53.       48.       44.       41.       37.       34.       31.       29.
                27.       24.       22.       21.       19.       17.       16.       15.       13.       12.
                11.       10.        9.        9.        8.        7.        7.        6.        6.        5.
                 5.        4.        4.        4.        3.        3.        3.        3.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-6
                      TRANSPOSITION AREA        .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.05, TOTAL EXCESS =    2.05

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     445.     12.50                142.         43.         14.           6.
                       (INCHES)    1.664      2.029       2.038        2.038
                         (AC-FT)     70.         86.         86.          86.

                        CUMULATIVE AREA =     .79 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-6
                      TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     156.     12.50                 50.         15.          5.           2.
                       (INCHES)     .582        .710        .713         .713
                         (AC-FT)     25.         30.         30.          30.

                        CUMULATIVE AREA =     .79 SQ MI
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      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS-6
                  TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.96, TOTAL EXCESS =    1.90

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     410.     12.50                 131.         40.         13.           6.
                          (INCHES)  1.537       1.879       1.888        1.888
                          (AC-FT)    65.         79.         80.          80.

                          CUMULATIVE AREA =     .79 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS-6
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     143.     12.50                  46.         14.          5.           2.
                          (INCHES)   .538        .658        .661         .661
                          (AC-FT)    23.         28.         28.          28.

                          CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS-6
                  TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.89, TOTAL EXCESS =    1.80

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     387.     12.50                 124.         38.         13.           5.
                          (INCHES)  1.453       1.781       1.789        1.789
                          (AC-FT)    61.         75.         76.          76.

                          CUMULATIVE AREA =     .79 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS-6
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     135.     12.50                  43.         13.          4.           2.
                          (INCHES)   .509        .623        .626         .626
                          (AC-FT)    21.         26.         26.          26.

                          CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS-6
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.83, TOTAL EXCESS =    1.70

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     363.     12.50                 117.         36.         12.           5.
                          (INCHES)  1.369       1.682       1.690        1.690
                          (AC-FT)    58.         71.         71.          71.

                          CUMULATIVE AREA =     .79 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

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                    HYDROGRAPH AT STATION     LS-6
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     127.     12.50                41.         13.          4.           2.
                        (INCHES)   .479        .589        .591         .591
                         (AC-FT)    20.         25.         25.          25.

                       CUMULATIVE AREA =     .79 SQ MI


      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-6
                  TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.81, TOTAL EXCESS =    1.66

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     355.     12.50               114.         35.         12.           5.
                        (INCHES)  1.339      1.648       1.655        1.655
                         (AC-FT)    57.         70.         70.          70.

                       CUMULATIVE AREA =     .79 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-6
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     124.     12.50                40.         12.          4.           2.
                        (INCHES)   .469        .577        .579         .579
                         (AC-FT)    20.         24.         24.          24.

                       CUMULATIVE AREA =     .79 SQ MI

      ***            ***            ***            ***            ***


                   INTERPOLATED HYDROGRAPH AT     LS-6

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     148.     12.50                47.         14.          5.           2.
                        (INCHES)   .554        .677        .680         .680
                         (AC-FT)    23.         29.         29.          29.

                       CUMULATIVE AREA =     .79 SQ MI


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            **************
            *            *
  314 KK    *    RETLS6  *
            *            *
            **************
                        DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                         - 62.5 AC DEVELOPMENT WITH RETENTION
                         - C FACTOR = 0.63
                         - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                      ISTAD       R6OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX        8.70  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                          ***

      ***            ***            ***            ***            ***

                    DIVERSION HYDROGRAPH    R6OUT
                  TRANSPOSITION AREA       .0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     151.     12.42                15.          4.           1.           1.
                                (INCHES)      .177         .206         .206         .206
                                 (AC-FT)        7.           9.           9.           9.

                                CUMULATIVE AREA =     .79 SQ MI

      ***                     ***          ***          ***          ***

                                HYDROGRAPH AT STATION   RETLS6
                               TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     155.     12.58                40.         11.           4.           2.
                                (INCHES)      .465         .507         .507         .507
                                 (AC-FT)       20.          21.          21.          21.

                                CUMULATIVE AREA =     .79 SQ MI

      ***                     ***          ***          ***          ***

                                DIVERSION HYDROGRAPH    R6OUT
                               TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     143.     12.50                15.          4.           1.           1.
                                (INCHES)      .179         .206         .206         .206
                                 (AC-FT)        8.           9.           9.           9.

                                CUMULATIVE AREA =     .79 SQ MI

      ***                     ***          ***          ***          ***

                                HYDROGRAPH AT STATION   RETLS6
                               TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     141.     12.58                35.         10.           3.           1.
                                (INCHES)      .416         .455         .455         .455
                                 (AC-FT)       18.          19.          19.          19.

                                CUMULATIVE AREA =     .79 SQ MI

      ***                     ***          ***          ***          ***

                                DIVERSION HYDROGRAPH    R6OUT
                               TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     135.     12.50                15.          4.           1.           1.
                                (INCHES)      .179         .206         .206         .206
                                 (AC-FT)        8.           9.           9.           9.

                                CUMULATIVE AREA =     .79 SQ MI

      ***                     ***          ***          ***          ***

                                HYDROGRAPH AT STATION   RETLS6
                               TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     133.     12.67                33.          9.           3.           1.
                                (INCHES)      .383         .420         .420         .420
                                 (AC-FT)       16.          18.          18.          18.

                                CUMULATIVE AREA =     .79 SQ MI

      ***                     ***          ***          ***          ***

                                DIVERSION HYDROGRAPH    R6OUT
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                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     127.     12.50                15.          4.          1.           1.
                          (INCHES)  .180        .206        .206         .206
                           (AC-FT)    8.          9.          9.           9.

                        CUMULATIVE AREA =     .79 SQ MI

      ***             ***            ***            ***            ***

                      HYDROGRAPH AT STATION   RETLS6
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     122.     12.75                30.          8.          3.           1.
                          (INCHES)  .351        .386        .386         .386
                           (AC-FT)   15.         16.         16.          16.

                        CUMULATIVE AREA =     .79 SQ MI

      ***             ***            ***            ***            ***

                      DIVERSION HYDROGRAPH    R6OUT
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     124.     12.50                15.          4.          1.           1.
                          (INCHES)  .180        .206        .206         .206
                           (AC-FT)    8.          9.          9.           9.

                        CUMULATIVE AREA =     .79 SQ MI

      ***             ***            ***            ***            ***

                      HYDROGRAPH AT STATION   RETLS6
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     119.     12.75                29.          8.          3.           1.
                          (INCHES)  .339        .373        .373         .373
                           (AC-FT)   14.         16.         16.          16.

                        CUMULATIVE AREA =     .79 SQ MI

      ***             ***            ***            ***            ***


                INTERPOLATED DIVERSION HYDROGRAPH AT    R6OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     144.     12.42                15.          4.          1.           1.
                          (INCHES)  .178        .206        .206         .206
                           (AC-FT)    8.          9.          9.           9.

                        CUMULATIVE AREA =     .79 SQ MI

      ***             ***            ***            ***            ***


                      INTERPOLATED HYDROGRAPH AT   RETLS6

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+     147.     12.58                37.         10.          3.           1.
                          (INCHES)  .434        .474        .474         .474
                           (AC-FT)   18.         20.         20.          20.

                        CUMULATIVE AREA =     .79 SQ MI
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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            *            *
322 KK      *     LS-7   *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

323 BA           SUBBASIN CHARACTERISTICS
                      TAREA          .60  SUBBASIN AREA
                       SNAP          .00  NORMAL ANNUAL PRECIPITATION
                      RATIO          .35  RATIO OF HYDROGRAPH

324 LG           GREEN AND AMPT LOSS RATE
                      STRTL          .28  STARTING LOSS
                        DTH          .25  MOISTURE DEFICIT
                       PSIF         4.50  WETTING FRONT SUCTION
                      XKSAT          .42  HYDRAULIC CONDUCTIVITY
                      RTIMP        21.00  PERCENT IMPERVIOUS AREA

325 UC           CLARK UNITGRAPH
                         TC          .90  TIME OF CONCENTRATION
                          R          .96  STORAGE COEFFICIENT

326 UA           ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                   ***

                                                UNIT HYDROGRAPH PARAMETERS
                                         CLARK   TC=   .90 HR,       R=   .96 HR
                                        SNYDER   TP=   .58 HR,      CP=   .39

                                                UNIT HYDROGRAPH
                                            66 END-OF-PERIOD ORDINATES
                9.       36.       75.      146.      222.      254.      260.      259.      253.      244.
              233.      218.      200.      184.      168.      154.      142.      130.      119.      109.
              100.       92.       84.       77.       71.       65.       60.       55.       50.       46.
               42.       39.       35.       32.       30.       27.       25.       23.       21.       19.
               18.       16.       15.       14.       13.       11.       11.       10.        9.        8.
                7.        7.        6.        6.        5.        5.        4.        4.        4.        3.
                3.        3.        3.        2.        2.        2.

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-7
                    TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.35, TOTAL EXCESS =    1.75

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                       6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    330.     12.42                    95.         28.          9.           4.
                        (INCHES)     1.484       1.740       1.746        1.746
                         (AC-FT)      47.         55.         56.          56.

                       CUMULATIVE AREA =     .60 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-7
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                       6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    115.     12.42                    33.         10.          3.           1.
                        (INCHES)      .519        .609        .611         .611
                         (AC-FT)      17.         19.         19.          19.

                       CUMULATIVE AREA =     .60 SQ MI


     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-7
                    TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.24, TOTAL EXCESS =    1.62

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                       6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    302.     12.42                    88.         26.          9.           4.
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                    (INCHES)      1.364       1.604       1.610       1.610
                     (AC-FT)       43.         51.         51.         51.

                    CUMULATIVE AREA =     .60 SQ MI

                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION     LS-7
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     106.      12.42                31.         9.          3.          1.
                    (INCHES)       .477        .562        .564        .564
                     (AC-FT)        15.         18.         18.         18.

                    CUMULATIVE AREA =     .60 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION     LS-7
                   TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.16, TOTAL EXCESS =    1.53

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     284.      12.42                82.        24.          8.          4.
                    (INCHES)      1.284       1.514       1.519       1.519
                     (AC-FT)        41.         48.         48.         48.

                    CUMULATIVE AREA =     .60 SQ MI

                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION     LS-7
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      99.      12.42                29.         9.          3.          1.
                    (INCHES)       .449        .530        .532        .532
                     (AC-FT)        14.         17.         17.         17.

                    CUMULATIVE AREA =     .60 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION     LS-7
                   TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.09, TOTAL EXCESS =    1.43

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     265.      12.42                77.        23.          8.          3.
                    (INCHES)      1.203       1.422       1.428       1.428
                     (AC-FT)        38.         45.         45.         45.

                    CUMULATIVE AREA =     .60 SQ MI

                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION     LS-7
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      93.      12.42                27.         8.          3.          1.
                    (INCHES)       .421        .498        .500        .500
                     (AC-FT)        13.         16.         16.         16.

                    CUMULATIVE AREA =     .60 SQ MI
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      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-7
                      TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.07, TOTAL EXCESS =    1.40

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     259.     12.42                75.         22.          7.           3.
                       (INCHES)    1.174       1.390       1.396        1.396
                        (AC-FT)     37.         44.         44.          44.

                       CUMULATIVE AREA =     .60 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-7
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      90.     12.42                26.          8.          3.           1.
                       (INCHES)     .411        .487        .488         .488
                        (AC-FT)     13.         15.         16.          16.

                       CUMULATIVE AREA =     .60 SQ MI

      ***             ***             ***             ***             ***


                       INTERPOLATED HYDROGRAPH AT     LS-7

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     110.     12.42                32.          9.          3.           1.
                       (INCHES)     .495        .581        .583         .583
                        (AC-FT)     16.         18.         19.          19.

                       CUMULATIVE AREA =     .60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 328 KK     *    RETLS7  *
            *            *
            **************
                        DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                         - 171 AC DEVELOPMENT WITH RETENTION
                         - C FACTOR = 0.63
                         - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                      ISTAD       R7OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       23.90  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R7OUT
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     115.     12.42                33.         10.          3.           1.
                       (INCHES)     .519        .609        .611         .611
                        (AC-FT)     17.         19.         19.          19.

                       CUMULATIVE AREA =     .60 SQ MI

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                    HYDROGRAPH AT STATION   RETLS7
                  TRANSPOSITION AREA        .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                 0.          0.          0.          0.
                        (INCHES)    .000        .000        .000        .000
                         (AC-FT)      0.          0.          0.          0.

                         CUMULATIVE AREA =     .60 SQ MI

      ***             ***            ***            ***            ***

                    DIVERSION HYDROGRAPH    R7OUT
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     106.      12.42               31.          9.          3.          1.
                        (INCHES)    .477        .562        .564        .564
                         (AC-FT)     15.         18.         18.         18.

                         CUMULATIVE AREA =     .60 SQ MI

      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION   RETLS7
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                 0.          0.          0.          0.
                        (INCHES)    .000        .000        .000        .000
                         (AC-FT)      0.          0.          0.          0.

                         CUMULATIVE AREA =     .60 SQ MI

      ***             ***            ***            ***            ***

                    DIVERSION HYDROGRAPH    R7OUT
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      99.      12.42               29.          9.          3.          1.
                        (INCHES)    .449        .530        .532        .532
                         (AC-FT)     14.         17.         17.         17.

                         CUMULATIVE AREA =     .60 SQ MI

      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION   RETLS7
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                 0.          0.          0.          0.
                        (INCHES)    .000        .000        .000        .000
                         (AC-FT)      0.          0.          0.          0.

                         CUMULATIVE AREA =     .60 SQ MI

      ***             ***            ***            ***            ***

                    DIVERSION HYDROGRAPH    R7OUT
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      93.      12.42               27.          8.          3.          1.
                        (INCHES)    .421        .498        .500        .500
                         (AC-FT)     13.         16.         16.         16.

                         CUMULATIVE AREA =     .60 SQ MI
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      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   RETLS7
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      0.        .00                 0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)      0.          0.          0.           0.

                       CUMULATIVE AREA =     .60 SQ MI


      ***            ***            ***            ***            ***

                    DIVERSION HYDROGRAPH    R7OUT
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     90.      12.42                26.          8.          3.           1.
                       (INCHES)     .411        .487        .488         .488
                        (AC-FT)     13.         15.         16.          16.

                       CUMULATIVE AREA =     .60 SQ MI


      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION   RETLS7
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      0.        .00                 0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)      0.          0.          0.           0.

                       CUMULATIVE AREA =     .60 SQ MI

      ***            ***            ***            ***            ***


                INTERPOLATED DIVERSION HYDROGRAPH AT    R7OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    110.      12.42                32.          9.          3.           1.
                       (INCHES)     .495        .581        .583         .583
                        (AC-FT)     16.         18.         19.          19.

                       CUMULATIVE AREA =     .60 SQ MI

      ***            ***            ***            ***            ***


                       INTERPOLATED HYDROGRAPH AT   RETLS7

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      0.        .00                 0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)      0.          0.          0.           0.

                       CUMULATIVE AREA =     .60 SQ MI


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            *            *
  336 KK    *      LS7C  *
            *            *
            **************
                       COMBINE RUNOFF FROM LS6 AND LS7 AT ADOBE POOL

  338 HC          HYDROGRAPH COMBINATION
                       ICOMP          2  NUMBER OF HYDROGRAPHS TO COMBINE
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      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION     LS7C
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     155.      12.58                 40.         11.          4.           2.
                        (INCHES)    .265        .289        .289         .289
                         (AC-FT)     20.         21.         21.          21.

                       CUMULATIVE AREA =    1.39 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION     LS7C
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     141.      12.58                 35.         10.          3.           1.
                        (INCHES)    .237        .259        .259         .259
                         (AC-FT)     18.         19.         19.          19.

                       CUMULATIVE AREA =    1.39 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION     LS7C
                     TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     133.      12.67                 33.          9.          3.           1.
                        (INCHES)    .219        .240        .240         .240
                         (AC-FT)     16.         18.         18.          18.

                       CUMULATIVE AREA =    1.39 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION     LS7C
                     TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     122.      12.75                 30.          8.          3.           1.
                        (INCHES)    .200        .220        .220         .220
                         (AC-FT)     15.         16.         16.          16.

                       CUMULATIVE AREA =    1.39 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION     LS7C
                     TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     119.      12.75                 29.          8.          3.           1.
                        (INCHES)    .193        .213        .213         .213
                         (AC-FT)     14.         16.         16.          16.

                       CUMULATIVE AREA =    1.39 SQ MI

      ***            ***            ***            ***            ***


                     INTERPOLATED HYDROGRAPH AT     LS7C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     147.      12.58                 37.         10.          3.           1.
                        (INCHES)    .247        .270        .270         .270
                         (AC-FT)     18.         20.         20.          20.
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                    CUMULATIVE AREA =    1.39 SQ MI

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          *            *
339 KK    *     LS-8   *        BASIN
          *            *
          **************

             SUBBASIN RUNOFF DATA

340 BA          SUBBASIN CHARACTERISTICS
                      TAREA          .57  SUBBASIN AREA
                       SNAP          .00  NORMAL ANNUAL PRECIPITATION
                      RATIO          .35  RATIO OF HYDROGRAPH

341 LG          GREEN AND AMPT LOSS RATE
                      STRTL          .25  STARTING LOSS
                        DTH          .25  MOISTURE DEFICIT
                       PSIF         5.10  WETTING FRONT SUCTION
                      XKSAT          .31  HYDRAULIC CONDUCTIVITY
                      RTIMP        32.00  PERCENT IMPERVIOUS AREA

342 UC          CLARK UNITGRAPH
                         TC          .68  TIME OF CONCENTRATION
                          R          .44  STORAGE COEFFICIENT

343 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .68 HR,       R=   .44 HR
                                         SNYDER   TP=   .40 HR,      CP=   .51

                                                  UNIT HYDROGRAPH
                                            32 END-OF-PERIOD ORDINATES
              28.      107.      260.      417.      464.      444.      409.      369.      322.      270.
             223.      185.      153.      127.      105.       87.       72.       60.       50.       41.
              34.       28.       23.       19.       16.       13.       11.        9.        8.        6.
               5.        4.

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-8
                    TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.94, TOTAL EXCESS =    2.16

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     588.     12.25                  108.         33.         11.          5.
                       (INCHES)     1.769      2.146       2.150       2.150
                        (AC-FT)      53.         65.         65.         65.

                     CUMULATIVE AREA =     .57 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-8
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     206.     12.25                   38.         11.          4.          2.
                       (INCHES)      .619       .751       .753       .753
                        (AC-FT)      19.         23.         23.         23.

                     CUMULATIVE AREA =     .57 SQ MI

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION     LS-8
                    TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.85, TOTAL EXCESS =    2.00

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
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                    (CFS)
+     543.     12.25                100.          30.          10.           4.
                  (INCHES)        1.632        1.987        1.991        1.991
                   (AC-FT)         49.          60.          60.          60.

                  CUMULATIVE AREA =     .57 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     190.     12.25                 35.          11.           4.           2.
                  (INCHES)         .571         .696         .697         .697
                   (AC-FT)         17.          21.          21.          21.

                  CUMULATIVE AREA =     .57 SQ MI


      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.80, TOTAL EXCESS =    1.89

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     512.     12.25                 94.          29.          10.           4.
                  (INCHES)        1.541        1.881        1.884        1.884
                   (AC-FT)         47.          57.          57.          57.

                  CUMULATIVE AREA =     .57 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     179.     12.25                 33.          10.           3.           1.
                  (INCHES)         .539         .658         .660         .660
                   (AC-FT)         16.          20.          20.          20.

                  CUMULATIVE AREA =     .57 SQ MI


      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.74, TOTAL EXCESS =    1.79

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     483.     12.25                 89.          27.           9.           4.
                  (INCHES)        1.452        1.777        1.781        1.781
                   (AC-FT)         44.          54.          54.          54.

                  CUMULATIVE AREA =     .57 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     169.     12.25                 31.           9.           3.           1.
                  (INCHES)         .508         .622         .623         .623
                   (AC-FT)         15.          19.          19.          19.
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                    CUMULATIVE AREA =     .57 SQ MI

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                     HYDROGRAPH AT STATION     LS-8
                   TRANSPOSITION AREA     90.0 SQ MI

   TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.72, TOTAL EXCESS =    1.75

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     472.     12.25                  87.         27.          9.           4.
                        (INCHES)    1.423       1.742       1.746        1.746
                         (AC-FT)     43.         53.         53.          53.

                    CUMULATIVE AREA =     .57 SQ MI

                                                HYDROGRAPH MULTIPLIED BY   .35

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-8
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     165.     12.25                  30.          9.          3.           1.
                        (INCHES)     .498        .610        .611         .611
                         (AC-FT)     15.         18.         18.          18.

                    CUMULATIVE AREA =     .57 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS-8

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     197.     12.25                  36.         11.          4.           2.
                        (INCHES)     .591        .719        .720         .720
                         (AC-FT)     18.         22.         22.          22.

                    CUMULATIVE AREA =     .57 SQ MI


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          *            *
  345 KK  *     LS-9   *        BASIN
          *            *
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             SUBBASIN RUNOFF DATA

  346 BA        SUBBASIN CHARACTERISTICS
                     TAREA          .45  SUBBASIN AREA
                      SNAP          .00  NORMAL ANNUAL PRECIPITATION
                     RATIO          .35  RATIO OF HYDROGRAPH

  347 LG        GREEN AND AMPT LOSS RATE
                     STRTL          .20  STARTING LOSS
                       DTH          .25  MOISTURE DEFICIT
                      PSIF         5.20  WETTING FRONT SUCTION
                     XKSAT          .24  HYDRAULIC CONDUCTIVITY
                     RTIMP         9.00  PERCENT IMPERVIOUS AREA

  348 UC        CLARK UNITGRAPH
                        TC         1.02  TIME OF CONCENTRATION
                         R          .96  STORAGE COEFFICIENT

  349 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=  1.02 HR,       R=   .96 HR
                                  SNYDER   TP=   .61 HR,      CP=   .39

                                          UNIT HYDROGRAPH
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67 END-OF-PERIOD ORDINATES

6.	23.	47.	82.	139.	181.	189.	190.	188.	183.
176.	168.	159.	147.	135.	123.	113.	104.	95.	87.
80.	73.	67.	61.	56.	52.	47.	43.	40.	36.
33.	31.	28.	26.	24.	22.	20.	18.	17.	15.
14.	13.	12.	11.	10.	9.	8.	8.	7.	6.
6.	5.	5.	5.	4.	4.	3.	3.	3.	3.
2.	2.	2.	2.	2.	2.	1.			

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HYDROGRAPH AT STATION LS-9
TRANSPOSITION AREA .0 SQ MI

TOTAL RAINFALL = 4.10, TOTAL LOSS = 2.50, TOTAL EXCESS = 1.60

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	166.58-HR
+		(CFS)				
+ 259.	12.50		72.	19.	6.	3.
		(INCHES)	1.480	1.592	1.594	1.594
		(AC-FT)	36.	38.	38.	38.

CUMULATIVE AREA = .45 SQ MI

HYDROGRAPH MULTIPLIED BY .35

*** *** *** *** ***

HYDROGRAPH AT STATION LS-9
TRANSPOSITION AREA .0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	166.58-HR
+		(CFS)				
+ 91.	12.50		25.	7.	2.	1.
		(INCHES)	.518	.557	.558	.558
		(AC-FT)	12.	13.	13.	13.

CUMULATIVE AREA = .45 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION LS-9
TRANSPOSITION AREA 10.0 SQ MI

TOTAL RAINFALL = 3.85, TOTAL LOSS = 2.38, TOTAL EXCESS = 1.47

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	166.58-HR
+		(CFS)				
+ 238.	12.50		66.	18.	6.	3.
		(INCHES)	1.360	1.464	1.467	1.467
		(AC-FT)	33.	35.	35.	35.

CUMULATIVE AREA = .45 SQ MI

HYDROGRAPH MULTIPLIED BY .35

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HYDROGRAPH AT STATION LS-9
TRANSPOSITION AREA 10.0 SQ MI

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	166.58-HR
+		(CFS)				
+ 83.	12.50		23.	6.	2.	1.
		(INCHES)	.476	.513	.513	.513
		(AC-FT)	11.	12.	12.	12.

CUMULATIVE AREA = .45 SQ MI

*** *** *** *** ***

HYDROGRAPH AT STATION LS-9
TRANSPOSITION AREA 30.0 SQ MI

TOTAL RAINFALL = 3.69, TOTAL LOSS = 2.30, TOTAL EXCESS = 1.39

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW	6-HR	24-HR	72-HR	166.58-HR
+		(CFS)				
+ 224.	12.50		62.	17.	6.	2.
		(INCHES)	1.279	1.379	1.381	1.381
		(AC-FT)	31.	33.	33.	33.

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                    CUMULATIVE AREA =     .45 SQ MI

                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-9
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      78.     12.50                 22.          6.          2.           1.
                        (INCHES)    .448        .483        .483         .483
                         (AC-FT)     11.         12.         12.          12.

                    CUMULATIVE AREA =     .45 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-9
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.23, TOTAL EXCESS =    1.30

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     210.     12.50                 58.         16.          5.           2.
                        (INCHES)   1.197       1.293       1.295        1.295
                         (AC-FT)     29.         31.         31.          31.

                    CUMULATIVE AREA =     .45 SQ MI

                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-9
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      73.     12.50                 20.          5.          2.           1.
                        (INCHES)    .419        .452        .453         .453
                         (AC-FT)     10.         11.         11.          11.

                    CUMULATIVE AREA =     .45 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-9
                  TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.20, TOTAL EXCESS =    1.27

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     205.     12.50                 57.         15.          5.           2.
                        (INCHES)   1.168       1.262       1.265        1.265
                         (AC-FT)     28.         30.         30.          30.

                    CUMULATIVE AREA =     .45 SQ MI

                                                    HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-9
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      72.     12.50                 20.          5.          2.           1.
                        (INCHES)    .409        .442        .443         .443
                         (AC-FT)     10.         11.         11.          11.

                    CUMULATIVE AREA =     .45 SQ MI

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                    INTERPOLATED HYDROGRAPH AT     LS-9

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     87.     12.50                  24.          6.          2.           1.
                        (INCHES)    .495        .533        .533         .533
                         (AC-FT)     12.         13.         13.          13.

                        CUMULATIVE AREA =     .45 SQ MI


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            *            *
 351 KK     *     LS-10  *        BASIN
            *            *
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              SUBBASIN RUNOFF DATA

 352 BA         SUBBASIN CHARACTERISTICS
                      TAREA         .26  SUBBASIN AREA
                       SNAP         .00  NORMAL ANNUAL PRECIPITATION
                      RATIO         .35  RATIO OF HYDROGRAPH

 353 LG         GREEN AND AMPT LOSS RATE
                      STRTL         .25  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        5.80  WETTING FRONT SUCTION
                      XKSAT         .22  HYDRAULIC CONDUCTIVITY
                      RTIMP       32.00  PERCENT IMPERVIOUS AREA

 354 UC         CLARK UNITGRAPH
                         TC         .26  TIME OF CONCENTRATION
                          R         .19  STORAGE COEFFICIENT

 355 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .26 HR,       R=   .19 HR
                                         SNYDER   TP=   .18 HR,      CP=   .56

                                                   UNIT HYDROGRAPH
                                             14 END-OF-PERIOD ORDINATES
              129.      392.      475.      354.      231.      148.       94.       60.       39.       25.
               16.       10.        6.        4.

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.87, TOTAL EXCESS =    2.23

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    484.     12.08                  51.         15.          5.           2.
                        (INCHES)   1.846       2.225       2.226        2.226
                         (AC-FT)     25.         30.         31.          31.

                        CUMULATIVE AREA =     .26 SQ MI


                                                HYDROGRAPH MULTIPLIED BY    .35

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    169.     12.08                  18.          5.          2.           1.
                        (INCHES)    .646        .779        .779         .779
                         (AC-FT)      9.         11.         11.          11.

                        CUMULATIVE AREA =     .26 SQ MI
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      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-10
                  TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.78, TOTAL EXCESS =    2.07

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     450.     12.08                 47.         14.          5.           2.
                        (INCHES)    1.710       2.066       2.067        2.067
                         (AC-FT)     23.         28.         28.          28.

                        CUMULATIVE AREA =     .26 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-10
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     157.     12.08                 17.          5.          2.           1.
                        (INCHES)     .598        .723        .724         .724
                         (AC-FT)      8.         10.         10.          10.

                        CUMULATIVE AREA =     .26 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-10
                  TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.72, TOTAL EXCESS =    1.97

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     427.     12.08                 45.         14.          5.           2.
                        (INCHES)    1.619       1.960       1.961        1.961
                         (AC-FT)     22.         27.         27.          27.

                        CUMULATIVE AREA =     .26 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-10
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     149.     12.08                 16.          5.          2.           1.
                        (INCHES)     .567        .686        .686         .686
                         (AC-FT)      8.          9.          9.           9.

                        CUMULATIVE AREA =     .26 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-10
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.66, TOTAL EXCESS =    1.86

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     404.     12.08                 42.         13.          4.           2.
                        (INCHES)    1.528       1.853       1.855        1.855
                         (AC-FT)     21.         25.         25.          25.

                        CUMULATIVE AREA =     .26 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .35

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                    HYDROGRAPH AT STATION    LS-10
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                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     141.     12.08                 15.          4.          1.           1.
                             (INCHES)      .535        .649        .649         .649
                              (AC-FT)        7.          9.          9.           9.

                         CUMULATIVE AREA =     .26 SQ MI


      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION    LS-10
                    TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.64, TOTAL EXCESS =    1.82

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     396.     12.08                 41.         13.          4.           2.
                             (INCHES)     1.496       1.816       1.818        1.818
                              (AC-FT)       21.         25.         25.          25.

                         CUMULATIVE AREA =     .26 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY    .35

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION    LS-10
                    TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     139.     12.08                 14.          4.          1.           1.
                             (INCHES)      .523        .636        .636         .636
                              (AC-FT)        7.          9.          9.           9.

                         CUMULATIVE AREA =     .26 SQ MI

      ***            ***            ***            ***            ***


                        INTERPOLATED HYDROGRAPH AT    LS-10

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     164.     12.08                 17.          5.          2.           1.
                             (INCHES)      .624        .753        .753         .753
                              (AC-FT)        9.         10.         10.          10.

                         CUMULATIVE AREA =     .26 SQ MI


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            *            *
  357 KK    *     RET10  *
            *            *
            **************
                          DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                           - 121.4 AC DEVELOPMENT WITH RETENTION
                           - C FACTOR = 0.63
                           - 100-YR 2-HR RAIN = 2.66"

      DT          DIVERSION
                       ISTAD      R10OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX       17.00  MAXIMUM VOLUME TO BE DIVERTED

      DI             INFLOW         .00  10000.00

      DQ      DIVERTED FLOW         .00  10000.00

                                                          ***

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH   R10OUT
                    TRANSPOSITION AREA       .0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     169.      12.08                 18.          5.           2.           1.
                          (INCHES)  .646        .779         .779         .779
                           (AC-FT)    9.          11.          11.          11.

                          CUMULATIVE AREA =     .26 SQ MI

      ***                 ***          ***          ***          ***

                          HYDROGRAPH AT STATION    RET10
                         TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                  0.          0.           0.           0.
                          (INCHES)  .000        .000         .000         .000
                           (AC-FT)    0.          0.           0.           0.

                          CUMULATIVE AREA =     .26 SQ MI

      ***                 ***          ***          ***          ***

                          DIVERSION HYDROGRAPH   R10OUT
                         TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     157.      12.08                 17.          5.           2.           1.
                          (INCHES)  .598        .723         .724         .724
                           (AC-FT)    8.          10.          10.          10.

                          CUMULATIVE AREA =     .26 SQ MI

      ***                 ***          ***          ***          ***

                          HYDROGRAPH AT STATION    RET10
                         TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                  0.          0.           0.           0.
                          (INCHES)  .000        .000         .000         .000
                           (AC-FT)    0.          0.           0.           0.

                          CUMULATIVE AREA =     .26 SQ MI

      ***                 ***          ***          ***          ***

                          DIVERSION HYDROGRAPH   R10OUT
                         TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     149.      12.08                 16.          5.           2.           1.
                          (INCHES)  .567        .686         .686         .686
                           (AC-FT)    8.          9.           9.           9.

                          CUMULATIVE AREA =     .26 SQ MI

      ***                 ***          ***          ***          ***

                          HYDROGRAPH AT STATION    RET10
                         TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                  0.          0.           0.           0.
                          (INCHES)  .000        .000         .000         .000
                           (AC-FT)    0.          0.           0.           0.

                          CUMULATIVE AREA =     .26 SQ MI

      ***                 ***          ***          ***          ***

                          DIVERSION HYDROGRAPH   R10OUT
                         TRANSPOSITION AREA     60.0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     141.      12.08                15.           4.           1.           1.
                                (INCHES)         .535         .649         .649         .649
                                 (AC-FT)           7.           9.           9.           9.

                                CUMULATIVE AREA =      .26 SQ MI

      ***                 ***            ***            ***            ***

                              HYDROGRAPH AT STATION    RET10
                            TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+       0.        .00                 0.           0.           0.           0.
                                (INCHES)         .000         .000         .000         .000
                                 (AC-FT)           0.           0.           0.           0.

                                CUMULATIVE AREA =      .26 SQ MI

      ***                 ***            ***            ***            ***

                              DIVERSION HYDROGRAPH   R10OUT
                            TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     139.      12.08                14.           4.           1.           1.
                                (INCHES)         .523         .636         .636         .636
                                 (AC-FT)           7.           9.           9.           9.

                                CUMULATIVE AREA =      .26 SQ MI

      ***                 ***            ***            ***            ***

                              HYDROGRAPH AT STATION    RET10
                            TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+       0.        .00                 0.           0.           0.           0.
                                (INCHES)         .000         .000         .000         .000
                                 (AC-FT)           0.           0.           0.           0.

                                CUMULATIVE AREA =      .26 SQ MI

      ***                 ***            ***            ***            ***

                       INTERPOLATED DIVERSION HYDROGRAPH AT   R10OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     164.      12.08                17.           5.           2.           1.
                                (INCHES)         .624         .753         .753         .753
                                 (AC-FT)           9.          10.          10.          10.

                                CUMULATIVE AREA =      .26 SQ MI

      ***                 ***            ***            ***            ***

                              INTERPOLATED HYDROGRAPH AT    RET10

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+       0.        .00                 0.           0.           0.           0.
                                (INCHES)         .000         .000         .000         .000
                                 (AC-FT)           0.           0.           0.           0.

                                CUMULATIVE AREA =      .26 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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                **************
                *            *
  365 KK        *    INFLOW  *
                *            *
                **************
                          COMBINE ALL INFLOW HYDROGRAPHS TO ADOBE DAM POOL AREA
                          (LS7C, LS5C, LS8, LS2C, LS9, LS10)

  368 HC            HYDROGRAPH COMBINATION
                         ICOMP           6  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                        ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   INFLOW
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+   13214.      14.67                5328.       1531.        513.         222.
                         (INCHES)     .592        .680        .684         .686
                          (AC-FT)    2642.       3038.       3055.        3063.

                         CUMULATIVE AREA =   83.70 SQ MI

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   INFLOW
                        TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+   13205.      14.67                5287.       1520.        510.         221.
                         (INCHES)     .587        .676        .679         .681
                          (AC-FT)    2622.       3016.       3033.        3041.

                         CUMULATIVE AREA =   83.70 SQ MI

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   INFLOW
                        TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+   13199.      14.67                5261.       1513.        507.         220.
                         (INCHES)     .584        .672        .676         .678
                          (AC-FT)    2609.       3001.       3019.        3027.

                         CUMULATIVE AREA =   83.70 SQ MI

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   INFLOW
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+   13193.      14.67                5234.       1506.        505.         219.
                         (INCHES)     .581        .669        .673         .675
                          (AC-FT)    2596.       2987.       3005.        3013.

                         CUMULATIVE AREA =   83.70 SQ MI

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION   INFLOW
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                           (CFS)
+   13191.      14.67                5225.       1504.        504.         218.
                         (INCHES)     .580        .668        .672         .674
                          (AC-FT)    2591.       2982.       3000.        3008.

                         CUMULATIVE AREA =   83.70 SQ MI

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                    INTERPOLATED HYDROGRAPH AT   INFLOW

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13191.      14.67                5227.       1504.        504.        219.
                        (INCHES)     .581        .668        .672        .674
                         (AC-FT)    2592.       2983.       3001.       3008.

                        CUMULATIVE AREA =   83.70 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 369 KK     *     LS-11  *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

 370 BA          SUBBASIN CHARACTERISTICS
                       TAREA        2.84  SUBBASIN AREA
                        SNAP         .00  NORMAL ANNUAL PRECIPITATION
                       RATIO         .35  RATIO OF HYDROGRAPH

 371 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .27  STARTING LOSS
                         DTH         .25  MOISTURE DEFICIT
                        PSIF        4.55  WETTING FRONT SUCTION
                       XKSAT         .38  HYDRAULIC CONDUCTIVITY
                       RTIMP       14.00  PERCENT IMPERVIOUS AREA

 372 UC          CLARK UNITGRAPH
                          TC        1.18  TIME OF CONCENTRATION
                           R         .41  STORAGE COEFFICIENT

 373 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=  1.18 HR,       R=   .41 HR
                                           SNYDER   TP=   .57 HR,      CP=   .63

                                                     UNIT HYDROGRAPH
                                              33 END-OF-PERIOD ORDINATES
                 71.      251.      490.      763.     1245.     1831.     2059.     1958.     1796.     1642.
               1480.     1312.     1161.     1032.      893.      737.      601.      490.      400.      326.
                266.      217.      177.      144.      118.       96.       78.       64.       52.       42.
                 35.       28.       23.

      ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-11
                   TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.52, TOTAL EXCESS =    1.58

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2366.      12.42                430.        120.         40.         17.
                        (INCHES)    1.409       1.575       1.576       1.576
                         (AC-FT)     213.        238.        239.        239.

                        CUMULATIVE AREA =    2.84 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY   .35

      ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-11
                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     828.      12.42                151.         42.         14.          6.
                        (INCHES)     .493        .551        .552        .552
                         (AC-FT)      75.         83.         84.         84.
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                    CUMULATIVE AREA =    2.84 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-11
                  TRANSPOSITION AREA     10.0 SQ MI

   TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.40, TOTAL EXCESS =    1.45

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2166.     12.42                 393.        110.         37.          16.
                        (INCHES)    1.289       1.444       1.446       1.446
                         (AC-FT)    195.        219.        219.        219.

                    CUMULATIVE AREA =    2.84 SQ MI

                                                HYDROGRAPH MULTIPLIED BY   .35

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-11
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     758.     12.42                 138.         39.         13.           6.
                        (INCHES)     .451        .505        .506        .506
                         (AC-FT)      68.         77.         77.         77.

                    CUMULATIVE AREA =    2.84 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-11
                  TRANSPOSITION AREA     30.0 SQ MI

   TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.32, TOTAL EXCESS =    1.37

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2034.     12.42                 370.        104.         35.          15.
                        (INCHES)    1.212       1.360       1.362       1.362
                         (AC-FT)    183.        206.        206.        206.

                    CUMULATIVE AREA =    2.84 SQ MI

                                                HYDROGRAPH MULTIPLIED BY   .35

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-11
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     712.     12.42                 129.         36.         12.           5.
                        (INCHES)     .424        .476        .477        .477
                         (AC-FT)      64.         72.         72.         72.

                    CUMULATIVE AREA =    2.84 SQ MI

     ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-11
                  TRANSPOSITION AREA     60.0 SQ MI

   TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.24, TOTAL EXCESS =    1.28

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1900.     12.42                 346.         97.         32.          14.
                        (INCHES)    1.133       1.275       1.277       1.277
                         (AC-FT)    172.        193.        193.        193.

                    CUMULATIVE AREA =    2.84 SQ MI

                                                HYDROGRAPH MULTIPLIED BY   .35
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      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS-11
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     665.     12.42                121.         34.         11.           5.
                              (INCHES)       .397        .446        .447         .447
                               (AC-FT)        60.         68.         68.         68.

                        CUMULATIVE AREA =    2.84 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS-11
                      TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.22, TOTAL EXCESS =    1.25

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+    1853.     12.42                338.         95.         32.          14.
                              (INCHES)      1.106       1.246       1.247       1.247
                               (AC-FT)       167.        189.        189.        189.

                        CUMULATIVE AREA =    2.84 SQ MI

                                                HYDROGRAPH MULTIPLIED BY    .35

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS-11
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     649.     12.42                118.         33.         11.           5.
                              (INCHES)       .387        .436        .437         .437
                               (AC-FT)        59.         66.         66.         66.

                        CUMULATIVE AREA =    2.84 SQ MI

      ***             ***             ***             ***             ***

                        INTERPOLATED HYDROGRAPH AT    LS-11

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+     771.     12.42                140.         39.         13.           6.
                              (INCHES)       .459        .514        .514         .514
                               (AC-FT)        69.         78.         78.         78.

                        CUMULATIVE AREA =    2.84 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
  375 KK    *     LS11C  *
            *            *
            **************
                        COMBINE ALL INFLOWS TO ADOBE POOL WITH RUNOFF FROM LS11

  377 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS11C
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                  (CFS)
+   13233.     14.67                5470.       1573.        528.         229.
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                    (INCHES)      .588        .676        .680        .682
                     (AC-FT)     2712.       3120.       3139.       3147.

                    CUMULATIVE AREA =   86.54 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION    LS11C
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13222.     14.67                5416.       1559.        523.        226.
                    (INCHES)      .582        .670        .674        .675
                     (AC-FT)     2686.       3091.       3110.       3118.

                    CUMULATIVE AREA =   86.54 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION    LS11C
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13215.     14.67                5381.       1549.        519.        225.
                    (INCHES)      .578        .666        .670        .671
                     (AC-FT)     2668.       3073.       3091.       3099.

                    CUMULATIVE AREA =   86.54 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION    LS11C
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13209.     14.67                5347.       1540.        516.        224.
                    (INCHES)      .574        .662        .666        .667
                     (AC-FT)     2651.       3054.       3072.       3080.

                    CUMULATIVE AREA =   86.54 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION    LS11C
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13206.     14.67                5335.       1536.        515.        223.
                    (INCHES)      .573        .660        .664        .666
                     (AC-FT)     2645.       3047.       3066.       3074.

                    CUMULATIVE AREA =   86.54 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    4:  //LS11C/FLOW/31DEC1989/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //LS11C/FLOW/01JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //LS11C/FLOW/02JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //LS11C/FLOW/03JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //LS11C/FLOW/04JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //LS11C/FLOW/05JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //LS11C/FLOW/06JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //LS11C/FLOW/07JAN1990/5MIN//
      ***           ***           ***           ***           ***


                    INTERPOLATED HYDROGRAPH AT    LS11C

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+   13206.     14.67                5336.       1537.        515.        223.
                    (INCHES)      .573        .660        .664        .666
                     (AC-FT)     2646.       3048.       3066.       3074.

                    CUMULATIVE AREA =   86.54 SQ MI
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
379 KK      *     ADOBE  *
            *            *
            **************
                                ROUTE COMBINED FLOWS THROUGH ADOBE DAM RESERVOIR
                                DATA FROM FCDMC ALERT STATION DATA (TAKEN FROM COE DESIGN DATA)

                HYDROGRAPH ROUTING DATA

382 RS            STORAGE ROUTING
                       NSTPS          1  NUMBER OF SUBREACHES
                        ITYP       STOR  TYPE OF INITIAL CONDITION
                      RSVRIC        .00  INITIAL CONDITION
                           X        .00 WORKING R AND D COEFFICIENT

383 SV              STORAGE          .0      70.0     154.0     372.0    1154.0    2695.0    5068.0    8502.0   13100.0   18825.0
                                 26896.0   34968.0   47757.0   60546.0   73335.0

385 SE            ELEVATION      1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76
                                 1382.80   1387.76   1392.76   1397.76   1402.76

387 SQ            DISCHARGE          0.      200.      339.      600.      970.      1210.     1429.     1630.     1810.     1980.
                                    3471.     6350.     8000.    12300.    17200.

389 SE            ELEVATION      1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76
                                 1382.80   1387.76   1392.76   1397.76   1402.76
                                                                   ***

                                                COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

            STORAGE        .00     70.00    154.00    372.00   1154.00   2695.00   5068.00   8502.00  13100.00  18825.00
            OUTFLOW        .00    200.00    339.00    600.00    970.00   1210.00   1429.00   1630.00   1810.00   1980.00
          ELEVATION    1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76

            STORAGE   26896.00  34968.00  47757.00  60546.00  73335.00
            OUTFLOW    3471.00   6350.00   8000.00  12300.00  17200.00
          ELEVATION    1382.80   1387.76   1392.76   1397.76   1402.76

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    ADOBE
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                              (CFS)
+    1160.      17.17                1146.        1051.         527.         229.
                            (INCHES)   .123         .452         .680         .682
                             (AC-FT)   568.        2085.        3137.        3146.

 PEAK STORAGE    TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)       (HR)
     2373.      17.17                2285.        1721.         693.         300.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+   (FEET)       (HR)
   1356.72      17.17               1356.43      1354.53      1347.14      1342.99

                        CUMULATIVE AREA =   86.54 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    ADOBE
                      TRANSPOSITION AREA      10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                              (CFS)
+    1156.      17.17                1142.        1047.         522.         226.
                            (INCHES)   .123         .450         .674         .675
                             (AC-FT)   567.        2076.        3109.        3117.

 PEAK STORAGE    TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)       (HR)
     2349.      17.17                2261.        1699.         682.         295.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+   (FEET)       (HR)
   1356.64      17.17               1356.35      1354.45      1347.07      1342.96

                        CUMULATIVE AREA =   86.54 SQ MI
```

```
      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    ADOBE
                 TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1154.     17.17                1140.       1044.        519.         225.
                        (INCHES)     .122        .449        .669         .671
                         (AC-FT)     565.       2070.       3090.        3099.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     2334.     17.17                2246.       1685.        675.         292.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1356.59     17.17              1356.30     1354.39     1347.02      1342.94

                     CUMULATIVE AREA =   86.54 SQ MI


      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    ADOBE
                 TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1151.     17.17                1138.       1041.        516.         224.
                        (INCHES)     .122        .447        .665         .667
                         (AC-FT)     564.       2065.       3071.        3080.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     2319.     17.17                2231.       1670.        668.         289.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1356.54     17.17              1356.25     1354.34     1346.98      1342.92

                     CUMULATIVE AREA =   86.54 SQ MI


      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    ADOBE
                 TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1151.     17.17                1137.       1040.        515.         223.
                        (INCHES)     .122        .447        .664         .666
                         (AC-FT)     564.       2063.       3065.        3073.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
     2313.     17.17                2225.       1666.        666.         288.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1356.52     17.17              1356.24     1354.32     1346.96      1342.91

                     CUMULATIVE AREA =   86.54 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    4:  //ADOBE/FLOW/31DEC1989/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //ADOBE/FLOW/01JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //ADOBE/FLOW/02JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //ADOBE/FLOW/03JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //ADOBE/FLOW/04JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //ADOBE/FLOW/05JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //ADOBE/FLOW/06JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //ADOBE/FLOW/07JAN1990/5MIN//
      ***            ***            ***            ***            ***


                 INTERPOLATED HYDROGRAPH AT    ADOBE

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

+	1151.	17.17	(CFS)	1137.	1040.	515.	223.
			(INCHES)	.122	.447	.664	.666
			(AC-FT)	564.	2063.	3065.	3074.

CUMULATIVE AREA = 86.54 SQ MI

1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	S23L	12758.	14.17	4719.	1330.	444.	50.29		
+	HYDROGRAPH AT	C010	717.	13.42	262.	90.	30.	13.39		
+	2 COMBINED AT	CAP	13241.	14.17	4963.	1419.	474.	63.68		
+	ROUTED TO	CAPR2	13172.	14.42	4963.	1419.	474.	63.68		
+	HYDROGRAPH AT	S24	467.	12.08	47.	14.	5.	.65		
+	2 COMBINED AT	S24C	13178.	14.42	5002.	1431.	478.	64.33		
+	ROUTED TO	S24LS1	13139.	14.50	4996.	1430.	478.	64.33		
+	HYDROGRAPH AT	RRB22C	13.	19.92	9.	4.	2.	9.62		
+	ROUTED TO	B22LS1	12.	21.83	9.	4.	2.	9.62		
+	HYDROGRAPH AT	LS-1	1204.	12.17	152.	42.	14.	2.47		
+	DIVERSION TO	R1OUT	1053.	12.08	61.	16.	5.	2.47		
+	HYDROGRAPH AT	RETLS1	1172.	12.25	98.	26.	9.	2.47		
+	2 COMBINED AT	LS1CR	1144.	12.25	94.	28.	10.	12.09		
+	2 COMBINED AT	LS1C	13150.	14.50	5071.	1453.	487.	76.42		
+	ROUTED TO	LS1LS2	13073.	14.67	5054.	1452.	487.	76.42		
+	HYDROGRAPH AT	LS-2	238.	12.42	54.	16.	5.	.94		
+	DIVERSION TO	R2OUT	237.	12.33	20.	5.	2.	.94		
+	HYDROGRAPH AT	RETLS2	231.	12.50	38.	10.	3.	.94		
+	2 COMBINED AT	LS2C	13088.	14.67	5083.	1459.	489.	77.37		
+	HYDROGRAPH AT	LS-3	283.	12.17	36.	11.	4.	.54		
+	ROUTED TO	LS3LS5	98.	13.25	35.	11.	4.	.54		
+	HYDROGRAPH AT	LS-4	823.	12.17	110.	34.	11.	1.85		
+	DIVERSION TO	R4OUT	823.	12.17	110.	34.	11.	1.85		
+	HYDROGRAPH AT	RETLS4	0.	.00	0.	0.	0.	1.85		
+	ROUTED TO	LS4LS5	0.	.00	0.	0.	0.	1.85		
+	HYDROGRAPH AT	LS-5	332.	12.42	72.	21.	7.	1.28		
	DIVERSION TO									

+		R5OUT	227.	12.17	17.	5.	2.	1.28
	HYDROGRAPH AT							
+		RETLS5	332.	12.42	60.	16.	5.	1.28
	3 COMBINED AT							
+		LS5C	343.	12.42	93.	27.	9.	3.67
	HYDROGRAPH AT							
+		LS-6	148.	12.50	47.	14.	5.	.79
	DIVERSION TO							
+		R6OUT	144.	12.42	15.	4.	1.	.79
	HYDROGRAPH AT							
+		RETLS6	147.	12.58	37.	10.	3.	.79
	HYDROGRAPH AT							
+		LS-7	110.	12.42	32.	9.	3.	.60
	DIVERSION TO							
+		R7OUT	110.	12.42	32.	9.	3.	.60
	HYDROGRAPH AT							
+		RETLS7	0.	.00	0.	0.	0.	.60
	2 COMBINED AT							
+		LS7C	147.	12.58	37.	10.	3.	1.39
	HYDROGRAPH AT							
+		LS-8	197.	12.25	36.	11.	4.	.57
	HYDROGRAPH AT							
+		LS-9	87.	12.50	24.	6.	2.	.45
	HYDROGRAPH AT							
+		LS-10	164.	12.08	17.	5.	2.	.26
	DIVERSION TO							
+		R10OUT	164.	12.08	17.	5.	2.	.26
	HYDROGRAPH AT							
+		RET10	0.	.00	0.	0.	0.	.26
	6 COMBINED AT							
+		INFLOW	13191.	14.67	5227.	1504.	504.	83.70
	HYDROGRAPH AT							
+		LS-11	771.	12.42	140.	39.	13.	2.84
	2 COMBINED AT							
+		LS11C	13206.	14.67	5336.	1537.	515.	86.54
	ROUTED TO							
+		ADOBE	1151.	17.17	1137.	1040.	515.	86.54

*** NORMAL END OF HEC-1 ***

```
-----DSS---ZCLOSE Unit:  71,   File: LS1024F.DSS
          Pointer Utilization:   .25
          Number of Records:     24
          File Size:     51.6  Kbytes
          Percent Inactive:    .0
```

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              JUN   1998               *
*            VERSION 4.1                *
*                                       *
*  RUN DATE   13AUG03  TIME  15:19:40   *
*                                       *
*****************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*          609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 756-1104          *
*                                   *
*************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX        XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID       LOWER SKUNK CREEK HYDROLOGY                        FILENAME: LS224F.DAT
  2           ID       FOR: ADOBE DAM / DESERT HILLS ADMP                 ORIGINAL: 06/26/03
  3           ID       AUG. 2003                                          REVISED:  08/13/03
  4           ID       BY: JE FULLER/ HYDROLOGY & GEOMORPHOLOGY, INC.
  5           ID
  6           ID    THIS IS THE 2-YEAR 24-HOUR MODEL FOR FUTURE CONDITIONS
  7           ID
  8           ID    MODEL BASIS:
  9           ID      * 100-YEAR 24-HOUR FUTURE CONDITION MODEL (LS10024F.DAT)
 10           ID      * FUTURE LAND USES FROM MAG PLAN DATA PROVIDED BY FCDMC AND PHOTO INTERP
 11           ID        OF AVAILABLE LAND FOR DEVELOPMENT.
 12           ID      * DDMSW PROJECT NAME: LS_FU24
 13           ID      * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
 14           ID      * MULTIPLE STORM OPTION (JD)
 15           ID      * GREEN & AMPT LOSS METHOD
 16           ID      * CLARK UNIT HYDROGRAPH METHOD
 17           ID      * TC & R COMPUTED WITH MCHUP1 THRU DDMSW 2.1.3
 18           ID      * MODIFIED PULS NORMAL-DEPTH CHANNEL ROUTING
 19           ID      * INFLOW HYDROGRAPHS AS QI RECORDS FROM:
 20           ID          * S23L - SKUNK CREEK - SKUNK CREEK WMP
 21           ID          * C010 - SONORAN (UNNAMED) WASH - SKUNK CREEK WMP
 22           ID          * RRB22C - BUCHANAN WASH - ADOBE ADMP PART 3, VOL. 3
 23           ID
 24           ID       2-YEAR MODEL BASED ON:
 25           ID       2-YEAR INFLOW HYDROGRAPHS FROM SKUNK CREEK / SONORAN WASH WCMP
 26           ID       2-YEAR INFLOW HYDROGRAPH FROM BUCHANAN WASH (PART 3, VOL. 3 ADOBE ADMP)
 27           ID       0.10 RATIO ON BA RECORD FIELD 3 PER DRAFT 2003 FCDMC HYDROLOGY MANUAL
 28           ID
 29           ID
              *DIAGRAM
 30           IT       5 01JAN90    0000    2000
 31           IO       3
 32           IN      15
 33           JD    4.10    0.01
 34           PC   0.000   0.002   0.005   0.008   0.011   0.014   0.017   0.020   0.023   0.026
 35           PC   0.029   0.032   0.035   0.038   0.041   0.044   0.048   0.052   0.056   0.060
 36           PC   0.064   0.068   0.072   0.076   0.080   0.085   0.090   0.095   0.100   0.105
 37           PC   0.110   0.115   0.120   0.126   0.133   0.140   0.147   0.155   0.163   0.172
 38           PC   0.181   0.191   0.203   0.218   0.236   0.257   0.283   0.387   0.663   0.707
 39           PC   0.735   0.758   0.776   0.791   0.804   0.815   0.825   0.834   0.842   0.849
 40           PC   0.856   0.863   0.869   0.875   0.881   0.887   0.893   0.898   0.903   0.908
 41           PC   0.913   0.918   0.922   0.926   0.930   0.934   0.938   0.942   0.946   0.950
 42           PC   0.953   0.956   0.959   0.962   0.965   0.968   0.971   0.974   0.977   0.980
 43           PC   0.983   0.986   0.989   0.992   0.995   0.998   1.000
 44           JD   3.854      10
 45           JD   3.690      30
 46           JD   3.526      60
 47           JD   3.469      90

 48           KK    S23L
 49           BA   50.29
              *
              * ************************************************************************
              *
              *   INFLOW HYDROGRAPHS FOR SKUNK CREEK, SONORAN WASH, & SUBBASIN S24 FROM:
              *      Skunk Creek Watercourse Master Plan                    File: SCF2.IH1
              *           By: ASL Consulting Engineers                 Original: 09/01/1999
```

```
*          For: Flood Control District of Maricopa County   Revised: 02/23/2000
*
*       This is a Future Condition Model based on the MAG 1995 Projected
*       Landuse Map. This model DOES NOT account for 100-yr 2-hr retention.
*
*       Skunk Creek Watershed at the CAP Canal
*          This file is based on the original FIS HEC-1 model prepared by:
*
*                Montgomery Watson FCD 95-16
*                Skunk Creek Floodplain Delineation Study
*                Original model dated March 1996
*
*       02/23/00  Landuse modified per North Black Canyon Corridor General Plan
*                 provided by City of Phoenix.  ArcView files dated 02/04/2000.
*
*       Model Basis:
*
*       * 2-year, 24-hr rainfall with SCS Type II Rainfall Distribution
*       * Green & Ampt Loss Rate Method
*       * NMIN = 5
*       * Phoenix Mountain, Desert/Rangeland and Phoenix Valley S-Graphs
*       * Muskingum channel routing for Skunk Creek watershed
*       * Modified Puls normal depth channel routing for Unnamed Wash watershed
*       * 200 Scale 2' CI mapping of Skunk Creek by Kenney Aerial Mapping
*       * 200 Scale 2' CI mapping of Unnamed Wash by Aerial Mapping Company
*       * The Montgomery Watson HEC-1 model structure is used for Skunk Creek.
*         The Unnamed Wash is modeled with completely new input
*
*       Model Adjustments:
*
*       * RTIMP values are adjusted to reflect future buildout conditions
*         estimated using the MAG 1995 Planning Study
*       * S-GRAPH types were changed where appropriate to simulate urban
*         conditions
*       * S-GRAPH parameters were adjusted to reflect urbanization
*       * Basin areas were adjusted slightly to match the ArcView coverages
*         created for this study.  This was done for conformity with the landuse
*         areas.  The basin boundaries were not available in digital format.
*         The basin boundaries were recreated with adjustments made where
*         appropriate
*
*
1                                   HEC-1 INPUT                                    PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 50           KM     HYDROGRAPH FOR S23L FROM SKUNK CREEK WMP MODEL
 51           KM     FUTURE CONDITION 2-YR 24-HR HYDROGRAPH
 52           KM     NO RETENTION ASSUMED
 53           IN       5
 54           QI       0       0       0       0       0       1       1       2       3       4
 55           QI       5       6       7       8       9      10      11      12      13      15
 56           QI      17      19      21      24      27      31      34      38      43      47
 57           QI      51      55      59      63      67      70      73      76      79      81
 58           QI      83      85      86      88      89      90      90      91      91      92
 59           QI      92      93      93      94      94      95      95      96      96      96
 60           QI      97      97      98      98      99      99     100     101     102     103
 61           QI     105     106     107     109     110     112     113     115     116     118
 62           QI     119     121     122     123     124     125     126     126     127     128
 63           QI     128     129     130     131     132     133     134     136     137     139
 64           QI     140     142     144     146     148     150     153     155     157     159
 65           QI     160     162     163     165     166     168     170     172     175     178
 66           QI     181     185     189     193     198     203     208     213     219     225
 67           QI     231     237     243     250     256     263     271     280     290     311
 68           QI     341     394     466     554     668     813     956    1072    1197    1327
 69           QI    1452    1531    1622    1743    1883    2052    2255    2500    2770    3060
 70           QI    3365    3685    4009    4322    4614    4871    5084    5238    5328    5354
 71           QI    5321    5235    5102    4929    4717    4469    4188    3879    3548    3206
 72           QI    2864    2533    2222    1939    1687    1467    1277    1116     981     866
 73           QI     770     689     620     561     511     468     431     399     372     348
 74           QI     327     309     293     279     266     255     245     236     229     222
 75           QI     217     212     207     204     200     197     194     191     188     185
 76           QI     183     180     178     175     173     171     169     167     164     162
 77           QI     160     158     156     153     151     149     147     145     143     141
 78           QI     139     137     135     133     132     130     129     127     126     125
 79           QI     124     123     123     122     121     120     120     119     118     117
 80           QI     116     114     113     112     110     109     107     106     105     103
 81           QI     102     101     100      99      98      97      96      96      95      95
 82           QI      95      94      94      94      94      94      94      93      93      93
 83           QI      92      92      91      90      89      88      87      86      85      84
 84           QI      83      82      81      80      78      76      74      71      69      65
 85           QI      62      58      54      50      46      42      38      34      30      26
 86           QI      22      19      16      14      11       9       8       6       5       4
 87           QI       3       2       2       1       1       1       1       0       0       0
 88           QI       0       0       0       0       0       0       0       0       0       0
              *

 89           KK     C010
 90           KM      HYDROGRAPH FOR SONORAN WASH FROM SKUNK CREEK WMP
 91           KM      FUTURE CONDITION 2-YR 24-HR WITH 100-YR 2-HR RETENTION
 92           IN       5
 93           BA   13.39
 94           QI       0       0       0       0       0       0       0       0       0       0
 95           QI       0       0       0       0       0       0       0       0       0       0
 96           QI       0       0       0       0       0       0       0       0       0       0
```

```
 97          QI       0       0       0       0       0       0       0       0       0       0
 98          QI       0       0       0       0       0       0       0       0       0       0
 99          QI       0       0       0       0       0       0       0       0       0       0
100          QI       0       0       0       0       0       0       0       0       0       0
101          QI       0       0       0       0       0       0       0       0       0       0
102          QI       0       0       0       0       0       0       0       0       0       0
1                                          HEC-1 INPUT                                          PAGE  3

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

103          QI       0       0       0       0       0       0       0       0       0       0
104          QI       0       0       0       0       0       0       0       0       0       0
105          QI       0       0       0       0       0       0       0       0       0       0
106          QI       0       0       0       0       0       0       0       0       0       0
107          QI       0       0       0       0       0       0       0       0       0       0
108          QI       0       0       0       0       0       0       0       0       0       0
109          QI       0       0       0       0       0       0       0       0       0       0
110          QI       0       0       0       0       0       0       0       1       1       3
111          QI       5       7      11      16      23      33      41      47      50      52
112          QI      52      51      49      46      43      40      38      35      32      30
113          QI      28      27      26      26      25      24      24      23      22      22
114          QI      21      20      20      19      18      18      17      16      16      15
115          QI      15      14      14      13      13      12      12      11      11      11
116          QI      10      10      10       9       9       9       9       8       8       8
117          QI       8       8       7       7       7       7       7       6       6       6
118          QI       6       6       6       6       6       5       5       5       5       5
119          QI       5       5       5       5       5       5       5       4       4       4
120          QI       4       4       4       4       4       4       4       4       4       4
121          QI       4       4       4       4       3       3       3       3       3       3
122          QI       3       3       3       3       3       3       3       3       3       3
123          QI       3       3       3       3       3       3       3       3       3       3
124          QI       2       2       2       2       2       2       2       2       2       2
125          QI       2       2       2       2       2       2       2       2       2       2
126          QI       2       2       2       2       2       2       2       2       2       2
127          QI       2       2       2       2       2       2       2       2       2       2
128          QI       1       1       1       1       1       1       1       1       1       1
129          QI       1       1       1       1       0       0       0       0       0       0
130          QI       0       0       0       0       0       0       0       0       0       0
             *

131          KK     CAP
132          KM    COMBINE S23L+C010 (SUBAREAS S1-S23, CLINE CR, RODGER CR & UNNAMED WASH)
133          KM    COMBINED FLOW AT CAP OVERCHUTES
134          HC       2   63.68
             *

135          KK   CAPR2
136          KM    ROUTE CAP OVERFLOW THROUGH S24 FROM CAP TO I-17
137          RM       3    0.23    0.25
             *

138          KK     S24
139          KM   Sub-Basin    S24
140          KM
141          KM      The Phoenix Valley S-Graph is used for this basin.
142          KM          Lag Used =  16.0 minutes
143          KM
144          BA  0.6526            0.10
145          LG    0.21    0.22    7.60    0.10   28.60
146          UI     224     711    1243    1380     824     376     174      56      42       0
147          UI       0       0       0       0       0       0       0       0       0       0
             *
1                                          HEC-1 INPUT                                          PAGE  4

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

148          KK    S24C
149          KM     COMBINE ROUTED FLOWS FROM CAP WITH RUNOFF FROM S24 AT I-17
150          HC       2
             *
             * ************************* END OF INPUT FROM SKUNK CREEK WMP ****************
             *

151          KK  S24LS1   ROUTE   REACH
152          KM    ROUTE COMBINED FLOWS FROM I-17 TO CONFLUENCE WITH BUCHANAN WASH
153          KM    IN SKUNK CREEK
154          RS       1    STOR      -1
155          RC   0.035   0.035   0.035    3394  0.0053   15.00
156          RX     0.0     8.0    15.0    50.0   320.0   355.0   362.0   370.0
157          RY    15.0    15.0    15.0     0.0     0.0    15.0    15.0    15.0
             *
             *    FROM BUCHANAN HYDROLOGY ADOBE ADMP PART 3, VOL. 3 BY JEF, INC. AUG. 2003
             *

158          KK  RRB22C
159          KM     INFLOWS FROM BUCHANAN WASH UNDER CAP
160          KM       FROM BF224F.DAT
161          IN       5
162          BA    9.62
163          QI       0       0       0       0       0       0       0       0       0       0
             *
             *  THE REMAINING HEC-1 MODEL INPUT FROM ORIGINAL ADOBE DAM ADMP MODELING BY JEF
             *
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 164          KK  B22LS1   ROUTE   REACH
 165          KM    ROUTE IMPORTED FLOWS FROM CAP TO SKUNK CREEK IN BUCHANAN WASH
 166          RS       5    STOR      -1
 167          RC   0.055   0.040   0.055   10208  0.0040    7.00
 168          RX     0.0   100.0   200.0   210.0   225.0   235.0   285.0   335.0
 169          RY     7.0     6.0     5.0     0.0     0.0     5.0     6.0     7.0
 170          ZW       C=FLOW
              *

 171          KK    LS-1   BASIN
 172          BA   2.469            0.10
 173          LG    0.24    0.19    6.60    0.15      15
 174          UC   0.529   0.270
 175          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 176          UA     100
              *

 177          KK  RETLS1
 178          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
 179          KM      - 232 AC DEVELOPMENT WITH RETENTION
 180          KM      - C FACTOR = 0.63
 181          KM      - 100-YR 2-HR RAIN = 2.66"
 182          DT   R1OUT    32.4
 183          DI       0   10000
 184          DQ       0   10000
              *
1                                        HEC-1 INPUT                                                    PAGE  5

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 185          KK   LS1CR
 186          KM     COMBINE RUNOFF FROM LS-1 WITH ROUTED FLOWS FROM BUCHANAN WASH AT CAP
 187          KM     THIS IS THE TOTAL FLOW IN BUCHANAN WASH JUST U/S OF SKUNK CREEK
 188          HC       2
              *

 189          KK    LS1C
 190          KM     COMBINE BUCHANAN WASH WITH ROUTED FLOWS IN SKUNK CREEK FROM I-17.
 191          HC       2
              *

 192          KK  LS1LS2   ROUTE   REACH
 193          KM    ROUTE COMBINED FLOWS FROM CONFLUENCE OF BUCHANAN AND SKUNK TO
 194          KM    PINNACLE PEAK ROAD
 195          RS       3    STOR      -1
 196          RC   0.035   0.035   0.035    9552  0.0063   15.00
 197          RX     0.0     8.0    15.0    50.0   320.0   355.0   362.0   370.0
 198          RY    15.0    15.0    15.0     0.0     0.0    15.0    15.0    15.0
              *
              *

 199          KK    LS-2   BASIN
 200          BA   0.945            0.10
 201          LG    0.19    0.25    4.80    0.30      20
 202          UC   0.871   0.662
 203          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 204          UA     100
              *

 205          KK  RETLS2
 206          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
 207          KM      - 78 AC DEVELOPMENT WITH RETENTION
 208          KM      - C FACTOR = 0.63
 209          KM      - 100-YR 2-HR RAIN = 2.66"
 210          DT   R2OUT    10.9
 211          DI       0   10000
 212          DQ       0   10000
              *

 213          KK    LS2C
 214          KM     COMBINE FLOWS IN SKUNK CREEK AT PINNACLE PEAK ROAD
 215          HC       2
              *

 216          KK    LS-3   BASIN
 217          BA   0.543            0.10
 218          LG    0.17    0.25    4.30    0.41      39
 219          UC   0.413   0.224
 220          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
 221          UA     100
              *
1                                        HEC-1 INPUT                                                    PAGE  6

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 222          KK  LS3LS5   ROUTE   REACH
 223          KM    ROUTE RUNOFF FROM LS-3 THROUGH LS-5 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK
 224          KM    ROAD
 225          RS       4    STOR      -1
 226          RC   0.080   0.040   0.080    8883  0.0040    6.00
 227          RX     0.0   100.0   200.0   220.0   370.0   390.0   490.0   590.0
 228          RY     6.0     5.0     4.0     0.0     0.0     4.0     5.0     6.0
              *
```

```
229          KK    LS-4   BASIN
230          BA   1.851            0.10
231          LG    0.22    0.25    4.35    0.43      31
232          UC   0.500   0.274
233          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
234          UA     100
             *

235          KK  RETLS4
236          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
237          KM      - 528 AC DEVELOPMENT WITH RETENTION
238          KM      - C FACTOR = 0.63
239          KM      - 100-YR 2-HR RAIN = 2.66"
240          DT   R4OUT    73.7
241          DI       0   10000
242          DQ       0   10000
             *

243          KK  LS4LS5   ROUTE   REACH
244          KM    ROUTE RUNOFF FROM LS-4 THROUGH LS-5 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK
245          KM    ROAD
246          RS       2    STOR      -1
247          RC   0.080   0.040   0.080    6160  0.0040    6.00
248          RX     0.0   100.0   200.0   220.0   370.0   390.0   490.0   590.0
249          RY     6.0     5.0     4.0     0.0     0.0     4.0     5.0     6.0
             *

250          KK    LS-5   BASIN
251          BA   1.280            0.10
252          LG    0.28    0.25    4.90    0.33      22
253          UC   0.967   0.577
254          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
255          UA     100
             *

256          KK  RETLS5
257          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
258          KM      - 72.5 AC DEVELOPMENT WITH RETENTION
259          KM      - C FACTOR = 0.63
260          KM      - 100-YR 2-HR RAIN = 2.66"
261          DT   R5OUT    10.1
262          DI       0   10000
263          DQ       0   10000
             *
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

264          KK    LS5C
265          KM     COMBINE ROUTED FLOWS FROM LS3 AND LS4 WITH RUNOFF FROM LS5 AT ADOBE POOL
266          KM     AT PINNACLE PEAK ROAD
267          HC       3
             *

268          KK    LS-6   BASIN
269          BA   0.792            0.10
270          LG    0.25    0.25    4.50    0.39      30
271          UC   1.113   0.974
272          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
273          UA     100
             *

274          KK  RETLS6
275          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
276          KM      - 62.5 AC DEVELOPMENT WITH RETENTION
277          KM      - C FACTOR = 0.63
278          KM      - 100-YR 2-HR RAIN = 2.66"
279          DT   R6OUT     8.7
280          DI       0   10000
281          DQ       0   10000
             *

282          KK    LS-7   BASIN
283          BA   0.597            0.10
284          LG    0.28    0.25    4.50    0.42      21
285          UC   0.900   0.963
286          UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
287          UA     100
             *

288          KK  RETLS7
289          KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
290          KM      - 171 AC DEVELOPMENT WITH RETENTION
291          KM      - C FACTOR = 0.63
292          KM      - 100-YR 2-HR RAIN = 2.66"
293          DT   R7OUT    23.9
294          DI       0   10000
295          DQ       0   10000
             *

296          KK    LS7C
297          KM    COMBINE RUNOFF FROM LS6 AND LS7 AT ADOBE POOL
298          HC       2
```

```
                 *
299              KK    LS-8   BASIN
300              BA   0.567            0.10
301              LG    0.25    0.25    5.10    0.31      32
302              UC   0.683   0.444
303              UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
304              UA     100
                 *
1                                                HEC-1 INPUT                                                PAGE  8

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

305              KK    LS-9   BASIN
306              BA   0.451            0.10
307              LG    0.20    0.25    5.20    0.24       9
308              UC   1.025   0.958
309              UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
310              UA     100
                 *

311              KK   LS-10   BASIN
312              BA   0.257            0.10
313              LG    0.25    0.25    5.80    0.22      32
314              UC   0.263   0.189
315              UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
316              UA     100
                 *

317              KK   RET10
318              KM     DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
319              KM      - 121.4 AC DEVELOPMENT WITH RETENTION
320              KM      - C FACTOR = 0.63
321              KM      - 100-YR 2-HR RAIN = 2.66"
322              DT  R10OUT    17.0
323              DI       0   10000
324              DQ       0   10000
                 *

325              KK  INFLOW
326              KM    COMBINE ALL INFLOW HYDROGRAPHS TO ADOBE DAM POOL AREA
327              KM    (LS7C, LS5C, LS8, LS2C, LS9, LS10)
328              HC       6
                 *

329              KK   LS-11   BASIN
330              BA   2.838            0.10
331              LG    0.27    0.25    4.55    0.38      14
332              UC   1.183   0.410
333              UA       0     5.0    16.0    30.0    65.0    77.0    84.0    90.0    94.0    97.0
334              UA     100
                 *

335              KK   LS11C
336              KM    COMBINE ALL INFLOWS TO ADOBE POOL WITH RUNOFF FROM LS11
337              HC       2
338              ZW      C=FLOW
                 *

339              KK   ADOBE
340              KM     ROUTE COMBINED FLOWS THROUGH ADOBE DAM RESERVOIR
341              KM     DATA FROM FCDMC ALERT STATION DATA (TAKEN FROM COE DESIGN DATA)
342              RS       1    STOR       0
343              SV       0      70     154     372    1154    2695    5068    8502   13100   18825
344              SV   26896   34968   47757   60546   73335
345              SE  1339.8 1342.76 1344.76 1347.76 1352.76 1357.76 1362.76 1367.76 1372.76 1377.76
346              SE  1382.8 1387.76 1392.76 1397.76 1402.76
1                                                HEC-1 INPUT                                                PAGE  9

LINE             ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

347              SQ       0     200     339     600     970    1210    1429    1630    1810    1980
348              SQ    3471    6350    8000   12300   17200
349              SE  1339.8 1342.76 1344.76 1347.76 1352.76 1357.76 1362.76 1367.76 1372.76 1377.76
350              SE  1382.8 1387.76 1392.76 1397.76 1402.76
351              ZW      C=FLOW
352              ZZ
1
                 SCHEMATIC DIAGRAM OF STREAM NETWORK

 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

   NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    48        S23L
                .
                .
    89          .        C010
                .           .
                .           .
   131        CAP............
                V
                V
   135       CAPR2
```

```
                .
                .
138             .         S24
                .          .
                .          .
148         S24C............
                V
                V
151       S24LS1
                .
                .
158             .      RRB22C
                .          V
                .          V
164             .      B22LS1
                .          .
                .          .
171             .          .        LS-1
                .          .          .
                .          .          .
182             .          .          .-------->   R1OUT
177             .          .      RETLS1
                .          .          .
                .          .          .
185             .       LS1CR............
                .          .
                .          .
189         LS1C............
                V
                V
192       LS1LS2
                .
                .
199             .        LS-2
                .          .
                .          .
210             .          .-------->   R2OUT
205             .      RETLS2
                .          .
                .          .
213         LS2C............
                .
                .
216             .        LS-3
                .          V
                .          V
222             .      LS3LS5
                .          .
                .          .
229             .          .        LS-4
                .          .          .
                .          .          .
240             .          .          .-------->   R4OUT
235             .          .      RETLS4
                .          .          V
                .          .          V
243             .          .      LS4LS5
                .          .          .
                .          .          .
250             .          .          .        LS-5
                .          .          .          .
                .          .          .          .
261             .          .          .          .-------->   R5OUT
256             .          .          .      RETLS5
                .          .          .          .
                .          .          .          .
264             .        LS5C........................
                .          .
                .          .
268             .          .        LS-6
                .          .          .
                .          .          .
279             .          .          .-------->   R6OUT
274             .          .      RETLS6
                .          .          .
                .          .          .
282             .          .          .        LS-7
                .          .          .          .
                .          .          .          .
293             .          .          .          .-------->   R7OUT
288             .          .          .      RETLS7
                .          .          .          .
                .          .          .          .
296             .          .        LS7C............
                .          .          .
                .          .          .
299             .          .          .        LS-8
                .          .          .          .
                .          .          .          .
305             .          .          .          .        LS-9
                .          .          .          .          .
                .          .          .          .          .
311             .          .          .          .          .       LS-10
                .          .          .          .          .          .
                .          .          .          .          .          .
```

```
 322          .          .          .          .          .          .-------> R10OUT
 317          .          .          .          .          .      RET10
              .          .          .          .          .          .
              .          .          .          .          .          .
 325      INFLOW.......................................................
              .
              .
 329          .       LS-11
              .          .
              .          .
 335       LS11C............
              V
              V
 339       ADOBE

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1****************************************                                    ****************************************
*                                        *                                    *                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)    *                                    *   U.S. ARMY CORPS OF ENGINEERS       *
*              JUN   1998                *                                    *   HYDROLOGIC ENGINEERING CENTER      *
*            VERSION 4.1                 *                                    *         609 SECOND STREET            *
*                                        *                                    *      DAVIS, CALIFORNIA 95616         *
*  RUN DATE   13AUG03  TIME  15:19:40    *                                    *          (916) 756-1104              *
*                                        *                                    *                                      *
****************************************                                    ****************************************
```

```
                    LOWER SKUNK CREEK HYDROLOGY                    FILENAME: LS224F.DAT
                    FOR: ADOBE DAM / DESERT HILLS ADMP             ORIGINAL: 06/26/03
                    AUG. 2003                                      REVISED:  08/13/03
                    BY: JE FULLER/ HYDROLOGY & GEOMORPHOLOGY, INC.

                  THIS IS THE 2-YEAR 24-HOUR MODEL FOR FUTURE CONDITIONS

                  MODEL BASIS:
                    * 100-YEAR 24-HOUR FUTURE CONDITION MODEL (LS10024F.DAT)
                    * FUTURE LAND USES FROM MAG PLAN DATA PROVIDED BY FCDMC AND PHOTO INTERP
                      OF AVAILABLE LAND FOR DEVELOPMENT.
                    * DDMSW PROJECT NAME: LS_FU24
                    * PREFRE RAINFALL STATISTICS FROM NOAA ATLAS II
                    * MULTIPLE STORM OPTION (JD)
                    * GREEN & AMPT LOSS METHOD
                    * CLARK UNIT HYDROGRAPH METHOD
                    * TC & R COMPUTED WITH MCHUP1 THRU DDMSW 2.1.3
                    * MODIFIED PULS NORMAL-DEPTH CHANNEL ROUTING
                    * INFLOW HYDROGRAPHS AS QI RECORDS FROM:
                        * S23L - SKUNK CREEK - SKUNK CREEK WMP
                        * C010 - SONORAN (UNNAMED) WASH - SKUNK CREEK WMP
                        * RRB22C - BUCHANAN WASH - ADOBE ADMP PART 3, VOL. 3

                    2-YEAR MODEL BASED ON:
                    2-YEAR INFLOW HYDROGRAPHS FROM SKUNK CREEK / SONORAN WASH WCMP
                    2-YEAR INFLOW HYDROGRAPH FROM BUCHANAN WASH (PART 3, VOL. 3 ADOBE ADMP)
                    0.10 RATIO ON BA RECORD FIELD 3 PER DRAFT 2003 FCDMC HYDROLOGY MANUAL


 31 IO          OUTPUT CONTROL VARIABLES
                      IPRNT          3  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL         0.  HYDROGRAPH PLOT SCALE

 32 IN          TIME DATA FOR INPUT TIME SERIES
                      JXMIN         15  TIME INTERVAL IN MINUTES
                     JXDATE     1JAN90  STARTING DATE
                     JXTIME          0  STARTING TIME

    IT          HYDROGRAPH TIME DATA
                       NMIN          5  MINUTES IN COMPUTATION INTERVAL
                      IDATE     1JAN90  STARTING DATE
                      ITIME       0000  STARTING TIME
                         NQ       2000  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE     7JAN90  ENDING DATE
                     NDTIME       2235  ENDING TIME
                      ICENT         19  CENTURY MARK

                 COMPUTATION INTERVAL     .08 HOURS
                      TOTAL TIME BASE  166.58 HOURS

          ENGLISH UNITS
               DRAINAGE AREA          SQUARE MILES
               PRECIPITATION DEPTH    INCHES
               LENGTH, ELEVATION      FEET
               FLOW                   CUBIC FEET PER SECOND
               STORAGE VOLUME         ACRE-FEET
               SURFACE AREA           ACRES
               TEMPERATURE            DEGREES FAHRENHEIT

 33 JD           INDEX STORM NO. 1
                       STRM       4.10  PRECIPITATION DEPTH
                       TRDA        .01  TRANSPOSITION DRAINAGE AREA
```

```
34 PI          PRECIPITATION PATTERN
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                 .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                 .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                 .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00

44 JD          INDEX STORM NO. 2
                 STRM        3.85  PRECIPITATION DEPTH
                 TRDA       10.00  TRANSPOSITION DRAINAGE AREA

 0 PI          PRECIPITATION PATTERN
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                 .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                 .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                 .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00

45 JD          INDEX STORM NO. 3
                 STRM        3.69  PRECIPITATION DEPTH
                 TRDA       30.00  TRANSPOSITION DRAINAGE AREA

 0 PI          PRECIPITATION PATTERN
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                 .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                 .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                 .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                 .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
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                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

46 JD         INDEX STORM NO. 4
                STRM        3.53  PRECIPITATION DEPTH
                TRDA       60.00  TRANSPOSITION DRAINAGE AREA

 0 PI          PRECIPITATION PATTERN
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

47 JD         INDEX STORM NO. 5
                STRM        3.47  PRECIPITATION DEPTH
                TRDA       90.00  TRANSPOSITION DRAINAGE AREA

 0 PI          PRECIPITATION PATTERN
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .01       .00       .01
                .01       .01       .01       .01       .01       .01       .01       .01       .03       .03
                .03       .09       .09       .09       .01       .01       .01       .01       .01       .01
                .01       .01       .01       .01       .01       .01       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00       .00       .00
                .00       .00       .00       .00       .00       .00       .00       .00

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
 48 KK    *     S23L   *
          *            *
          **************
                        HYDROGRAPH FOR S23L FROM SKUNK CREEK WMP MODEL
                        FUTURE CONDITION 2-YR 24-HR HYDROGRAPH
                        NO RETENTION ASSUMED

 53 IN         TIME DATA FOR INPUT TIME SERIES
                JXMIN           5  TIME INTERVAL IN MINUTES
                JXDATE      1JAN90  STARTING DATE
                JXTIME           0  STARTING TIME
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                SUBBASIN RUNOFF DATA

  49 BA           SUBBASIN CHARACTERISTICS
                       TAREA       50.29  SUBBASIN AREA

                                                                  ***

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     S23L
                       TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5354.     14.08                2009.        596.        199.          86.
                       (INCHES)      .371        .441        .442         .442
                        (AC-FT)      996.       1182.       1186.        1186.

                        CUMULATIVE AREA =   50.29 SQ MI


      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     S23L
                       TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5354.     14.08                2009.        596.        199.          86.
                       (INCHES)      .371        .441        .442         .442
                        (AC-FT)      996.       1182.       1186.        1186.

                        CUMULATIVE AREA =   50.29 SQ MI


      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     S23L
                       TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5354.     14.08                2009.        596.        199.          86.
                       (INCHES)      .371        .441        .442         .442
                        (AC-FT)      996.       1182.       1186.        1186.

                        CUMULATIVE AREA =   50.29 SQ MI


      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     S23L
                       TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5354.     14.08                2009.        596.        199.          86.
                       (INCHES)      .371        .441        .442         .442
                        (AC-FT)      996.       1182.       1186.        1186.

                        CUMULATIVE AREA =   50.29 SQ MI


      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     S23L
                       TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5354.     14.08                2009.        596.        199.          86.
                       (INCHES)      .371        .441        .442         .442
                        (AC-FT)      996.       1182.       1186.        1186.

                        CUMULATIVE AREA =   50.29 SQ MI

      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT     S23L

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
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                          (CFS)
+    5354.     14.08                  2009.        596.        199.          86.
                        (INCHES)      .371        .441        .442         .442
                         (AC-FT)      996.       1182.       1186.        1186.

                        CUMULATIVE AREA =   50.29 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  89 KK     *      C010  *
            *            *
            **************
                                HYDROGRAPH FOR SONORAN WASH FROM SKUNK CREEK WMP
                                FUTURE CONDITION 2-YR 24-HR WITH 100-YR 2-HR RETENTION

  92 IN          TIME DATA FOR INPUT TIME SERIES
                       JXMIN           5  TIME INTERVAL IN MINUTES
                      JXDATE      1JAN90  STARTING DATE
                      JXTIME           0  STARTING TIME

               SUBBASIN RUNOFF DATA

  93 BA          SUBBASIN CHARACTERISTICS
                       TAREA       13.39  SUBBASIN AREA

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     C010
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      52.     14.92                 20.          6.          2.           1.
                        (INCHES)     .014        .017        .017         .017
                         (AC-FT)      10.         12.         12.          12.

                        CUMULATIVE AREA =   13.39 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     C010
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      52.     14.92                 20.          6.          2.           1.
                        (INCHES)     .014        .017        .017         .017
                         (AC-FT)      10.         12.         12.          12.

                        CUMULATIVE AREA =   13.39 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     C010
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      52.     14.92                 20.          6.          2.           1.
                        (INCHES)     .014        .017        .017         .017
                         (AC-FT)      10.         12.         12.          12.

                        CUMULATIVE AREA =   13.39 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     C010
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      52.     14.92                 20.          6.          2.           1.
                        (INCHES)     .014        .017        .017         .017
                         (AC-FT)      10.         12.         12.          12.

                        CUMULATIVE AREA =   13.39 SQ MI
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      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     C010
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      52.     14.92                20.          6.          2.           1.
                       (INCHES)    .014        .017        .017         .017
                        (AC-FT)     10.         12.         12.          12.

                       CUMULATIVE AREA =   13.39 SQ MI

      ***             ***             ***             ***             ***


                       INTERPOLATED HYDROGRAPH AT     C010

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      52.     14.92                20.          6.          2.           1.
                       (INCHES)    .014        .017        .017         .017
                        (AC-FT)     10.         12.         12.          12.

                       CUMULATIVE AREA =   13.39 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 131 KK     *      CAP   *
            *            *
            **************
                        COMBINE S23L+C010 (SUBAREAS S1-S23, CLINE CR, RODGER CR & UNNAMED WASH)
                        COMBINED FLOW AT CAP OVERCHUTES

 134 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE
                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      CAP
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5357.     14.08               2024.        602.        201.          87.
                       (INCHES)    .295        .352        .353         .353
                        (AC-FT)    1004.       1194.       1198.        1198.

                       CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      CAP
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5357.     14.08               2024.        602.        201.          87.
                       (INCHES)    .295        .352        .353         .353
                        (AC-FT)    1004.       1194.       1198.        1198.

                       CUMULATIVE AREA =   63.68 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION      CAP
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5357.     14.08               2024.        602.        201.          87.
                       (INCHES)    .295        .352        .353         .353
```

```
                    (AC-FT)     1004.       1194.       1198.        1198.

                    CUMULATIVE AREA =   63.68 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION      CAP
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5357.     14.08              2024.        602.        201.          87.
                        (INCHES)   .295        .352        .353         .353
                         (AC-FT)  1004.       1194.       1198.        1198.

                    CUMULATIVE AREA =   63.68 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION      CAP
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5357.     14.08              2024.        602.        201.          87.
                        (INCHES)   .295        .352        .353         .353
                         (AC-FT)  1004.       1194.       1198.        1198.

                    CUMULATIVE AREA =   63.68 SQ MI

      ***           ***           ***           ***           ***


                    INTERPOLATED HYDROGRAPH AT      CAP

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5357.     14.08              2024.        602.        201.          87.
                        (INCHES)   .295        .352        .353         .353
                         (AC-FT)  1004.       1194.       1198.        1198.

                    CUMULATIVE AREA =   63.68 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  135 KK    *     CAPR2  *
            *            *
            **************
                        ROUTE CAP OVERFLOW THROUGH S24 FROM CAP TO I-17

               HYDROGRAPH ROUTING DATA

  137 RM          MUSKINGUM ROUTING
                  NSTPS          3 NUMBER OF SUBREACHES
                  AMSKK        .23 MUSKINGUM K
                      X        .25 MUSKINGUM X

                                                          ***

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION    CAPR2
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5318.     14.33              2024.        602.        201.          87.
                        (INCHES)   .295        .352        .353         .353
                         (AC-FT)  1003.       1194.       1198.        1198.

                    CUMULATIVE AREA =   63.68 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION    CAPR2
                  TRANSPOSITION AREA     10.0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+    5318.     14.33                2024.        602.        201.          87.
                              (INCHES)      .295        .352        .353         .353
                               (AC-FT)     1003.       1194.       1198.        1198.

                              CUMULATIVE AREA =   63.68 SQ MI


      ***                 ***             ***             ***             ***

                              HYDROGRAPH AT STATION    CAPR2
                             TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+    5318.     14.33                2024.        602.        201.          87.
                              (INCHES)      .295        .352        .353         .353
                               (AC-FT)     1003.       1194.       1198.        1198.

                              CUMULATIVE AREA =   63.68 SQ MI


      ***                 ***             ***             ***             ***

                              HYDROGRAPH AT STATION    CAPR2
                             TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+    5318.     14.33                2024.        602.        201.          87.
                              (INCHES)      .295        .352        .353         .353
                               (AC-FT)     1003.       1194.       1198.        1198.

                              CUMULATIVE AREA =   63.68 SQ MI


      ***                 ***             ***             ***             ***

                              HYDROGRAPH AT STATION    CAPR2
                             TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+    5318.     14.33                2024.        602.        201.          87.
                              (INCHES)      .295        .352        .353         .353
                               (AC-FT)     1003.       1194.       1198.        1198.

                              CUMULATIVE AREA =   63.68 SQ MI


      ***                 ***             ***             ***             ***


                              INTERPOLATED HYDROGRAPH AT    CAPR2

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+    5318.     14.33                2024.        602.        201.          87.
                              (INCHES)      .295        .352        .353         .353
                               (AC-FT)     1003.       1194.       1198.        1198.

                              CUMULATIVE AREA =   63.68 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 138 KK     *       S24  *
            *            *
            **************
                      Sub-Basin    S24

                 The Phoenix Valley S-Graph is used for this basin.
                     Lag Used =  16.0 minutes


            SUBBASIN RUNOFF DATA

 144 BA          SUBBASIN CHARACTERISTICS
                       TAREA          .65  SUBBASIN AREA
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                    SNAP          .00  NORMAL ANNUAL PRECIPITATION
                   RATIO          .10  RATIO OF HYDROGRAPH

145 LG          GREEN AND AMPT LOSS RATE
                   STRTL          .21  STARTING LOSS
                     DTH          .22  MOISTURE DEFICIT
                    PSIF         7.60  WETTING FRONT SUCTION
                   XKSAT          .10  HYDRAULIC CONDUCTIVITY
                   RTIMP        28.60  PERCENT IMPERVIOUS AREA

139 UI          INPUT UNITGRAPH,   9 ORDINATES,  VOLUME = 1.00
                    224.0     711.0    1243.0    1380.0     824.0     376.0     174.0      56.0      42.0

                                                                          ***

      ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION      S24
                   TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.72, TOTAL EXCESS =    2.38

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1389.     12.08                 142.         42.         14.          6.
                        (INCHES)    2.028       2.366       2.367        2.367
                         (AC-FT)     71.         82.         82.          82.

                       CUMULATIVE AREA =     .65 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION      S24
                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     139.     12.08                  14.          4.          1.          1.
                        (INCHES)     .203        .237        .237        .237
                         (AC-FT)      7.          8.          8.          8.

                       CUMULATIVE AREA =     .65 SQ MI

      ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION      S24
                   TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.66, TOTAL EXCESS =    2.20

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1299.     12.08                 131.         38.         13.          6.
                        (INCHES)    1.869       2.187       2.188        2.188
                         (AC-FT)     65.         76.         76.          76.

                       CUMULATIVE AREA =     .65 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION      S24
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     130.     12.08                  13.          4.          1.          1.
                        (INCHES)     .187        .219        .219        .219
                         (AC-FT)      7.          8.          8.          8.

                       CUMULATIVE AREA =     .65 SQ MI

      ***             ***             ***             ***             ***

                      HYDROGRAPH AT STATION      S24
                   TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.61, TOTAL EXCESS =    2.08

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
```

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                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    1238.      12.08                 124.          36.          12.           5.
                                (INCHES)      1.767        2.072        2.073        2.073
                                 (AC-FT)       61.          72.          72.          72.

                                CUMULATIVE AREA =     .65 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY    .10

      ***             ***             ***             ***             ***

                                HYDROGRAPH AT STATION      S24
                               TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     124.      12.08                  12.           4.           1.           1.
                                (INCHES)      .177         .207         .207         .207
                                 (AC-FT)        6.           7.           7.           7.

                                CUMULATIVE AREA =     .65 SQ MI


      ***             ***             ***             ***             ***

                                HYDROGRAPH AT STATION      S24
                               TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.56, TOTAL EXCESS =    1.97

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    1176.      12.08                 117.          34.          11.           5.
                                (INCHES)      1.665        1.956        1.957        1.957
                                 (AC-FT)       58.          68.          68.          68.

                                CUMULATIVE AREA =     .65 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY    .10

      ***             ***             ***             ***             ***

                                HYDROGRAPH AT STATION      S24
                               TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     118.      12.08                  12.           3.           1.           0.
                                (INCHES)      .166         .196         .196         .196
                                 (AC-FT)        6.           7.           7.           7.

                                CUMULATIVE AREA =     .65 SQ MI


      ***             ***             ***             ***             ***

                                HYDROGRAPH AT STATION      S24
                               TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.54, TOTAL EXCESS =    1.93

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    1155.      12.08                 114.          34.          11.           5.
                                (INCHES)      1.629        1.916        1.917        1.917
                                 (AC-FT)       57.          67.          67.          67.

                                CUMULATIVE AREA =     .65 SQ MI


                                                    HYDROGRAPH MULTIPLIED BY    .10

      ***             ***             ***             ***             ***

                                HYDROGRAPH AT STATION      S24
                               TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     116.      12.08                  11.           3.           1.           0.
                                (INCHES)      .163         .192         .192         .192
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                    (AC-FT)        6.          7.          7.          7.

                    CUMULATIVE AREA =     .65 SQ MI

      ***           ***           ***           ***           ***


                    INTERPOLATED HYDROGRAPH AT      S24

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     133.     12.08                14.          4.          1.          1.
                        (INCHES)    .193        .226        .226        .226
                         (AC-FT)      7.          8.          8.          8.

                    CUMULATIVE AREA =     .65 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  148 KK    *      S24C  *
            *            *
            **************
                    COMBINE ROUTED FLOWS FROM CAP WITH RUNOFF FROM S24 AT I-17

  150 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION     S24C
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5320.     14.33               2037.        606.        203.         88.
                        (INCHES)    .294        .350        .352        .352
                         (AC-FT)   1010.       1202.       1207.       1207.

                    CUMULATIVE AREA =   64.33 SQ MI

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION     S24C
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5320.     14.33               2036.        606.        203.         88.
                        (INCHES)    .294        .350        .352        .352
                         (AC-FT)   1010.       1202.       1206.       1206.

                    CUMULATIVE AREA =   64.33 SQ MI

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION     S24C
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5320.     14.33               2036.        606.        203.         88.
                        (INCHES)    .294        .350        .351        .351
                         (AC-FT)   1009.       1201.       1206.       1206.

                    CUMULATIVE AREA =   64.33 SQ MI

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION     S24C
                    TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
```

```
+    5320.     14.33                 2035.        605.        203.          88.
                          (INCHES)    .294        .350        .351         .351
                           (AC-FT)   1009.       1201.       1205.        1205.

                          CUMULATIVE AREA =   64.33 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     S24C
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    5320.     14.33                 2035.        605.        203.          88.
                          (INCHES)    .294        .350        .351         .351
                           (AC-FT)   1009.       1201.       1205.        1205.

                          CUMULATIVE AREA =   64.33 SQ MI

      ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT     S24C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                   6-HR        24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    5320.     14.33                 2035.        605.        203.          88.
                          (INCHES)    .294        .350        .351         .351
                           (AC-FT)   1009.       1201.       1205.        1205.

                          CUMULATIVE AREA =   64.33 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 151 KK     *    S24LS1  *        ROUTE   REACH
            *            *
            **************
                          ROUTE COMBINED FLOWS FROM I-17 TO CONFLUENCE WITH BUCHANAN WASH
                          IN SKUNK CREEK

              HYDROGRAPH ROUTING DATA

 154 RS         STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC       -1.00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 155 RC         NORMAL DEPTH CHANNEL
                        ANL        .035  LEFT OVERBANK N-VALUE
                       ANCH        .035  MAIN CHANNEL N-VALUE
                        ANR        .035  RIGHT OVERBANK N-VALUE
                      RLNTH       3394.  REACH LENGTH
                        SEL      .0053  ENERGY SLOPE
                      ELMAX       15.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 157 RY       ELEVATION     15.00     15.00     15.00       .00       .00     15.00     15.00     15.00
 156 RX       DISTANCE        .00      8.00     15.00     50.00    320.00    355.00    362.00    370.00

                                                   ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00     16.72     33.67     50.84     68.25     85.87    103.73    121.81    140.12    158.65
          OUTFLOW        .00    565.16   1797.10   3538.08   5724.48   8317.93  11291.97  14627.04  18307.96  22322.63
        ELEVATION        .00       .79      1.58      2.37      3.16      3.95      4.74      5.53      6.32      7.11

          STORAGE     177.41    196.40    215.62    235.06    254.73    274.62    294.74    315.09    335.66    356.46
          OUTFLOW   26661.13  31315.26  36278.10  41543.79  47107.33  52964.40  59111.29  65544.80  72262.11  79260.82
        ELEVATION       7.89      8.68      9.47     10.26     11.05     11.84     12.63     13.42     14.21     15.00


*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN    47107. TO    79261.
                THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   S24LS1
                        TRANSPOSITION AREA       .0 SQ MI
```

```
  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+    5283.      14.42               2035.         606.         203.           88.
                              (INCHES)      .294        .350        .352         .352
                               (AC-FT)     1009.       1202.       1207.        1207.

 PEAK STORAGE    TIME                         MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)       (HR)
       65.      14.42                 32.          11.           4.            2.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR     166.58-HR
+   (FEET)       (HR)
      3.00      14.42                1.51          .51          .17           .07

                              CUMULATIVE AREA =   64.33 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   S24LS1
                        TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+    5283.      14.42               2034.         606.         203.           88.
                              (INCHES)      .294        .350        .352         .352
                               (AC-FT)     1008.       1201.       1206.        1206.

 PEAK STORAGE    TIME                         MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)       (HR)
       65.      14.42                 32.          11.           4.            2.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR     166.58-HR
+   (FEET)       (HR)
      3.00      14.42                1.51          .51          .17           .07

                              CUMULATIVE AREA =   64.33 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   S24LS1
                        TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+    5283.      14.42               2033.         605.         203.           88.
                              (INCHES)      .294        .350        .351         .351
                               (AC-FT)     1008.       1201.       1206.        1206.

 PEAK STORAGE    TIME                         MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)       (HR)
       65.      14.42                 32.          11.           4.            2.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR     166.58-HR
+   (FEET)       (HR)
      3.00      14.42                1.51          .51          .17           .07

                              CUMULATIVE AREA =   64.33 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   S24LS1
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                    (CFS)
+    5283.      14.42               2032.         605.         203.           88.
                              (INCHES)      .294        .350        .351         .351
                               (AC-FT)     1008.       1200.       1205.        1205.

 PEAK STORAGE    TIME                         MAXIMUM AVERAGE STORAGE
                                      6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)       (HR)
       65.      14.42                 32.          11.           4.            2.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR        24-HR        72-HR     166.58-HR
+   (FEET)       (HR)
      3.00      14.42                1.51          .51          .17           .07
```

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                    CUMULATIVE AREA =   64.33 SQ MI

      ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   S24LS1
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5283.     14.42                2032.        605.        203.         88.
                        (INCHES)    .294        .350        .351        .351
                         (AC-FT)   1008.       1200.       1205.       1205.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       65.     14.42                  32.         11.          4.          2.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      3.00     14.42                1.51         .51         .17         .07

                    CUMULATIVE AREA =   64.33 SQ MI

      ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT   S24LS1

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5283.     14.42                2032.        605.        203.         88.
                        (INCHES)    .294        .350        .351        .351
                         (AC-FT)   1008.       1200.       1205.       1205.

                    CUMULATIVE AREA =   64.33 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  158 KK    *    RRB22C  *
            *            *
            **************
                      INFLOWS FROM BUCHANAN WASH UNDER CAP
                        FROM BF224F.DAT

  161 IN          TIME DATA FOR INPUT TIME SERIES
                       JXMIN          5  TIME INTERVAL IN MINUTES
                      JXDATE      1JAN90  STARTING DATE
                      JXTIME          0  STARTING TIME

               SUBBASIN RUNOFF DATA

  162 BA          SUBBASIN CHARACTERISTICS
                       TAREA       9.62  SUBBASIN AREA

                                                                ***

      ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   RRB22C
                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                   0.          0.          0.          0.
                        (INCHES)   .000        .000        .000        .000
                         (AC-FT)      0.          0.          0.          0.

                    CUMULATIVE AREA =    9.62 SQ MI

      ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION   RRB22C
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

```
                                (CFS)
+       0.        .00                    0.          0.          0.          0.
                            (INCHES)    .000        .000        .000        .000
                             (AC-FT)      0.          0.          0.          0.

                            CUMULATIVE AREA =    9.62 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   RRB22C
                        TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                (CFS)
+       0.        .00                    0.          0.          0.          0.
                            (INCHES)    .000        .000        .000        .000
                             (AC-FT)      0.          0.          0.          0.

                            CUMULATIVE AREA =    9.62 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   RRB22C
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                (CFS)
+       0.        .00                    0.          0.          0.          0.
                            (INCHES)    .000        .000        .000        .000
                             (AC-FT)      0.          0.          0.          0.

                            CUMULATIVE AREA =    9.62 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   RRB22C
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                (CFS)
+       0.        .00                    0.          0.          0.          0.
                            (INCHES)    .000        .000        .000        .000
                             (AC-FT)      0.          0.          0.          0.

                            CUMULATIVE AREA =    9.62 SQ MI

      ***             ***             ***             ***             ***


                            INTERPOLATED HYDROGRAPH AT   RRB22C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                (CFS)
+       0.        .00                    0.          0.          0.          0.
                            (INCHES)    .000        .000        .000        .000
                             (AC-FT)      0.          0.          0.          0.

                            CUMULATIVE AREA =    9.62 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  164 KK    *    B22LS1  *        ROUTE   REACH
            *            *
            **************
                              ROUTE IMPORTED FLOWS FROM CAP TO SKUNK CREEK IN BUCHANAN WASH

              HYDROGRAPH ROUTING DATA

  166 RS          STORAGE ROUTING
                        NSTPS           5  NUMBER OF SUBREACHES
                         ITYP        STOR  TYPE OF INITIAL CONDITION
                        RSVRIC       -1.00  INITIAL CONDITION
                             X         .00 WORKING R AND D COEFFICIENT

  167 RC          NORMAL DEPTH CHANNEL
                          ANL        .055  LEFT OVERBANK N-VALUE
                         ANCH        .040  MAIN CHANNEL N-VALUE
```

```
                    ANR        .055  RIGHT OVERBANK N-VALUE
                  RLNTH      10208.  REACH LENGTH
                    SEL      .0040  ENERGY SLOPE
                  ELMAX        7.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                        --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 169 RY     ELEVATION     7.00      6.00      5.00       .00       .00      5.00      6.00      7.00
 168 RX     DISTANCE       .00    100.00    200.00    210.00    225.00    235.00    285.00    335.00

                                                        ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE       .00      1.36      2.84      4.46      6.20      8.07     10.06     12.18     14.43     16.81
          OUTFLOW       .00      6.76     21.75     43.42     71.34    105.36    145.48    191.77    244.33    303.29
        ELEVATION       .00       .37       .74      1.11      1.47      1.84      2.21      2.58      2.95      3.32

          STORAGE     19.31     21.94     24.70     27.59     31.03     38.48     50.70     67.70     89.46    116.00
          OUTFLOW    368.81    441.04    520.14    606.30    708.61    843.01   1016.38   1242.18   1531.99   1896.29
        ELEVATION      3.68      4.05      4.42      4.79      5.16      5.53      5.89      6.26      6.63      7.00

     ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   B22LS1
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                0.          0.          0.           0.
                        (INCHES)   .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.       .00                0.          0.          0.           0.

                     CUMULATIVE AREA =    9.62 SQ MI

     ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   B22LS1
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                0.          0.          0.           0.
                        (INCHES)   .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.       .00                0.          0.          0.           0.

                     CUMULATIVE AREA =    9.62 SQ MI

     ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   B22LS1
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                0.          0.          0.           0.
                        (INCHES)   .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

 PEAK STORAGE   TIME                       MAXIMUM AVERAGE STORAGE
                                   6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.       .00                0.          0.          0.           0.

                     CUMULATIVE AREA =    9.62 SQ MI

     ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   B22LS1
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
```

```
+       0.       .00                    0.          0.          0.          0.
                         (INCHES)     .000        .000        .000        .000
                          (AC-FT)       0.          0.          0.          0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)       (HR)
       0.        .00                    0.          0.          0.          0.

                          CUMULATIVE AREA =    9.62 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   B22LS1
                         TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.        .00                    0.          0.          0.          0.
                         (INCHES)     .000        .000        .000        .000
                          (AC-FT)       0.          0.          0.          0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)       (HR)
       0.        .00                    0.          0.          0.          0.

                          CUMULATIVE AREA =    9.62 SQ MI

    -----DSS---ZOPEN:  Existing File Opened,  File: LS224F.DSS
                       Unit:  71;  DSS Version: 6-JG
 -----DSS---ZWRITE Unit  71; Vers.    4:  //B22LS1/FLOW/31DEC1989/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //B22LS1/FLOW/01JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //B22LS1/FLOW/02JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //B22LS1/FLOW/03JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //B22LS1/FLOW/04JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //B22LS1/FLOW/05JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //B22LS1/FLOW/06JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //B22LS1/FLOW/07JAN1990/5MIN//
      ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT   B22LS1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.        .00                    0.          0.          0.          0.
                         (INCHES)     .000        .000        .000        .000
                          (AC-FT)       0.          0.          0.          0.

                          CUMULATIVE AREA =    9.62 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  171 KK    *     LS-1   *        BASIN
            *            *
            **************

               SUBBASIN RUNOFF DATA

  172 BA          SUBBASIN CHARACTERISTICS
                        TAREA        2.47  SUBBASIN AREA
                         SNAP         .00  NORMAL ANNUAL PRECIPITATION
                        RATIO         .10  RATIO OF HYDROGRAPH

  173 LG          GREEN AND AMPT LOSS RATE
                        STRTL         .24  STARTING LOSS
                          DTH         .19  MOISTURE DEFICIT
                         PSIF        6.60  WETTING FRONT SUCTION
                        XKSAT         .15  HYDRAULIC CONDUCTIVITY
                        RTIMP       15.00  PERCENT IMPERVIOUS AREA

  174 UC          CLARK UNITGRAPH
                           TC         .53  TIME OF CONCENTRATION
                            R         .27  STORAGE COEFFICIENT

  175 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                         .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                      100.0
                                                                  ***

                                                   UNIT HYDROGRAPH PARAMETERS
```

```
                                        CLARK   TC=   .53 HR,       R=   .27 HR
                                       SNYDER   TP=   .31 HR,      CP=   .60

                                                UNIT HYDROGRAPH
                                          20 END-OF-PERIOD ORDINATES
          290.    1114.    2411.    3058.    2746.    2333.    1875.    1416.    1037.     760.
          557.     408.     299.     219.     160.     117.      86.      63.      46.      34.

    ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-1
                  TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.16, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3647.     12.17                466.        128.         43.          18.
                        (INCHES)    1.755       1.932       1.933        1.933
                         (AC-FT)    231.        254.        255.         255.

                        CUMULATIVE AREA =    2.47 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

    ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-1
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     365.     12.17                 47.         13.          4.           2.
                        (INCHES)     .176        .193        .193         .193
                         (AC-FT)     23.         25.         25.          25.

                        CUMULATIVE AREA =    2.47 SQ MI

    ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-1
                  TRANSPOSITION AREA     10.0 SQ MI

   TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.07, TOTAL EXCESS =    1.79

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3388.     12.17                428.        118.         39.          17.
                        (INCHES)    1.611       1.777       1.778        1.778
                         (AC-FT)    212.        234.        234.         234.

                        CUMULATIVE AREA =    2.47 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

    ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-1
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     339.     12.17                 43.         12.          4.           2.
                        (INCHES)     .161        .178        .178         .178
                         (AC-FT)     21.         23.         23.          23.

                        CUMULATIVE AREA =    2.47 SQ MI

    ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-1
                  TRANSPOSITION AREA     30.0 SQ MI

   TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.00, TOTAL EXCESS =    1.69

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3216.     12.17                403.        111.         37.          16.
                        (INCHES)    1.517       1.677       1.678        1.678
                         (AC-FT)    200.        221.        221.         221.
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                    CUMULATIVE AREA =    2.47 SQ MI

                                                    HYDROGRAPH MULTIPLIED BY    .10

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-1
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     322.      12.17                40.         11.          4.           2.
                        (INCHES)    .152        .168        .168         .168
                         (AC-FT)     20.         22.         22.          22.

                    CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-1
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.94, TOTAL EXCESS =    1.59

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    3045.      12.17               378.        105.         35.          15.
                        (INCHES)   1.425       1.578       1.579        1.579
                         (AC-FT)    188.        208.        208.         208.

                    CUMULATIVE AREA =    2.47 SQ MI

                                                    HYDROGRAPH MULTIPLIED BY    .10

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-1
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     304.      12.17                38.         10.          3.           2.
                        (INCHES)    .143        .158        .158         .158
                         (AC-FT)     19.         21.         21.          21.

                    CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-1
                  TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.92, TOTAL EXCESS =    1.55

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    2985.      12.17               370.        102.         34.          15.
                        (INCHES)   1.393       1.543       1.544        1.544
                         (AC-FT)    183.        203.        203.         203.

                    CUMULATIVE AREA =    2.47 SQ MI

                                                    HYDROGRAPH MULTIPLIED BY    .10

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-1
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     298.      12.17                37.         10.          3.           1.
                        (INCHES)    .139        .154        .154         .154
                         (AC-FT)     18.         20.         20.          20.

                    CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***
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                    INTERPOLATED HYDROGRAPH AT     LS-1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     344.     12.17                44.         12.          4.           2.
                        (INCHES)   .164        .181        .181         .181
                         (AC-FT)    22.         24.         24.          24.

                        CUMULATIVE AREA =    2.47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  177 KK    *    RETLS1  *
            *            *
            **************
                         DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                          - 232 AC DEVELOPMENT WITH RETENTION
                          - C FACTOR = 0.63
                          - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                      ISTAD       R1OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       32.40  MAXIMUM VOLUME TO BE DIVERTED

     DI            INFLOW         .00  10000.00

     DQ      DIVERTED FLOW        .00  10000.00

                                                                  ***

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH    R1OUT
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     365.     12.17                47.         13.          4.           2.
                        (INCHES)   .176        .193        .193         .193
                         (AC-FT)    23.         25.         25.          25.

                        CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   RETLS1
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                 0.          0.          0.           0.
                        (INCHES)   .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

                        CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH    R1OUT
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     339.     12.17                43.         12.          4.           2.
                        (INCHES)   .161        .178        .178         .178
                         (AC-FT)    21.         23.         23.          23.

                        CUMULATIVE AREA =    2.47 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   RETLS1
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

```
                                  (CFS)
+       0.        .00                     0.          0.          0.          0.
                                (INCHES)       .000        .000        .000        .000
                                 (AC-FT)        0.          0.          0.          0.

                                CUMULATIVE AREA =    2.47 SQ MI

      ***             ***             ***             ***             ***

                                DIVERSION HYDROGRAPH    R1OUT
                              TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     322.      12.17                    40.         11.          4.           2.
                                (INCHES)       .152        .168        .168        .168
                                 (AC-FT)        20.         22.         22.         22.

                                CUMULATIVE AREA =    2.47 SQ MI

      ***             ***             ***             ***             ***

                                HYDROGRAPH AT STATION   RETLS1
                              TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+       0.        .00                     0.          0.          0.          0.
                                (INCHES)       .000        .000        .000        .000
                                 (AC-FT)         0.          0.          0.          0.

                                CUMULATIVE AREA =    2.47 SQ MI

      ***             ***             ***             ***             ***

                                DIVERSION HYDROGRAPH    R1OUT
                              TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     304.      12.17                    38.         10.          3.           2.
                                (INCHES)       .143        .158        .158        .158
                                 (AC-FT)        19.         21.         21.         21.

                                CUMULATIVE AREA =    2.47 SQ MI

      ***             ***             ***             ***             ***

                                HYDROGRAPH AT STATION   RETLS1
                              TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+       0.        .00                     0.          0.          0.          0.
                                (INCHES)       .000        .000        .000        .000
                                 (AC-FT)         0.          0.          0.          0.

                                CUMULATIVE AREA =    2.47 SQ MI

      ***             ***             ***             ***             ***

                                DIVERSION HYDROGRAPH    R1OUT
                              TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     298.      12.17                    37.         10.          3.           1.
                                (INCHES)       .139        .154        .154        .154
                                 (AC-FT)        18.         20.         20.         20.

                                CUMULATIVE AREA =    2.47 SQ MI

      ***             ***             ***             ***             ***

                                HYDROGRAPH AT STATION   RETLS1
                              TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR       72-HR    166.58-HR
```

```
+   (CFS)        (HR)
                          (CFS)
+       0.        .00                  0.          0.          0.          0.
                        (INCHES)      .000        .000        .000        .000
                         (AC-FT)       0.          0.          0.          0.

                        CUMULATIVE AREA =    2.47 SQ MI

      ***             ***             ***             ***             ***


                    INTERPOLATED DIVERSION HYDROGRAPH AT    R1OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     344.     12.17                 44.         12.          4.          2.
                        (INCHES)      .164        .181        .181        .181
                         (AC-FT)      22.         24.         24.         24.

                        CUMULATIVE AREA =    2.47 SQ MI

      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT   RETLS1

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+       0.        .00                  0.          0.          0.          0.
                        (INCHES)      .000        .000        .000        .000
                         (AC-FT)       0.          0.          0.          0.

                        CUMULATIVE AREA =    2.47 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 185 KK     *     LS1CR  *
            *            *
            **************
                          COMBINE RUNOFF FROM LS-1 WITH ROUTED FLOWS FROM BUCHANAN WASH AT CAP
                          THIS IS THE TOTAL FLOW IN BUCHANAN WASH JUST U/S OF SKUNK CREEK

 188 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS1CR
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+       0.        .00                  0.          0.          0.          0.
                        (INCHES)      .000        .000        .000        .000
                         (AC-FT)       0.          0.          0.          0.

                        CUMULATIVE AREA =   12.09 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS1CR
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+       0.        .00                  0.          0.          0.          0.
                        (INCHES)      .000        .000        .000        .000
                         (AC-FT)       0.          0.          0.          0.

                        CUMULATIVE AREA =   12.09 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS1CR
                      TRANSPOSITION AREA     30.0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                        CUMULATIVE AREA =   12.09 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS1CR
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                        CUMULATIVE AREA =   12.09 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS1CR
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                        CUMULATIVE AREA =   12.09 SQ MI

      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT    LS1CR

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                        CUMULATIVE AREA =   12.09 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  189 KK    *      LS1C  *
            *            *
            **************
                        COMBINE BUCHANAN WASH WITH ROUTED FLOWS IN SKUNK CREEK FROM I-17.

  191 HC          HYDROGRAPH COMBINATION
                      ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS1C
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5283.     14.42                2035.        606.        203.          88.
                        (INCHES)    .248        .295        .296         .296
                         (AC-FT)    1009.       1202.       1207.        1207.

                        CUMULATIVE AREA =   76.42 SQ MI

      ***             ***             ***             ***             ***
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                    HYDROGRAPH AT STATION     LS1C
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    5283.     14.42                2034.        606.        203.          88.
                       (INCHES)      .247        .295        .296         .296
                        (AC-FT)     1008.       1201.       1206.        1206.

                       CUMULATIVE AREA =   76.42 SQ MI


      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS1C
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    5283.     14.42                2033.        605.        203.          88.
                       (INCHES)      .247        .295        .296         .296
                        (AC-FT)     1008.       1201.       1206.        1206.

                       CUMULATIVE AREA =   76.42 SQ MI


      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS1C
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    5283.     14.42                2032.        605.        203.          88.
                       (INCHES)      .247        .294        .296         .296
                        (AC-FT)     1008.       1200.       1205.        1205.

                       CUMULATIVE AREA =   76.42 SQ MI


      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS1C
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    5283.     14.42                2032.        605.        203.          88.
                       (INCHES)      .247        .294        .296         .296
                        (AC-FT)     1008.       1200.       1205.        1205.

                       CUMULATIVE AREA =   76.42 SQ MI

      ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS1C

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    5283.     14.42                2032.        605.        203.          88.
                       (INCHES)      .247        .294        .296         .296
                        (AC-FT)     1008.       1200.       1205.        1205.

                       CUMULATIVE AREA =   76.42 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 192 KK     *    LS1LS2  *        ROUTE   REACH
            *            *
            **************
                          ROUTE COMBINED FLOWS FROM CONFLUENCE OF BUCHANAN AND SKUNK TO
                          PINNACLE PEAK ROAD

              HYDROGRAPH ROUTING DATA

 195 RS          STORAGE ROUTING
                      NSTPS           3  NUMBER OF SUBREACHES
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                    ITYP        STOR  TYPE OF INITIAL CONDITION
                  RSVRIC       -1.00  INITIAL CONDITION
                       X         .00 WORKING R AND D COEFFICIENT

 196 RC          NORMAL DEPTH CHANNEL
                     ANL        .035  LEFT OVERBANK N-VALUE
                    ANCH        .035  MAIN CHANNEL N-VALUE
                     ANR        .035  RIGHT OVERBANK N-VALUE
                   RLNTH       9552.  REACH LENGTH
                     SEL       .0063  ENERGY SLOPE
                   ELMAX        15.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                          CROSS-SECTION DATA
                            --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 198 RY        ELEVATION     15.00     15.00     15.00       .00       .00     15.00     15.00     15.00
 197 RX        DISTANCE        .00      8.00     15.00     50.00    320.00    355.00    362.00    370.00

                                                                  ***

                                          COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00     47.06     94.76    143.10    192.07    241.68    291.93    342.82    394.35    446.51
          OUTFLOW        .00    616.17   1959.31   3857.45   6241.21   9068.75  12311.25  15947.36  19960.54  24337.59
        ELEVATION        .00       .79      1.58      2.37      3.16      3.95      4.74      5.53      6.32      7.11

          STORAGE     499.31    552.75    606.83    661.54    716.89    772.88    829.51    886.78    944.68   1003.22
          OUTFLOW   29067.71  34141.95  39552.77  45293.77  51359.50  57745.27  64447.01  71461.24  78784.90  86415.35
        ELEVATION       7.89      8.68      9.47     10.26     11.05     11.84     12.63     13.42     14.21     15.00

 *** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN    34142. TO    86415.
                 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
                 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   LS1LS2
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    5201.     14.67                2026.        605.        203.          88.
                         (INCHES)    .247        .295        .296         .296
                          (AC-FT)   1005.       1201.       1207.        1207.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       57.     14.67                  29.         10.          3.           1.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      2.81     14.67                 1.44         .49         .16          .07

                       CUMULATIVE AREA =   76.42 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   LS1LS2
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    5201.     14.67                2025.        605.        203.          88.
                         (INCHES)    .246        .294        .296         .296
                          (AC-FT)   1004.       1200.       1206.        1206.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       57.     14.67                  29.         10.          3.           1.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      2.81     14.67                 1.44         .49         .16          .07

                       CUMULATIVE AREA =   76.42 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   LS1LS2
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
```

```
+    5201.     14.67                  2025.        605.        203.          88.
                          (INCHES)     .246        .294        .296         .296
                           (AC-FT)    1004.       1200.       1206.        1206.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       57.     14.67                    29.         10.          3.           1.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      2.81     14.67                   1.44         .49         .16          .07

                           CUMULATIVE AREA =   76.42 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   LS1LS2
                         TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    5201.     14.67                  2024.        605.        203.          88.
                          (INCHES)     .246        .294        .296         .296
                           (AC-FT)    1004.       1199.       1205.        1205.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       57.     14.67                    29.         10.          3.           1.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      2.81     14.67                   1.44         .49         .16          .07

                           CUMULATIVE AREA =   76.42 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   LS1LS2
                         TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    5201.     14.67                  2024.        605.        203.          88.
                          (INCHES)     .246        .294        .296         .296
                           (AC-FT)    1004.       1199.       1205.        1205.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       57.     14.67                    29.         10.          3.           1.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      2.81     14.67                   1.44         .49         .16          .07

                           CUMULATIVE AREA =   76.42 SQ MI


      ***             ***             ***             ***             ***


                           INTERPOLATED HYDROGRAPH AT   LS1LS2

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    5201.     14.67                  2024.        605.        203.          88.
                          (INCHES)     .246        .294        .296         .296
                           (AC-FT)    1004.       1199.       1205.        1205.

                           CUMULATIVE AREA =   76.42 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 199 KK     *     LS-2   *        BASIN
            *            *
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                SUBBASIN RUNOFF DATA

 200 BA          SUBBASIN CHARACTERISTICS
                       TAREA          .94  SUBBASIN AREA
                        SNAP          .00  NORMAL ANNUAL PRECIPITATION
                       RATIO          .10  RATIO OF HYDROGRAPH

 201 LG          GREEN AND AMPT LOSS RATE
                       STRTL          .19  STARTING LOSS
                         DTH          .25  MOISTURE DEFICIT
                        PSIF         4.80  WETTING FRONT SUCTION
                       XKSAT          .30  HYDRAULIC CONDUCTIVITY
                       RTIMP        20.00  PERCENT IMPERVIOUS AREA

 202 UC          CLARK UNITGRAPH
                          TC          .87  TIME OF CONCENTRATION
                           R          .66  STORAGE COEFFICIENT

 203 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0
                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=   .87 HR,       R=   .66 HR
                                           SNYDER   TP=   .50 HR,      CP=   .44

                                                      UNIT HYDROGRAPH
                                                 47 END-OF-PERIOD ORDINATES
                21.       83.      175.      344.      504.      545.      540.      521.      493.      461.
               424.      380.      335.      295.      260.      229.      202.      178.      157.      139.
               122.      108.       95.       84.       74.       65.       57.       51.       45.       39.
                35.       31.       27.       24.       21.       18.       16.       14.       13.       11.
                10.        9.        8.        7.        6.        5.        5.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-2
                      TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.25, TOTAL EXCESS =    1.85

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     719.     12.42                163.         47.         16.          7.
                        (INCHES)    1.600       1.836       1.840       1.840
                         (AC-FT)     81.         93.         93.         93.

                        CUMULATIVE AREA =     .94 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-2
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      72.     12.42                 16.          5.          2.          1.
                        (INCHES)     .160        .184        .184        .184
                         (AC-FT)      8.          9.          9.          9.

                        CUMULATIVE AREA =     .94 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-2
                      TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.15, TOTAL EXCESS =    1.71

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     661.     12.42                150.         43.         14.          6.
                        (INCHES)    1.472       1.694       1.698       1.698
                         (AC-FT)     74.         85.         86.         86.

                        CUMULATIVE AREA =     .94 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY   .10

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                    HYDROGRAPH AT STATION     LS-2
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     66.      12.42                15.          4.          1.           1.
                        (INCHES)    .147        .169        .170         .170
                         (AC-FT)      7.          9.          9.           9.

                        CUMULATIVE AREA =     .94 SQ MI


      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-2
                  TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.08, TOTAL EXCESS =    1.61

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    623.      12.42               141.         41.         14.           6.
                        (INCHES)   1.386      1.599       1.603        1.603
                         (AC-FT)     70.         81.         81.          81.

                        CUMULATIVE AREA =     .94 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-2
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     62.      12.42                14.          4.          1.           1.
                        (INCHES)    .139        .160        .160         .160
                         (AC-FT)      7.          8.          8.           8.

                        CUMULATIVE AREA =     .94 SQ MI


      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-2
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.01, TOTAL EXCESS =    1.51

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    584.      12.42               132.         38.         13.           6.
                        (INCHES)   1.300      1.503       1.507        1.507
                         (AC-FT)     66.         76.         76.          76.

                        CUMULATIVE AREA =     .94 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-2
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     58.      12.42                13.          4.          1.           1.
                        (INCHES)    .130        .150        .151         .151
                         (AC-FT)      7.          8.          8.           8.

                        CUMULATIVE AREA =     .94 SQ MI


      ***             ***            ***            ***            ***

                    HYDROGRAPH AT STATION     LS-2
                  TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.99, TOTAL EXCESS =    1.48

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
```

```
+   (CFS)        (HR)
                                (CFS)
+     570.      12.42                  129.          37.          12.           5.
                            (INCHES)   1.270       1.470        1.473         1.473
                             (AC-FT)     64.          74.          74.           74.

                            CUMULATIVE AREA =     .94 SQ MI


                                                        HYDROGRAPH MULTIPLIED BY    .10

      ***             ***             ***             ***             ***

                              HYDROGRAPH AT STATION     LS-2
                            TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+      57.      12.42                   13.           4.           1.            1.
                            (INCHES)    .127        .147         .147          .147
                             (AC-FT)     6.           7.           7.            7.

                            CUMULATIVE AREA =     .94 SQ MI

      ***             ***             ***             ***             ***


                            INTERPOLATED HYDROGRAPH AT     LS-2

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+      68.      12.42                   15.           4.           1.            1.
                            (INCHES)    .152        .174         .175          .175
                             (AC-FT)     8.           9.           9.            9.

                            CUMULATIVE AREA =     .94 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


              **************
              *            *
  205 KK      *    RETLS2  *
              *            *
              **************
                                DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                                 - 78 AC DEVELOPMENT WITH RETENTION
                                 - C FACTOR = 0.63
                                 - 100-YR 2-HR RAIN = 2.66"

      DT           DIVERSION
                        ISTAD       R2OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                       DSTRMX       10.90  MAXIMUM VOLUME TO BE DIVERTED

      DI              INFLOW         .00  10000.00

      DQ       DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***             ***             ***             ***             ***

                              DIVERSION HYDROGRAPH    R2OUT
                            TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+      72.      12.42                   16.           5.           2.            1.
                            (INCHES)    .160        .184         .184          .184
                             (AC-FT)     8.           9.           9.            9.

                            CUMULATIVE AREA =     .94 SQ MI


      ***             ***             ***             ***             ***

                              HYDROGRAPH AT STATION   RETLS2
                            TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+       0.        .00                    0.           0.           0.            0.
                            (INCHES)    .000        .000         .000          .000
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                    (AC-FT)        0.          0.          0.          0.

                    CUMULATIVE AREA =     .94 SQ MI

      ***           ***           ***           ***           ***

                     DIVERSION HYDROGRAPH    R2OUT
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+      66.      12.42                15.          4.          1.          1.
                   (INCHES)       .147        .169        .170        .170
                    (AC-FT)         7.          9.          9.          9.

                    CUMULATIVE AREA =     .94 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION   RETLS2
                   TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+       0.        .00                  0.          0.          0.          0.
                   (INCHES)       .000        .000        .000        .000
                    (AC-FT)         0.          0.          0.          0.

                    CUMULATIVE AREA =     .94 SQ MI

      ***           ***           ***           ***           ***

                     DIVERSION HYDROGRAPH    R2OUT
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+      62.      12.42                14.          4.          1.          1.
                   (INCHES)       .139        .160        .160        .160
                    (AC-FT)         7.          8.          8.          8.

                    CUMULATIVE AREA =     .94 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION   RETLS2
                   TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+       0.        .00                  0.          0.          0.          0.
                   (INCHES)       .000        .000        .000        .000
                    (AC-FT)         0.          0.          0.          0.

                    CUMULATIVE AREA =     .94 SQ MI

      ***           ***           ***           ***           ***

                     DIVERSION HYDROGRAPH    R2OUT
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+      58.      12.42                13.          4.          1.          1.
                   (INCHES)       .130        .150        .151        .151
                    (AC-FT)         7.          8.          8.          8.

                    CUMULATIVE AREA =     .94 SQ MI

      ***           ***           ***           ***           ***

                     HYDROGRAPH AT STATION   RETLS2
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+       0.        .00                  0.          0.          0.          0.
```

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                    (INCHES)      .000        .000        .000        .000
                     (AC-FT)        0.          0.          0.          0.

                    CUMULATIVE AREA =     .94 SQ MI

     ***          ***          ***          ***          ***

                     DIVERSION HYDROGRAPH    R2OUT
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      57.     12.42                13.          4.          1.          1.
                    (INCHES)      .127        .147        .147        .147
                     (AC-FT)        6.          7.          7.          7.

                    CUMULATIVE AREA =     .94 SQ MI

     ***          ***          ***          ***          ***

                     HYDROGRAPH AT STATION   RETLS2
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.          0.
                    (INCHES)      .000        .000        .000        .000
                     (AC-FT)        0.          0.          0.          0.

                    CUMULATIVE AREA =     .94 SQ MI

     ***          ***          ***          ***          ***


              INTERPOLATED DIVERSION HYDROGRAPH AT    R2OUT

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      68.     12.42                15.          4.          1.          1.
                    (INCHES)      .152        .174        .175        .175
                     (AC-FT)        8.          9.          9.          9.

                    CUMULATIVE AREA =     .94 SQ MI

     ***          ***          ***          ***          ***


                   INTERPOLATED HYDROGRAPH AT   RETLS2

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.          0.
                    (INCHES)      .000        .000        .000        .000
                     (AC-FT)        0.          0.          0.          0.

                    CUMULATIVE AREA =     .94 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

          **************
          *            *
  213 KK  *      LS2C  *
          *            *
          **************
                   COMBINE FLOWS IN SKUNK CREEK AT PINNACLE PEAK ROAD

  215 HC        HYDROGRAPH COMBINATION
                     ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

     ***          ***          ***          ***          ***

                     HYDROGRAPH AT STATION     LS2C
                   TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
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                                (CFS)
+    5201.      14.67                    2026.        605.        203.          88.
                            (INCHES)      .244        .291        .292         .292
                             (AC-FT)     1005.       1201.       1207.        1207.

                            CUMULATIVE AREA =   77.37 SQ MI


       ***                 ***             ***             ***             ***

                             HYDROGRAPH AT STATION     LS2C
                           TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+    5201.      14.67                    2025.        605.        203.          88.
                            (INCHES)      .243        .291        .292         .292
                             (AC-FT)     1004.       1200.       1206.        1206.

                            CUMULATIVE AREA =   77.37 SQ MI


       ***                 ***             ***             ***             ***

                             HYDROGRAPH AT STATION     LS2C
                           TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+    5201.      14.67                    2025.        605.        203.          88.
                            (INCHES)      .243        .291        .292         .292
                             (AC-FT)     1004.       1200.       1206.        1206.

                            CUMULATIVE AREA =   77.37 SQ MI


       ***                 ***             ***             ***             ***

                             HYDROGRAPH AT STATION     LS2C
                           TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+    5201.      14.67                    2024.        605.        203.          88.
                            (INCHES)      .243        .291        .292         .292
                             (AC-FT)     1004.       1199.       1205.        1205.

                            CUMULATIVE AREA =   77.37 SQ MI


       ***                 ***             ***             ***             ***

                             HYDROGRAPH AT STATION     LS2C
                           TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+    5201.      14.67                    2024.        605.        203.          88.
                            (INCHES)      .243        .291        .292         .292
                             (AC-FT)     1004.       1199.       1205.        1205.

                            CUMULATIVE AREA =   77.37 SQ MI

       ***                 ***             ***             ***             ***


                            INTERPOLATED HYDROGRAPH AT     LS2C

  PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR    166.58-HR
+   (CFS)        (HR)
                                (CFS)
+    5201.      14.67                    2024.        605.        203.          88.
                            (INCHES)      .243        .291        .292         .292
                             (AC-FT)     1004.       1199.       1205.        1205.

                            CUMULATIVE AREA =   77.37 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

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216 KK      *      LS-3  *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

217 BA          SUBBASIN CHARACTERISTICS
                      TAREA         .54  SUBBASIN AREA
                       SNAP         .00  NORMAL ANNUAL PRECIPITATION
                      RATIO         .10  RATIO OF HYDROGRAPH

218 LG          GREEN AND AMPT LOSS RATE
                      STRTL         .17  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        4.30  WETTING FRONT SUCTION
                      XKSAT         .41  HYDRAULIC CONDUCTIVITY
                      RTIMP       39.00  PERCENT IMPERVIOUS AREA

219 UC          CLARK UNITGRAPH
                         TC         .41  TIME OF CONCENTRATION
                          R         .22  STORAGE COEFFICIENT

220 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                            CLARK   TC=   .41 HR,       R=   .22 HR
                                           SNYDER   TP=   .23 HR,      CP=   .55

                                                      UNIT HYDROGRAPH
                                                 17 END-OF-PERIOD ORDINATES
              107.      505.      796.      736.      608.      456.      313.      215.      147.      101.
               69.       48.       33.       22.       15.       11.        7.

     ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION     LS-3
                     TRANSPOSITION AREA       .0 SQ MI

   TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.79, TOTAL EXCESS =    2.31

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     845.     12.17                107.         34.         11.          5.
                       (INCHES)    1.840      2.301       2.304       2.304
                        (AC-FT)     53.         67.         67.         67.

                       CUMULATIVE AREA =     .54 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY   .10

     ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION     LS-3
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      85.     12.17                 11.          3.          1.          0.
                       (INCHES)     .184       .230        .230        .230
                        (AC-FT)      5.          7.          7.          7.

                       CUMULATIVE AREA =     .54 SQ MI

     ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION     LS-3
                     TRANSPOSITION AREA     10.0 SQ MI

   TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.70, TOTAL EXCESS =    2.15

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     784.     12.17                100.         31.         10.          5.
                       (INCHES)    1.707      2.141       2.143       2.143
                        (AC-FT)     49.         62.         62.         62.

                       CUMULATIVE AREA =     .54 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY   .10

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                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     78.       12.17                 10.          3.          1.           0.
                          (INCHES)   .171        .214        .214         .214
                           (AC-FT)     5.          6.          6.           6.

                          CUMULATIVE AREA =     .54 SQ MI


      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.65, TOTAL EXCESS =    2.04

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    743.       12.17                 95.         30.         10.           4.
                          (INCHES)  1.619       2.034       2.036        2.036
                           (AC-FT)    47.         59.         59.          59.

                          CUMULATIVE AREA =     .54 SQ MI


                                                HYDROGRAPH MULTIPLIED BY    .10

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     74.       12.17                  9.          3.          1.           0.
                          (INCHES)   .162        .203        .204         .204
                           (AC-FT)     5.          6.          6.           6.

                          CUMULATIVE AREA =     .54 SQ MI


      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.59, TOTAL EXCESS =    1.94

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    702.       12.17                 89.         28.          9.           4.
                          (INCHES)  1.531       1.928       1.930        1.930
                           (AC-FT)    44.         56.         56.          56.

                          CUMULATIVE AREA =     .54 SQ MI


                                                HYDROGRAPH MULTIPLIED BY    .10

      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     70.       12.17                  9.          3.          1.           0.
                          (INCHES)   .153        .193        .193         .193
                           (AC-FT)     4.          6.          6.           6.

                          CUMULATIVE AREA =     .54 SQ MI


      ***             ***             ***             ***             ***

                    HYDROGRAPH AT STATION     LS-3
                  TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.57, TOTAL EXCESS =    1.90

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
```

```
+   (CFS)        (HR)
                          (CFS)
+     688.      12.17                  88.          28.          9.           4.
                        (INCHES)     1.500        1.890        1.892        1.892
                         (AC-FT)      43.          55.          55.          55.

                        CUMULATIVE AREA =     .54 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-3
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+      69.      12.17                   9.           3.           1.           0.
                        (INCHES)      .150         .189         .189         .189
                         (AC-FT)        4.           5.           5.           5.

                        CUMULATIVE AREA =     .54 SQ MI

      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT     LS-3

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+      81.      12.17                  10.           3.           1.           0.
                        (INCHES)      .176         .221         .221         .221
                         (AC-FT)        5.           6.           6.           6.

                        CUMULATIVE AREA =     .54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 222 KK     *    LS3LS5  *        ROUTE   REACH
            *            *
            **************
                            ROUTE RUNOFF FROM LS-3 THROUGH LS-5 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK
                            ROAD

              HYDROGRAPH ROUTING DATA

 225 RS          STORAGE ROUTING
                      NSTPS           4  NUMBER OF SUBREACHES
                       ITYP        STOR  TYPE OF INITIAL CONDITION
                     RSVRIC       -1.00  INITIAL CONDITION
                          X         .00 WORKING R AND D COEFFICIENT

 226 RC          NORMAL DEPTH CHANNEL
                        ANL        .080  LEFT OVERBANK N-VALUE
                       ANCH        .040  MAIN CHANNEL N-VALUE
                        ANR        .080  RIGHT OVERBANK N-VALUE
                      RLNTH       8883.  REACH LENGTH
                        SEL       .0040  ENERGY SLOPE
                      ELMAX         6.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                      CROSS-SECTION DATA
                            --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 228 RY        ELEVATION      6.00      5.00      4.00       .00       .00      4.00      5.00      6.00
 227 RX        DISTANCE        .00    100.00    200.00    220.00    370.00    390.00    490.00    590.00

                                                                  ***

                                      COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      9.76     19.73     29.89     40.27     50.84     61.62     72.60     83.78     95.17
          OUTFLOW        .00     51.92    165.40    326.25    528.86    769.95   1047.31   1359.35   1704.87   2082.97
        ELEVATION        .00       .32       .63       .95      1.26      1.58      1.89      2.21      2.53      2.84

          STORAGE     106.76    118.56    130.56    142.97    158.60    178.29    202.05    229.88    261.77    297.73
          OUTFLOW    2492.92   2934.16   3406.25   3923.13   4506.62   5139.55   5829.60   6583.30   7406.53   8304.72
        ELEVATION       3.16      3.47      3.79      4.11      4.42      4.74      5.05      5.37      5.68      6.00


      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   LS3LS5
                      TRANSPOSITION AREA       .0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      21.     14.00                11.          3.           1.           0.
                            (INCHES)       .181        .229         .230         .230
                             (AC-FT)         5.          7.           7.           7.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)      (HR)
        1.     14.00                 0.          0.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+   (FEET)      (HR)
       .13     14.00                .06         .02          .01          .00

                         CUMULATIVE AREA =     .54 SQ MI

      ***             ***             ***            ***            ***

                         HYDROGRAPH AT STATION   LS3LS5
                       TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      20.     14.00                10.          3.           1.           0.
                            (INCHES)       .168        .213         .214         .214
                             (AC-FT)         5.          6.           6.           6.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)      (HR)
        1.     14.00                 0.          0.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+   (FEET)      (HR)
       .12     14.00                .06         .02          .01          .00

                         CUMULATIVE AREA =     .54 SQ MI

      ***             ***             ***            ***            ***

                         HYDROGRAPH AT STATION   LS3LS5
                       TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      19.     14.00                 9.          3.           1.           0.
                            (INCHES)       .159        .202         .204         .204
                             (AC-FT)         5.          6.           6.           6.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)      (HR)
        1.     14.00                 0.          0.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+   (FEET)      (HR)
       .11     14.00                .06         .02          .01          .00

                         CUMULATIVE AREA =     .54 SQ MI

      ***             ***             ***            ***            ***

                         HYDROGRAPH AT STATION   LS3LS5
                       TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      18.     14.00                 9.          3.           1.           0.
                            (INCHES)       .150        .192         .193         .193
                             (AC-FT)         4.          6.           6.           6.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)      (HR)
        1.     14.00                 0.          0.           0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+   (FEET)      (HR)
       .11     14.00                .05         .02          .01          .00
```

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                    CUMULATIVE AREA =     .54 SQ MI

     ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION   LS3LS5
                 TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                    MAXIMUM AVERAGE FLOW
                                 6-HR      24-HR      72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+     17.      14.00      9.         3.         1.          0.
                      (INCHES)    .147       .188       .189        .189
                       (AC-FT)     4.         5.         5.          5.

 PEAK STORAGE   TIME                   MAXIMUM AVERAGE STORAGE
                                 6-HR      24-HR      72-HR    166.58-HR
+  (AC-FT)      (HR)
       1.      14.00                0.         0.         0.          0.

  PEAK STAGE    TIME                    MAXIMUM AVERAGE STAGE
                                 6-HR      24-HR      72-HR    166.58-HR
+   (FEET)      (HR)
      .10      14.00               .05        .02        .01         .00

                    CUMULATIVE AREA =     .54 SQ MI

     ***          ***          ***          ***          ***


                    INTERPOLATED HYDROGRAPH AT   LS3LS5

  PEAK FLOW     TIME                    MAXIMUM AVERAGE FLOW
                                 6-HR      24-HR      72-HR    166.58-HR
+   (CFS)       (HR)
                        (CFS)
+     20.      14.00     10.         3.         1.          0.
                      (INCHES)    .173       .220       .221        .221
                       (AC-FT)     5.         6.         6.          6.

                    CUMULATIVE AREA =     .54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


          **************
          *            *
229 KK    *     LS-4   *        BASIN
          *            *
          **************

            SUBBASIN RUNOFF DATA

230 BA        SUBBASIN CHARACTERISTICS
                    TAREA        1.85  SUBBASIN AREA
                     SNAP         .00  NORMAL ANNUAL PRECIPITATION
                    RATIO         .10  RATIO OF HYDROGRAPH

231 LG        GREEN AND AMPT LOSS RATE
                    STRTL         .22  STARTING LOSS
                      DTH         .25  MOISTURE DEFICIT
                     PSIF        4.35  WETTING FRONT SUCTION
                    XKSAT         .43  HYDRAULIC CONDUCTIVITY
                    RTIMP       31.00  PERCENT IMPERVIOUS AREA

232 UC        CLARK UNITGRAPH
                       TC         .50  TIME OF CONCENTRATION
                        R         .27  STORAGE COEFFICIENT

233 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                     .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                  100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=   .50 HR,       R=   .27 HR
                                  SNYDER   TP=   .30 HR,      CP=   .58

                                            UNIT HYDROGRAPH
                                      20 END-OF-PERIOD ORDINATES
            233.      960.     1930.     2297.     2031.     1722.     1362.     1003.      738.      543.
            400.      294.      217.      159.      117.       86.       64.       47.       34.       25.

     ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION     LS-4
                 TRANSPOSITION AREA       .0 SQ MI
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    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.04, TOTAL EXCESS =    2.06

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+    2498.     12.17                334.        102.         34.          15.
                              (INCHES)      1.678       2.044       2.046        2.046
                               (AC-FT)       166.        202.        202.         202.

                              CUMULATIVE AREA =    1.85 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                              HYDROGRAPH AT STATION     LS-4
                             TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     250.     12.17                 33.         10.          3.           1.
                              (INCHES)      .168        .204        .205         .205
                               (AC-FT)       17.         20.         20.          20.

                              CUMULATIVE AREA =    1.85 SQ MI


      ***             ***             ***             ***             ***

                              HYDROGRAPH AT STATION     LS-4
                             TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.95, TOTAL EXCESS =    1.91

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+    2305.     12.17                309.         94.         31.          14.
                              (INCHES)      1.552       1.896       1.898        1.898
                               (AC-FT)       153.        187.        187.         187.

                              CUMULATIVE AREA =    1.85 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                              HYDROGRAPH AT STATION     LS-4
                             TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     230.     12.17                 31.          9.          3.           1.
                              (INCHES)      .155        .190        .190         .190
                               (AC-FT)       15.         19.         19.          19.

                              CUMULATIVE AREA =    1.85 SQ MI


      ***             ***             ***             ***             ***

                              HYDROGRAPH AT STATION     LS-4
                             TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.88, TOTAL EXCESS =    1.81

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+    2175.     12.17                292.         89.         30.          13.
                              (INCHES)      1.467       1.796       1.799        1.799
                               (AC-FT)       145.        177.        178.         178.

                              CUMULATIVE AREA =    1.85 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                              HYDROGRAPH AT STATION     LS-4
                             TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

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                    (CFS)
+    218.    12.17                29.          9.          3.          1.
                  (INCHES)       .147        .180        .180        .180
                   (AC-FT)        14.         18.         18.         18.

                  CUMULATIVE AREA =    1.85 SQ MI

     ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION     LS-4
                TRANSPOSITION AREA     60.0 SQ MI

   TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.82, TOTAL EXCESS =    1.71

  PEAK FLOW     TIME                    MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+    2045.    12.17                275.         84.         28.         12.
                  (INCHES)      1.382       1.697       1.699       1.699
                   (AC-FT)       136.        167.        168.        168.

                  CUMULATIVE AREA =    1.85 SQ MI

                                          HYDROGRAPH MULTIPLIED BY    .10

     ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION     LS-4
                TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                    MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     205.    12.17                 28.          8.          3.          1.
                  (INCHES)       .138        .170        .170        .170
                   (AC-FT)        14.         17.         17.         17.

                  CUMULATIVE AREA =    1.85 SQ MI

     ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION     LS-4
                TRANSPOSITION AREA     90.0 SQ MI

   TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.80, TOTAL EXCESS =    1.67

  PEAK FLOW     TIME                    MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+    2000.    12.17                269.         83.         28.         12.
                  (INCHES)      1.352       1.662       1.664       1.664
                   (AC-FT)       133.        164.        164.        164.

                  CUMULATIVE AREA =    1.85 SQ MI

                                          HYDROGRAPH MULTIPLIED BY    .10

     ***          ***          ***          ***          ***

                  HYDROGRAPH AT STATION     LS-4
                TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                    MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     200.    12.17                 27.          8.          3.          1.
                  (INCHES)       .135        .166        .166        .166
                   (AC-FT)        13.         16.         16.         16.

                  CUMULATIVE AREA =    1.85 SQ MI

     ***          ***          ***          ***          ***

                  INTERPOLATED HYDROGRAPH AT     LS-4

  PEAK FLOW     TIME                    MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     235.    12.17                 32.         10.          3.          1.
                  (INCHES)       .158        .193        .193        .193
                   (AC-FT)        16.         19.         19.         19.

                  CUMULATIVE AREA =    1.85 SQ MI
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*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***

            **************
            *            *
  235 KK    *    RETLS4  *
            *            *
            **************
                                DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                                 - 528 AC DEVELOPMENT WITH RETENTION
                                 - C FACTOR = 0.63
                                 - 100-YR 2-HR RAIN = 2.66"

      DT          DIVERSION
                       ISTAD       R4OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX       73.70  MAXIMUM VOLUME TO BE DIVERTED

      DI             INFLOW         .00  10000.00

      DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

       ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH    R4OUT
                       TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     250.     12.17                 33.         10.          3.           1.
                       (INCHES)     .168        .204        .205         .205
                        (AC-FT)      17.         20.         20.          20.

                       CUMULATIVE AREA =    1.85 SQ MI

       ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   RETLS4
                       TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                  0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)       0.          0.          0.           0.

                       CUMULATIVE AREA =    1.85 SQ MI

       ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH    R4OUT
                       TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     230.     12.17                 31.          9.          3.           1.
                       (INCHES)     .155        .190        .190         .190
                        (AC-FT)      15.         19.         19.          19.

                       CUMULATIVE AREA =    1.85 SQ MI

       ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION   RETLS4
                       TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.        .00                  0.          0.          0.           0.
                       (INCHES)     .000        .000        .000         .000
                        (AC-FT)       0.          0.          0.           0.

                       CUMULATIVE AREA =    1.85 SQ MI

       ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH    R4OUT
                       TRANSPOSITION AREA     30.0 SQ MI
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```
  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     218.       12.17                29.           9.           3.            1.
                                (INCHES)          .147         .180         .180          .180
                                 (AC-FT)           14.          18.          18.           18.

                                 CUMULATIVE AREA =     1.85 SQ MI

      ***                      ***            ***            ***            ***

                                  HYDROGRAPH AT STATION   RETLS4
                                TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+       0.         .00                 0.           0.           0.            0.
                                (INCHES)          .000         .000         .000          .000
                                 (AC-FT)            0.           0.           0.            0.

                                 CUMULATIVE AREA =     1.85 SQ MI

      ***                      ***            ***            ***            ***

                                  DIVERSION HYDROGRAPH    R4OUT
                                TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     205.       12.17                28.           8.           3.            1.
                                (INCHES)          .138         .170         .170          .170
                                 (AC-FT)           14.          17.          17.           17.

                                 CUMULATIVE AREA =     1.85 SQ MI

      ***                      ***            ***            ***            ***

                                  HYDROGRAPH AT STATION   RETLS4
                                TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+       0.         .00                 0.           0.           0.            0.
                                (INCHES)          .000         .000         .000          .000
                                 (AC-FT)            0.           0.           0.            0.

                                 CUMULATIVE AREA =     1.85 SQ MI

      ***                      ***            ***            ***            ***

                                  DIVERSION HYDROGRAPH    R4OUT
                                TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     200.       12.17                27.           8.           3.            1.
                                (INCHES)          .135         .166         .166          .166
                                 (AC-FT)           13.          16.          16.           16.

                                 CUMULATIVE AREA =     1.85 SQ MI

      ***                      ***            ***            ***            ***

                                  HYDROGRAPH AT STATION   RETLS4
                                TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+       0.         .00                 0.           0.           0.            0.
                                (INCHES)          .000         .000         .000          .000
                                 (AC-FT)            0.           0.           0.            0.

                                 CUMULATIVE AREA =     1.85 SQ MI

      ***                      ***            ***            ***            ***


                    INTERPOLATED DIVERSION HYDROGRAPH AT    R4OUT
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     235.     12.17                32.         10.          3.           1.
                        (INCHES)   .158        .193        .193         .193
                         (AC-FT)    16.         19.         19.          19.

                        CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT   RETLS4

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.           0.
                        (INCHES)   .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

                        CUMULATIVE AREA =    1.85 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 243 KK     *   LS4LS5   *        ROUTE   REACH
            *            *
            **************
                          ROUTE RUNOFF FROM LS-4 THROUGH LS-5 FROM HAPPY VALLEY ROAD TO PINNACLE PEAK
                          ROAD

              HYDROGRAPH ROUTING DATA

 246 RS         STORAGE ROUTING
                      NSTPS          2  NUMBER OF SUBREACHES
                       ITYP       STOR  TYPE OF INITIAL CONDITION
                     RSVRIC      -1.00  INITIAL CONDITION
                          X        .00 WORKING R AND D COEFFICIENT

 247 RC         NORMAL DEPTH CHANNEL
                        ANL       .080  LEFT OVERBANK N-VALUE
                       ANCH       .040  MAIN CHANNEL N-VALUE
                        ANR       .080  RIGHT OVERBANK N-VALUE
                      RLNTH      6160.  REACH LENGTH
                        SEL      .0040  ENERGY SLOPE
                      ELMAX        6.0  MAX. ELEV. FOR STORAGE/OUTFLOW CALCULATION

                                   CROSS-SECTION DATA
                          --- LEFT OVERBANK --- + ------ MAIN CHANNEL ------- + --- RIGHT OVERBANK ---
 249 RY       ELEVATION      6.00      5.00      4.00       .00       .00      4.00      5.00      6.00
 248 RX       DISTANCE        .00    100.00    200.00    220.00    370.00    390.00    490.00    590.00

                                                   ***

                                   COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00      6.77     13.68     20.73     27.92     35.26     42.73     50.35     58.10     66.00
          OUTFLOW        .00     51.92    165.40    326.25    528.86    769.95   1047.31   1359.35   1704.87   2082.97
        ELEVATION        .00       .32       .63       .95      1.26      1.58      1.89      2.21      2.53      2.84

          STORAGE      74.04     82.22     90.54     99.15    109.98    123.64    140.11    159.41    181.53    206.46
          OUTFLOW    2492.92   2934.16   3406.25   3923.13   4506.62   5139.55   5829.60   6583.30   7406.53   8304.72
        ELEVATION       3.16      3.47      3.79      4.11      4.42      4.74      5.05      5.37      5.68      6.00

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   LS4LS5
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.           0.
                        (INCHES)   .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.       .00                  0.          0.          0.           0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
```

```
+   (FEET)       (HR)
      .00      12.00                    .00          .00          .00          .00

                          CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   LS4LS5
                        TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                   (CFS)
+       0.        .00                 0.           0.           0.           0.
                                (INCHES)        .000         .000         .000         .000
                                 (AC-FT)           0.           0.           0.           0.

 PEAK STORAGE    TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)       (HR)
       0.        .00                  0.           0.           0.           0.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+   (FEET)       (HR)
      .00      12.67                    .00          .00          .00          .00

                          CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   LS4LS5
                        TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                   (CFS)
+       0.        .00                 0.           0.           0.           0.
                                (INCHES)        .000         .000         .000         .000
                                 (AC-FT)           0.           0.           0.           0.

 PEAK STORAGE    TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)       (HR)
       0.        .00                  0.           0.           0.           0.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+   (FEET)       (HR)
      .00      12.83                    .00          .00          .00          .00

                          CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   LS4LS5
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                   (CFS)
+       0.        .00                 0.           0.           0.           0.
                                (INCHES)        .000         .000         .000         .000
                                 (AC-FT)           0.           0.           0.           0.

 PEAK STORAGE    TIME                         MAXIMUM AVERAGE STORAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+  (AC-FT)       (HR)
       0.        .00                  0.           0.           0.           0.

  PEAK STAGE     TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR        24-HR        72-HR     166.58-HR
+   (FEET)       (HR)
      .00      13.17                    .00          .00          .00          .00

                          CUMULATIVE AREA =    1.85 SQ MI

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   LS4LS5
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                   (CFS)
+       0.        .00                 0.           0.           0.           0.
                                (INCHES)        .000         .000         .000         .000
```

```
                    (AC-FT)        0.          0.          0.          0.

 PEAK STORAGE   TIME                        MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
       0.        .00                  0.          0.          0.          0.

  PEAK STAGE    TIME                        MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
      .00      13.50                 .00         .00         .00         .00

                    CUMULATIVE AREA =    1.85 SQ MI

      ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT   LS4LS5

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                  0.          0.          0.          0.
                       (INCHES)     .000        .000        .000        .000
                        (AC-FT)       0.          0.          0.          0.

                    CUMULATIVE AREA =    1.85 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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          *            *
 250 KK   *     LS-5   *        BASIN
          *            *
          **************

             SUBBASIN RUNOFF DATA

 251 BA        SUBBASIN CHARACTERISTICS
                    TAREA        1.28  SUBBASIN AREA
                     SNAP         .00  NORMAL ANNUAL PRECIPITATION
                    RATIO         .10  RATIO OF HYDROGRAPH

 252 LG        GREEN AND AMPT LOSS RATE
                    STRTL         .28  STARTING LOSS
                      DTH         .25  MOISTURE DEFICIT
                     PSIF        4.90  WETTING FRONT SUCTION
                    XKSAT         .33  HYDRAULIC CONDUCTIVITY
                    RTIMP       22.00  PERCENT IMPERVIOUS AREA

 253 UC        CLARK UNITGRAPH
                       TC         .97  TIME OF CONCENTRATION
                        R         .58  STORAGE COEFFICIENT

 254 UA        ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                  ***

                                          UNIT HYDROGRAPH PARAMETERS
                                   CLARK   TC=    .97 HR,       R=    .58 HR
                                  SNYDER   TP=    .50 HR,      CP=    .48

                                              UNIT HYDROGRAPH
                                         42 END-OF-PERIOD ORDINATES
              29.      111.      229.      417.      658.      786.      784.      753.      710.      658.
             605.      552.      488.      422.      365.      316.      273.      237.      205.      177.
             153.      133.      115.       99.       86.       74.       64.       56.       48.       42.
              36.       31.       27.       23.       20.       17.       15.       13.       11.       10.
               8.        7.

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION     LS-5
                    TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.24, TOTAL EXCESS =    1.86

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    1008.     12.42                218.         63.         21.          9.
                       (INCHES)    1.583       1.843       1.847       1.847
                        (AC-FT)      108.        126.        126.        126.

                    CUMULATIVE AREA =    1.28 SQ MI
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                                                    HYDROGRAPH MULTIPLIED BY    .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     101.     12.42                 22.          6.          2.           1.
                        (INCHES)    .158        .184        .185         .185
                         (AC-FT)     11.         13.         13.          13.

                        CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.15, TOTAL EXCESS =    1.71

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     925.     12.42                200.         58.         19.           8.
                        (INCHES)   1.452      1.696       1.700        1.700
                         (AC-FT)     99.        116.        116.         116.

                        CUMULATIVE AREA =    1.28 SQ MI

                                                    HYDROGRAPH MULTIPLIED BY    .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      92.     12.42                 20.          6.          2.           1.
                        (INCHES)    .145        .170        .170         .170
                         (AC-FT)     10.         12.         12.          12.

                        CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.08, TOTAL EXCESS =    1.61

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     870.     12.42                188.         55.         18.           8.
                        (INCHES)   1.366      1.600       1.603        1.603
                         (AC-FT)     93.        109.        109.         109.

                        CUMULATIVE AREA =    1.28 SQ MI

                                                    HYDROGRAPH MULTIPLIED BY    .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      87.     12.42                 19.          6.          2.           1.
                        (INCHES)    .137        .160        .160         .160
                         (AC-FT)      9.         11.         11.          11.

                        CUMULATIVE AREA =    1.28 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-5
                      TRANSPOSITION AREA     60.0 SQ MI
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     TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.01, TOTAL EXCESS =    1.52

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     817.     12.42                 177.         52.         17.           7.
                        (INCHES)    1.284      1.508       1.511       1.511
                         (AC-FT)     88.        103.        103.        103.

                         CUMULATIVE AREA =    1.28 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

       ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION     LS-5
                        TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      82.     12.42                  18.          5.          2.           1.
                        (INCHES)     .128       .151        .151        .151
                         (AC-FT)      9.         10.         10.         10.

                         CUMULATIVE AREA =    1.28 SQ MI

       ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION     LS-5
                        TRANSPOSITION AREA     90.0 SQ MI

     TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.98, TOTAL EXCESS =    1.49

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     798.     12.42                 173.         51.         17.           7.
                        (INCHES)    1.256      1.476       1.479       1.479
                         (AC-FT)     86.        101.        101.        101.

                         CUMULATIVE AREA =    1.28 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

       ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION     LS-5
                        TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      80.     12.42                  17.          5.          2.           1.
                        (INCHES)     .126       .148        .148        .148
                         (AC-FT)      9.         10.         10.         10.

                         CUMULATIVE AREA =    1.28 SQ MI

       ***            ***            ***            ***            ***


                         INTERPOLATED HYDROGRAPH AT     LS-5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      95.     12.42                  21.          6.          2.           1.
                        (INCHES)     .149       .174        .174        .174
                         (AC-FT)     10.         12.         12.         12.

                         CUMULATIVE AREA =    1.28 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  256 KK    *    RETLS5  *
            *            *
            **************
                          DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
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                    - 72.5 AC DEVELOPMENT WITH RETENTION
                    - C FACTOR = 0.63
                    - 100-YR 2-HR RAIN = 2.66"

     DT          DIVERSION
                      ISTAD       R5OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                     DSTRMX       10.10  MAXIMUM VOLUME TO BE DIVERTED

     DI             INFLOW         .00  10000.00

     DQ      DIVERTED FLOW         .00  10000.00

                                                                  ***

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH    R5OUT
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     101.     12.42                19.          5.          2.           1.
                       (INCHES)    .140        .148        .148         .148
                        (AC-FT)     10.         10.         10.          10.

                       CUMULATIVE AREA =    1.28 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   RETLS5
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      24.     13.58                 4.          1.          0.           0.
                       (INCHES)    .030        .037        .037         .037
                        (AC-FT)      2.          3.          3.           3.

                       CUMULATIVE AREA =    1.28 SQ MI

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH    R5OUT
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      92.     12.42                19.          5.          2.           1.
                       (INCHES)    .139        .148        .148         .148
                        (AC-FT)      9.         10.         10.          10.

                       CUMULATIVE AREA =    1.28 SQ MI

      ***            ***            ***            ***            ***

                       HYDROGRAPH AT STATION   RETLS5
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       9.     14.25                 2.          1.          0.           0.
                       (INCHES)    .017        .022        .022         .022
                        (AC-FT)      1.          2.          2.           2.

                       CUMULATIVE AREA =    1.28 SQ MI

      ***            ***            ***            ***            ***

                       DIVERSION HYDROGRAPH    R5OUT
                     TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      87.     12.42                19.          5.          2.           1.
                       (INCHES)    .137        .148        .148         .148
                        (AC-FT)      9.         10.         10.          10.

                       CUMULATIVE AREA =    1.28 SQ MI

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                    HYDROGRAPH AT STATION   RETLS5
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       2.     15.75                 1.          0.          0.           0.
                        (INCHES)    .009        .012        .012         .012
                         (AC-FT)     1.          1.          1.           1.

                         CUMULATIVE AREA =    1.28 SQ MI

      ***             ***            ***         ***         ***

                    DIVERSION HYDROGRAPH    R5OUT
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      82.     12.42                18.          5.          2.           1.
                        (INCHES)    .128        .148        .148         .148
                         (AC-FT)     9.         10.         10.          10.

                         CUMULATIVE AREA =    1.28 SQ MI

      ***             ***            ***         ***         ***

                    HYDROGRAPH AT STATION   RETLS5
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       1.     21.58                 0.          0.          0.           0.
                        (INCHES)    .003        .003        .003         .003
                         (AC-FT)     0.          0.          0.           0.

                         CUMULATIVE AREA =    1.28 SQ MI

      ***             ***            ***         ***         ***

                    DIVERSION HYDROGRAPH    R5OUT
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      80.     12.42                17.          5.          2.           1.
                        (INCHES)    .126        .148        .148         .148
                         (AC-FT)     9.         10.         10.          10.

                         CUMULATIVE AREA =    1.28 SQ MI

      ***             ***            ***         ***         ***

                    HYDROGRAPH AT STATION   RETLS5
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

                         CUMULATIVE AREA =    1.28 SQ MI

      ***             ***            ***         ***         ***


              INTERPOLATED DIVERSION HYDROGRAPH AT    R5OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      95.     12.42                19.          5.          2.           1.
                        (INCHES)    .139        .148        .148         .148
                         (AC-FT)     9.         10.         10.          10.

                         CUMULATIVE AREA =    1.28 SQ MI

      ***             ***            ***         ***         ***
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                    INTERPOLATED HYDROGRAPH AT   RETLS5

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+       9.     14.25                 3.          1.          0.          0.
                          (INCHES)  .020        .026        .026        .026
                           (AC-FT)    1.          2.          2.          2.

                     CUMULATIVE AREA =    1.28 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 264 KK     *      LS5C  *
            *            *
            **************
                      COMBINE ROUTED FLOWS FROM LS3 AND LS4 WITH RUNOFF FROM LS5 AT ADOBE POOL
                      AT PINNACLE PEAK ROAD

 267 HC          HYDROGRAPH COMBINATION
                      ICOMP           3  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS5C
                     TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      44.     13.58                14.          5.          2.          1.
                          (INCHES)  .037        .047        .047        .047
                           (AC-FT)    7.          9.          9.          9.

                     CUMULATIVE AREA =    3.67 SQ MI

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS5C
                     TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      28.     14.25                12.          4.          1.          1.
                          (INCHES)  .030        .039        .039        .039
                           (AC-FT)    6.          8.          8.          8.

                     CUMULATIVE AREA =    3.67 SQ MI

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS5C
                     TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      19.     14.00                10.          3.          1.          0.
                          (INCHES)  .025        .034        .034        .034
                           (AC-FT)    5.          7.          7.          7.

                     CUMULATIVE AREA =    3.67 SQ MI

      ***             ***             ***             ***             ***

                       HYDROGRAPH AT STATION     LS5C
                     TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      18.     14.00                 9.          3.          1.          0.
                          (INCHES)  .022        .029        .030        .030
                           (AC-FT)    4.          6.          6.          6.
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                    CUMULATIVE AREA =    3.67 SQ MI

      ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS5C
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      17.     14.00                 9.          3.          1.           0.
                        (INCHES)   .022        .028        .028         .028
                         (AC-FT)     4.          5.          5.           5.

                    CUMULATIVE AREA =    3.67 SQ MI

      ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS5C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      29.     14.25                12.          4.          1.           1.
                        (INCHES)   .031        .040        .040         .040
                         (AC-FT)     6.          8.          8.           8.

                    CUMULATIVE AREA =    3.67 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 268 KK     *     LS-6   *        BASIN
            *            *
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               SUBBASIN RUNOFF DATA

 269 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .79  SUBBASIN AREA
                        SNAP         .00  NORMAL ANNUAL PRECIPITATION
                       RATIO         .10  RATIO OF HYDROGRAPH

 270 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .25  STARTING LOSS
                         DTH         .25  MOISTURE DEFICIT
                        PSIF        4.50  WETTING FRONT SUCTION
                       XKSAT         .39  HYDRAULIC CONDUCTIVITY
                       RTIMP       30.00  PERCENT IMPERVIOUS AREA

 271 UC          CLARK UNITGRAPH
                          TC        1.11  TIME OF CONCENTRATION
                           R         .97  STORAGE COEFFICIENT

 272 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                       .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                    100.0

                                                   ***

                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=  1.11 HR,       R=   .97 HR
                                        SNYDER  TP=   .66 HR,      CP=   .42

                                                 UNIT HYDROGRAPH
                                            68 END-OF-PERIOD ORDINATES
                 9.       35.       72.      115.      197.      284.      318.      325.      323.      316.
               306.      294.      281.      265.      246.      225.      207.      190.      174.      160.
               147.      135.      124.      114.      104.       96.       88.       81.       74.       68.
                62.       57.       53.       48.       44.       41.       37.       34.       31.       29.
                27.       24.       22.       21.       19.       17.       16.       15.       13.       12.
                11.       10.        9.        9.        8.        7.        7.        6.        6.        5.
                 5.        4.        4.        4.        3.        3.        3.        3.

      ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-6
                   TRANSPOSITION AREA        .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.05, TOTAL EXCESS =    2.05

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
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+     445.     12.50                    142.          43.          14.           6.
                          (INCHES)     1.664        2.029        2.038        2.038
                           (AC-FT)      70.          86.          86.          86.

                          CUMULATIVE AREA =     .79 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-6
                         TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      44.     12.50                     14.          4.           1.           1.
                          (INCHES)      .166        .203         .204         .204
                           (AC-FT)       7.          9.           9.           9.

                          CUMULATIVE AREA =     .79 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-6
                         TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.96, TOTAL EXCESS =    1.90

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     410.     12.50                    131.         40.          13.           6.
                          (INCHES)     1.537        1.879        1.888        1.888
                           (AC-FT)      65.         79.          80.          80.

                          CUMULATIVE AREA =     .79 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-6
                         TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      41.     12.50                     13.          4.           1.           1.
                          (INCHES)      .154        .188         .189         .189
                           (AC-FT)       6.          8.           8.           8.

                          CUMULATIVE AREA =     .79 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-6
                         TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.89, TOTAL EXCESS =    1.80

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     387.     12.50                    124.         38.          13.           5.
                          (INCHES)     1.453        1.781        1.789        1.789
                           (AC-FT)      61.         75.          76.          76.

                          CUMULATIVE AREA =     .79 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-6
                         TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      39.     12.50                     12.          4.           1.           1.
                          (INCHES)      .145        .178         .179         .179
                           (AC-FT)       6.          8.           8.           8.

                          CUMULATIVE AREA =     .79 SQ MI
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      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-6
                      TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.83, TOTAL EXCESS =    1.70

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     363.     12.50                117.         36.         12.           5.
                        (INCHES)    1.369       1.682       1.690       1.690
                         (AC-FT)     58.         71.         71.         71.

                        CUMULATIVE AREA =     .79 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-6
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      36.     12.50                 12.          4.          1.           1.
                        (INCHES)     .137        .168        .169        .169
                         (AC-FT)      6.          7.          7.          7.

                        CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-6
                      TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.81, TOTAL EXCESS =    1.66

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     355.     12.50                114.         35.         12.           5.
                        (INCHES)    1.339       1.648       1.655       1.655
                         (AC-FT)     57.         70.         70.         70.

                        CUMULATIVE AREA =     .79 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-6
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      36.     12.50                 11.          4.          1.           1.
                        (INCHES)     .134        .165        .166        .166
                         (AC-FT)      6.          7.          7.          7.

                        CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***


                        INTERPOLATED HYDROGRAPH AT     LS-6

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      42.     12.50                 13.          4.          1.           1.
                        (INCHES)     .158        .193        .194        .194
                         (AC-FT)      7.          8.          8.          8.

                        CUMULATIVE AREA =     .79 SQ MI


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              *            *
  274 KK      *    RETLS6  *
              *            *
              **************
                                DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                                 - 62.5 AC DEVELOPMENT WITH RETENTION
                                 - C FACTOR = 0.63
                                 - 100-YR 2-HR RAIN = 2.66"

      DT          DIVERSION
                       ISTAD       R6OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX        8.70  MAXIMUM VOLUME TO BE DIVERTED

      DI             INFLOW         .00  10000.00

      DQ       DIVERTED FLOW        .00  10000.00

                                                                    ***

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R6OUT
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      44.     12.50                14.          4.          1.           1.
                        (INCHES)   .166        .203        .204         .204
                         (AC-FT)     7.          9.          9.           9.

                       CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RETLS6
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                        (INCHES)   .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

                       CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R6OUT
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      41.     12.50                13.          4.          1.           1.
                        (INCHES)   .154        .188        .189         .189
                         (AC-FT)     6.          8.          8.           8.

                       CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION   RETLS6
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.           0.
                        (INCHES)   .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

                       CUMULATIVE AREA =     .79 SQ MI

      ***             ***             ***             ***             ***

                        DIVERSION HYDROGRAPH    R6OUT
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      39.     12.50                12.          4.          1.           1.
                        (INCHES)   .145        .178        .179         .179
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                    (AC-FT)        6.          8.          8.          8.

                    CUMULATIVE AREA =     .79 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION   RETLS6
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      0.        .00                 0.          0.          0.          0.
                    (INCHES)       .000        .000        .000        .000
                     (AC-FT)        0.          0.          0.          0.

                    CUMULATIVE AREA =     .79 SQ MI

      ***           ***           ***           ***           ***

                    DIVERSION HYDROGRAPH    R6OUT
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     36.      12.50                12.          4.          1.          1.
                    (INCHES)       .137        .168        .169        .169
                     (AC-FT)        6.          7.          7.          7.

                    CUMULATIVE AREA =     .79 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION   RETLS6
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      0.        .00                 0.          0.          0.          0.
                    (INCHES)       .000        .000        .000        .000
                     (AC-FT)        0.          0.          0.          0.

                    CUMULATIVE AREA =     .79 SQ MI

      ***           ***           ***           ***           ***

                    DIVERSION HYDROGRAPH    R6OUT
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     36.      12.50                11.          4.          1.          1.
                    (INCHES)       .134        .165        .166        .166
                     (AC-FT)        6.          7.          7.          7.

                    CUMULATIVE AREA =     .79 SQ MI

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION   RETLS6
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      0.        .00                 0.          0.          0.          0.
                    (INCHES)       .000        .000        .000        .000
                     (AC-FT)        0.          0.          0.          0.

                    CUMULATIVE AREA =     .79 SQ MI

      ***           ***           ***           ***           ***


                INTERPOLATED DIVERSION HYDROGRAPH AT    R6OUT

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     42.      12.50                13.          4.          1.          1.
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                    (INCHES)      .158        .193        .194        .194
                     (AC-FT)        7.          8.          8.          8.

                    CUMULATIVE AREA =     .79 SQ MI

      ***           ***           ***           ***           ***


                    INTERPOLATED HYDROGRAPH AT   RETLS6

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.          0.
                    (INCHES)      .000        .000        .000        .000
                     (AC-FT)        0.          0.          0.          0.

                    CUMULATIVE AREA =     .79 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  282 KK    *     LS-7   *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

  283 BA          SUBBASIN CHARACTERISTICS
                        TAREA         .60  SUBBASIN AREA
                         SNAP         .00  NORMAL ANNUAL PRECIPITATION
                        RATIO         .10  RATIO OF HYDROGRAPH

  284 LG          GREEN AND AMPT LOSS RATE
                        STRTL         .28  STARTING LOSS
                          DTH         .25  MOISTURE DEFICIT
                         PSIF        4.50  WETTING FRONT SUCTION
                        XKSAT         .42  HYDRAULIC CONDUCTIVITY
                        RTIMP       21.00  PERCENT IMPERVIOUS AREA

  285 UC          CLARK UNITGRAPH
                           TC         .90  TIME OF CONCENTRATION
                            R         .96  STORAGE COEFFICIENT

  286 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                         .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                      100.0

                                                   ***

                                              UNIT HYDROGRAPH PARAMETERS
                                        CLARK   TC=   .90 HR,       R=   .96 HR
                                       SNYDER   TP=   .58 HR,      CP=   .39

                                                UNIT HYDROGRAPH
                                           66 END-OF-PERIOD ORDINATES
                 9.       36.       75.      146.      222.      254.      260.      259.      253.      244.
               233.      218.      200.      184.      168.      154.      142.      130.      119.      109.
               100.       92.       84.       77.       71.       65.       60.       55.       50.       46.
                42.       39.       35.       32.       30.       27.       25.       23.       21.       19.
                18.       16.       15.       14.       13.       11.       11.       10.        9.        8.
                 7.        7.        6.        6.        5.        5.        4.        4.        4.        3.
                 3.        3.        3.        2.        2.        2.

      ***           ***           ***           ***           ***

                    HYDROGRAPH AT STATION     LS-7
                   TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.35, TOTAL EXCESS =    1.75

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     330.     12.42                95.         28.          9.          4.
                   (INCHES)     1.484       1.740       1.746       1.746
                    (AC-FT)        47.         55.         56.         56.

                    CUMULATIVE AREA =     .60 SQ MI

                                              HYDROGRAPH MULTIPLIED BY   .10

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                    HYDROGRAPH AT STATION     LS-7
                   TRANSPOSITION AREA       .0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     33.     12.42                 10.          3.          1.           0.
                        (INCHES)   .148        .174        .175         .175
                         (AC-FT)     5.          6.          6.           6.

                        CUMULATIVE AREA =     .60 SQ MI


      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-7
                      TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =   3.85, TOTAL LOSS =    2.24, TOTAL EXCESS =    1.62

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    302.     12.42                 88.         26.          9.           4.
                        (INCHES)  1.364      1.604       1.610        1.610
                         (AC-FT)    43.         51.         51.          51.

                        CUMULATIVE AREA =     .60 SQ MI


                                                HYDROGRAPH MULTIPLIED BY    .10

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-7
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     30.     12.42                  9.          3.          1.           0.
                        (INCHES)   .136        .160        .161         .161
                         (AC-FT)     4.          5.          5.           5.

                        CUMULATIVE AREA =     .60 SQ MI


      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-7
                      TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =   3.69, TOTAL LOSS =    2.16, TOTAL EXCESS =    1.53

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    284.     12.42                 82.         24.          8.           4.
                        (INCHES)  1.284      1.514       1.519        1.519
                         (AC-FT)    41.         48.         48.          48.

                        CUMULATIVE AREA =     .60 SQ MI


                                                HYDROGRAPH MULTIPLIED BY    .10

      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-7
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     28.     12.42                  8.          2.          1.           0.
                        (INCHES)   .128        .151        .152         .152
                         (AC-FT)     4.          5.          5.           5.

                        CUMULATIVE AREA =     .60 SQ MI


      ***             ***            ***            ***            ***

                        HYDROGRAPH AT STATION     LS-7
                      TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =   3.53, TOTAL LOSS =    2.09, TOTAL EXCESS =    1.43

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
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+     265.     12.42                    77.          23.          8.           3.
                          (INCHES)     1.203        1.422        1.428        1.428
                           (AC-FT)      38.          45.          45.          45.

                          CUMULATIVE AREA =     .60 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-7
                         TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      27.     12.42                     8.           2.           1.           0.
                          (INCHES)      .120         .142         .143         .143
                           (AC-FT)       4.           5.           5.           5.

                          CUMULATIVE AREA =     .60 SQ MI


      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-7
                         TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.07, TOTAL EXCESS =    1.40

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     259.     12.42                    75.          22.          7.           3.
                          (INCHES)     1.174        1.390        1.396        1.396
                           (AC-FT)      37.          44.          44.          44.

                          CUMULATIVE AREA =     .60 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     LS-7
                         TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      26.     12.42                     8.           2.           1.           0.
                          (INCHES)      .117         .139         .140         .140
                           (AC-FT)       4.           4.           4.           4.

                          CUMULATIVE AREA =     .60 SQ MI

      ***             ***             ***             ***             ***


                          INTERPOLATED HYDROGRAPH AT     LS-7

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      31.     12.42                     9.           3.           1.           0.
                          (INCHES)      .141         .166         .167         .167
                           (AC-FT)       4.           5.           5.           5.

                          CUMULATIVE AREA =     .60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  288 KK    *    RETLS7  *
            *            *
            **************
                          DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                           - 171 AC DEVELOPMENT WITH RETENTION
                           - C FACTOR = 0.63
                           - 100-YR 2-HR RAIN = 2.66"

      DT          DIVERSION
                        ISTAD       R7OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                       DSTRMX       23.90  MAXIMUM VOLUME TO BE DIVERTED
```

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      DI              INFLOW          .00  10000.00

      DQ       DIVERTED FLOW          .00  10000.00

                                                                  ***

       ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH    R7OUT
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      33.     12.42                10.          3.          1.           0.
                        (INCHES)   .148        .174        .175         .175
                         (AC-FT)     5.          6.          6.           6.

                        CUMULATIVE AREA =     .60 SQ MI

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   RETLS7
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                 0.          0.          0.           0.
                        (INCHES)   .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

                        CUMULATIVE AREA =     .60 SQ MI

       ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH    R7OUT
                        TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      30.     12.42                 9.          3.          1.           0.
                        (INCHES)   .136        .160        .161         .161
                         (AC-FT)     4.          5.          5.           5.

                        CUMULATIVE AREA =     .60 SQ MI

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   RETLS7
                        TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                 0.          0.          0.           0.
                        (INCHES)   .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

                        CUMULATIVE AREA =     .60 SQ MI

       ***             ***             ***             ***             ***

                          DIVERSION HYDROGRAPH    R7OUT
                        TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+      28.     12.42                 8.          2.          1.           0.
                        (INCHES)   .128        .151        .152         .152
                         (AC-FT)     4.          5.          5.           5.

                        CUMULATIVE AREA =     .60 SQ MI

       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION   RETLS7
                        TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
```

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                    (CFS)
+      0.      .00                0.         0.         0.         0.
                (INCHES)       .000       .000       .000       .000
                (AC-FT)          0.         0.         0.         0.

                CUMULATIVE AREA =     .60 SQ MI

     ***          ***          ***          ***          ***

                DIVERSION HYDROGRAPH    R7OUT
              TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     27.     12.42                8.         2.         1.         0.
                (INCHES)       .120       .142       .143       .143
                (AC-FT)          4.         5.         5.         5.

                CUMULATIVE AREA =     .60 SQ MI

     ***          ***          ***          ***          ***

                HYDROGRAPH AT STATION   RETLS7
              TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+      0.      .00                0.         0.         0.         0.
                (INCHES)       .000       .000       .000       .000
                (AC-FT)          0.         0.         0.         0.

                CUMULATIVE AREA =     .60 SQ MI

     ***          ***          ***          ***          ***

                DIVERSION HYDROGRAPH    R7OUT
              TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     26.     12.42                8.         2.         1.         0.
                (INCHES)       .117       .139       .140       .140
                (AC-FT)          4.         4.         4.         4.

                CUMULATIVE AREA =     .60 SQ MI

     ***          ***          ***          ***          ***

                HYDROGRAPH AT STATION   RETLS7
              TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+      0.      .00                0.         0.         0.         0.
                (INCHES)       .000       .000       .000       .000
                (AC-FT)          0.         0.         0.         0.

                CUMULATIVE AREA =     .60 SQ MI

     ***          ***          ***          ***          ***

            INTERPOLATED DIVERSION HYDROGRAPH AT    R7OUT

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                    (CFS)
+     31.     12.42                9.         3.         1.         0.
                (INCHES)       .141       .166       .167       .167
                (AC-FT)          4.         5.         5.         5.

                CUMULATIVE AREA =     .60 SQ MI

     ***          ***          ***          ***          ***

                INTERPOLATED HYDROGRAPH AT   RETLS7

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
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+   (CFS)        (HR)
                          (CFS)
+       0.        .00                0.          0.          0.          0.
                        (INCHES)    .000        .000        .000        .000
                         (AC-FT)     0.          0.          0.          0.

                        CUMULATIVE AREA =     .60 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
 296 KK     *      LS7C  *
            *            *
            **************
                            COMBINE RUNOFF FROM LS6 AND LS7 AT ADOBE POOL

 298 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                  ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS7C
                      TRANSPOSITION AREA       .0 SQ MI

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+       0.        .00                0.          0.          0.          0.
                        (INCHES)    .000        .000        .000        .000
                         (AC-FT)     0.          0.          0.          0.

                        CUMULATIVE AREA =    1.39 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS7C
                      TRANSPOSITION AREA     10.0 SQ MI

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+       0.        .00                0.          0.          0.          0.
                        (INCHES)    .000        .000        .000        .000
                         (AC-FT)     0.          0.          0.          0.

                        CUMULATIVE AREA =    1.39 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS7C
                      TRANSPOSITION AREA     30.0 SQ MI

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+       0.        .00                0.          0.          0.          0.
                        (INCHES)    .000        .000        .000        .000
                         (AC-FT)     0.          0.          0.          0.

                        CUMULATIVE AREA =    1.39 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS7C
                      TRANSPOSITION AREA     60.0 SQ MI

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+       0.        .00                0.          0.          0.          0.
                        (INCHES)    .000        .000        .000        .000
                         (AC-FT)     0.          0.          0.          0.

                        CUMULATIVE AREA =    1.39 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS7C
                      TRANSPOSITION AREA     90.0 SQ MI
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  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                 0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

                         CUMULATIVE AREA =    1.39 SQ MI

      ***             ***             ***             ***             ***


                         INTERPOLATED HYDROGRAPH AT     LS7C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+       0.       .00                 0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)     0.          0.          0.           0.

                         CUMULATIVE AREA =    1.39 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 299 KK     *      LS-8  *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

 300 BA         SUBBASIN CHARACTERISTICS
                      TAREA         .57  SUBBASIN AREA
                       SNAP         .00  NORMAL ANNUAL PRECIPITATION
                      RATIO         .10  RATIO OF HYDROGRAPH

 301 LG         GREEN AND AMPT LOSS RATE
                      STRTL         .25  STARTING LOSS
                        DTH         .25  MOISTURE DEFICIT
                       PSIF        5.10  WETTING FRONT SUCTION
                      XKSAT         .31  HYDRAULIC CONDUCTIVITY
                      RTIMP       32.00  PERCENT IMPERVIOUS AREA

 302 UC         CLARK UNITGRAPH
                         TC         .68  TIME OF CONCENTRATION
                          R         .44  STORAGE COEFFICIENT

 303 UA         ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0
                                                          ***

                                                   UNIT HYDROGRAPH PARAMETERS
                                             CLARK   TC=   .68 HR,       R=   .44 HR
                                            SNYDER   TP=   .40 HR,      CP=   .51

                                                     UNIT HYDROGRAPH
                                              32 END-OF-PERIOD ORDINATES
              28.      107.      260.      417.      464.      444.      409.      369.      322.      270.
             223.      185.      153.      127.      105.       87.       72.       60.       50.       41.
              34.       28.       23.       19.       16.       13.       11.        9.        8.        6.
               5.        4.

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION     LS-8
                       TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.94, TOTAL EXCESS =    2.16

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     588.     12.25                108.         33.         11.           5.
                        (INCHES)   1.769       2.146       2.150        2.150
                         (AC-FT)     53.         65.         65.          65.

                         CUMULATIVE AREA =     .57 SQ MI

                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***
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                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+     59.      12.25                 11.          3.          1.           0.
                  (INCHES)         .177        .215        .215         .215
                   (AC-FT)          5.          6.          7.           7.

                  CUMULATIVE AREA =     .57 SQ MI


      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.85, TOTAL EXCESS =    2.00

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+    543.      12.25                100.         30.         10.           4.
                  (INCHES)        1.632       1.987       1.991        1.991
                   (AC-FT)         49.         60.         60.          60.

                  CUMULATIVE AREA =     .57 SQ MI


                                                HYDROGRAPH MULTIPLIED BY    .10

      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+     54.      12.25                 10.          3.          1.           0.
                  (INCHES)         .163        .199        .199         .199
                   (AC-FT)          5.          6.          6.           6.

                  CUMULATIVE AREA =     .57 SQ MI


      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.80, TOTAL EXCESS =    1.89

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+    512.      12.25                 94.         29.         10.           4.
                  (INCHES)        1.541       1.881       1.884        1.884
                   (AC-FT)         47.         57.         57.          57.

                  CUMULATIVE AREA =     .57 SQ MI


                                                HYDROGRAPH MULTIPLIED BY    .10

      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                     (CFS)
+     51.      12.25                  9.          3.          1.           0.
                  (INCHES)         .154        .188        .188         .188
                   (AC-FT)          5.          6.          6.           6.

                  CUMULATIVE AREA =     .57 SQ MI


      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION     LS-8
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.74, TOTAL EXCESS =    1.79

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
```

```
+   (CFS)        (HR)
                          (CFS)
+     483.      12.25                    89.          27.          9.           4.
                         (INCHES)     1.452        1.777        1.781        1.781
                          (AC-FT)       44.          54.          54.          54.

                         CUMULATIVE AREA =      .57 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY    .10

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION      LS-8
                        TRANSPOSITION AREA      60.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                          (CFS)
+      48.      12.25                     9.           3.           1.           0.
                         (INCHES)      .145         .178         .178         .178
                          (AC-FT)        4.           5.           5.           5.

                         CUMULATIVE AREA =      .57 SQ MI


      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION      LS-8
                        TRANSPOSITION AREA      90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.72, TOTAL EXCESS =    1.75

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     472.      12.25                    87.          27.          9.           4.
                         (INCHES)     1.423        1.742        1.746        1.746
                          (AC-FT)       43.          53.          53.          53.

                         CUMULATIVE AREA =      .57 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY    .10

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION      LS-8
                        TRANSPOSITION AREA      90.0 SQ MI

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                          (CFS)
+      47.      12.25                     9.           3.           1.           0.
                         (INCHES)      .142         .174         .175         .175
                          (AC-FT)        4.           5.           5.           5.

                         CUMULATIVE AREA =      .57 SQ MI

      ***             ***             ***             ***             ***


                         INTERPOLATED HYDROGRAPH AT      LS-8

  PEAK FLOW      TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                          (CFS)
+      56.      12.25                    10.           3.           1.           0.
                         (INCHES)      .169         .205         .206         .206
                          (AC-FT)        5.           6.           6.           6.

                         CUMULATIVE AREA =      .57 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  305 KK    *     LS-9   *        BASIN
            *            *
            **************

              SUBBASIN RUNOFF DATA

  306 BA          SUBBASIN CHARACTERISTICS
                        TAREA          .45  SUBBASIN AREA
                         SNAP          .00  NORMAL ANNUAL PRECIPITATION
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                    RATIO          .10  RATIO OF HYDROGRAPH

307 LG          GREEN AND AMPT LOSS RATE
                    STRTL          .20  STARTING LOSS
                      DTH          .25  MOISTURE DEFICIT
                     PSIF         5.20  WETTING FRONT SUCTION
                    XKSAT          .24  HYDRAULIC CONDUCTIVITY
                    RTIMP         9.00  PERCENT IMPERVIOUS AREA

308 UC          CLARK UNITGRAPH
                       TC         1.02  TIME OF CONCENTRATION
                        R          .96  STORAGE COEFFICIENT

309 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                      .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                   100.0

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=  1.02 HR,       R=   .96 HR
                                         SNYDER   TP=   .61 HR,      CP=   .39

                                                  UNIT HYDROGRAPH
                                            67 END-OF-PERIOD ORDINATES
                 6.       23.       47.       82.      139.      181.      189.      190.      188.      183.
               176.      168.      159.      147.      135.      123.      113.      104.       95.       87.
                80.       73.       67.       61.       56.       52.       47.       43.       40.       36.
                33.       31.       28.       26.       24.       22.       20.       18.       17.       15.
                14.       13.       12.       11.       10.        9.        8.        8.        7.        6.
                 6.        5.        5.        5.        4.        4.        3.        3.        3.        3.
                 2.        2.        2.        2.        2.        2.        1.

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-9
                      TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.50, TOTAL EXCESS =    1.60

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     259.     12.50                   72.         19.          6.          3.
                      (INCHES)      1.480       1.592       1.594       1.594
                       (AC-FT)        36.         38.         38.         38.

                      CUMULATIVE AREA =     .45 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-9
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      26.     12.50                    7.          2.          1.          0.
                      (INCHES)       .148        .159        .159        .159
                       (AC-FT)         4.          4.          4.          4.

                      CUMULATIVE AREA =     .45 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-9
                      TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.38, TOTAL EXCESS =    1.47

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     238.     12.50                   66.         18.          6.          3.
                      (INCHES)      1.360       1.464       1.467       1.467
                       (AC-FT)        33.         35.         35.         35.

                      CUMULATIVE AREA =     .45 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION     LS-9
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
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                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     24.      12.50                   7.           2.           1.            0.
                                (INCHES)       .136         .146         .147          .147
                                 (AC-FT)         3.           4.           4.            4.

                                CUMULATIVE AREA =      .45 SQ MI

      ***                ***            ***            ***            ***

                                HYDROGRAPH AT STATION      LS-9
                               TRANSPOSITION AREA      30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.30, TOTAL EXCESS =    1.39

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    224.      12.50                  62.          17.           6.            2.
                                (INCHES)      1.279        1.379        1.381         1.381
                                 (AC-FT)        31.          33.          33.           33.

                                CUMULATIVE AREA =      .45 SQ MI

                                                        HYDROGRAPH MULTIPLIED BY    .10

      ***                ***            ***            ***            ***

                                HYDROGRAPH AT STATION      LS-9
                               TRANSPOSITION AREA      30.0 SQ MI

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     22.      12.50                   6.           2.           1.            0.
                                (INCHES)       .128         .138         .138          .138
                                 (AC-FT)         3.           3.           3.            3.

                                CUMULATIVE AREA =      .45 SQ MI

      ***                ***            ***            ***            ***

                                HYDROGRAPH AT STATION      LS-9
                               TRANSPOSITION AREA      60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.23, TOTAL EXCESS =    1.30

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    210.      12.50                  58.          16.           5.            2.
                                (INCHES)      1.197        1.293        1.295         1.295
                                 (AC-FT)        29.          31.          31.           31.

                                CUMULATIVE AREA =      .45 SQ MI

                                                        HYDROGRAPH MULTIPLIED BY    .10

      ***                ***            ***            ***            ***

                                HYDROGRAPH AT STATION      LS-9
                               TRANSPOSITION AREA      60.0 SQ MI

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+     21.      12.50                   6.           2.           1.            0.
                                (INCHES)       .120         .129         .129          .129
                                 (AC-FT)         3.           3.           3.            3.

                                CUMULATIVE AREA =      .45 SQ MI

      ***                ***            ***            ***            ***

                                HYDROGRAPH AT STATION      LS-9
                               TRANSPOSITION AREA      90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.20, TOTAL EXCESS =    1.27

  PEAK FLOW      TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR     166.58-HR
+   (CFS)        (HR)
                                  (CFS)
+    205.      12.50                  57.          15.           5.            2.
                                (INCHES)      1.168        1.262        1.265         1.265
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                    (AC-FT)       28.         30.         30.         30.

                    CUMULATIVE AREA =     .45 SQ MI

                                                HYDROGRAPH MULTIPLIED BY   .10

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION     LS-9
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     20.      12.50                  6.          2.          1.          0.
                    (INCHES)       .117        .126        .126        .126
                     (AC-FT)        3.          3.          3.          3.

                    CUMULATIVE AREA =     .45 SQ MI

     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT     LS-9

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     25.      12.50                  7.          2.          1.          0.
                    (INCHES)       .141        .152        .152        .152
                     (AC-FT)        3.          4.          4.          4.

                    CUMULATIVE AREA =     .45 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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          *            *
 311 KK   *     LS-10  *        BASIN
          *            *
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             SUBBASIN RUNOFF DATA

 312 BA          SUBBASIN CHARACTERISTICS
                       TAREA         .26  SUBBASIN AREA
                        SNAP         .00  NORMAL ANNUAL PRECIPITATION
                       RATIO         .10  RATIO OF HYDROGRAPH

 313 LG          GREEN AND AMPT LOSS RATE
                       STRTL         .25  STARTING LOSS
                         DTH         .25  MOISTURE DEFICIT
                        PSIF        5.80  WETTING FRONT SUCTION
                       XKSAT         .22  HYDRAULIC CONDUCTIVITY
                       RTIMP       32.00  PERCENT IMPERVIOUS AREA

 314 UC          CLARK UNITGRAPH
                          TC         .26  TIME OF CONCENTRATION
                           R         .19  STORAGE COEFFICIENT

 315 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                          ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=   .26 HR,       R=   .19 HR
                                         SNYDER   TP=   .18 HR,      CP=   .56

                                                     UNIT HYDROGRAPH
                                               14 END-OF-PERIOD ORDINATES
                129.      392.      475.      354.      231.      148.       94.       60.       39.       25.
                 16.       10.        6.        4.

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-10
                   TRANSPOSITION AREA       .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    1.87, TOTAL EXCESS =    2.23

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+    484.      12.08                 51.         15.          5.          2.
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                    (INCHES)     1.846       2.225       2.226       2.226
                     (AC-FT)      25.         30.         31.         31.

                    CUMULATIVE AREA =     .26 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION    LS-10
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     48.     12.08                5.          2.          1.          0.
                    (INCHES)      .185        .222        .223        .223
                     (AC-FT)       3.          3.          3.          3.

                    CUMULATIVE AREA =     .26 SQ MI


      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION    LS-10
                    TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    1.78, TOTAL EXCESS =    2.07

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    450.     12.08                47.         14.          5.          2.
                    (INCHES)     1.710       2.066       2.067       2.067
                     (AC-FT)      23.         28.         28.         28.

                    CUMULATIVE AREA =     .26 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION    LS-10
                    TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     45.     12.08                 5.          1.          0.          0.
                    (INCHES)      .171        .207        .207        .207
                     (AC-FT)       2.          3.          3.          3.

                    CUMULATIVE AREA =     .26 SQ MI

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION    LS-10
                    TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    1.72, TOTAL EXCESS =    1.97

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    427.     12.08                45.         14.          5.          2.
                    (INCHES)     1.619       1.960       1.961       1.961
                     (AC-FT)      22.         27.         27.         27.

                    CUMULATIVE AREA =     .26 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***           ***           ***           ***           ***

                      HYDROGRAPH AT STATION    LS-10
                    TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                  6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     43.     12.08                 4.          1.          0.          0.
                    (INCHES)      .162        .196        .196        .196
                     (AC-FT)       2.          3.          3.          3.

                    CUMULATIVE AREA =     .26 SQ MI
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      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-10
                  TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    1.66, TOTAL EXCESS =    1.86

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     404.     12.08                 42.         13.          4.           2.
                         (INCHES)  1.528       1.853       1.855        1.855
                          (AC-FT)    21.         25.         25.          25.

                         CUMULATIVE AREA =     .26 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-10
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      40.     12.08                  4.          1.          0.           0.
                         (INCHES)   .153        .185        .185         .185
                          (AC-FT)     2.          3.          3.           3.

                         CUMULATIVE AREA =     .26 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-10
                  TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    1.64, TOTAL EXCESS =    1.82

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+     396.     12.08                 41.         13.          4.           2.
                         (INCHES)  1.496       1.816       1.818        1.818
                          (AC-FT)    21.         25.         25.          25.

                         CUMULATIVE AREA =     .26 SQ MI


                                                HYDROGRAPH MULTIPLIED BY   .10

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    LS-10
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      40.     12.08                  4.          1.          0.           0.
                         (INCHES)   .150        .182        .182         .182
                          (AC-FT)     2.          2.          2.           2.

                         CUMULATIVE AREA =     .26 SQ MI

      ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT    LS-10

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                         (CFS)
+      47.     12.08                  5.          1.          0.           0.
                         (INCHES)   .178        .215        .215         .215
                          (AC-FT)     2.          3.          3.           3.

                         CUMULATIVE AREA =     .26 SQ MI


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                *            *
  317 KK        *     RET10  *
                *            *
                **************
                                DIVERT VOLUME FOR RETENTION ESTIMATED BASED ON:
                                 - 121.4 AC DEVELOPMENT WITH RETENTION
                                 - C FACTOR = 0.63
                                 - 100-YR 2-HR RAIN = 2.66"

      DT          DIVERSION
                       ISTAD      R10OUT  DIVERSION HYDROGRAPH IDENTIFICATION
                      DSTRMX       17.00  MAXIMUM VOLUME TO BE DIVERTED

      DI            INFLOW         .00  10000.00

      DQ      DIVERTED FLOW        .00  10000.00

                                                                    ***

       ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   R10OUT
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      48.     12.08                 5.          2.          1.           0.
                          (INCHES)  .185        .222        .223         .223
                           (AC-FT)   3.          3.          3.           3.

                         CUMULATIVE AREA =     .26 SQ MI

       ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    RET10
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+       0.       .00                 0.          0.          0.           0.
                          (INCHES)  .000        .000        .000         .000
                           (AC-FT)   0.          0.          0.           0.

                         CUMULATIVE AREA =     .26 SQ MI

       ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   R10OUT
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      45.     12.08                 5.          1.          0.           0.
                          (INCHES)  .171        .207        .207         .207
                           (AC-FT)   2.          3.          3.           3.

                         CUMULATIVE AREA =     .26 SQ MI

       ***            ***            ***            ***            ***

                        HYDROGRAPH AT STATION    RET10
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+       0.       .00                 0.          0.          0.           0.
                          (INCHES)  .000        .000        .000         .000
                           (AC-FT)   0.          0.          0.           0.

                         CUMULATIVE AREA =     .26 SQ MI

       ***            ***            ***            ***            ***

                        DIVERSION HYDROGRAPH   R10OUT
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                              (CFS)
+      43.     12.08                 4.          1.          0.           0.
                          (INCHES)  .162        .196        .196         .196
                           (AC-FT)   2.          3.          3.           3.
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                    CUMULATIVE AREA =     .26 SQ MI

      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION    RET10
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      0.        .00                 0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                    CUMULATIVE AREA =     .26 SQ MI

      ***          ***          ***          ***          ***

                    DIVERSION HYDROGRAPH   R100UT
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     40.      12.08                 4.          1.          0.           0.
                        (INCHES)    .153        .185        .185         .185
                         (AC-FT)      2.          3.          3.           3.

                    CUMULATIVE AREA =     .26 SQ MI

      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION    RET10
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      0.        .00                 0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                    CUMULATIVE AREA =     .26 SQ MI

      ***          ***          ***          ***          ***

                    DIVERSION HYDROGRAPH   R100UT
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     40.      12.08                 4.          1.          0.           0.
                        (INCHES)    .150        .182        .182         .182
                         (AC-FT)      2.          2.          2.           2.

                    CUMULATIVE AREA =     .26 SQ MI

      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION    RET10
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+      0.        .00                 0.          0.          0.           0.
                        (INCHES)    .000        .000        .000         .000
                         (AC-FT)      0.          0.          0.           0.

                    CUMULATIVE AREA =     .26 SQ MI

      ***          ***          ***          ***          ***


              INTERPOLATED DIVERSION HYDROGRAPH AT   R100UT

  PEAK FLOW     TIME                        MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     47.      12.08                 5.          1.          0.           0.
                        (INCHES)    .178        .215        .215         .215
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                    (AC-FT)        2.          3.          3.          3.

                    CUMULATIVE AREA =     .26 SQ MI

      ***          ***          ***          ***          ***


                    INTERPOLATED HYDROGRAPH AT    RET10

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+       0.       .00                 0.          0.          0.          0.
                  (INCHES)       .000        .000        .000        .000
                    (AC-FT)        0.          0.          0.          0.

                    CUMULATIVE AREA =     .26 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


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            *            *
  325 KK    *    INFLOW  *
            *            *
            **************
                      COMBINE ALL INFLOW HYDROGRAPHS TO ADOBE DAM POOL AREA
                      (LS7C, LS5C, LS8, LS2C, LS9, LS10)

  328 HC          HYDROGRAPH COMBINATION
                  ICOMP           6  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                ***

      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   INFLOW
                  TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5232.     14.67               2052.        615.        206.         89.
                  (INCHES)       .228        .273        .275        .275
                    (AC-FT)     1018.       1220.       1226.       1226.

                    CUMULATIVE AREA =   83.70 SQ MI

      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   INFLOW
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5229.     14.67               2047.        614.        206.         89.
                  (INCHES)       .227        .273        .274        .274
                    (AC-FT)     1015.       1217.       1223.       1223.

                    CUMULATIVE AREA =   83.70 SQ MI

      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   INFLOW
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+    5222.     14.67               2044.        613.        205.         89.
                  (INCHES)       .227        .272        .274        .274
                    (AC-FT)     1014.       1215.       1221.       1221.

                    CUMULATIVE AREA =   83.70 SQ MI

      ***          ***          ***          ***          ***

                    HYDROGRAPH AT STATION   INFLOW
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                      MAXIMUM AVERAGE FLOW
                                   6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
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                                (CFS)
+    5221.     14.67                  2042.        612.        205.          89.
                            (INCHES)     .227        .272        .273         .273
                             (AC-FT)    1012.       1214.       1220.        1220.

                            CUMULATIVE AREA =   83.70 SQ MI


      ***             ***             ***             ***             ***

                             HYDROGRAPH AT STATION   INFLOW
                           TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                (CFS)
+    5221.     14.67                  2041.        611.        205.          89.
                            (INCHES)     .227        .272        .273         .273
                             (AC-FT)    1012.       1213.       1219.        1219.

                            CUMULATIVE AREA =   83.70 SQ MI

      ***             ***             ***             ***             ***


                            INTERPOLATED HYDROGRAPH AT   INFLOW

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                (CFS)
+    5221.     14.67                  2041.        612.        205.          89.
                            (INCHES)     .227        .272        .273         .273
                             (AC-FT)    1012.       1213.       1219.        1219.

                            CUMULATIVE AREA =   83.70 SQ MI


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            *            *
 329 KK     *    LS-11   *        BASIN
            *            *
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               SUBBASIN RUNOFF DATA

 330 BA          SUBBASIN CHARACTERISTICS
                       TAREA         2.84  SUBBASIN AREA
                        SNAP          .00  NORMAL ANNUAL PRECIPITATION
                       RATIO          .10  RATIO OF HYDROGRAPH

 331 LG          GREEN AND AMPT LOSS RATE
                       STRTL          .27  STARTING LOSS
                         DTH          .25  MOISTURE DEFICIT
                        PSIF         4.55  WETTING FRONT SUCTION
                       XKSAT          .38  HYDRAULIC CONDUCTIVITY
                       RTIMP        14.00  PERCENT IMPERVIOUS AREA

 332 UC          CLARK UNITGRAPH
                          TC         1.18  TIME OF CONCENTRATION
                           R          .41  STORAGE COEFFICIENT

 333 UA          ACCUMULATED-AREA VS. TIME,  11 ORDINATES
                        .0       5.0      16.0      30.0      65.0      77.0      84.0      90.0      94.0      97.0
                     100.0

                                                    ***

                                                UNIT HYDROGRAPH PARAMETERS
                                          CLARK   TC=  1.18 HR,       R=   .41 HR
                                         SNYDER   TP=   .57 HR,      CP=   .63

                                                   UNIT HYDROGRAPH
                                              33 END-OF-PERIOD ORDINATES
                71.       251.      490.      763.     1245.     1831.     2059.     1958.     1796.     1642.
              1480.      1312.     1161.     1032.      893.      737.      601.      490.      400.      326.
               266.       217.      177.      144.      118.       96.       78.       64.       52.       42.
                35.        28.       23.

      ***             ***             ***             ***             ***

                             HYDROGRAPH AT STATION    LS-11
                           TRANSPOSITION AREA        .0 SQ MI

    TOTAL RAINFALL =    4.10, TOTAL LOSS =    2.52, TOTAL EXCESS =    1.58

  PEAK FLOW     TIME                            MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
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```
+   (CFS)        (HR)
                          (CFS)
+    2366.      12.42                  430.        120.         40.          17.
                         (INCHES)     1.409       1.575       1.576        1.576
                          (AC-FT)      213.        238.        239.         239.

                         CUMULATIVE AREA =    2.84 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    LS-11
                        TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                           MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     237.      12.42                   43.         12.          4.           2.
                         (INCHES)      .141        .157        .158         .158
                          (AC-FT)       21.         24.         24.          24.

                         CUMULATIVE AREA =    2.84 SQ MI


      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    LS-11
                        TRANSPOSITION AREA     10.0 SQ MI

    TOTAL RAINFALL =    3.85, TOTAL LOSS =    2.40, TOTAL EXCESS =    1.45

  PEAK FLOW     TIME                           MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+    2166.      12.42                  393.        110.         37.          16.
                         (INCHES)     1.289       1.444       1.446        1.446
                          (AC-FT)      195.        219.        219.         219.

                         CUMULATIVE AREA =    2.84 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    LS-11
                        TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                           MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     217.      12.42                   39.         11.          4.           2.
                         (INCHES)      .129        .144        .145         .145
                          (AC-FT)       20.         22.         22.          22.

                         CUMULATIVE AREA =    2.84 SQ MI


      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    LS-11
                        TRANSPOSITION AREA     30.0 SQ MI

    TOTAL RAINFALL =    3.69, TOTAL LOSS =    2.32, TOTAL EXCESS =    1.37

  PEAK FLOW     TIME                           MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+    2034.      12.42                  370.        104.         35.          15.
                         (INCHES)     1.212       1.360       1.362        1.362
                          (AC-FT)      183.        206.        206.         206.

                         CUMULATIVE AREA =    2.84 SQ MI


                                                   HYDROGRAPH MULTIPLIED BY   .10

      ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    LS-11
                        TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                           MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR    166.58-HR
+   (CFS)        (HR)
                          (CFS)
+     203.      12.42                   37.         10.          3.           1.
                         (INCHES)      .121        .136        .136         .136
                          (AC-FT)       18.         21.         21.          21.
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                    CUMULATIVE AREA =    2.84 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-11
                   TRANSPOSITION AREA     60.0 SQ MI

    TOTAL RAINFALL =    3.53, TOTAL LOSS =    2.24, TOTAL EXCESS =    1.28

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                  (CFS)
+    1900.     12.42                  346.         97.         32.          14.
                (INCHES)            1.133      1.275       1.277        1.277
                 (AC-FT)             172.        193.        193.         193.

                 CUMULATIVE AREA =    2.84 SQ MI

                                                HYDROGRAPH MULTIPLIED BY   .10

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-11
                   TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                  (CFS)
+     190.     12.42                   35.         10.          3.           1.
                (INCHES)             .113       .128        .128         .128
                 (AC-FT)              17.         19.         19.          19.

                 CUMULATIVE AREA =    2.84 SQ MI

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-11
                   TRANSPOSITION AREA     90.0 SQ MI

    TOTAL RAINFALL =    3.47, TOTAL LOSS =    2.22, TOTAL EXCESS =    1.25

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                  (CFS)
+    1853.     12.42                  338.         95.         32.          14.
                (INCHES)            1.106      1.246       1.247        1.247
                 (AC-FT)             167.        189.        189.         189.

                 CUMULATIVE AREA =    2.84 SQ MI

                                                HYDROGRAPH MULTIPLIED BY   .10

     ***            ***            ***            ***            ***

                     HYDROGRAPH AT STATION    LS-11
                   TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                  (CFS)
+     185.     12.42                   34.         10.          3.           1.
                (INCHES)             .111       .125        .125         .125
                 (AC-FT)              17.         19.         19.          19.

                 CUMULATIVE AREA =    2.84 SQ MI

     ***            ***            ***            ***            ***


                 INTERPOLATED HYDROGRAPH AT    LS-11

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                  (CFS)
+     220.     12.42                   40.         11.          4.           2.
                (INCHES)             .131       .147        .147         .147
                 (AC-FT)              20.         22.         22.          22.

                 CUMULATIVE AREA =    2.84 SQ MI

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
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                **************
                *            *
335 KK          *     LS11C  *
                *            *
                **************
                                COMBINE ALL INFLOWS TO ADOBE POOL WITH RUNOFF FROM LS11

337 HC            HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                                    ***

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS11C
                      TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    5237.     14.67                2089.        627.        210.          91.
                        (INCHES)     .224        .269        .271         .271
                         (AC-FT)    1036.       1244.       1250.        1250.

                       CUMULATIVE AREA =   86.54 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS11C
                      TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    5234.     14.67                2081.        625.        209.          90.
                        (INCHES)     .224        .268        .270         .270
                         (AC-FT)    1032.       1239.       1245.        1245.

                       CUMULATIVE AREA =   86.54 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS11C
                      TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    5227.     14.67                2076.        623.        209.          90.
                        (INCHES)     .223        .268        .269         .269
                         (AC-FT)    1029.       1236.       1242.        1242.

                       CUMULATIVE AREA =   86.54 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS11C
                      TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    5226.     14.67                2071.        621.        208.          90.
                        (INCHES)     .222        .267        .268         .268
                         (AC-FT)    1027.       1233.       1239.        1239.

                       CUMULATIVE AREA =   86.54 SQ MI

      ***             ***             ***             ***             ***

                        HYDROGRAPH AT STATION    LS11C
                      TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    5225.     14.67                2069.        621.        208.          90.
                        (INCHES)     .222        .267        .268         .268
                         (AC-FT)    1026.       1232.       1238.        1238.

                       CUMULATIVE AREA =   86.54 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    4:  //LS11C/FLOW/31DEC1989/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //LS11C/FLOW/01JAN1990/5MIN//
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-----DSS---ZWRITE Unit  71; Vers.    4:  //LS11C/FLOW/02JAN1990/5MIN//
-----DSS---ZWRITE Unit  71; Vers.    4:  //LS11C/FLOW/03JAN1990/5MIN//
-----DSS---ZWRITE Unit  71; Vers.    4:  //LS11C/FLOW/04JAN1990/5MIN//
-----DSS---ZWRITE Unit  71; Vers.    4:  //LS11C/FLOW/05JAN1990/5MIN//
-----DSS---ZWRITE Unit  71; Vers.    4:  //LS11C/FLOW/06JAN1990/5MIN//
-----DSS---ZWRITE Unit  71; Vers.    4:  //LS11C/FLOW/07JAN1990/5MIN//
     ***            ***            ***            ***            ***


                    INTERPOLATED HYDROGRAPH AT    LS11C

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+    5225.     14.67                2070.        621.        208.          90.
                        (INCHES)     .222        .267        .268         .268
                         (AC-FT)    1026.       1232.       1238.        1238.

                    CUMULATIVE AREA =   86.54 SQ MI


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
 339 KK     *    ADOBE   *
            *            *
            **************
                        ROUTE COMBINED FLOWS THROUGH ADOBE DAM RESERVOIR
                        DATA FROM FCDMC ALERT STATION DATA (TAKEN FROM COE DESIGN DATA)

              HYDROGRAPH ROUTING DATA

 342 RS          STORAGE ROUTING
                      NSTPS          1  NUMBER OF SUBREACHES
                       ITYP       STOR  TYPE OF INITIAL CONDITION
                     RSVRIC        .00  INITIAL CONDITION
                          X        .00 WORKING R AND D COEFFICIENT

 343 SV            STORAGE          .0      70.0     154.0     372.0    1154.0    2695.0    5068.0    8502.0   13100.0   18825.0
                                26896.0   34968.0   47757.0   60546.0   73335.0

 345 SE          ELEVATION      1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76
                                1382.80   1387.76   1392.76   1397.76   1402.76

 347 SQ          DISCHARGE          0.      200.      339.      600.      970.     1210.     1429.     1630.     1810.     1980.
                                 3471.     6350.     8000.    12300.    17200.

 349 SE          ELEVATION      1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76
                                1382.80   1387.76   1392.76   1397.76   1402.76

                                                          ***

                                     COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE        .00     70.00    154.00    372.00   1154.00   2695.00   5068.00   8502.00  13100.00  18825.00
          OUTFLOW        .00    200.00    339.00    600.00    970.00   1210.00   1429.00   1630.00   1810.00   1980.00
        ELEVATION    1339.80   1342.76   1344.76   1347.76   1352.76   1357.76   1362.76   1367.76   1372.76   1377.76

          STORAGE   26896.00  34968.00  47757.00  60546.00  73335.00
          OUTFLOW    3471.00   6350.00   8000.00  12300.00  17200.00
        ELEVATION    1382.80   1387.76   1392.76   1397.76   1402.76

     ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    ADOBE
                    TRANSPOSITION AREA       .0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                            (CFS)
+     813.     16.75                 783.        565.        210.          91.
                        (INCHES)     .084        .243        .271         .271
                         (AC-FT)     388.       1120.       1250.        1250.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      822.     16.75                 758.        428.        150.          65.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1350.64     16.75               1350.23     1347.44     1342.67      1341.01

                    CUMULATIVE AREA =   86.54 SQ MI

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                    HYDROGRAPH AT STATION    ADOBE
                  TRANSPOSITION AREA     10.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     811.      16.75                781.        563.        209.         90.
                        (INCHES)     .084        .242        .270        .270
                         (AC-FT)     387.       1116.       1245.       1245.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      818.     16.75                755.        426.        150.         65.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1350.61     16.75              1350.21     1347.42     1342.66     1341.01

                    CUMULATIVE AREA =   86.54 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    ADOBE
                  TRANSPOSITION AREA     30.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     810.      16.75                780.        561.        209.         90.
                        (INCHES)     .084        .241        .269        .269
                         (AC-FT)     387.       1114.       1242.       1242.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      816.     16.75                752.        424.        149.         64.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1350.60     16.75              1350.19     1347.40     1342.65     1341.00

                    CUMULATIVE AREA =   86.54 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    ADOBE
                  TRANSPOSITION AREA     60.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     809.      16.75                779.        560.        208.         90.
                        (INCHES)     .084        .241        .268        .268
                         (AC-FT)     386.       1111.       1239.       1239.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      814.     16.75                750.        423.        148.         64.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1350.59     16.75              1350.18     1347.39     1342.64     1341.00

                    CUMULATIVE AREA =   86.54 SQ MI

      ***            ***            ***            ***            ***

                    HYDROGRAPH AT STATION    ADOBE
                  TRANSPOSITION AREA     90.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     809.      16.75                779.        560.        208.         90.
                        (INCHES)     .084        .241        .268        .268
                         (AC-FT)     386.       1111.       1238.       1238.

 PEAK STORAGE   TIME                          MAXIMUM AVERAGE STORAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+  (AC-FT)      (HR)
      813.     16.75                750.        422.        148.         64.
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  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                     6-HR       24-HR       72-HR    166.58-HR
+   (FEET)      (HR)
   1350.58     16.75             1350.18     1347.38     1342.64      1341.00

                        CUMULATIVE AREA =   86.54 SQ MI

 -----DSS---ZWRITE Unit  71; Vers.    4:  //ADOBE/FLOW/31DEC1989/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //ADOBE/FLOW/01JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //ADOBE/FLOW/02JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //ADOBE/FLOW/03JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //ADOBE/FLOW/04JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //ADOBE/FLOW/05JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //ADOBE/FLOW/06JAN1990/5MIN//
 -----DSS---ZWRITE Unit  71; Vers.    4:  //ADOBE/FLOW/07JAN1990/5MIN//
       ***            ***            ***            ***            ***


                        INTERPOLATED HYDROGRAPH AT    ADOBE

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                                   (CFS)
+     809.      16.75                779.        560.        208.         90.
                             (INCHES)      .084        .241        .268        .268
                              (AC-FT)      386.       1111.       1238.       1238.

                        CUMULATIVE AREA =   86.54 SQ MI

1
                                    RUNOFF SUMMARY
                              FLOW IN CUBIC FEET PER SECOND
                          TIME IN HOURS,  AREA IN SQUARE MILES

                                     PEAK   TIME OF    AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN    MAXIMUM    TIME OF
          OPERATION        STATION   FLOW    PEAK                                          AREA     STAGE    MAX STAGE
+                                                        6-HOUR     24-HOUR     72-HOUR

          HYDROGRAPH AT
+                            S23L    5354.   14.08       2009.       596.        199.      50.29

          HYDROGRAPH AT
+                            C010      52.   14.92         20.         6.          2.      13.39

          2 COMBINED AT
+                             CAP    5357.   14.08       2024.       602.        201.      63.68

          ROUTED TO
+                           CAPR2    5318.   14.33       2024.       602.        201.      63.68

          HYDROGRAPH AT
+                             S24     133.   12.08         14.         4.          1.       .65

          2 COMBINED AT
+                             S24C    5320.   14.33       2035.       605.        203.      64.33

          ROUTED TO
+                          S24LS1     5283.   14.42       2032.       605.        203.      64.33

          HYDROGRAPH AT
+                           RRB22C       0.     .00          0.         0.          0.       9.62

          ROUTED TO
+                           B22LS1       0.     .00          0.         0.          0.       9.62

          HYDROGRAPH AT
+                             LS-1     344.   12.17         44.        12.          4.       2.47

          DIVERSION TO
+                            R1OUT     344.   12.17         44.        12.          4.       2.47

          HYDROGRAPH AT
+                           RETLS1       0.     .00          0.         0.          0.       2.47

          2 COMBINED AT
+                            LS1CR       0.     .00          0.         0.          0.      12.09

          2 COMBINED AT
+                             LS1C    5283.   14.42       2032.       605.        203.      76.42

          ROUTED TO
+                           LS1LS2    5201.   14.67       2024.       605.        203.      76.42

          HYDROGRAPH AT
+                             LS-2      68.   12.42         15.         4.          1.       .94

          DIVERSION TO
+                            R2OUT      68.   12.42         15.         4.          1.       .94

          HYDROGRAPH AT
+                           RETLS2       0.     .00          0.         0.          0.       .94

          2 COMBINED AT
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```
+                          LS2C      5201.   14.67       2024.       605.       203.      77.37
        HYDROGRAPH AT
+                          LS-3        81.   12.17         10.         3.         1.        .54
        ROUTED TO
+                        LS3LS5        20.   14.00         10.         3.         1.        .54
        HYDROGRAPH AT
+                          LS-4       235.   12.17         32.        10.         3.       1.85
        DIVERSION TO
+                         R4OUT       235.   12.17         32.        10.         3.       1.85
        HYDROGRAPH AT
+                        RETLS4         0.     .00          0.         0.         0.       1.85
        ROUTED TO
+                        LS4LS5         0.     .00          0.         0.         0.       1.85
        HYDROGRAPH AT
+                          LS-5        95.   12.42         21.         6.         2.       1.28
        DIVERSION TO
+                         R5OUT        95.   12.42         19.         5.         2.       1.28
        HYDROGRAPH AT
+                        RETLS5         9.   14.25          3.         1.         0.       1.28
        3 COMBINED AT
+                          LS5C        29.   14.25         12.         4.         1.       3.67
        HYDROGRAPH AT
+                          LS-6        42.   12.50         13.         4.         1.        .79
        DIVERSION TO
+                         R6OUT        42.   12.50         13.         4.         1.        .79
        HYDROGRAPH AT
+                        RETLS6         0.     .00          0.         0.         0.        .79
        HYDROGRAPH AT
+                          LS-7        31.   12.42          9.         3.         1.        .60
        DIVERSION TO
+                         R7OUT        31.   12.42          9.         3.         1.        .60
        HYDROGRAPH AT
+                        RETLS7         0.     .00          0.         0.         0.        .60
        2 COMBINED AT
+                          LS7C         0.     .00          0.         0.         0.       1.39
        HYDROGRAPH AT
+                          LS-8        56.   12.25         10.         3.         1.        .57
        HYDROGRAPH AT
+                          LS-9        25.   12.50          7.         2.         1.        .45
        HYDROGRAPH AT
+                         LS-10        47.   12.08          5.         1.         0.        .26
        DIVERSION TO
+                        R10OUT        47.   12.08          5.         1.         0.        .26
        HYDROGRAPH AT
+                         RET10         0.     .00          0.         0.         0.        .26
        6 COMBINED AT
+                        INFLOW      5221.   14.67       2041.       612.       205.      83.70
        HYDROGRAPH AT
+                         LS-11       220.   12.42         40.        11.         4.       2.84
        2 COMBINED AT
+                         LS11C      5225.   14.67       2070.       621.       208.      86.54
        ROUTED TO
+                         ADOBE       809.   16.75        779.       560.       208.      86.54

 *** NORMAL END OF HEC-1 ***

    -----DSS---ZCLOSE Unit:  71,   File: LS224F.DSS
              Pointer Utilization:    .25
              Number of Records:      24
              File Size:      51.6  Kbytes
              Percent Inactive:     .0
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Plate 1
Lower Skunk Creek Hydrologic Subbasins

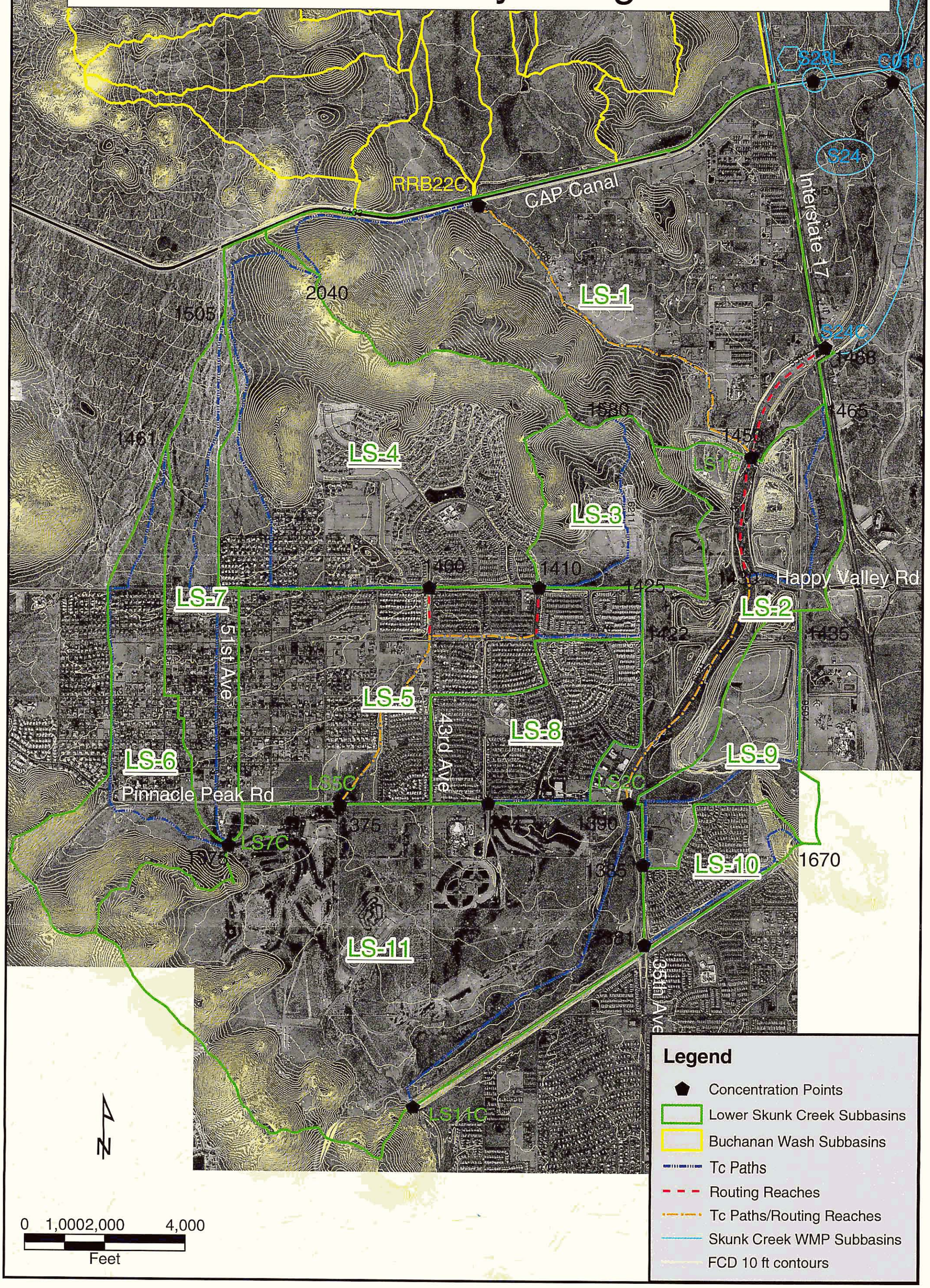

Plate 2
Lower Skunk Creek Soils Map

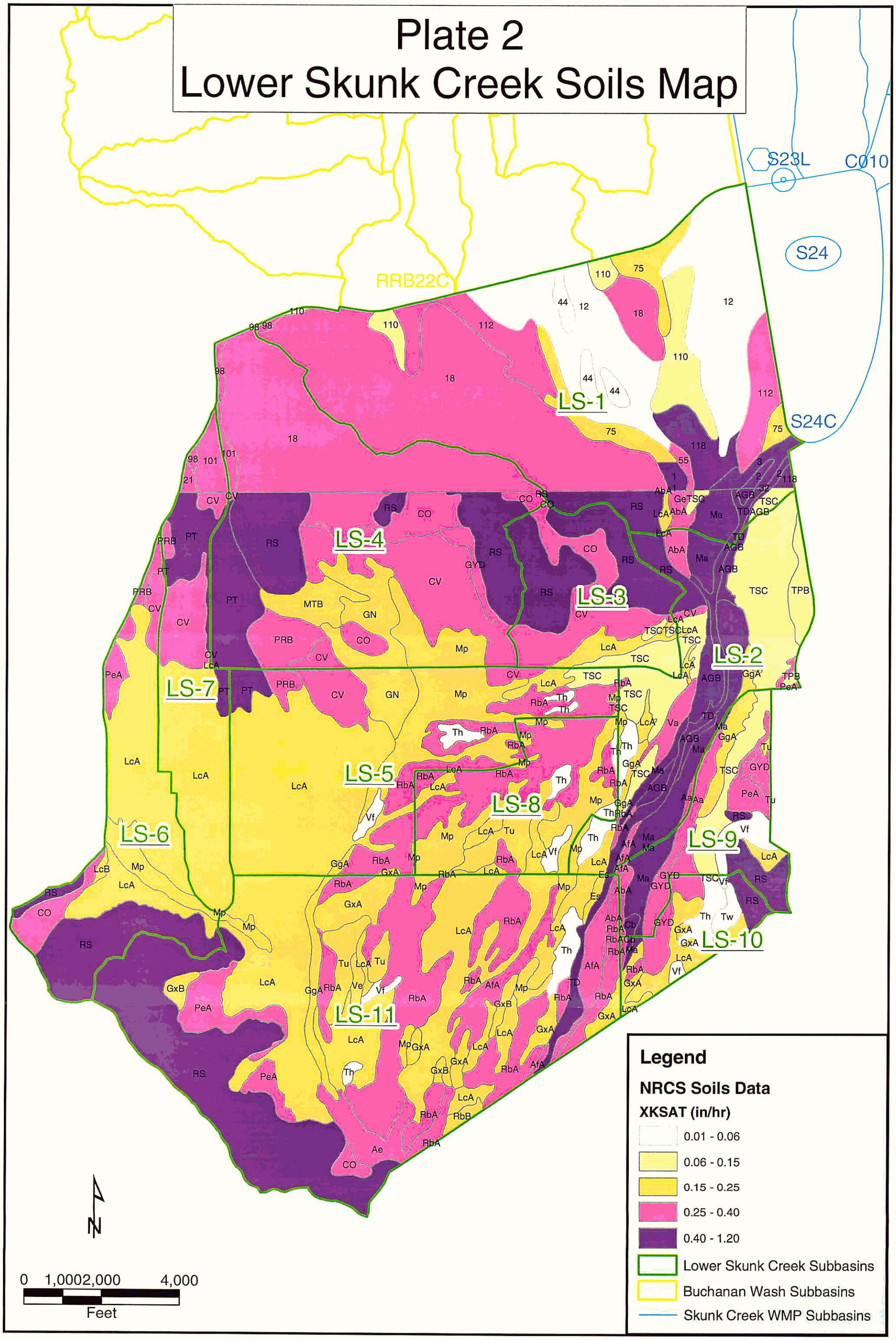

Plate 3
Lower Skunk Creek Existing Land Uses

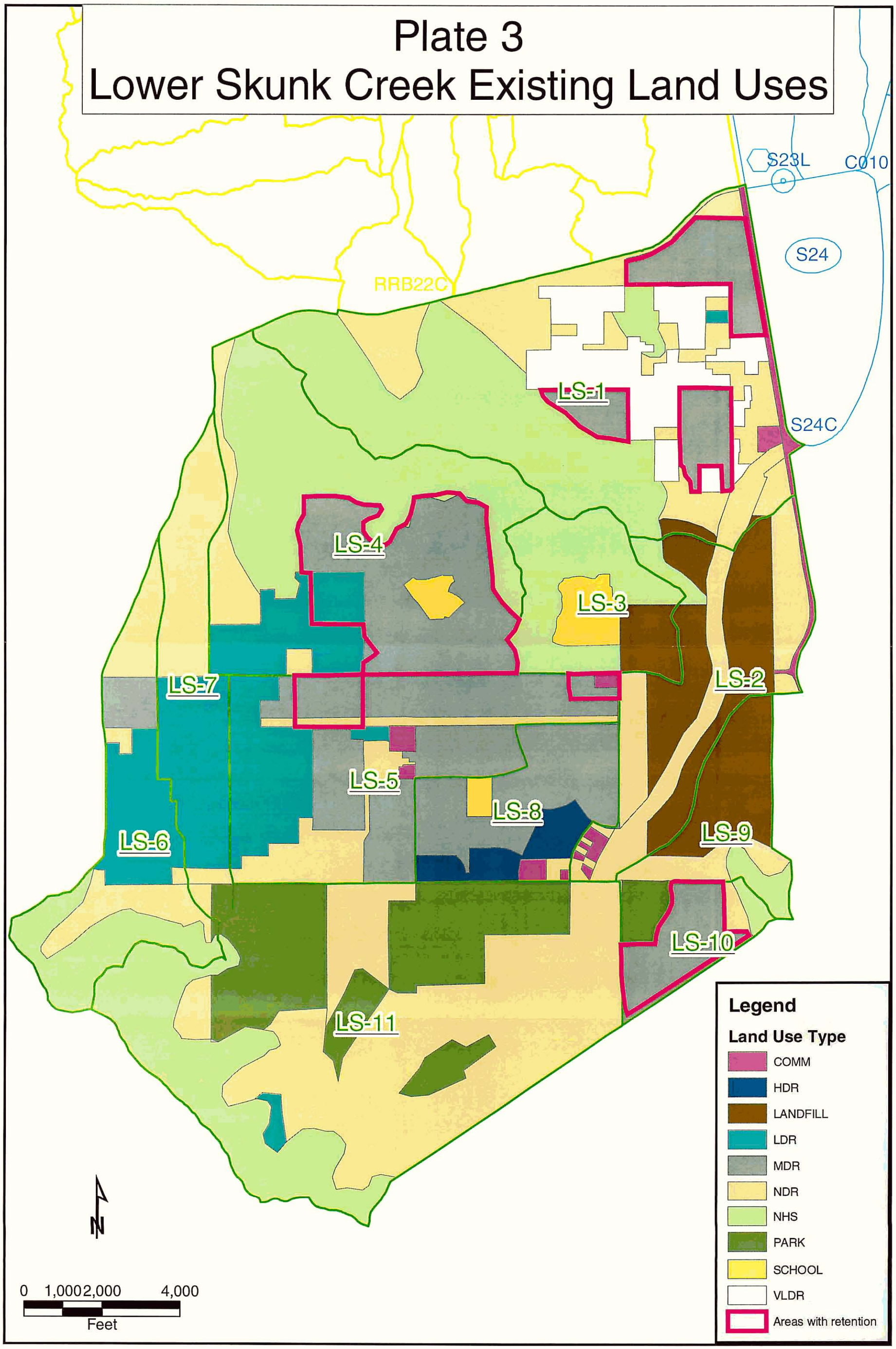

Plate 4
Lower Skunk Creek Future Land Uses

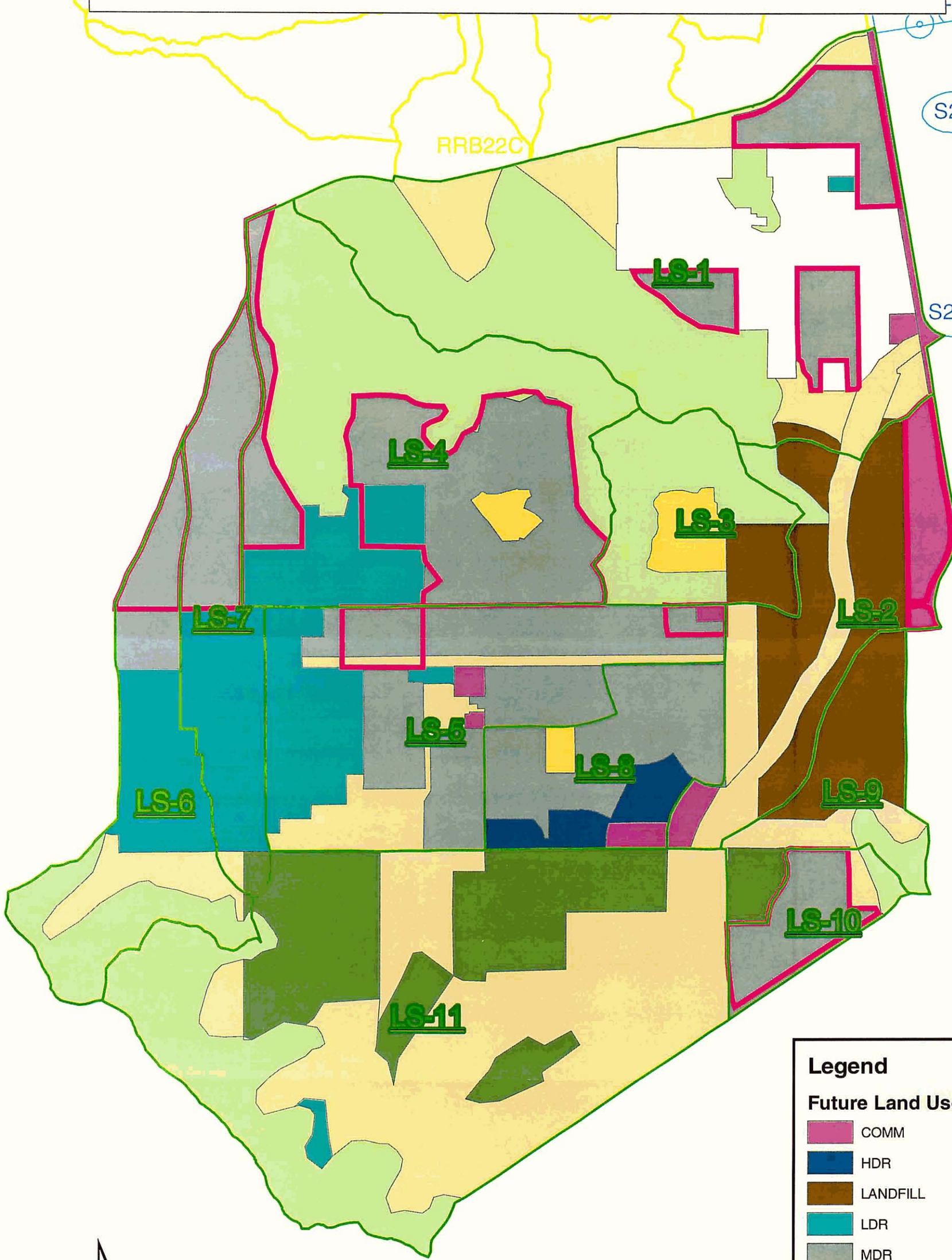

Plate 5
100-year 24-hour Existing Conditions HEC-1 Results

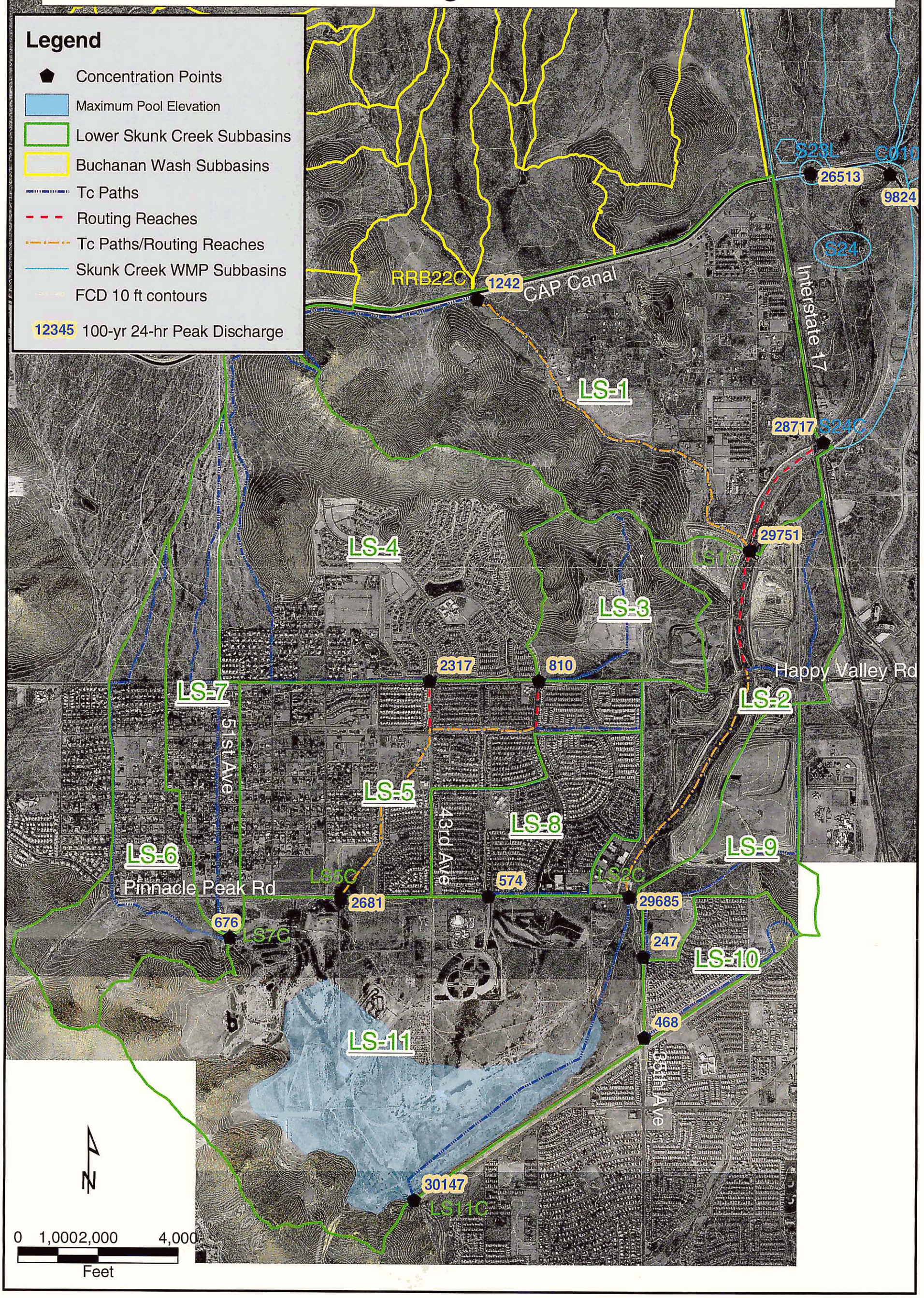

Plate 6
100-year 24-hour Future Conditions HEC-1 Results

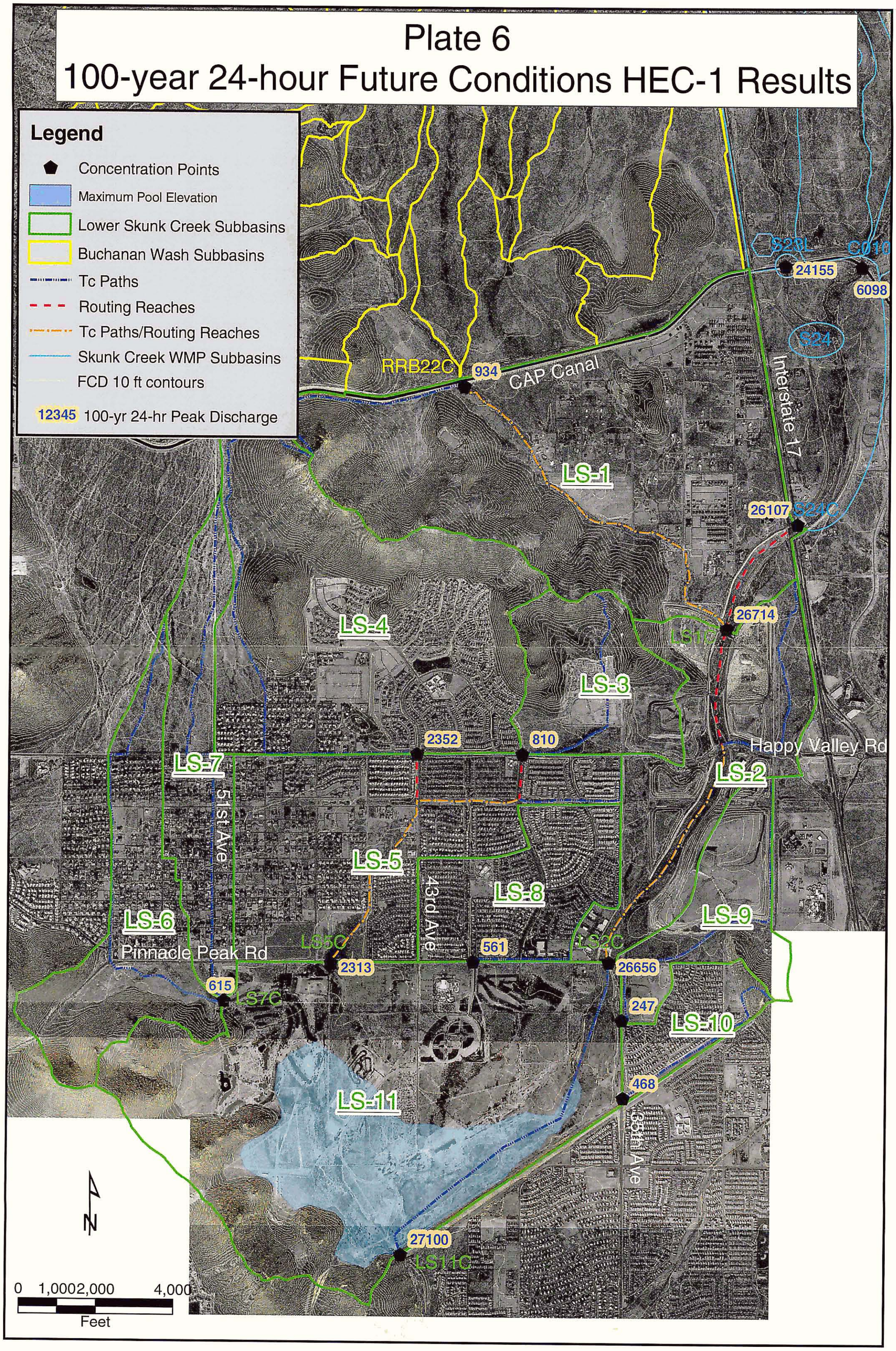

Plate 1
Lower Skunk Creek Hydrologic Subbasins

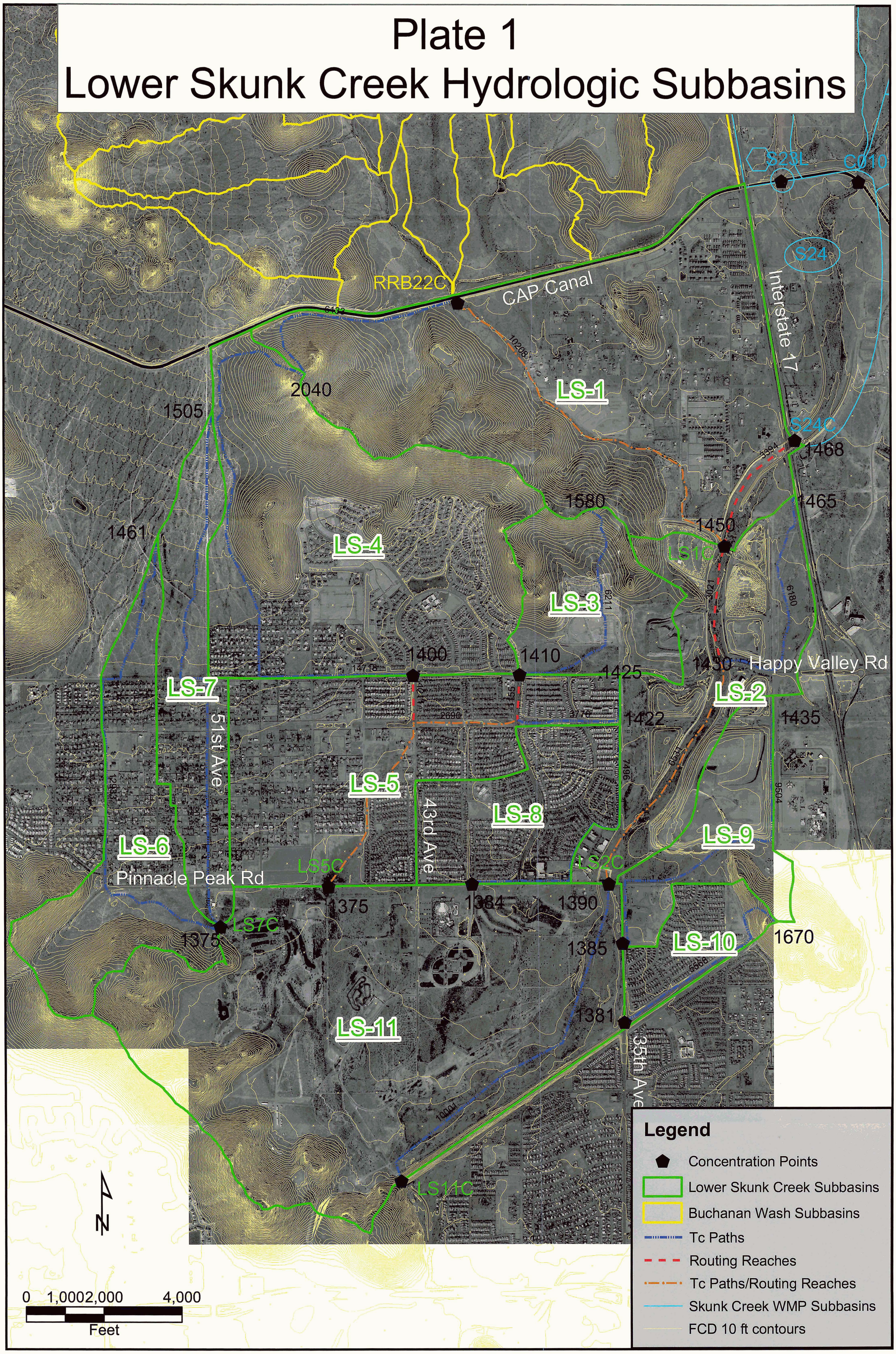

Plate 2
Lower Skunk Creek Soils Map

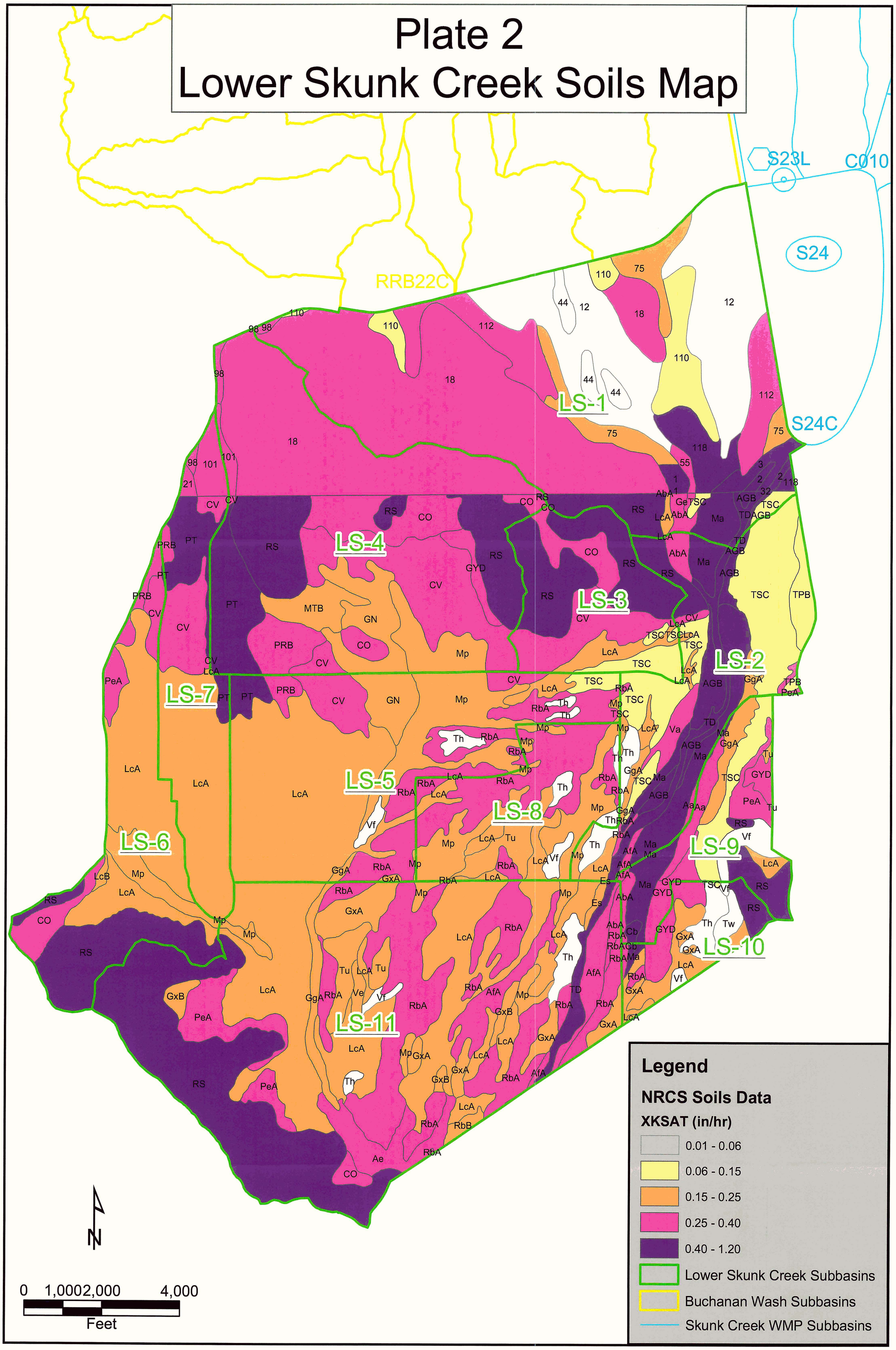

Plate 3
Lower Skunk Creek Existing Land Uses

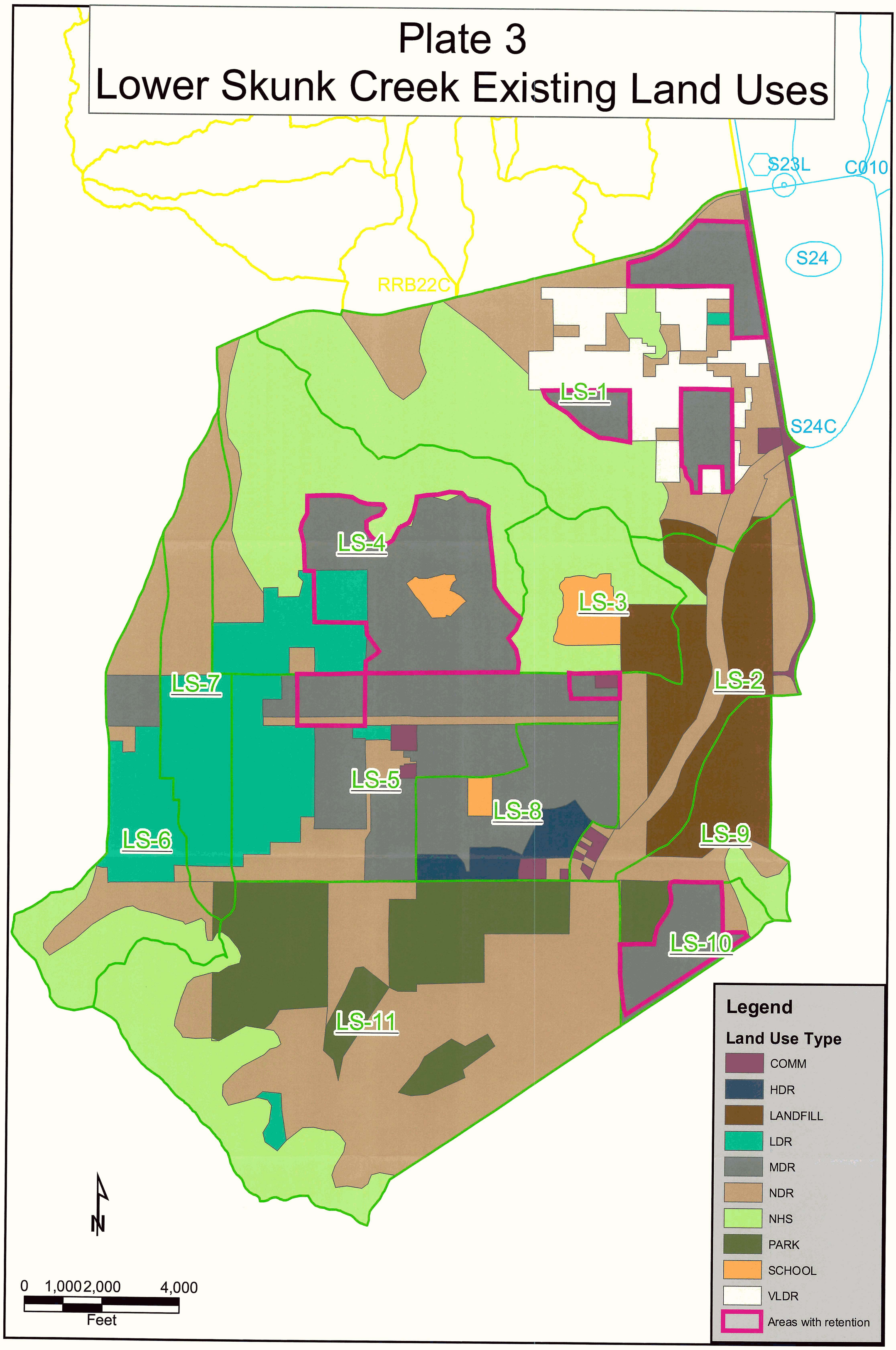

Plate 4
Lower Skunk Creek Future Land Uses

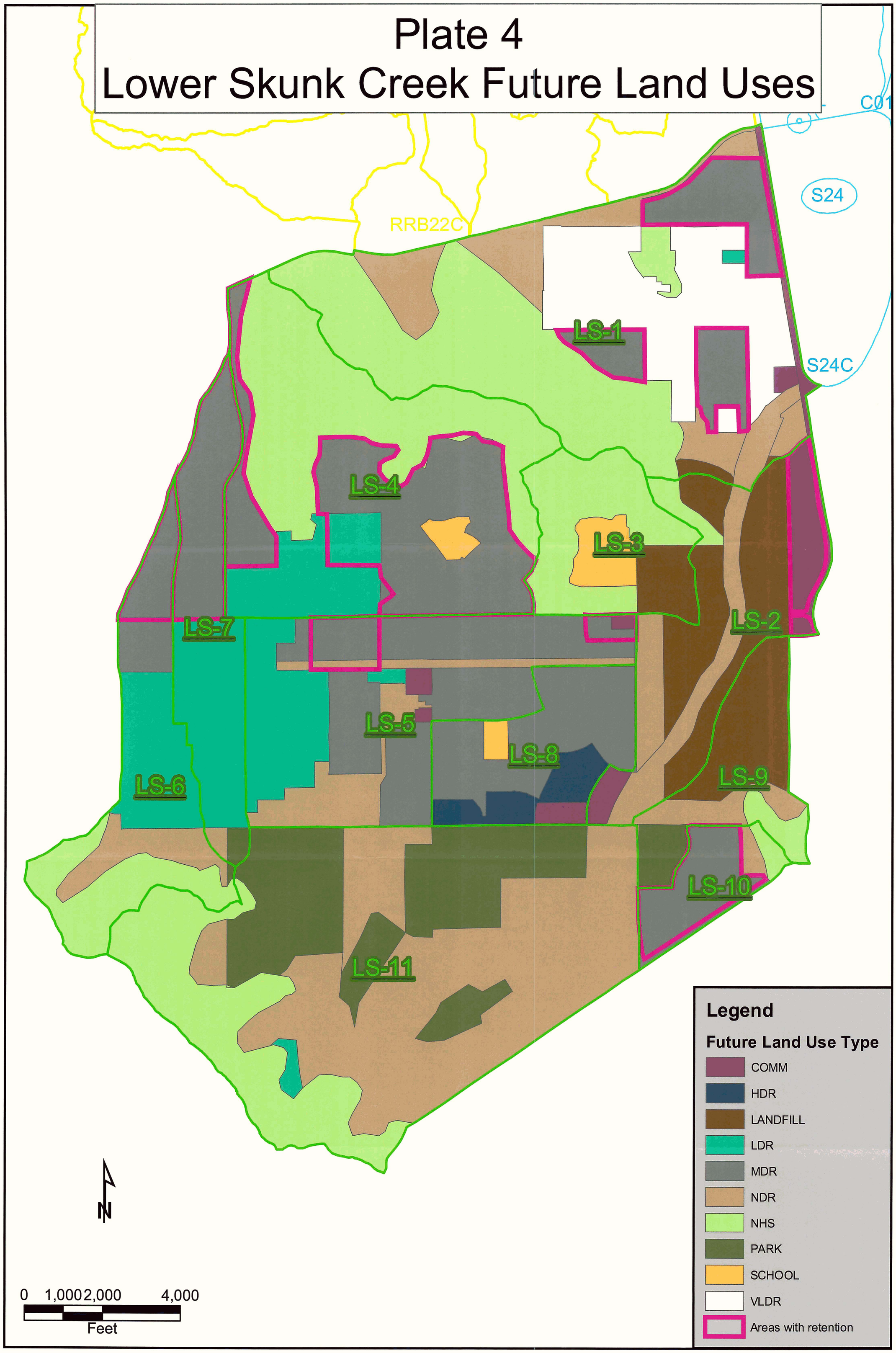

Plate 5
100-year 24-hour Existing Conditions HEC-1 Results

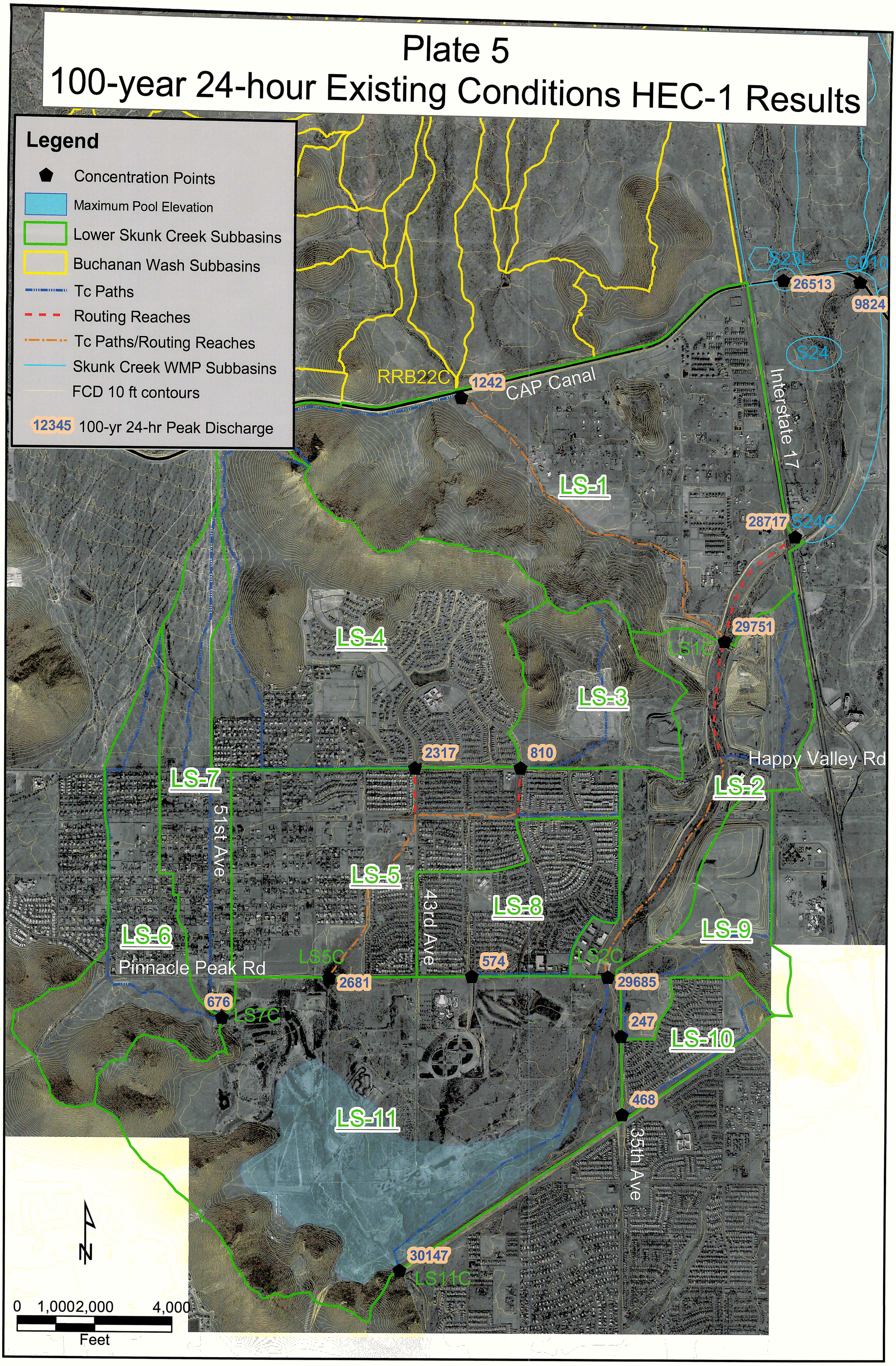
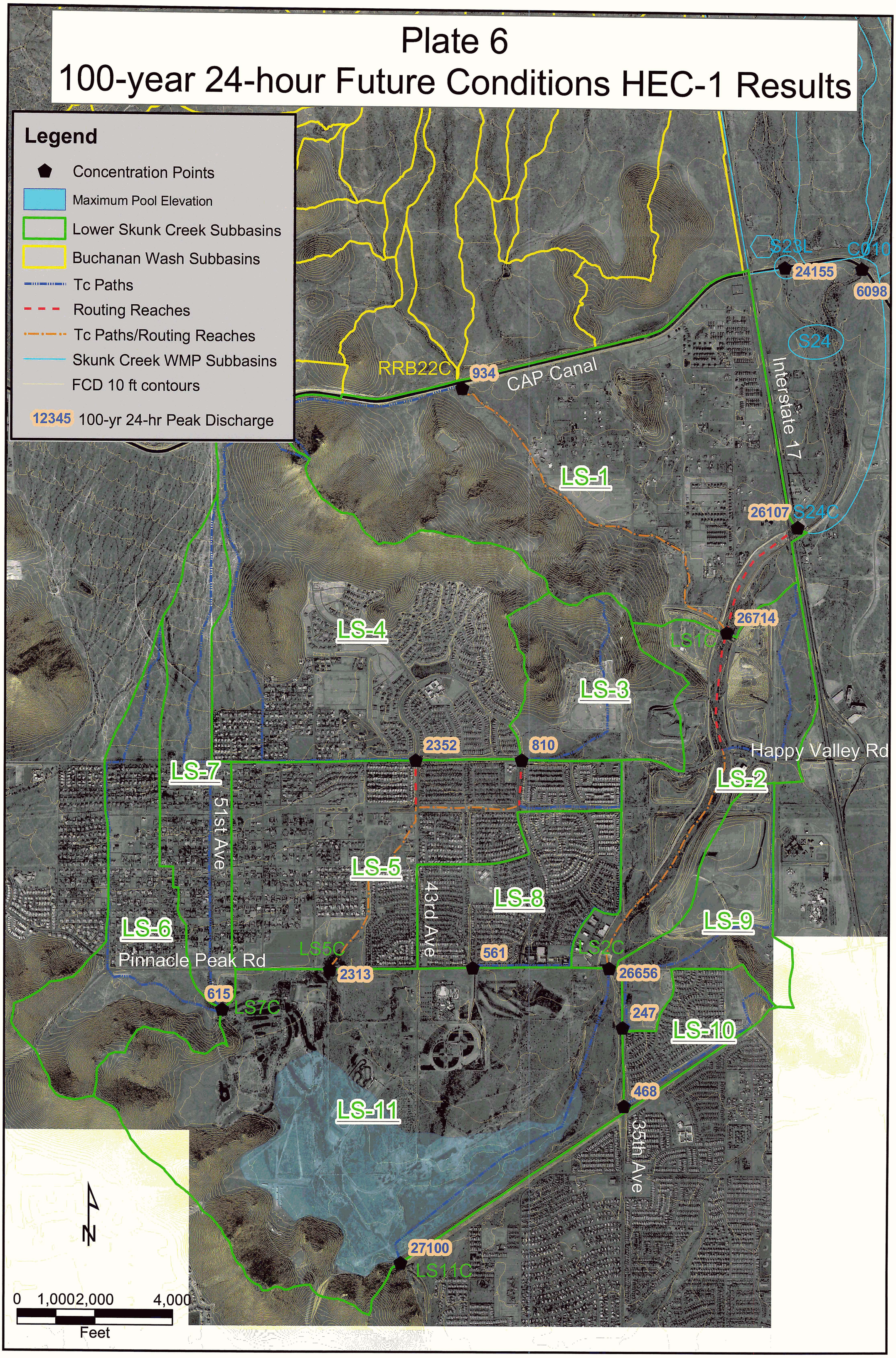
Plate 6
100-year 24-hour Future Conditions HEC-1 Results