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PRELIMINARY MASTER DRAINAGE STUDY
NE 56TH STREET & LONE MOUNTAIN ROAD

PREPARED FOR:
US HOMES/LENNAR HOMES
COVENTRY HOMES

FOR SUBMITTAL TO:
CITY OF PHOENIX

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EA# 1669.01

APRIL 2, 2001

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APPROV

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3.0 LOCATION/DESCRIPTION/CONCEPT

The 638 acre 56th Street & Lone Mountain Road project is located within the northeastern incorporated area of the City of Phoenix. The site includes the majority of Section 16 of Township 5 North, Range 4 East of the Gila and Salt River Base and Meridian. The project is bordered on the south by Lone Mountain Road, on the north by Dove Valley Road, by 56th Street on the west, and by 64th Street on the east. See *PLATE 1 -REGIONAL VICINITY MAP.* Two City of Phoenix well site locations are exceptions on the northeasterly and southwesterly areas.

Drainage Setting:

56th Street & Lone Mountain Road is traversed by numerous smaller washes generally running from east to west. The area is at the downstream edge of an alluvial fan area (FEMA zone AO), with depths of 1 foot and velocities of 2 fps. The rest of the area is defined as a shaded zone X on map #04013C0815G dated September 30, 1995. *PLATE 3-FEMA FLOODPLAIN/BOUNDARY MAP* shows the referenced AO zones and that data is also included in the *MASTER DRAINAGE PLAN, PLATE 7.*

The site is bordered by existing single family residential development on the east, west, south, and the eastern half portion of the north property line. The western portion of the north boundary abuts Cactus Shadows School, a Cave Creek School district High School complex. The site is proposed for single family residential uses in a gated community with a community center. The proposed master landuse plan is shown as *PLATE 2-LAND USE MAP.*

The tributary to this project, runs approximately 7 miles to the northeast into the Tonto National Forest and is characterized by numerous flow splits in the alluvial channels upstream. These flow splits have the effect of varying the distribution of major storms into different flow corridors entering the site. Approximately 11 flow splits occur in the tributary affecting this project, including 3 onsite. These flow splits have been analyzed by Erie & Associates in prior studies for the Terravita project to the east of this site and for the Colina Del Norte project to the west. The effect of the splits on the site is discussed in further detail in *SECTION 4.0 HYDROLOGY.*

In general the washes crossing the site are relatively shallow (3'±) and steep (1.5% to 2%) with existing vegetation most dense along the banks of the washes.

Drainage Concept

The 56th Street & Lone Mountain Road project is being planned as an environmentally sensitive project that will incorporate cutting edge concepts for flood control and environmental impacts. *PLATE 2-LAND USE MAP* shows the proposed land uses. The project will integrate ecological resources with transportation and open space amenities. The following concepts which have been reviewed with City of Phoenix staff and will be carried forward:

•Offsite flows will enter and depart the site in substantially the same manner as under predevelopment conditions. Peak 100 year flows leaving the site will be at or below predevelopment conditions.

•Hydrology/Peak Flow Calculation-The tributary includes numerous flowsplits that could result in various peak flows for any given discharge frequency. The HEC-1 analysis is based on reports accepted by the City of Scottsdale for Terravita upstream and Colina Del Norte in the City of Phoenix downstream. The analysis includes an estimate of the existing flow rates based on the present conditions at flowsplits. That analysis is proposed to be used for design of cross-drainage structures. A hybred of that analysis includes an estimate of the flows given 20%± increases in directions that

result in higher peak flows at the various points that drainage enters the site. Those numbers will be used to route thru the flow corridors and across the road crossings to set minimum elevations for flood protection of residences.

•Flood Corridors/Flood Protection-The corridors selected for carrying offsite waters were sized to provide an average of 35 feet of setback from the bottom of washes. Flood protection along the washes will be by a combination of floodwalls and/or raising finish floors. All floors will however provide a minimum of 14" of height above the adjacent low curb and 6" above high curb. Floors in the alluvial fan area will be set a minimum of 1 foot above the adjacent grade, to meet FEMA standards. Floodwalls and/or floors will have a minimum of 1 foot of freeboard above the adjacent drainage corridor water surface elevation. If the velocity head exceeds 1 foot then that freeboard height will be used. Manning friction factors will reflect a higher estimate of vegetative density than now exists to account for future increases in vegetation due to the anticipated presence of nuisance water flows with development of the property.

•100 Year Access-All homes will have access on the 100 year storm. Major drainage crossings along the access route will be dry on the 100 year storm. Some wash crossings not on the 100 year access route will have a lowflow culvert capacity (less than 2 year) with flow over the roadway/dip exceeding 1 foot.

• Detention on the site is proposed to reflect a postdevelopment less predevelopment volume which will be provided by flow thru channel storage areas. The storage will have a net result of reducing flows leaving the site to predevelopment rates. The storage areas will be sized using pre and postdevelopment rational C factors for subareas with discharges from the areas sized to drain within a maximum of 36 hour period. Preferably this time would be reduced to a 6 hour or less drainage period to account for back to back storms.

Channel storage will be formed by a combination of roadway fills together with cut areas that will be revegetated and used as habitat mitigation for 404 wash impacts.

The constructed storage areas will be contoured to reflect natural conditions and therefore will not have flat nor level bottoms. Each wash is evaluated to be at or below existing 100 year flows out of the site.

•Water Surface Elevations/Diversions/ Adjacent Street Impacts-Water surface elevations on adjacent properties will not be increased, nor will flows be diverted from existing conditions. This will require on the upstream perimeter streets, 64th Street primarily, that dip crossings, in lieu of all weather crossings, be installed. This solution on the 64th Street, reflects the shallow depths of the existing upstream and downstream washes. The final hydraulic analysis will evaluate existing water surface elevations and superimpose various dip crossings to match the existing elevations.

•64th Street Drainage-This area generally drains from northeast to southwest. The 64th Street frontage is crossed by numerous minor washes and 4 major washes which carry in excess of 300 cfs. There are existing homes with drives that presently access to 64th Street which is currently unpaved. Some of the existing homes east of 64th Street are subject to flooding <u>without</u> any development on the site.

Design Criteria for drainage on the roadway improvements is as follows:

Existing flows should be allowed to enter the project across 64th Street in substantially the same manner as under development conditions.

Flows should not be diverted downstream (south) by elimination of ridges that currently confine the flows.

The 64th Street improvements should not be washed out with flows over the road and some lowflow capacity below the road should be provided, if possible.

•Channel storage areas will be designed as flow through systems to sustain downstream habitat areas, and maintain existing sediment discharge characteristics. Drainage from developed areas will be filtered with constructed biological communities to remove potential contaminants prior to release to the channel systems.

•Channel storage areas and road/wash crossings will be designed as multipurpose facilities where possible. The natural storage areas will be deeper than the normal 3' standard and will be used as open space and recreational amenities. Constructed basins will not exceed 3' depth. It is recommended that the side slopes not exceed 4H to 1V on man-made slopes.

•The major channel floodplain systems will be retained. Modifications will be made to enhance and add to the natural floura and fauna communities, as recommended through the 404 permit process. Minor systems within individual subdivisions will be retained or supplemented by constructed open channel systems, designed to supply new communities of native species. Some channelization and encroachment within the confines of 404 permit stipulations is anticipated on several of the major washes. Many channels will incorporate trail systems.

•No major underground storm drain is anticipated. The project will create a constructed habitat supplied by water generated from up stream subdivisions and off site high flows.

•Channel hydraulic analysis will account for maintenance of existing wildlife communities in channels, as opposed to providing for considerable trimming and clearing.

•Channels will use natural wash alignments. The threads or low flow portions of the natural wash system will be preserved as low flow areas to maintain the existing vegetation.

Drainage Plan

•A master drainage concept for each parcel is included in the master drainage plan. A Phase I Addendum will include site specific applications of the drainage concepts.

•Channel storage areas which are intercepting offsite and natural channel flows will be designed to allow the low flows in the thread of the stream to bypass unimpeded through the basin, thereby impacting the sediment balance in the existing stream system minimally.

•Basins and channel storage in the upper reaches of the 56th Street & Lone Mountain Road project are oversized to reduce flows and allow parcels in the lower areas to drain entirely without detention. The preliminary detention volumes associated with each phase are tabulated in this study.

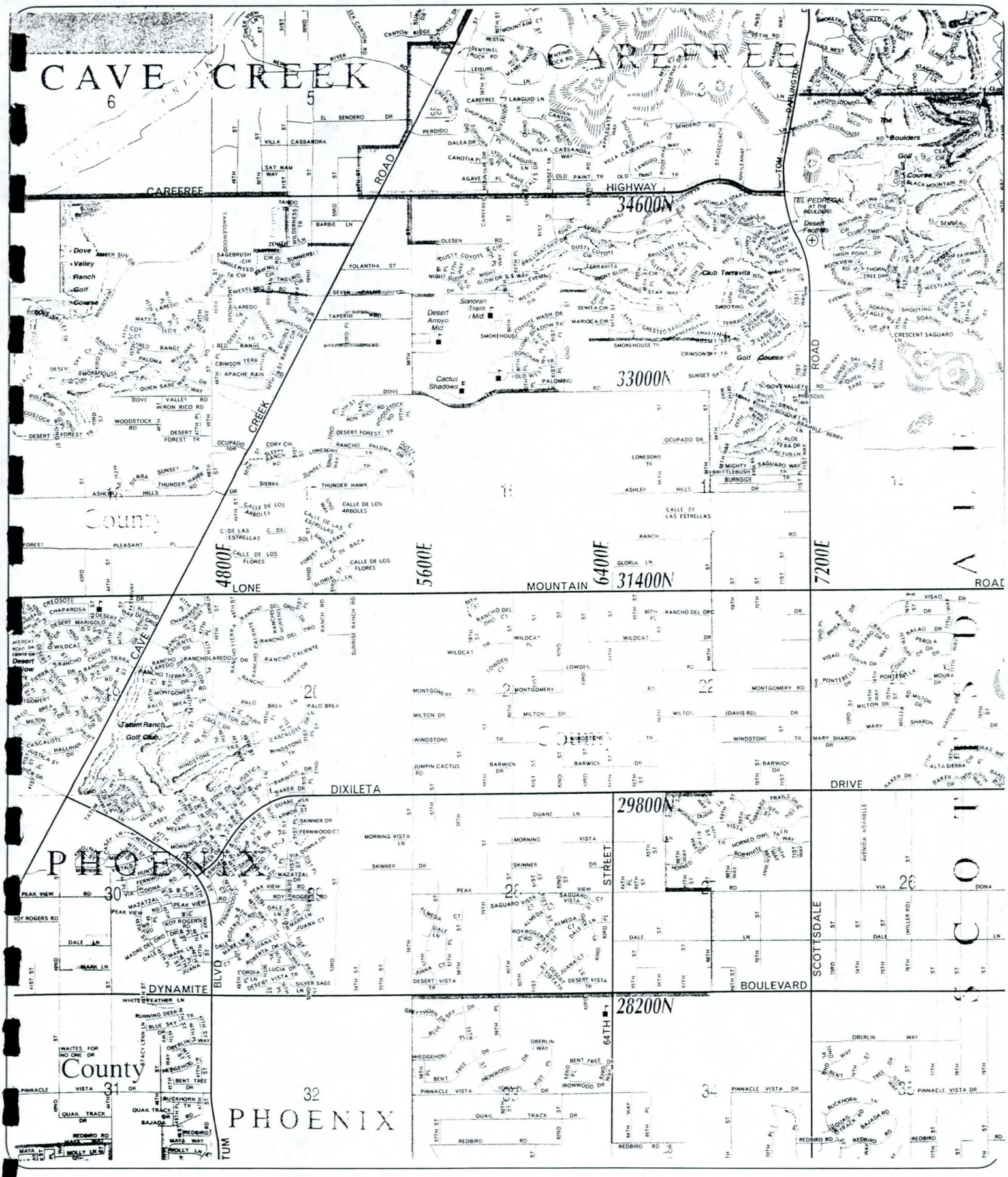
•Channel cross-sections and culvert crossings are sized for the 100 year peak runoff on all weather access roadway routes, which are identified on the Master Drainage Plan.

•Basins upstream and site facilities are phased to coincide with development benefiting adjacent areas. The existing drainage systems in undeveloped areas will remain as is until development, i.e., mass grading will not take place on the whole site.

•A detailed fully developed hydrologic analysis, hydraulic analysis of channels, erosion analysis, road crossings, street flows, detention facilities, and the final design of improvements around them, are beyond the scope of this preliminary Master Drainage Report. When evaluated for the final design, minor adjustments will be made and they will be based on generally accepted engineering practices and in accordance with drainage and floodplain regulations of the City of Phoenix.

•NPDES standards will be adhered to for construction activities.

The purpose of this preliminary Master Drainage Report is to present concepts in support of a landuse plan. In addition, the master drainage plan will establish drainage parameters for site planning of the 56th Street & Lone Mountain Road project. This master drainage report presents a detailed hydrologic and conceptual hydraulic analysis of the project drainage system. This includes a preliminary plan showing general direction of storm water runoff and how the onsite and offsite drainage will be handled. This master drainage report is intended to provide drainage information to satisfy the needs of all of the governmental agencies. The results of detailed hydrologic and hydraulic analysis of the major washes for existing conditions and proposed postdevelopment conditions is included in this report. Future revisions to the floodplains will be submitted with preliminary plats including final adjustments to the grades proposed in this report.



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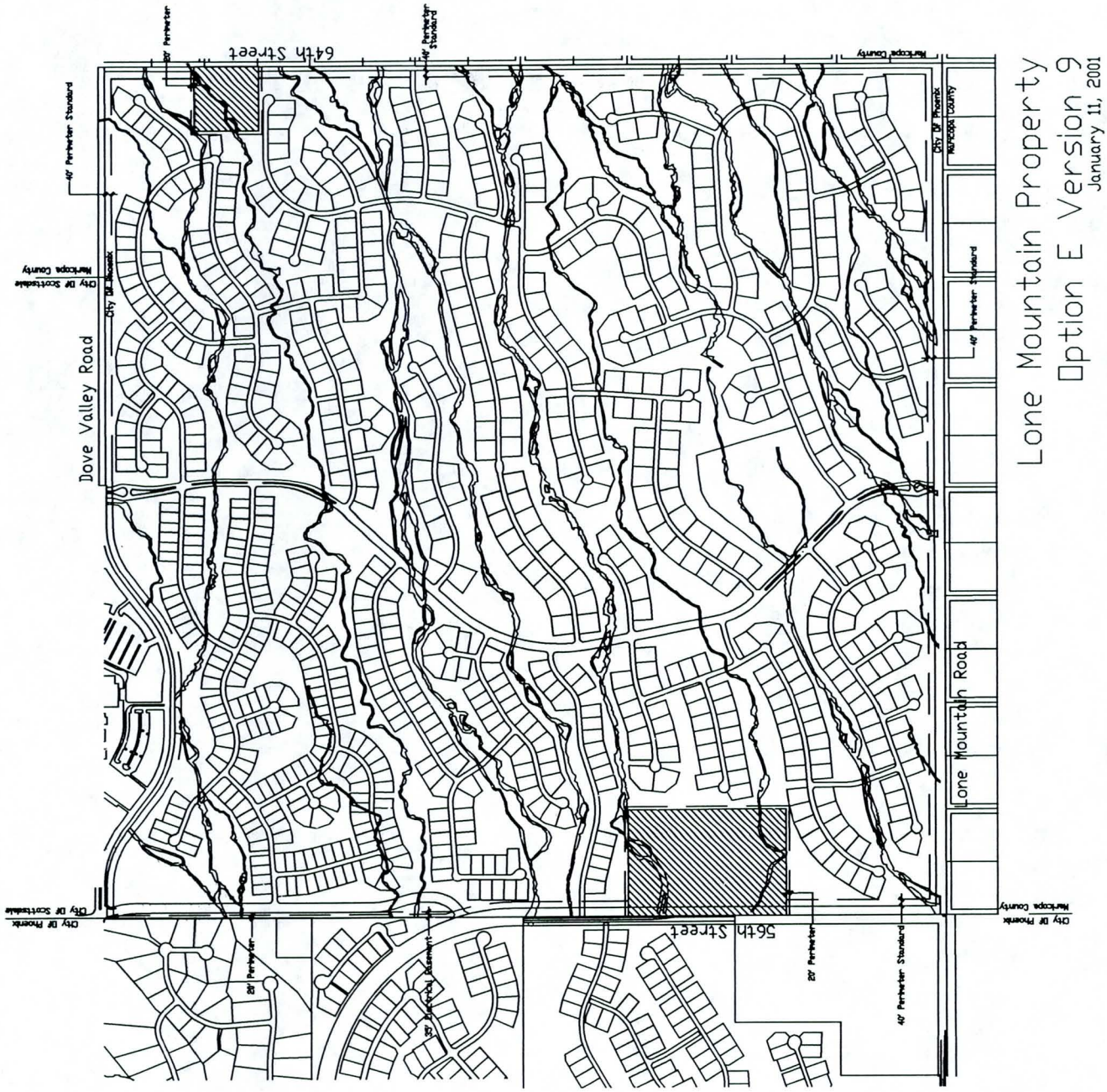
56TH & LONE MOUNTAIN SCOTTSDALE ARIZONA

PLATE 1

REGIONAL VICINITY MAP



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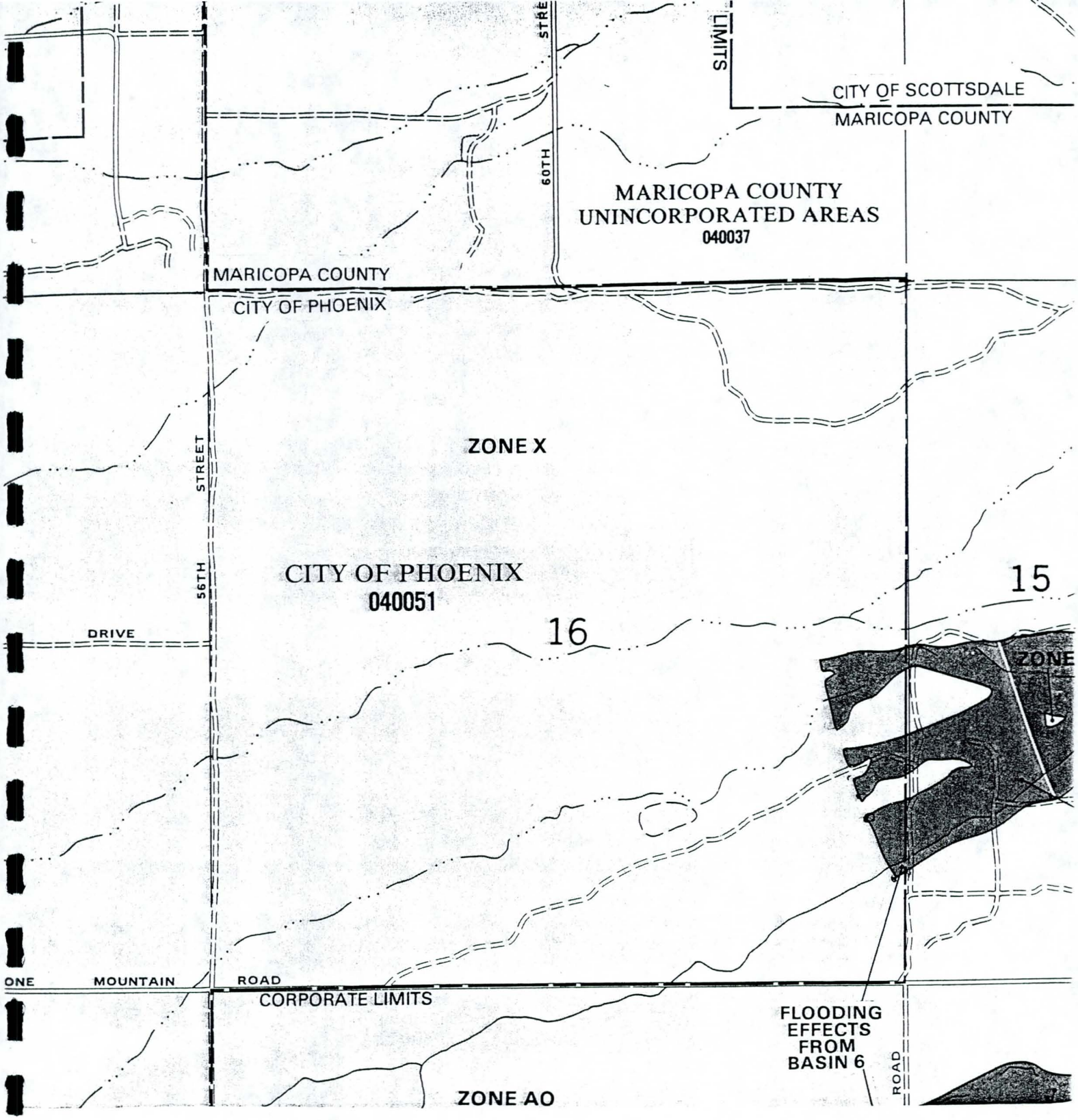
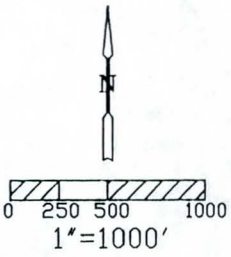
56TH & LONE MOUNTAIN SCOTTSDALE ARIZONA PLATE 2

LANDUSE MAP





FROM FIRM PANEL 815
MAP NO. 04013C0815G
DATED SEPT 30, 1995.

ERIE & ASSOCIATES
PLATE 3-FEMA FLOODPLAIN
/BOUNDARY MAP

4.0 HYDROLOGY

Peak flows for the 100 year frequency – 6 hour duration design storm criteria were calculated using the United States Army Corps of Engineer's HEC-1 Flood Hydrograph simulation computer model, as implemented by Heastad Methods, Inc. Both existing and fully-developed conditions were modeled. The fully developed condition model incorporates the use of channel storage areas and reflects developed land use characteristics.

4.1 Watershed Characteristics/Flow Splits

The watershed is a long, 7 miles, relatively narrow, 1 mile wide, area that is partially developed. The area has been studied in the past both upstream and downstream of this site by prior Erie & Associates studies. The models developed for the Colina Del Norte and Terravita studies downstream and upstream, respectively, have been incorporated into this study.

The original work is based on a study by Bob Ward for a multi-agency task force on the area.

Flow splits in the tributary were evaluated by field measurement of existing channel hydraulic characteristics. Further modifications are then made to divert flows in consideration of potential future changes in the flow splits. The splits are identified as to location on *PLATE 4-PREDEVELOPMENT DRAINAGE SUB-BASIN MAP*.

Flow splits at various locations in the tributary and onsite are summarized by existing and possible maximum diversion in *TABLE 1*.

HEC-1	Existing		Potential High Future Split	
ID	North	South	North	South
DIV26	75	25	N/A	50
DIV4	50	50	75	75
DIV27	75	25	N/A	50
DIV5	50	50	75	75
DIV11	50	50	75	75
DIV25	50	50	75	75
DIV20	85	15	95	N/A
DIV21	25	75	50	95
DIV24	10	90	35	95
DIV22	50	50	75	75
DIV23	25	75	50	95

N/A indicates that flow in that direction will not influence this sites results.

TABLE 1-FLOW SPLIT SUMMARY

The existing splits are used to size cross drainage structures and a worst case combination of the potential high future splits are used to determine a high 100 year flow estimate at the various points entering the site. These higher flows are routed thru the system to set finish grades for walls and/or floors and will result in totals at any one point that exceeds 100% of the total flow across the area.

4.2 Methodology/Parameter Estimation

Watershed Delineation

Flow patterns upstream of the property and the contributing watershed delineation were evaluated based on USGS mapping at a scale of 1"=2000', and new onsite topography at a scale of 1"=100' with a contour interval of 1 foot. The delineated watershed was further broken into smaller sub-basins with each concentrating excess precipitation at a common downstream point, based on field investigations of the vicinity. The entire tributary is illustrated on *PLATE 4-DRAINAGE SUB-BASIN MAP*.

Synthetic Design Storm

The design storm used for the drainage analysis of the proposed subdivision consisted of a 100 year frequency – 6 hour duration precipitation event. Precipitation depths for 5 minute, 15 minute, 60 minute, 2 hour, 3 hour, and 6 hour durations were calculated using standard procedures outlined in Section 2.2,2-203D, of the C.O.S. Design Standards and Policies Manual. The precipitation depths and corresponding durations are listed in *TABLE 2-DESIGN STORM PRECIPITATION* DEPTHS.

Storm Duration	Precipitation Depth
5 minute	0.80 inches
15 minute	1.46 inches
60 minute	2.36 inches
2 hour	2.70 inches
3 hour	2.92 inches
6 hour	3.35 inches

TABLE 2-DESIGN STORM PRECIPITATION DEPTHS

Precipitation Losses

The Soil Conservation Service Curve Number method was used to estimate precipitation losses for the site and watershed. The United States Soil Conservation Service's Soil Survey of Aguila-Carefree Area, Parts of Maricopa and Pinal Counties, Arizona was used to determine the soil map unit boundaries.

The site was found to be comprised of the soils that are listed in *TABLE 3- SOIL CHARACTERISTICS.*

Soil Map Unit	Soil Name	Soil Texture	Hydrologic Soil Group	SCS Curve #
6	Anthony-Arizo complex	sandy loam	B	79
33	Eba	very gravelly loam	C	86
63	Gran-Wickenburg rock outcrop	very gravelly loam	D	88
98	Pinamt	extremely gravelly sandy loam	B	79
96	Pinaleno-Tres Hermanos complex	very gravelly clay loam	B	79

TABLE 3-SOIL CHARACTERISTICS

Curve Numbers

Curve numbers for existing conditions were determined using soils information tabulated in *TABLE 3*. For proposed conditions onsite, it is necessary to superimpose the proposed land use conditions on the existing site. Each sub-area was further divided into open space and areas of the various size lots proposed (60x120, 75x125, 90x130, and 120x130). Those lots are listed in the calculations as 60's, 75's, 90's, and 120's. The curve numbers for these lots for both B and C soils was determined from Figure 2.2-19 and 2.2-16 of the C.O.S. manual. The figures and calculations are included in *APPENDIX A-HYDROLOGIC WORKSHEETS*. The various combinations of lot sizes, soils, and open space for each onsite sub-basin were tabulated to generate an average curve number for each sub-basin. These calculations are included in *APPENDIX A* and summarized in *TABLE 4-SUB-BASIN HYDROLOGIC PARAMETERS-ONSITE* .

Sub-basin	Area (sq. mi.)	Area (acres)	Developed CN	Existing CN
272	0.0190	12.16	79.6	79
261	0.0430	27.52	84.3	83
253	0.0160	10.24	86.2	85
252	0.0150	9.60	81.9	82
254	0.0800/*0.089	51.20	85.8	82
256	0.0250/*0.017	16.00	88.4	81
255	0.0340/*0.0262	21.76	88.6	85
248	0.0900/*0.0972	57.60	83.6	81
247	0.0790	50.56	84.8	80
243	0.0130	8.32	87.2	78
244	0.0150	9.60	84.6	71
245	0.0088	5.63	85.2	79
246	0.0610	39.04	83.2	77
231	0.0056	3.58	87.3	85
232	0.0030	1.92	86.0	85
233	0.1200/*0.133	76.80	86.0	80
212	0.0840/*0.072	53.76	82.4	79
211	0.1500	96.00	85.3	77
311	0.0120	7.68	79.7	79
301	0.0120	7.68	83.4	79
302	0.0120	7.68	82.0	80
304	0.0040	2.56	84.0	77
303	0.0130	8.32	80.6	80
305	0.0039	2.50	79.0	81
306	0.0091/*0.0057	5.82	80.9	85
307	0.0160/*0.005	10.24	89.1	82
291	0.0550	35.20	85.1	77

TABLE 4-HYDROLOGIC PARAMETERS-ONSITE
CN=Average curve number for sub-area

* Indicates areas that change from existing to developed. Area existing/area developed.

Sub-basin Hydrologic Parameters

Peak discharge estimates were based on the following sub-basin parameters:

- sub-basin area
- overland flow length
- overland flow slope
- overland flow friction factor
- collector channel characteristics
  - slope
  - length
  - friction factor
  - cross-sectional geometry
- main channel characteristics:
  - slope
  - length
  - friction factor
  - cross-sectional geometry

Parameters for each onsite sub-basin are listed in *TABLE 4-SUB-BASIN HYDROLIGIC PARAMETERS* and are included in the HEC-1 input files attached as *APPENDIX C & D*. Offsite parameters are also included in the HEC-1 files.

Hydrograph Routing

Hydrographs were routed to downstream concentration points using the kinematic wave routing method.

Detention Basins/Channel Storage

The detention basins and channel storage modeled in the fully developed condition model are discussed in *SECTION 6.0-DETENTION*. The basins are included in the developed conditions HEC-1 runs to evaluate the downstream impacts of development.

4.3 Summary of Hydrologic Results

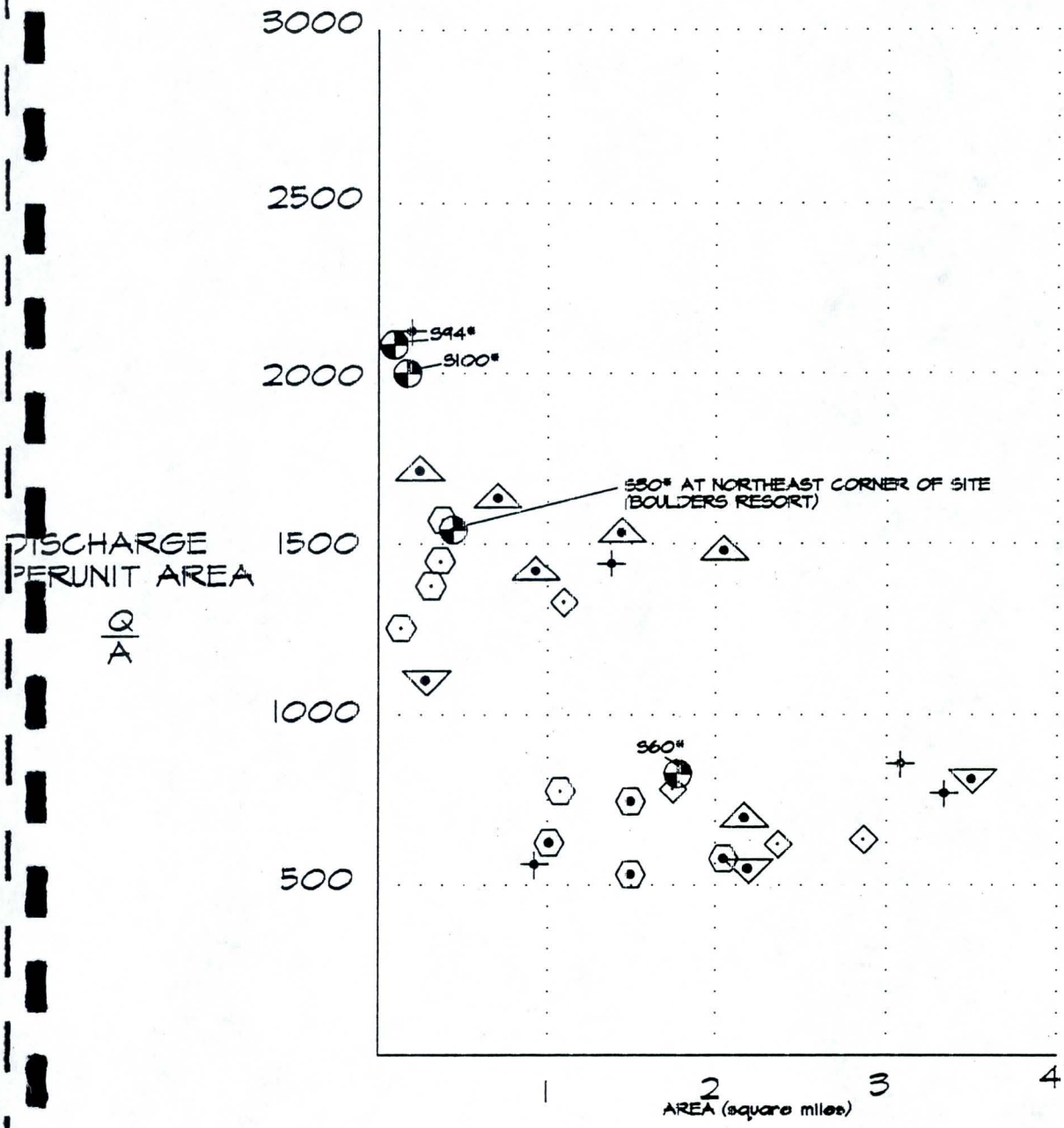
Peak flows for existing and developed conditions entering and exiting the site are compared and are tabulated in *TABLE 5-PEAK FLOW SUMMARY.*

Hec-1 Sub-basin ID	Description	100 Year Storm Flow Existing/ Maximum (cfs)	Developed (cfs)
S290	INFLOW ON EAST PROPERTY LINE SOUTH TO NORTH-800' N	1190/1693	N/A
S300	-1350'N	16	N/A
S310	-1700'N	22	N/A
S210	-2500'N	391/890	N/A
S220	-2700'N	837	N/A
S230	-2900'N	187/627	N/A
S240	-3700'N	186/631	N/A
S241	-4200'N	53	N/A
S242	-4500'N	58	N/A
S250	INFLOW ON EAST PROPERTY LINE SOUTH TO NORTH-NE CORNER	372/850	N/A
S251	INFLOW ON NORTH PROPERTY LINE EAST TO WEST-NE CORNER	66	N/A
S260	-2600'W	270	N/A
S271	INFLOW ON NORTH PROPERTY LINE EAST TO WEST-4800'N	303/977	N/A
S291	OUTFLOW ON SOUTH PROPERTY LINE EAST TO WEST-1800'E	1194/1698	1191
S303	-2500'E	72/97	29
S305	-3000'E	45/78	29
S306	-3600'E	31/53	17*
S307	OUTFLOW ON SOUTH PROPERTY LINE EAST TO WEST-4400'E	42	16*
S211	OUTFLOW ON WEST PROPERTY LINE SOUTH TO NORTH O'N	355/859	332
S212	-1000'N	133/320	112*
S233	-1800'N	963/1115	836*
S246	-2300'N	152/466	76
S247	-2600'N	184/468	131
S248	-3100'N	160	111*
S255	-3500'N	89	74*
S256	-3800'N	56	47*
S272	OUTFLOW ON WEST PROPERTY LINE SOUTH TO NORTH-4400'N	428/1008	387

TABLE 5-PEAK FLOW SUMMARY

*Onsite flow areas rerouted from these tributaries.

These flows and other interior flows are used in a hydraulic analysis of existing and developed conditions. In addition, the flows have been compared to adjacent prior reports for calibration.



* HEC-1 CONCENTRATION POINT FROM TERRAVITA MASTER DRAINAGE STUDY.

PLATE 6 - CALIBRATION CURVE

BIRKS AND ASSOCIATES, INC.

STUDY CHARACTERISTICS

SHAPE	SLOPE	COVER	METHOD	DRAINAGE STUDY LEGEND
F	<1	U	2	PIMA INN
LN	1to5	D	1	DOVE VALLEY ESTATES
F	1to5	D	1	JOHNSON RANCH
F	1to5	D	2	TERRAVITA
F	>5	F	1	PRESCOTT LAKES
F	1to5	D	2	SONORAN HILLS
F	<1	U	2	ARROWHEAD BUSINESS PARK

DESCRIPTION OF STUDY CHARACTERISTIC -SHAPE - LN (long & narrow), F (fan); SLOPE -<1%, 1 TO 5%, >5%. COVER - D (desert), F (forest), U (urban); METHOD - 1 (hec-1, green & amp, 6hr storm), 2 (hec-1, cn., 6hr storm)

5.0 HYDRAULICS

This hydraulic analysis is based on routing flows along existing drainage corridors and then modifying that hydraulic model for any encroachments due to the selected corridor limits.

New delineations will be prepared, if necessary with the final drainage report to account for any adjustments to the corridor locations or revisions in street crossings from this report.

The water surface profiles are performed using the U.S. Army Corps of Engineer's (USCE) HEC-RAS computer programs, as implemented by Haestad Methods, Inc. Profiles are calculated for the floodplains based on hydrology completed for this study. No new FEMA flood hazard zones are proposed.

Cross-section data is taken from topographic maps for the study reach. The maps were furnished with a scale of 1"=100' with 1 foot contour intervals. Locations of cross-sections used in the hydraulic analysis are shown on *PLATE 7 - MASTER DRAINAGE PLAN. TABLE 5* summarizes peak discharges at key locations onsite.

5.1 Methodology

5.1.1 Manning's n Values

Manning's roughness coefficients were selected based on the results of field observations and engineering judgment. These values were estimated in accordance with the procedures outlined in the USGS publication "Roughness Characteristics of Natural Channels" WSP 1849, 1967. In addition, aerial photographs, existing topographic maps, and the current SCS soils maps were also utilized in selecting Manning's n values.

In general, channel bed material is sandy with scattered vegetation, and was assigned a base value of 0.040. Channel banks have dense growth of brush and small trees, and the overbank areas are more sparse brush and bushes. Manning's n values for the overbanks are however set at 0.045. Existing and proposed conditions are to be modeled using similar n factors because the threads of major onsite washes will not be disturbed or will be revegetated with native materials.

The overbank friction factor is higher than what is now existing to account for potential future increases in vegative density due to nuisance water flows from the development into the overbanks.

5.1.2 Expansion and Contraction Coefficients

For most of the study reaches, the contraction and expansion coefficients are selected as 0.1 and 0.3, respectively.

5.1.3 Cross-Section Description

Cross-section locations were taken at approximately every 500 feet along the thalweg unless intermediate sections were required. The cross-section number was labeled according to distance in feet along the thalweg starting at the downstream section.

Each cross-section was oriented such that it is normal to the direction of flow across the entire channel and floodplain. Cross-sections are bent or doglegged as required and cover the entire 100-year floodplain.

Elevations along a cross-section are recorded from left to right looking downstream. The geometric data is recorded in accordance with HEC-2 format. The positional accuracy of these data is to the nearest one foot horizontally and to the nearest 0.5 vertically. The channel station center line (thalweg) will be designated as Station 1,000 in compiling cross section geometric data. Some of the cross-sections have multiple or braided channels and these areas have been analyzed for flow splits.

5.1.4 Channel and Overbanks

Manning's n values for channel and overbanks is entered into the models. Adjustments are made to the cross-section data for ineffective areas, multiple channels, and ponding areas. ET cards are used in natural profile runs to reflect the ineffective or ponding areas identified on topographic maps. NH cards are used to simulate the multiple channels or at the confluence of washes.

5.1.5 Calibration

Calibration is a major task for the hydraulic analysis in order to obtain reasonable results. Since no observed data was available for the study reaches, the effort was concentrated on the verification of critical input parameters for HEC-RAS models. The verification was accomplished by examining the key output variables which may affect the accuracy of the results. These key variables include computed water surface evaluation, top width, velocity, flow distribution, energy slope, and any warning messages. In addition, topographic maps, aerial photographs and field observations were utilized to verify the results.

The initial floodplain boundaries are plotted on the *MASTER DRAINAGE PLAN (PLATE 7)*. Cross-section and computed flood profiles have been plotted and reviewed. Dramatic changes of any key variables between cross sections was carefully examined. In addition, ineffective flow areas, ponding areas, and obstructions will be identified on topographic maps. The results of the output analysis is incorporated into the HEC-RAS models by calibrating the input parameters. These parameters include overbank reach length, contraction and expansion coefficients, and ineffective area parameters.

5.2 Culverts/Emergency Access

100 year capacity culverts will be constructed at all weather road crossings. These crossings will create a constriction to the flood waters. The contraction and expansion coefficients will be increased at these locations to simulate the constriction. No additional drainage structures are considered to exist along upstream study reaches of the tributaries studied at this time.

Emergency access routes are provided to each lot. The routes are shown on the Emergency Access Plan, Plate 8.

5.3 Final Results and Computer Runs

Floodplain and floodway delineations are performed using the USCE HEC-RAS computer model for tributaries thru the project.

Floodplain data for the site is presented in *APPENDIX E & F*. This may be updated in the future.

APPENDIX E is the HEC-RAS run for existing conditions and *APPENDIX F* is the HEC-RAS run for the developed conditions.

5.4 Other Studies Impacted

Existing FEMA studies are unaffected by this study. This report is compatible with drainage reports for adjacent sites.

5.5 Future Studies/Improvements

Additional studies on the channel hydraulics, scour along walls, final interior culvert and roadway crossings, and final basin designs will be prepared as addendum's to this report. Preliminary culvert design and basin configurations have been prepared in support of the hydrology modeling and are included in *Appendix B–HEC-RAS Calculation Worksheets*. In addition *Section 6.0 Detention/Channel Storage* section includes a discussion and tables for the basin design parameters in the hydrologic model. A follow up addendum will cover various washes through the project site as each phase is developed.

Smaller onsite washes will be analyzed and delineated in detail with each phase. Platting of the various parcels will also include a detailed drainage analysis of individual parcel drainage systems within the frame work established by this report. In general the primary threads of washes thru parcels will be retained and supplemented where necessary to increase channel capacities. Washes will however retain a natural desert wash character and modeling of the watershed for channel routing reflects that concept .

5.6 64th Street Drainage

In order to achieve the criteria of not raising the water surface, a cross-section similar to the current unpaved section is proposed.

Existing Drainage is carried by relative shallow washes (less than 2 to 4 feet deep) that run westerly across 64th Street. The existing major washes have flows ranging from 1190 cfs to 372 cfs on the 100 year storm. The existing flows will result in floodplains that vary from 100 to in excess of 200 feet in width with an average depth of less than 2½ feet at the existing road crossings.

Some of the existing houses may now be flooded should a 100 year or even smaller storm event occur without any development of the site. This project will match existing conditions.

Various Alternatives have been considered. The original criteria from the city, was to have no more than ½ foot of water on the 50 year storm with velocities on the road of less than 12 fps.

This criteria was evaluated for the 4 major washes with the flow over the road and the resulting required culvert flow evaluated on a summary included as *APPENDIX B*. The 100 year storm was evaluated but a 50 year storm would only result in roughly a 12% reduction in the flow analysis. The combinations of culverts and flows over the road result in an unbuildable number of culverts varying from 28-18" cmp's on the smaller flows to up to 90-18" cmp's on the larger wash.

With the selected alternative, it is proposed to design dip crossings across all of the washes. The dips will maintain the height of the existing ridges and may provide some minor lowflow capacity at the existing thread of each wash.

Cutoff walls, a one-way crown and possibly flush curbs will be required on wash crossings in order to meet the criteria of maintaining the existing drainage conditions.

Lowflow capacity if possible, will be provided by low head type crossings such as provided by a scupper similar to a MAG 203 detail.

5.7 Emergency Access

Emergency access is provided to all lots by at least one (1) route. The criteria is for the depth of flow on the 100 year storm to be less than 1.0' deep. Most wash-street crossings will however be dry on the 100 year storm.

PLATE 8 shows the routes open on the 100 year storm and those that will be wet and not accessible.

6.0 CHANNEL STORAGE/DETENTION

Onsite detention facilities will increase the channel storage capacity of the site such that there is no increase in flow from the project over pre-development conditions in each wash for existing flows.

Onsite detention facilities will be designed in accordance with the criteria outlined in the drainage concept portion of this report (*SECTION 3.0*). Detention will be necessary on the onsite tributaries to reduce the post-development peak flow such that it is equal to or less than the existing peak flow. Detention will not be provided on each parcel for the excess runoff (pre-post) on a 100-year 2-hour storm (2.8 inch). Outfalls from parcels may exceed predevelopment conditions. Regional Detention basins are sized to provide area wide detention for that volume necessary to outfall at predevelopment flow rates on a 100 year storm frequency off the site.

Calculations for required volumes are shown in *TABLE 6* and for proposed basins are included as *TABLE 7*. The calculations are based on volumes determined to be required to meet the standard of not increasing offsite post-development flow rates above pre-development levels and <u>not</u> based on containing the 100-year 2-hour storm from developed portions of the site.

Channel Storage/Detention volumes are used in HEC-1 runs for the post development condition.

Channel storage will be formed by elevating roadway's crossing natural arroyos with some constructed basins. Low flows will be allowed to pass thru unimpeded and; major basin excavation is not anticipated. Storage volumes are listed in *TABLE 7* for each channel storage and basin. Culvert capacities are calculated using standard BPR nomographs with the various heads involved. Storage area volumes are calculated by adding the desired basin depth to the channel invert and planimetered from the area along the resulting contour line.

The volumes calculated in *TABLE 7* are subject to refinement on a phase by phase basis as each phase is developed. Basin design criteria on man made slopes will meet city design standards for side slopes (4Hto1V max). Depths will vary from 3' to 5' deep. The majority of the basins will be flow thru, drained by a box culvert or cmp. No drywells will be allowed. *Appendix B* includes hydraulic analysis of the basins and culverts used in the HEC-1 modeling for peak flows, further refinement of this data will be prepared on each phase of the project.

Basins are non-jurisdictional structures per ADWR criteria (less than 50 acre-feet in total volume and less than 25 feet in height from toe of slope to crest of structure.)

The 16 detention basins are individually illustrated on *Plate 7-MASTER DRAINAGE PLAN.*

The volume required for the site using pre/post volumes is:

$V=7200\ Q=7200\ \Delta ciA$ where

Δc=difference in runoff from pre to post (0.65-0.35),

I=1.4 (100 yr.-2 hr. in area)

A=developed area (608-320=288 ac.)

therefore

=7200 (0.65-0.35)(1.4)(288)/43,560

$V_{req'd}$=20 ac.-ft.

56TH AND LONE MOUNTAN
DETERMINE VOLUME REQD
JOB NUMBER: 1669

V= 7200Q
ASSUMPTIONS: Q= ciA where i=100 yr-2hr intensity=1.41in/hr

60' LOTS:	55% impervious	C= 0.68
75' LOTS:	45% impervious	C= 0.62
90' LOTS:	45% impervious	C= 0.62
120' LOTS:	40% impervious	C= 0.59
local street 60' lots:	37.17' wide impervious area including sidewalk	C= 0.95
local street 75'-120' lots:	33.17' wide impervious area including sidewalk	C= 0.95
collector:	56.17' wide impervious area including sidewalk	C= 0.95
dove valley:	40' wide impervious area (half of street)	C= 0.95
undeveloped desert		C= 0.35

SUB-BASIN	AREA (sq. mi.)	60' LOTS (#)	75' LOTS (#)	90' LOTS (#)	120' LOTS (#)	LOCAL STREET 60' (ft.)	LOCAL STREET 75'-120' (ft.)	COLLECTOR STREET (ft.)	DOVE VALLEY (ft.)	60' cul-de-sac lot (sq. ft.)	75' cul-de-sac lot (sq. ft.)	90' cul-de-sac lot (sq. ft.)	120' cul-de-sac lot (sq. ft.)	composite C	Q (cfs)	V (ft^3)	V (acre-ft)
S272	0.019	10.5				500			900	37800				0.44	6.66	**47953**	**1.10**
S261	0.043	9	15			600	450	400	3000					0.45	15.27	**109928**	**2.52**
S253	0.016		12				680				17188			0.62	7.88	**56706**	**1.30**
S252	0.015		10.5				1420							0.48	5.73	**41238**	**0.95**
S254	0.08	58	47			3110	2860	590						0.53	33.69	**242576**	**5.57**
S256	0.025	39				1350				88200				0.57	11.27	**81125**	**1.86**
S255	0.034	61.5				2550		50						0.57	15.27	**109946**	**2.52**
S248	0.09		39	40		1310	3040	720			28125	37700		0.49	35.16	**253125**	**5.81**
S247	0.079		44	9.5	11		4950	800			28125	56550		0.50	31.36	**225812**	**5.18**
S243	0.013			11.5			710							0.49	5.05	**36340**	**0.83**
S244	0.015			7			360					31200		0.44	5.24	**37725**	**0.87**
S245	0.0088			5			1270							0.52	3.61	**26017**	**0.60**
S246	0.061		15.5		25		3700	500						0.48	23.30	**167764**	**3.85**
S231	0.0056						120					31200		0.42	1.86	**13415**	**0.31**
S232	0.003													0.35	0.83	**6000**	**0.14**
S233	0.12		6	35.5	34		6450	800			34375		62400	0.48	45.69	**328981**	**7.55**
S212	0.084			17	32		3840	450					104000	0.47	31.59	**227440**	**5.22**
S211	0.15			53	40		8240	970				18850	104000	0.48	57.15	**411462**	**9.45**
S311	0.012						590							0.39	3.67	**26405**	**0.61**
S301	0.012				10		700							0.50	4.80	**34527**	**0.79**
S302	0.012				7		1030							0.49	4.66	**33571**	**0.77**
S304	0.004													0.35	1.11	**7999**	**0.18**
S303	0.013				7		460	110						0.46	4.72	**34006**	**0.78**
S305	0.0039							110						0.38	1.19	**8559**	**0.20**
S306	0.0091			1										0.36	2.62	**18846**	**0.43**
S307	0.016			8			260					37700		0.44	5.60	**40325**	**0.93**
S291	0.055				16		2060						62400	0.43	18.58	**133743**	**3.07**

TABLE 6-REQUIRED STORMWATER STORAGE VOLUMES

VOLUME REQD= 63.40

Channel Storage/ Basin	Water Surface Elevation	Surface Area (sq. ft.)	Main Basin Max. Depth (ft.)	Main Basin Volume (ft^3)	Main Basin Volume (ac.- ft.)	Extended Surface Area (sq. ft.)	Extended Area Ave. Depth (ft.)	Extended Area Volume (ft^3)	Total Volume (ac.-ft.)
B1	2062	79,149	7	240,113	5.51	7001	2	14002	5.83
B2	2097	33,903	7.1	79,402	1.82	7157	4.5	32207	2.56
B3	2091	39,984	7	111,365	2.56	36751	3.9	143329	5.85
B4	2109	41,926	7.4	124,101	2.85	N/A	N/A	0	2.85
B5	2070	94,818	7.4	280,661	6.44	8883	6	53298	7.67
B6	2066	84,908	6.9	234,346	5.38	19293	3	57879	6.71
B7	2111	72,609	7.8	226,540	5.20	N/A	N/A	0	5.20
B8	2065	52,118	7.4	154,269	3.54	16328	2.5	40820	4.48
B9	2096	58,037	7.5	174,111	4.00	30871	2	61742	5.41
B10	2095	40,315	6.5	104,819	2.41	7455	5	37275	3.26
B11	2095	11,991	5	23,982	0.55	9289	2	18578	0.98
B12	2081	98,534	7.5	295,602	6.79	N/A	N/A	0	6.79
B13	2194	20,000	3.0	50,000	1.12	N/A	N/A	0	1.12
B14	2195	45,500	3.0	113,750	2.60	N/A	N/A	0	2.60
B15	2060	20,000	3.0	50,000	1.12	N/A	N/A	0	1.12
B16	2073	17,500	3.0	43,750	1.00	N/A	N/A	0	1.00
								VOLUME PROVIDED=	63.53

TABLE 7-PROPOSED STORAGE VOLUME

The proposed storage volume of 63.53 exceeds the required volume of 20.00 ac.-ft. provided by channel storage in locations B1 thru B12 and in constructed retention basins at locations B13 thru B16. Basins B13 thru B16 are excavated retention basins in open space areas that will accept subdivision drainage and will be revegetated for roughly 2.5 acres of habitat mitigation for 404 permit impacts. These basins will hold the first 1' of inflow for a wildlife water source. The remaining volume will be drained by pipes at a rate to drain the basin within 24 hours or less.

7. 0 CONCLUSIONS/RECOMMENDATIONS

The 56th Street & Lone Mountain Road project will be designed to retain the desert character of the area while protecting downstream areas from increased flows or negative environmental impacts due to development of the site. Basins and channel storage areas on the site will be designed primarily for flow thru conditions, both to maximize use of the basin areas as usable open space and to maintain the base flows in natural washes within onsite and offsite areas to support existing vegetation and sediment discharge characteristics.

16 areas are proposed to create detention storage. This will provide significant reductions in peak 100 year offsite flows for existing conditions immediately below the basins. Individual sites will not be required to provide detention with the regional basins in place.

Hydrology on the site is based on the latest state standards criteria for studies. Future addendum's to this report, in support of a final drainage report and construction, will further refine the hydrologic conditions. In addition, in support of future design efforts, more accurate HEC-RAS modeling of channels will be incorporated into addendum's and updates to this report based on final road and corridor designs.

Appendix A - HEC-1
Calculation Worksheets

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

		JOB NO. 1669	SHEET 7
PROJECT SG+LM		CALC. IPS	DATE 01/22/01
SUBJECT Dev Cond Hec 1 Parameters		CHKD.	DATE

$Lag = 0.6 \times T_c$

$T_c = \frac{Length}{3600 \times 5}$

Station	Length	T_c	Lag
254A	1551	0.086	0.052
254B	2026	0.113	0.068
254C	826	0.046	0.028
248A	1898	0.105	0.063
248B	999	0.055	0.033
248C	2807	0.156	0.094
246A	2704	0.150	0.090
246B	1993	0.111	0.066
233A	3362	0.187	0.112
233B	1831	0.102	0.061
212A	1174	0.065	0.039
212B	4283	0.238	0.143
211A	3489	0.194	0.116
211B	2278	0.127	0.076
291A	1498	0.083	0.050
291B	1015	0.056	0.034
261A	1556	0.086	0.052
261B	929	0.052	0.031
247A	2204	0.122	0.074
247B	2675	0.149	0.089

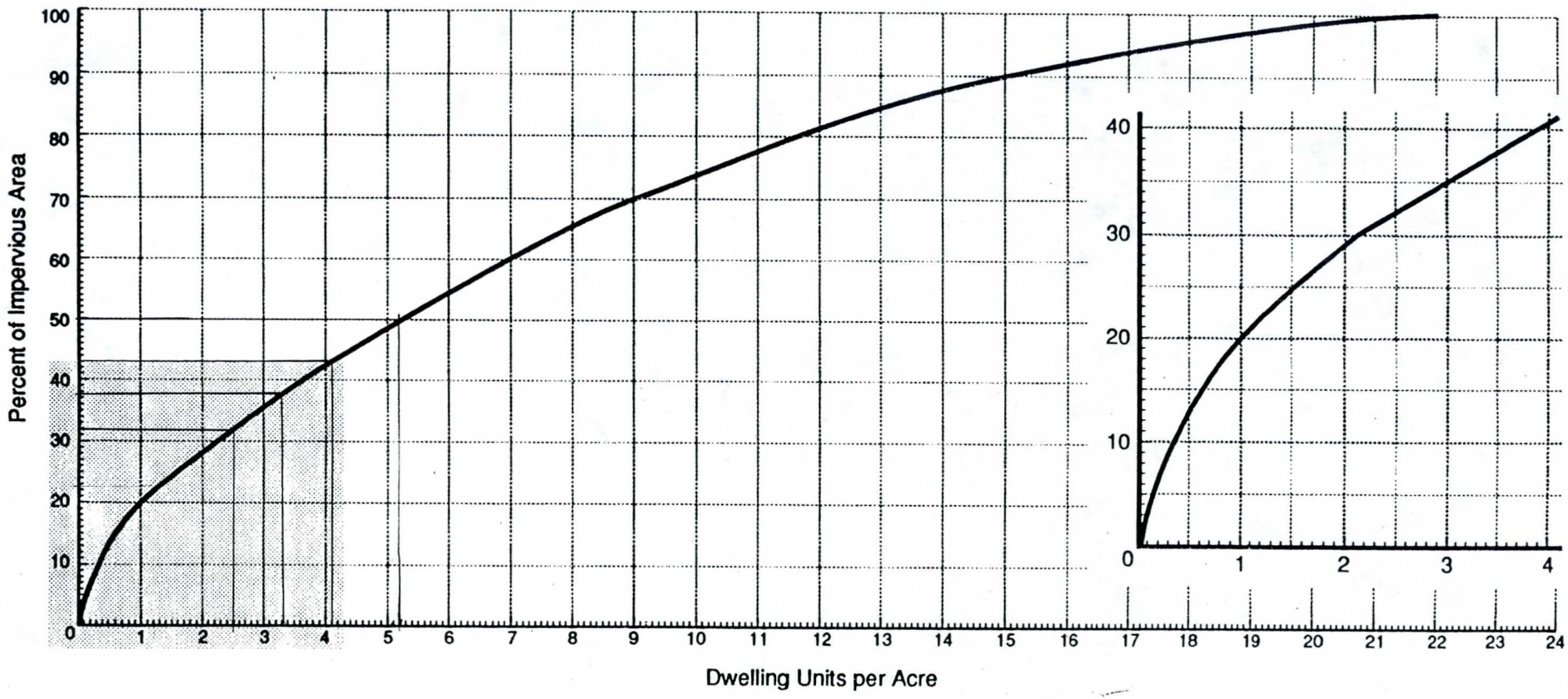


FIGURE 2.2-16

Percent of Impervious Area vs. Dwelling Density

)eveloped by Water Resources Associates, Inc. from data in Table 2.2a of TR-5 n Hydrology For Small Watersheds, and from discussions with Scottsdale city s

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

JOB NO. 1669 SHEET 1
PROJECT SG + LM CALC. IPS DATE 01/18/01
SUBJECT DW Cond Routing CHKD. DATE

	Routed Subarea	Reach Length (ft)	Slope (ft/ft)	Left Over	Mid Left Over	Left Bank	Channel	Channel	Right Bank	Mid Right Over	Right Over
STA	254A	767	0.019	945	947	995	999	1001	1005	1017	1045
EL				2085.3	2085	2083.1	2083	2083	2083.1	2085	2085.4
STA	254B	231	0.023	763	984	993	999	1001	1007	1014	1021
EL				2050.2	2049	2049.2	2049.2	2049.2	2049.2	2050	2050.2
STA	248A	1000	0.020	927	956	997	999	1001	1003	1034	1077
EL				2099	2098	2096	2096.5	2095.5	2096	2099	2099.3
STA	248B	3000	0.021	907	953	996	999	1001	1008	1039	1071
EL				2071.5	2070	2066	2065.5	2065.5	2066	2068	2069.5
STA	246A	1829	0.020	913	933	995	999	1001	1007	1058	1099
EL				2056.8	2056	2056	2054.5	2054.5	2055	2056	2057.5
STA	233A	1700	0.020	955	994	995	999	1001	1012	1041	1059
EL				2045.1	2044	2043.2	2043	2043	2043.7	2044	2044.7
STA	212A	4530	0.019	869	956	997	999	1001	1008	1023	1050
EL				2084	2083	2080	2080	2080	2080	2081	2082.5
STA	211A	2700	0.021	955	971	993	999	1001	1007	1050	1033
EL				2049.9	2048	2046.3	2046	2046	2046.3	2048	2050.6
STA	291A	750	0.021	954	969	998	999	1001	1007	1175	1224
EL				2089.9	2090	2089.8	2089.8	2089.8	2089.8	2088	2090.3
STA	261A	750	0.022	961	980	997	999	1001	1003	1070	1104
EL				2095	2094	2083	2083	2083	2083	2084	2085
STA	247A	2479	0.020	906	943	990	999	1001	1008	1042	1085
EL				2058.1	2057	2057	2056.5	2056.5	2057	2057	2057.2

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

PROJECT 56th + LM
SUBJECT Developed Subarea Calcs

JOB NO. 1669
CALC. LPS
CHKD.

SHEET 1
DATE 01/17/01
DATE

Sub Area	Basins	New Subareas	Area of Sub Areas SF	Miles²
S254	B1, B2	S254 A	104.2977	0.037
		S254 B	982092	0.035
		S254 C	205263	0.007
S248	B3, B4	S 248 A	956946	0.034
		S 248 B	613325	0.022
		S 248 C	956764	0.034
S246	B5	S 246 A	1087258	0.039
		S 246 B	604748	0.022
S233	B6	S 233 A	1867853	0.067
		S 233 B	1477294	0.053
S212	B7	S 212 A	297917	0.011
		S 212 B	2035123	0.073
S211	B8	S 211 A	2592691	0.093
		S 211 B	1583583	0.057
S301	B9	S 301	No Changes	X
S291	B10	S291 A	1059379	0.038
		S291 B	473649	0.017
S261	B11	S261 A	346177	0.012
		S261 B	852594	0.031
S247	B1	S 247 A	918109	0.033
		S 247 B	1282406	0.046

LOT SIZE	DU/A CRE	SG B CN	SG C CN
60	5.2	88.5	92
75	4.1	89.8	92.8
90	3.3	90.6	93.4
120	2.5	91.9	94.2

SUB-BASIN	AREA (SQ. MI.)	AREA ACRES	60' LOTS #	75' LOTS #	90' LOTS #	120' LOTS #	ACRES OF SOIL GROUP B	ACRES OF SOIL GROUP C	AREA OF 60' LOTS	AREA OF 75' LOTS	AREA OF 90' LOTS	AREA OF 120' LOTS	ACRES UNDER DEVELOPED CONDITIONS BY LOT AND SOIL								TOTAL OPEN SPACE AREA	OPEN SPACE CURVE #	AVERAGE CN	SUB-BASIN	
													60' LOT, SOIL B	75' LOT, SOIL B	90' LOT, SOIL B	120' LOT, SOIL B	60' LOT, SOIL C	75' LOT, SOIL C	90' LOT, SOIL C	120' LOT, SOIL C					
272	0.0190	12.16	4	0	0	0	12.2	0.0	0.8	0.0	0.0	0.0	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.4	79.0	79.6	272	78
261	0.0430	27.52	8.5	14	0	0	12.8	14.7	1.6	3.4	0.0	0.0	0.76	1.59	0.00	0.00	0.87	1.83	0.00	0.00	22.5	82.7	84.3	261	83
253	0.0160	10.24	0	10.5	0	0	2.6	7.7	0.0	2.6	0.0	0.0	0.00	0.64	0.00	0.00	0.00	1.92	0.00	0.00	7.7	84.3	86.2	253	85
252	0.0150	9.60	0	10.5	0	0	9.6	0.0	0.0	2.6	0.0	0.0	0.00	2.56	0.00	0.00	0.00	0.00	0.00	0.00	7.0	79.0	81.9	252	82
254	0.0800	51.20	49	26	0	0	18.6	32.6	9.4	6.3	0.0	0.0	3.42	2.30	0.00	0.00	6.01	4.04	0.00	0.00	35.4	83.5	85.8	254	82
256	0.0250	16.00	47	0	0	0	3.2	12.8	9.0	0.0	0.0	0.0	1.81	0.00	0.00	0.00	7.23	0.00	0.00	0.00	7.0	84.6	88.4	256	81
255	0.0340	21.76	68.5	0	0	0	4.5	17.3	13.2	0.0	0.0	0.0	2.71	0.00	0.00	0.00	10.46	0.00	0.00	0.00	8.6	84.6	88.6	255	85
248	0.0900	57.60	8.5	46	32	0	54.7	2.9	1.6	11.2	9.7	0.0	1.55	10.65	9.20	0.00	0.08	0.57	0.50	0.00	35.0	79.4	83.6	248	81
247	0.0790	50.56	0	47.5	25	0	36.5	14.1	0.0	11.6	7.6	0.0	0.00	8.36	5.47	0.00	0.00	3.23	2.11	0.00	31.4	80.9	84.8	247	80
243	0.0130	8.32	0	0	14	0	4.5	3.8	0.0	0.0	4.2	0.0	0.00	0.00	2.28	0.00	0.00	0.00	1.96	0.00	4.1	82.2	87.2	243	59
244	0.0150	9.60	0	0	10	0	6.4	3.2	0.0	0.0	3.0	0.0	0.00	0.00	2.02	0.00	0.00	0.00	1.01	0.00	6.6	81.3	84.6	244	77
245	0.0088	5.63	0	0	7	0	3.8	1.9	0.0	0.0	2.1	0.0	0.00	0.00	1.42	0.00	0.00	0.00	0.70	0.00	3.5	81.3	85.2	245	79
246	0.0610	39.04	0	19.5	0	22	39.0	0.0	0.0	4.8	0.0	8.8	0.00	4.76	0.00	8.80	0.00	0.00	0.00	0.00	25.5	79.0	83.2	246	79
231	0.0056	3.58	0	0	2	0	0.0	3.6	0.0	0.0	0.6	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	3.0	86.0	87.3	231	8[illegible]
232	0.0030	1.92	0	0	0	0	0.0	1.9	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.9	86.0	86.0	232	85
233	0.1200	76.80	0	10	34	43.5	44.8	32.0	0.0	2.4	10.3	17.4	0.00	1.42	6.01	10.15	0.00	1.02	4.29	7.25	46.7	81.9	86.0	233	80
212	0.0840	53.76	0	0	17	23.5	53.8	0.0	0.0	0.0	5.2	9.4	0.00	0.00	5.15	9.40	0.00	0.00	0.00	0.00	39.2	79.0	82.4	212	79
211	0.1500	96.00	0	0	51	48	64.0	32.0	0.0	0.0	15.5	19.2	0.00	0.00	10.30	12.80	0.00	0.00	5.15	6.40	61.3	81.3	85.3	211	77
311	0.0120	7.68	0	0	0	1	7.7	0.0	0.0	0.0	0.0	0.4	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	7.3	79.0	79.7	311	79
301	0.0120	7.68	0	0	0	6.5	7.7	0.0	0.0	0.0	0.0	2.6	0.00	0.00	0.00	2.60	0.00	0.00	0.00	0.00	5.1	79.0	83.4	301	7[illegible]
302	0.0120	7.68	0	0	0	4.5	7.7	0.0	0.0	0.0	0.0	1.8	0.00	0.00	0.00	1.80	0.00	0.00	0.00	0.00	5.9	79.0	82.0	302	80
304	0.0040	2.56	0	0	0	2.5	2.6	0.0	0.0	0.0	0.0	1.0	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.6	79.0	84.0	304	77
303	0.0130	8.32	0	0	0	2.5	8.3	0.0	0.0	0.0	0.0	1.0	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	7.3	79.0	80.6	303	80
305	0.0039	2.50	0	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.5	79.0	79.0	305	81
306	0.0091	5.82	0	0	2	0	5.2	0.6	0.0	0.0	0.6	0.0	0.00	0.00	0.55	0.00	0.00	0.00	0.06	0.00	5.2	79.7	80.9	306	85
307	0.0160	10.24	0	0	14	0	0.0	10.2	0.0	0.0	4.2	0.0	0.00	0.00	0.00	0.00	0.00	0.00	4.24	0.00	6.0	86.0	89.1	307	87
291	0.0550	35.20	0	0	0	28	22.4	12.8	0.0	0.0	0.0	11.2	0.00	0.00	0.00	7.13	0.00	0.00	0.00	4.07	24.0	81.5	85.1	291	77

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

JOB NO. 1669 SHEET 1
PROJECT 56+ Lm CALC. IPS DATE 01/23/01
SUBJECT Culvert Sizing CHKD. DATE

B1 C254B Q = 378 D = 7' 3' Deep Box

	Depth	0	1	2	3	4	5	6	7
	SV	0	0.057	0.278	0.683	1.381	2.427	3.798	5.565
	SE	2055	2056	2057	2058	2059	2060	2061	2062
1) 6'x3'	SQ	0	18	51	90	126	156	180	210
2) 8'x3'	SQ	0	24	68	120	168	208	240	280
3) 10'x3'	SQ	0	30	85	150	210	260	300	350

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

PROJECT	SG + LM	JOB NO. 1669	SHEET 2
SUBJECT	Culvert Sizing	CALC. IPS	DATE 01/23/01
		CHKD.	DATE

B2 C254A Q = 375 D = 4' 3' Deep Box

	Depth	0	1	2	3	4	5	6	7
	SV	0	0.007	0.014	0.049	0.206	0.526	0.992	1.664
	SE	2090	2091	2092	2093	2094	2095	2096	2097
6'x3'	SQ	0	18	51	90	126	156	180	210
2) 8'x3'	SQ	0	24	68	120	168	208	240	280
3) 10x3	SQ	0	30	85	150	210	260	300	350
4) 10x4	SQ	0	40	85	155	230	300	370	420

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

JOB NO. 1669 SHEET 3
PROJECT SGLM CALC. IPS DATE 01/23/01
SUBJECT Culvert Sizing CHKD. DATE

B3 C248B Q=131 D=7' 36" CMP

	Depth	0	1	2	3	4	5	6	7
	SV	0	0.086	0.306	0.775	1.536	2.518	3.803	5.413
	SE	2084	2085	2086	2087	2088	2089	2090	2091
5) 1-36"	SQ	0	9	18.5	35	50	60	70	80
6) 1x24"	SQ	0	4	13	21	26	30	35	38

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

JOB NO. 1669 SHEET 4
PROJECT S6+LM CALC. JPS DATE 01/23/01
SUBJECT Culvert Sizing CHKD. DATE

B4 C248A Q=95 D=7' 30" CMP

	Depth	0	1	2	3	4	5	6	7
	SV	0	0.025	0.079	0.171	0.392	0.783	1.388	2.232
	SE	2102	2103	2104	2105	2106	2107	2108	2109
1x30"	SQ	0	8	16	28	38	45	52	58

B4-Revised

	Depth	0	1	2	3	4	5	6	7
	SV	0	0.014	0.070	0.199	0.298	0.441	0.591	0.792
	SE	2106	2107	2108	2109	2110	2111	2112	2113
1x30"	SQ	0	0.007	0.049	0.184	0.432	0.802	1.318	2.009

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

JOB NO. 1669 SHEET 5
PROJECT SG+LM CALC. JPS DATE 01/23/01
SUBJECT Culvert Sizing CHKD. DATE

B5 C246A Q = 138 D = 7' 36" CMP

	Depth	0	1	2	3	4	5	6	7
	SV	0	0.150	0.612	1.352	2.356	3.704	5.414	7.542
	SE	2063	2064	2065	2066	2067	2068	2069	2070
1)	1x36" SQ	0	9	18.5	35	50	60	70	80

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

PROJECT	S6 + Lm	JOB NO. 1669	SHEET 6
SUBJECT	Culvert Sizing	CALC. IPS	DATE 01/23/01
		CHKD.	DATE

B6 C233A Q = 933 D = 7' 4' Box

	Depth	0	1	2	3	4	5	6	7
	SV	0	0.055	0.224	0.602	1.420	2.801	4.630	6.829
	SE	2059	2060	2061	2062	2063	2064	2065	2066
1) 10'x4'	SQ	0	40	85	155	230	300	370	420
2) x10'x4'	SQ	0	80	170	310	460	600	740	840

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

PROJECT SGILM	JOB NO. 1669	SHEET 7	
SUBJECT Culvert Sizing	CALC. IPS	DATE 01/23/01	
	CHKD.	DATE	

B7 C212A Q=40 D= 24"cmp

Depth	0	1	2	3	4	5	6	7
SV	0	0.040	0.170	0.431	1.015	2.019	3.328	4.880
SE	2104	2105	2106	2107	2108	2109	2110	2111
1) 1x24" SQ	0	4	13	21	26	30	35	38

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

JOB NO. 1669 SHEET 8
PROJECT S6+Lm CALC. IPS DATE 01/23/01
SUBJECT Culvert Siting CHKD. DATE

B8 C211A Q = 347 D = 7' 3' Box

	Depth	0	1	2	3	4	5	6	7
	SV	0	0.043	0.132	0.226	0.326	0.672	1.583	2.974
	SE	2058	2059	2060	2061	2062	2063	2064	2065
1) 6'x3'	SQ	0	18	51	90	126	156	180	210
2) 10'x3'	SQ	0	30	85	150	210	260	300	350

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

JOB NO. 1669 SHEET 9
PROJECT S6 + Lm CALC. JPS DATE 01/23/01
SUBJECT Culvert Sizing CHKD. DATE

B9 C311 Q = 78 D = 8' .. 24" cmp

	Depth	0	1	2	3	4	5	6	7	8
	SV	0	0.035	0.113	0.280	0.700	1.418	2.414	3.762	5.558
	SE	2088	2089	2090	2091	2092	2093	2094	2095	2096
1) 1x24"	SQ	0	4	13	21	26	30	35	38	42

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

		JOB NO. 1669	SHEET 10
PROJECT SG+Lm		CALC. IPS	DATE 01/23/01
SUBJECT Culvert Sizing		CHKD.	DATE

B10 C291A Q = 1196 D = 6' 3' Box

	Depth	0	1	2	3	4	5	6
	SV	0	0.100	0.399	0.920	1.639	2.511	3.532
	SE	2089	2090	2091	2092	2093	2094	2095
1) 2x10'x3'	SQ	0	60	170	300	420	520	600
2) 2x10'x4'	SQ	0	80	170	310	460	600	740
3) 2x10'x5'	SQ	0	80	166	320	480	640	820
4) 3x10'x3'	SQ	0	90	255	450	630	780	900
5) 3x10'x5'	SQ	0	120	249	480	720	960	1730

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

JOB NO. 1667 SHEET 11
PROJECT SGLM CALC. IPS DATE 01/23/01
SUBJECT Culvert Sizing CHKD. DATE

B11 CJ61A Q = 391 D = 5' 3' Box

	Depth	0	1	2	3	4	5
	SV	0	0.011	0.045	0.152	0.461	0.929
	SE	2090	2091	2092	2093	2094	2095
1) 8'x3'	SQ	0	24	69	120	168	208
2) 10x3'	SQ	0	30	85	150	210	260
3) 2x8x3	SQ	0	49	136	240	336	416

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

		JOB NO.	1669	SHEET	12
PROJECT	SG+LM	CALC.	IPS	DATE	01/23/01
SUBJECT	Culvert Sizing	CHKD.		DATE	

B12 C247A Q = 129 D: 8' 36" CMP

	Depth	0	1	2	3	4	5	6	7	8
	SV	0	0.065	0.337	0.858	1.650	2.754	4.199	5.971	8.055
	SE	2073	2074	2075	2076	2077	2078	2079	2080	2081
1) 1x36"	SQ	0	9	18.5	35	50	60	70	80	90
6) 1x30"	SQ	0	8	16	28	38	45	52	58	60

	DEPTH	0	1	2	3	4	5	6	7	8
24" CMP	HW/D	0.00	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00
	Q	0.00	4.00	13.00	21.00	26.00	30.00	35.00	38.00	42.00
30" CMP	HW/D	0.00	0.40	0.80	1.20	1.60	2.00	2.40	2.80	3.20
	Q	0.00	8.00	16.00	28.00	38.00	45.00	52.00	58.00	62.00
36" CMP	HW/D	0.00	0.33	0.67	1.00	1.33	1.67	2.00	2.33	2.67
	Q	0.00	9.00	18.50	35.00	50.00	60.00	70.00	80.00	90.00

3' BOX	HW/D	0.00	0.33	0.67	1.00	1.33	1.67	2.00	2.33	2.67
	Q/B	0.00	3.00	8.50	15.00	21.00	26.00	30.00	35.00	38.00
4' BOX	HW/D	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00
	Q/B	0.00	4.00	8.50	15.50	23.00	30.00	37.00	42.00	47.00
5' BOX	HW/D	0.00	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60
	Q/B	0.00	4.00	8.30	16.00	24.00	32.00	40.00	48.00	55.00
6' BOX	HW/D	0.00	0.17	0.33	0.50	0.67	0.83	1.00	1.17	1.33
	Q/B	0.00	4.00	8.50	16.00	22.00	32.00	42.00	53.00	60.00
7' BOX	HW/D	0.00	0.14	0.29	0.43	0.57	0.71	0.86	1.00	1.14
	Q/B	0.00	4.50	9.00	16.00	22.00	34.00	44.00	54.00	64.00

Channel Storage/ Basin	Water Surface Elevation	Surface Area (sq. ft.)	Main Basin Max. Depth (ft.)	Main Basin Volume (ft^3)	Volume (ac.- ft.)	Extended Surface Area (sq. ft.)	Extended Area Ave. Depth (ft.)	Extended Area Volume (ft^3)	Total Volume (ac.-ft.)
B1	2062	79,149	7	240,113	5.51	7001	2	14002	5.83
B2	2097	33,903	7.1	79,402	1.82	7157	4.5	32207	2.56
B3	2091	39,984	7	111,365	2.56	36751	3.9	143329	5.85
B4	2109	41,926	7.4	124,101	2.85	N/A	N/A	0	2.85
B5	2070	94,818	7.4	280,661	6.44	8883	6	53298	7.67
B6	2066	84,908	6.9	234,346	5.38	19293	3	57879	6.71
B7	2111	72,609	7.8	226,540	5.20	N/A	N/A	0	5.20
B8	2065	52,118	7.4	154,269	3.54	16328	2.5	40820	4.48
B9	2096	58,037	7.5	174,111	4.00	30871	2	61742	5.41
B10	2095	40,315	6.5	104,819	2.41	7455	5	37275	3.26
B11	2095	11,991	5	23,982	0.55	9289	2	18578	0.98
B12	2081	98,534	7.5	295,602	6.79	N/A	N/A	0	6.79
B13	2194	20,000	3.0	50,000	1.12	N/A	N/A	0	1.12
B14	2195	45,500	3.0	113,750	2.60	N/A	N/A	0	2.60
B15	2060	20,000	3.0	50,000	1.12	N/A	N/A	0	1.12
B16	2073	17,500	3.0	43,750	1.00	N/A	N/A	0	1.00
								VOLUME PROVIDED=	63.53

TABLE 7-PROPOSED STORAGE VOLUME

The proposed storage volume of 63.53 exceeds the required volume of 63.40 provided by locations B1 thru B12 and in constructed basins at locations B13 thru B16. Basins B13 THRU B16 are excavated storage basins in open space areas that will accept subdivision drainage and will be revegetated for roughly 2.5 acres of habitat mitigation for 404 permit impacts.

0 085

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

PROJECT 56+2m
SUBJECT Basin Routing

JOB NO. 1669
CALC. JPS
CHKD.

SHEET 1
DATE 01/22/01
DATE

BASIN

B1	~~SV~~A	0.114	0.327	0.484	0.911	1.181	1.561	1.974			
	SE	2056	2057	2058	2059	2060	2061	2062			
B2	~~SV~~A	0	0.0280	0.0427	0.270	0.370	0.562	0.783			
	SE	2091	2092	2093	2094	2095	2096	2097			
B3	~~SV~~A	0	0.171	0.270	0.668	0.854	1.110	1.460	1.76		
	SE	2084	2085	2086	2087	2088	2089	2090	2091		
B4	~~SV~~A	0	0.050	0.057	0.178	0.313	0.470	0.740	0.948		
	SE	2102	2103	2104	2105	2106	2107	2108	2109		
B5	~~SV~~A	0	0.299	0.676	0.854	1.153	1.544	1.875	2.381		
	SE	2063	2064	2065	2066	2067	2068	2069	2070		
B6	~~SV~~A	0.110	0.229	0.587	1.110	1.651	2.007	2.392			
	SE	2060	2061	2062	2063	2064	2065	2066			
B7	~~SV~~A	0	0.090	0.180	0.342	0.826	1.181	1.437	1.667		
	SE	2104	2105	2106	2107	2108	2109	2110	2111		
B8	~~SV~~A	0	0.085	0.093	0.095	0.105	0.600	1.210	1.571		
	SE	2058	2059	2060	2061	2062	2063	2064	2065		
B9	~~SV~~A	0.070	0.085	0.250	0.590	0.846	1.146	1.550	2.041		
	SE	2089	2090	2091	2092	2093	2094	2095	2096		
B10	~~SV~~A	0	0.199	0.400	0.641	0.798	0.945	1.097			
	SE	2089	2090	2091	2092	2093	2094	2095			
B11	~~SV~~A	0	0.022	0.045	0.170	0.447	0.489				
	SE	2090	2091	2092	2093	2094	2095				
B12	~~SV~~A	0	0.130	0.413	0.630	0.959	1.253	1.637	1.907	2.262	
	SE	2073	2074	2075	2076	2077	2078	2079	2080	2081	
	~~SV~~A										
	SE										
	~~SV~~A										
	SE										

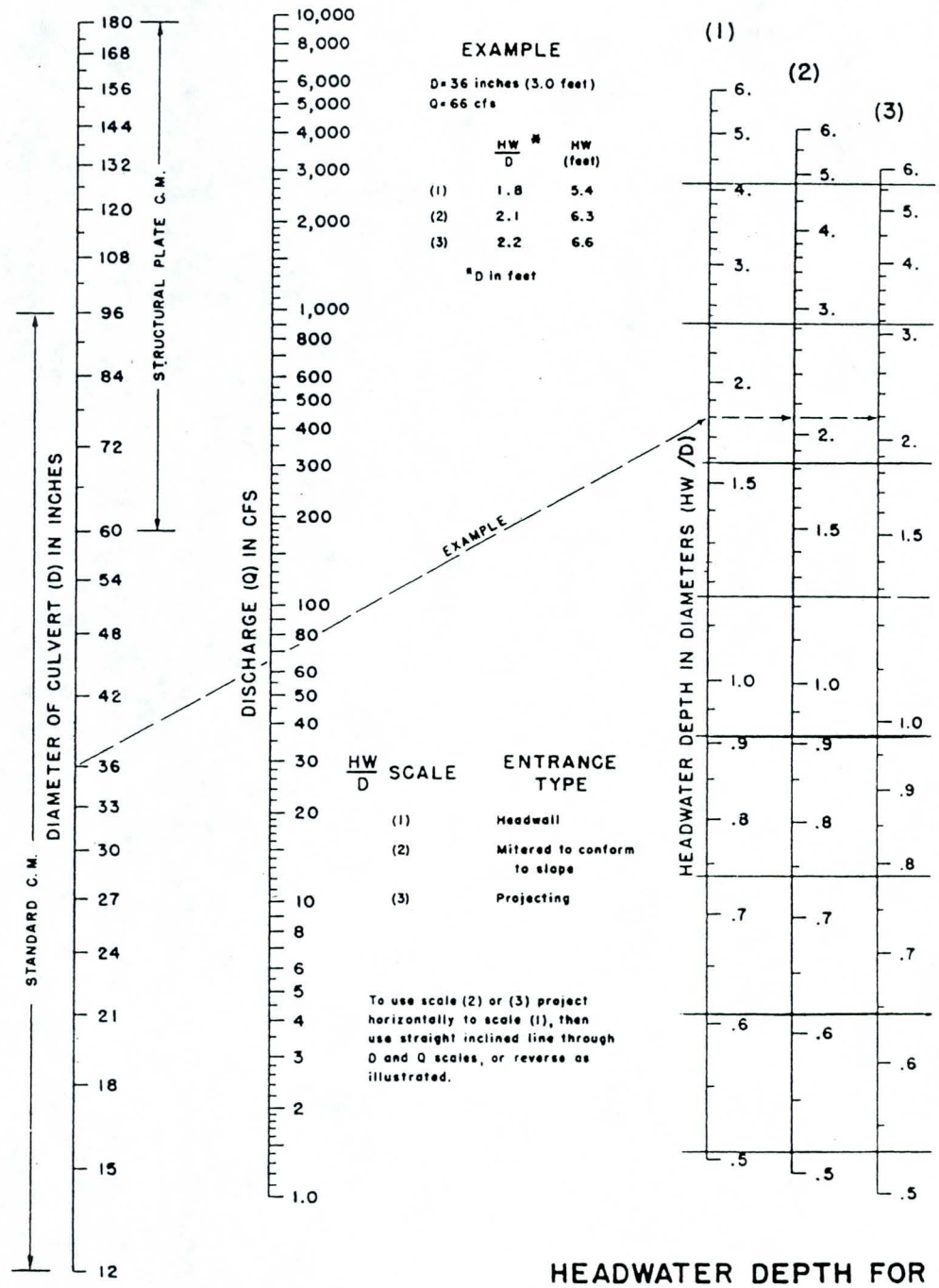
BASIN	DEPTH	1	2	3	4	5	6	7	8
B1	SURFACE AREA (ACRES)	0.114	0.327	0.484	0.911	1.181	1.561	1.974	
	VOLUME (ACRE-FEET)	0.057	0.278	0.683	1.381	2.427	3.798	5.565	
B2	SURFACE AREA (ACRES)	0.028	0.043	0.270	0.370	0.562	0.783		
	VOLUME (ACRE-FEET)	0.014	0.049	0.206	0.526	0.992	1.664		
B3	SURFACE AREA (ACRES)	0.171	0.270	0.668	0.854	1.110	1.460	1.760	
	VOLUME (ACRE-FEET)	0.086	0.306	0.775	1.536	2.518	3.803	5.413	
B4	SURFACE AREA (ACRES)	0.050	0.057	0.128	0.313	0.470	0.740	0.948	
	VOLUME (ACRE-FEET)	0.025	0.079	0.171	0.392	0.783	1.388	2.232	
B5	SURFACE AREA (ACRES)	0.299	0.626	0.854	1.153	1.544	1.875	2.381	
	VOLUME (ACRE-FEET)	0.150	0.612	1.352	2.356	3.704	5.414	7.542	
B6	SURFACE AREA (ACRES)	0.110	0.228	0.527	1.110	1.651	2.007	2.392	
	VOLUME (ACRE-FEET)	0.055	0.224	0.602	1.420	2.801	4.630	6.829	
B7	SURFACE AREA (ACRES)	0.080	0.180	0.342	0.826	1.181	1.437	1.667	
	VOLUME (ACRE-FEET)	0.040	0.170	0.431	1.015	2.019	3.328	4.880	
B8	SURFACE AREA (ACRES)	0.085	0.093	0.095	0.105	0.600	1.210	1.571	
	VOLUME (ACRE-FEET)	0.043	0.132	0.226	0.326	0.678	1.583	2.974	
B9	SURFACE AREA (ACRES)	0.070	0.085	0.250	0.590	0.846	1.146	1.550	2.041
	VOLUME (ACRE-FEET)	0.035	0.113	0.280	0.700	1.418	2.414	3.762	5.558
B10	SURFACE AREA (ACRES)	0.199	0.400	0.641	0.798	0.945	1.097		
	VOLUME (ACRE-FEET)	0.100	0.399	0.920	1.639	2.511	3.532		
B11	SURFACE AREA (ACRES)	0.022	0.045	0.170	0.447	0.489			
	VOLUME (ACRE-FEET)	0.011	0.045	0.152	0.461	0.929			
B12	SURFACE AREA (ACRES)	0.130	0.413	0.630	0.954	1.253	1.637	1.907	2.262
	VOLUME (ACRE-FEET)	0.065	0.337	0.858	1.650	2.754	4.199	5.971	~~1.131~~

8.055

Sample Calc: Basin 7

Depth	Area (Acres)	Volume (Ac-ft)
0	0	0
1	411.0	$\frac{411.0 + 0}{2} = 205.5$
2	423.0	828.0 = (411.0+423.0)/2 + 205.5
3	427	1250.0 = (423.0+427)/2 + 828.0
4	421.0	1671.0 = (427+421.0)/2 + 1250.0
5	118.0	1789.0 = (421.0+118.0)/2 + 1671.0
6	181.1	
7	195.1	
8	194.1	

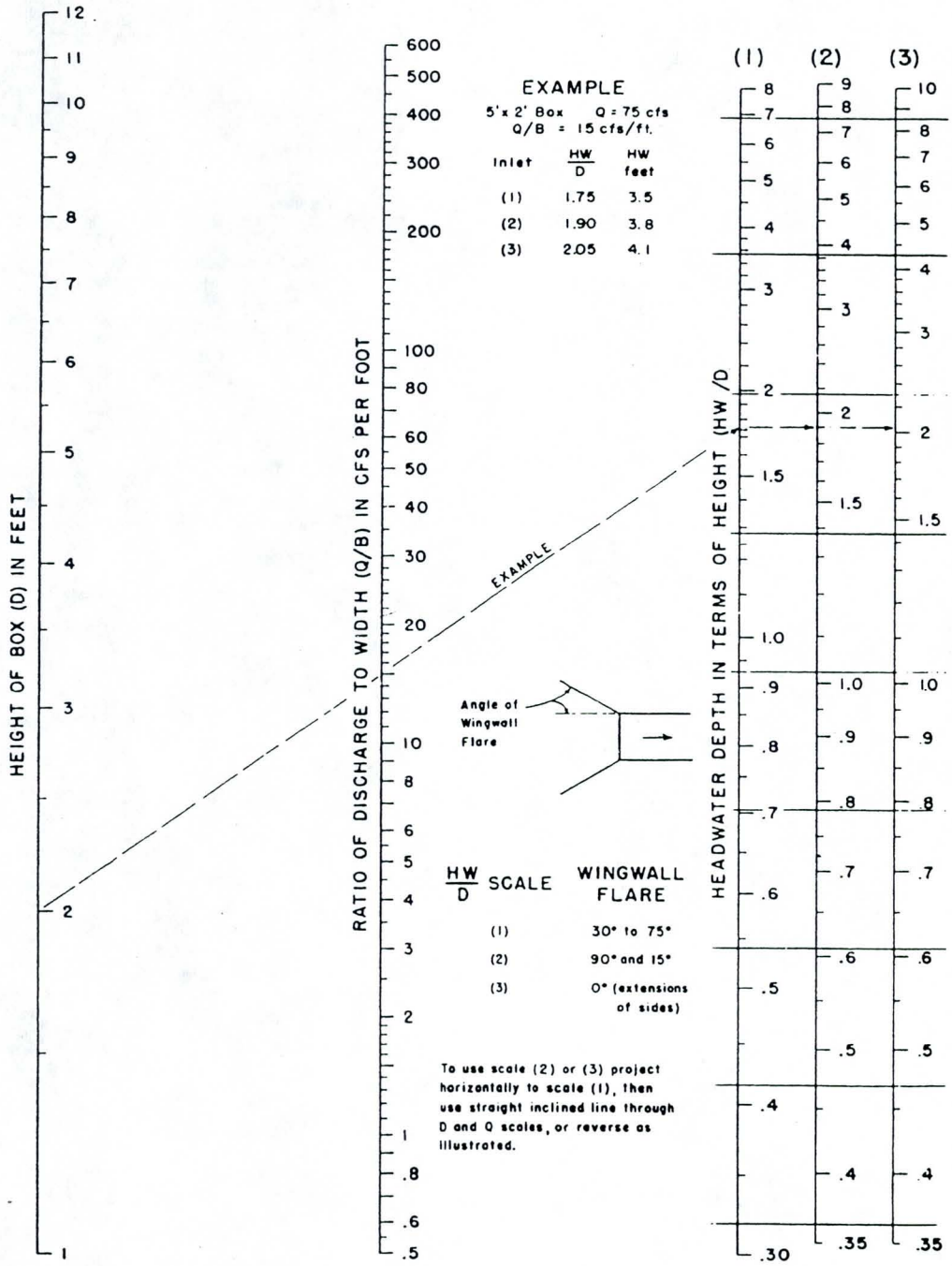
CHART 2



HEADWATER DEPTH FOR C. M. PIPE CULVERTS WITH INLET CONTROL

BUREAU OF PUBLIC ROADS JAN. 1963

CHART 8



HEADWATER DEPTH FOR BOX CULVERTS WITH INLET CONTROL

BUREAU OF PUBLIC ROADS JAN. 1963

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

JOB NO. 1669 SHEET 1
PROJECT 56 + Long Mountain CALC. 01/24/01 DATE 1
SUBJECT Final Culvert / Basin Results CHKD. DATE

Basin	Culvert Used	Max Stage	Q in (max CFS)	Q out (max CFS)	Inlet Elevation
B1	1x10'x3' Box	2061.97	378	348	2055
B2	1x10'x4' Box	2096.03	375	371	2090
B3	1x24" CMP	2089.49	131	32	2084
B4	1x30" CMP	2107.39	95	47	2102
B5	1x36" CMP	2096.46	138	74	2063
B6	2x10' x4' Boxes	2065.92	933	824	2059
B7	1x24" CMP	2108.27	40	27	2104
B8	2x10'x3' Boxes	2064.52	347	325	2058
B9	1x24" CMP	2092.67	78	29	2088
B10	3x10'x5' Boxes	2094.85	1196	1188	2089
B11	2x8'x3' Boxes	2094.53	391	374	2090
B12	1x30" CMP	2080.92	129	60	2073

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

PROJECT: S6+LM
SUBJECT: Basin Elevations

JOB NO.: 1669
CALC.: IPS
CHKD.:

SHEET: 1
DATE: 01/23/01
DATE:

Basin	Max EL	Run 1	Run 2	Run 3	Run 4	Run 5	Run 6	Run 7
1	2062	2065.81	2063.50	2061.97	2061.97	2061.99	2061.97	2061.97
2	2097	2102.38	2099.33	2097.48	2096.08	2096.08	2096.03	2096.03
3	2091	2088.18	2088.18	2088.18	2088.18	2088.18	2089.49	2089.48
4	2109/2113	2107.39	2107.39	2107.39	2107.39	2107.39	2107.39	2111.41
5	2070	2069.46	2069.46	2069.46	2069.46	2069.46	2069.46	2069.46
6	2066	2071.20	2065.92	2065.92	2065.92	2065.92	2065.92	2065.92
7	2111	2108.27	2108.27	2108.27	2108.27	2108.27	2108.27	2108.27
8	2065	2068.06	2064.52	2064.52	2064.52	2064.52	2064.52	2064.52
9	2096	2092.67	2092.67	2092.67	2092.67	2092.67	2092.67	2092.67
10	2095	2101.73	2098.11	2097.01	2096.08	2094.85	2094.85	2094.85
11	2095	2098.62	2097.05	2094.53	2094.53	2094.53	2094.53	2094.53
12	2081	2079.70	2079.70	2079.70	2079.70	2079.70	2080.92	2080.92

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

PROJECT SG + LM
SUBJECT Basin Volumes

JOB NO. 1669
CALC. IPS
CHKD.

SHEET 1
DATE 01/23/01
DATE

Basin	Max Stage	Max Storage (AC-FT)
1	2061.97	9.512
2	2096.03	1.012
3	2089.49	3.148
4	2107.39	1.019
5	2069.46	6.393
6	2065.92	6.653
7	2108.27	1.286
8	2064.52	2.306
9	2092.67	1.181
10	2094.85	3.379
11	2094.53	0.709
12	2080.92	9.888
4 Revised	2111.41	1.014

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

PROJECT: S6 + Lm
SUBJECT: Flow Comparisons
JOB NO.: 1669
CALC.: IPS
CHKD.:
SHEET: 1
DATE: 01/23/01
DATE:

Hec-1 Routing Label / Basin Label	Flow Before Basin Added	Flow After Basin Added
R261A / B11	382	374
R254A / B2	374	371
R254B / B1	378	348
R246A / B5	119	74
R247A / B12	108	60
R248A / B4	95	47
R248B / B3	103	32
R233A / B6	912	824
R211A / B8	345	325
R212A / B7	38	27
R291A / B10	1193	1188
C311 / B9	83	29

Runoff Curve Numbers for Urban Areas[1]

Cover type and hydrologic condition	Average % Impervious Area[2]	Curve numbers for hydrologic soil group			
		A	B	C	D
Fully developed urban areas with vegetation established					
Open space (lawns, parks, golf courses, cemeteries, etc.)[3]:					
Poor condition (grass cover less that 50%)		68	79	86	89
Fair condition (grass cover 50-75%)		49	69	79	84
Good condition (grass cover greater than 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roads, driveways, etc. (excld. right-of-way)		98	98	98	98
Steets and roads:					
Paved; curbs and storm sewer (excld. right-of-way)		98	98	98	98
Paved; open dithces (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only)[4]		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1 to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	Not Applicable in Scottsdale			
Industrial	85				
Townhouse, duplexes	65				
Multi-Family	85				
Residential districts by average lot size: (See Figure 2.2-16)					
Developing Urban Areas					
Newly graded areas (pervious areas only, no vegetation)[5]:		77	86	91	94

[1]Average runoff condition, and $I_a = 0.2S$; Table 2-2a, 210-VI-TR55, Second Ed., June 1986.
[2]The average percent impervious area shown was used to develop the compsite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition (not applicable in Scottsdale).
[3]CN's shown are equaivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.
[4]Composite CN's for natural desert landscaping should be computed based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.
[5]Composite CN's to use for the design of temporary measures during grading and construction shoud be computed based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

FIGURE 2.2-19

Runoff Curve Numbers for Urban Areas[1]

Appendix B - HEC-RAS
Calculation Worksheets

ERIE & ASSOCIATES, INC.
CONSULTING ENGINEERS

JOB NO. _____ SHEET _____

PROJECT _____ CALC. _____ DATE _____

SUBJECT _____ CHKD. _____ DATE _____

$Q = CiA = 0.44\left(\frac{2.8}{2}\right)(12.16) =$

VOL in "Natural Basin (channel in line storage).

= 57.59 ac-ft

V_{reqd} = 63.40 ac-ft.

Need for constructed basins

63.4 − 59.6 = 3.8+ ac-ft of storage.

BASIN.	A	V (ac-ft)	V_{soil} (cy)
BH13 WS 2194.0	200(100) = 20,000 SF = 0.45 ac × 2.5 = 1.12 ac-ft		$\frac{6(20,000)}{27} = 4400$ cy.
B12/14 WS = 2195.0	350(130) = 45,500 SF 1.04 ac. × 2.5 = 2.60		$\frac{5(45,500)}{27} = 8400$
B13/15 WS = 2060.	$\frac{200(200)}{2}$ = 20,000 SF = 0.45 × 2.5 = 1.12		$\frac{5(20000)}{27} = 3700$ cy.
		4.84	16,500 cy
B14/16 WS = 2073.	50(350) = 17,500 SF 0.40 × 2.5 = 1.00		$\frac{6.5(17,500)}{27} = 4200$

) LONE MOUNTAN

N PROPOSED BASIN VOLUME

B R:

TI NS:

W er Surface Elevation	Surface Area (sq. ft.)	Max. Depth (ft.)	Volume (ft^3)	**Volume (acre-ft.)**		Extended Surface Area (sq. ft.)	Avg. Depth (ft.)	Volume (ft^3)	**Total Volume (acre-ft.)**
2062	79149	7	240113	**5.51**		7001	2	14002	**5.83**
2097	33903	7.1	79402	**1.82**		7157	4.5	32207	**2.56**
2091	39984	7	111365	**2.56**		36751	3.9	143329	**5.85**
2109	41926	7.4	124101	**2.85**				0	**2.85**
2070	94818	7.4	280661	**6.44**		8883	6	53298	**7.67**
2066	84908	6.9	234346	**5.38**		19293	3	57879	**6.71**
2111	72609	7.8	226540	**5.20**				0	**5.20**
2065	52118	7.4	154269	**3.54**		16328	2.5	40820	**4.48**
2096	58037	7.5	174111	**4.00**		30871	2	61742	**5.41**
2095	40315	6.5	104819	**2.41**		7455	5	37275	**3.26**
2095	11991	5	23982	**0.55**		9289	2	18578	**0.98**
2081	98534	7.5	295602	**6.79**				0	**6.79**
		VOLUME PROVIDED=		**47.05**			**VOLUME PROVIDED=**		**57.59**

Erie & Associates, Inc.
CONSULTING ENGINEERS
LEN ERIE, P.E.
3120 N. 24th St. / Phoenix, Arizona 85016
(602) 954-6399

December 28, 2000

Mr. Walt Cicone, P.E.
City of Phoenix
Streets & Transportation
200 W. Washington
Phoenix, AZ 85009

RE: 56th Street & Lone Mountain
64th St. Drainage Improvement Configuration
EA# 1669.02

Walt,

Per our meeting, this letter is to reiterate the hydrologic considerations with respect to the proposed 64th Street improvements. As a part of the development of the property west of 64th Street with this project, street improvements will be installed along the 64th Street frontage from Lone Mountain north to Dove Valley Road.

This area generally drains from northeast to southwest. The 64th Street frontage is crossed by numerous minor washes and 4 major washes which carry in excess of 300 cfs. There are existing homes with drives that presently access to 64th Street which is currently unpaved. An aerial and topo map are attached with the various washes noted with 100 year peak flow rates.

•Design Criteria for drainage on the roadway improvements is as follows:

•Existing flows should be allowed to enter the project across 64th Street in substantially the same manner as under development conditions.

•Flows should not be diverted downstream (south) by elimination of ridges that currently confine the flows.

•The improvements should not be washed out with flows over the road and some lowflow capacity below the road, should be provided, if possible.

In order to achieve this criteria it is necessary to understand existing drainage conditions.

•Existing Drainage is carried by relative shallow washes (less than 2 to 4 feet deep) that run westerly across 64th Street. The existing major washes have flows ranging from 1190 cfs to 372 cfs on the 100 year storm. The existing flows will result in floodplains that vary from 100 to in excess of 200 feet in width with an average depth of less than 2½ feet at the existing road crossings.

Some of the existing houses may now be flooded should a 100 year storm event occur.

•Various Alternatives have been considered. The original criteria from the city, was to have no more than ½ foot of water on the 50 year storm with velocities on the road of less than 12 fps.

This criteria was evaluated for the 4 major washes with the flow over the road shown as Q_w (weir flow) and the resulting required culvert flow shown as Q_c on the attached summary. The 100 year storm was evaluated but a 50 year storm would only result in roughly a 12% reduction in the flow analysis. The combinations of culverts and flows over the road result in an

unbuildable number of culverts varying from 28-18" cmp's on the smaller flows to up to 90-18" cmp's on the larger wash.

It is for this reason that we recommend the following:

•Selected Alternative – It is proposed to design dip crossings across all of the washes. The dips will maintain the height of the existing ridges and provide some minor lowflow capacity at the existing thread of each wash.

Cutoff walls, a one-way crown and possibly flush curbs will be required on wash crossings in order to meet the criteria of maintaining the existing drainage conditions.

Lowflow capacity will be provided by low head type crossings such as provided by a scupper similar to a MAG Det. 203 detail.

As a follow-up to this letter confirming of our discussion, Stanley Consultants will submit a plan/profile drawing showing existing and proposed grades on the east and west road alignments. Our master drainage report and plan will reflect the information delineated in this summary.

Please feel free to contact me should you wish to discuss this further.

Thank you for your assistance.

_____

Len Erie, P.E.

cc Hassan Mustock-City of Phoenix
Jerry Smith/Brian Rosenbaum-US Homes
Derrich Earl/Joan Scarbrough-Coventry Homes
Dan Freese-Stanley Consultants
Ed Bull-Birch & Cracchiolo

ch AND LONE MOUNTAIN
54th STREET CROSSINGS

ASSUME: h=0.5' MAX V=12 fps MAX

900' NORTH OF THE SOUTHEAST CORNER

Q100 (cfs)	h (ft.)	L (ft.)	Qw (cfs)	Qc (cfs)	HW (ft.)	CULVERT REQUIRED
1190	0.5	215	198	992	2.5	90 - 18"CMP
1190	0.5	215	198	992	2.5	110' - 1.5'BOX
1190	0.5	215	198	992	3	50 - 24"CMP
1190				1190	3	8B - 3'x10'BOX

2450' NORTH OF THE SOUTHEAST CORNER

Q100 (cfs)	h (ft.)	L (ft.)	Qw (cfs)	Qc (cfs)	HW (ft.)	CULVERT REQUIRED
391	0.5	155	142	249	2	28 - 18"CMP

2600' NORTH OF THE SOUTHEAST CORNER

Q100 (cfs)	h (ft.)	L (ft.)	Qw (cfs)	Qc (cfs)	HW (ft.)	CULVERT REQUIRED
837	0.5	225	207	630	2.5	58 - 18"CMP
837	0.5	225	207	630	2.5	70' - 1.5'BOX
837	0.5	225	207	630	3	6B - 3'x10'BOX

250' SOUTH OF THE NORTHEAST CORNER

Q100 (cfs)	h (ft.)	L (ft.)	Qw (cfs)	Qc (cfs)	HW (ft.)
372	0.5	120	110		1.75
372	1	110	286		1.75

Appendix C – HEC-1 - Input/Output
Pre-development Conditions
100-Year 6-Hour Storm

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

  1           ID       56th AND LONE MOUNTAIN
  2           ID
  3           ID
  4           ID        HEC-1 FILENAME:    1669E100.HC1
  5           ID        DATE:              SEPTEMBER 28, 2000
  6           ID        CREATED BY:        JOSH LESSARD
  7           ID
  8           ID
  9           ID        HEC-1 HYDROLOGY MODEL
 10           ID
 11           ID
              *DIAGRAM
 12           IT       5 28SEP00       0     300
 13           IO       5       0
              *

 14           KK     S30
 15           KM   SUB-BASIN S30
 16           BA     .42
 17           PH                   0.80    1.46    2.36    2.70    2.92    3.35
 18           LS              88      38
 19           UD    .452
              *

 20           KK     R30
 21           KM   ROUTE S30 THRU S32
 22           RS       1    ELEV      10
 23           RC    .055    .035    .055    2250    .018
 24           RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 25           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 26           KK     S32
 27           KM   SUB-BASIN S32
 28           BA    .074
 29           LS              78
 30           UD    .287
              *

 31           KK     C32
 32           KM   COMBINE S30/R30 & S32
 33           HC       2
              *

 34           KK     S40
 35           KM   SUB-BASIN S40
 36           BA    1.60
 37           LS              84      15
 38           UD    .985
              *
```

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

  39          KK     R48
  40          KM   ROUTE R40
  41          RS       2    ELEV      10
  42          RC    .055    .035    .055    8400    .023
  43          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
  44          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  45          KK     S50
  46          KM   SUB-BASIN S50
  47          BA     .53
  48          LS              86      35
  49          UD    .535
              *

  50          KK     C51
  51          KM   COMBINE R48/S40 & S50
  52          HC       2
              *

  53          KK     R51
  54          KM   ROUTE C51 THRU BASIN 54
  55          RS       2    ELEV      10
  56          RC    .055    .035    .055    3050    .015
  57          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
  58          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  59          KK     S54
  60          KM   SUB-BASIN S54
  61          BA    .044
  62          LS              81
  63          UD    .291
              *

  64          KK     C54
  65          KM   COMBINE S54, C51, & C32
  66          HC       3
              *

  67          KK     R54
  68          KM   ROUTE C54 THRU BASIN 56
  69          RS       2    ELEV      10
  70          RC    .055    .035    .055    4150    .016
  71          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
  72          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  73          KK     S56
  74          KM   SUB-BASIN S56
  75          BA    .171
  76          LS              76
  77          UD    .427
              *
```

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

  78          KK     C56
  79          KM   COMBINE S56 & R54
  80          HC       2
              *

  81          KK     R56
  82          KM   ROUTE C56 THRU BASIN S280
  83          RS       1    ELEV      10
  84          RC    .055    .035    .055    1840    .019
  85          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
  86          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  87          KK    S110
  88          KM   SUB-BASIN S110
  89          BA    .109
  90          LS              83
  91          UD    .345
              *

  92          KK    R110
  93          KM   ROUTE S110 THRU BASIN S280
  94          RS       1    ELEV      10
  95          RC    .055    .035    .055    1840    .019
  96          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
  97          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  98          KK    S280     SUB
  99          KM   SUB-BASIN S280
 100          BA   0.056
 101          LS              85
 102          UD    0.06
              *

 103          KK    C280
 104          KM  COMBINE S56/R56, S110/R110, & S280
 105          HC       3
              *

 106          KK  DIV26L DIVERT
 107          DT  DIV26R
 108          DI       0     100    1000   10000
 109          DQ       0      75     750    7500
              *

 110          KK    R26L
 111          KM   ROUTE DIV26L THRU BASIN S281
 112          RS       1    ELEV      10
 113          RC    .055    .035    .055    1340    .019
 114          RX    48.5    51.5   101.5     104     144   146.5   196.5   199.5
 115          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 116          KK    S281     SUB
 117          KM   SUB-BASIN S281
 118          BA   0.010
 119          LS             85
 120          UD    0.06
              *

 121          KK    C281
 122          KM  COMBINE DIV26L/R26L & S281
 123          HC       2
              *

 124          KK     S60     SUB
 125          KM
 126          BA  1.8100
 127          LS             87      16
 128          UD   0.933
              *

 129          KK   DIV4R  DIVERT
 130          KM
 131          DT   DIV4L
 132          DI       0     294     633    1081    1186    2008
 133          DQ       0     188     372     606     530    1028
              *

 134          KK     S70
 135          KM   SUB-BASIN S70
 136          BA    .029
 137          LS             85      40
 138          UD    .120
              *

 139          KK     C70
 140          KM   COMBINE DIV4R & S70
 141          HC       2
              *

 142          KK     R70
 143          KM   ROUTE C70 THRU BASIN S62
 144          RS       3    ELEV      10
 145          RC    .055    .035    .055    6850    .017
 146          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 147          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 148          KK     S62
 149          KM   SUB-BASIN S62
 150          BA    .193
 151          LS             85
 152          UD    .458
              *
```

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

 153          KK     C62
 154          KM   COMBINE S62 & C70
 155          HC       2
              *

 156          KK     R62
 157          KM   ROUTE C62 THRU BASIN S270
 158          RS       2    ELEV      10
 159          RC    .055    .035    .055    3110    .019
 160          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 161          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 162          KK    S270
 163          KM   SUB-BASIN S270
 164          BA    .067
 165          LS              85
 166          UD    .100
              *

 167          KK    C270
 168          KM   COMBINE C62/R62, S270, & C281
 169          HC       3
              *

 170          KK  DIV27L  DIVERT
 171          KM
 172          DT  DIV27R
 173          DI       0     100    1000   10000
 174          DQ       0      75     750    7500
              *

 175          KK    R27L
 176          KM   ROUTE DIV27L THRU BASIN S271
 177          RS       1    ELEV      10
 178          RC    .055    .035    .055    1505    .013
 179          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 180          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 181          KK    S271
 182          KM   SUB-BASIN S271
 183          BA   .0219
 184          LS              85
 185          UD    .060
              *

 186          KK    C271
 187          KM   COMBINE C270/R270 & S271
 188          HC       2
              *
```

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

 189          KK    R271
 190          KM   ROUTE C271 THRU BASIN S272
 191          RS       1    ELEV      10
 192          RC    .055    .035    .055    1205    .021
 193          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 194          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 195          KK    S272
 196          KM   SUB-BASIN S272
 197          BA    .019
 198          LS              79
 199          UD    .060
              *

 200          KK    S260
 201          KM   SUB-BASIN S260
 202          BA    .140
 203          LS              85
 204          UD    .200
              *

 205          KK    R260
 206          KM   ROUTE C260 THRU BASIN S261
 207          RS       2    ELEV      10
 208          RC    .055    .035    .055    2880    .017
 209          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 210          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 211          KK    S261
 212          KM   SUB-BASIN S261
 213          BA    .043
 214          LS              83
 215          UD    .096
              *

 216          KK    C272
 217          KM   COMBINE C271/R271, S272, S260/R260, & S261
 218          HC       4
              *

 219          KK   DIV4L     RET
 220          KM
 221          DR   DIV4L   .
              *

 222          KK  R1.0S2   ROUTE
 223          KM
 224          RS       1    ELEV      10
 225          RC   0.055   0.035   0.055     620    0.02
 226          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 227          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 228          KK     OS2     SUB
 229          KM
 230          BA  0.0295
 231          LS              79
 232          UD  0.1583
              *

 233          KK   C.OS2     ADD
 234          KM
 235          HC       2
              *

 236          KK   DIV5R     RET
 237          KM
 238          DT   DIV5L
 239          DI       0      11      71     204     665    1556    3038
 240          DQ       0       0      24     128     329     762    1656
              *

 241          KK  R10S14   ROUTE
 242          KM
 243          RS       1    ELEV      10
 244          RC   0.055   0.035   0.055     700    0.02
 245          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 246          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 247          KK    OS14     SUB
 248          KM
 249          BA  0.0039
 250          LS              79
 251          UD  0.1028
              *

 252          KK      D1     SUB
 253          KM
 254          BA  0.0111
 255          LS              85      35
 256          UD  0.0989
              *

 257          KK    RBD1 RET BAS
 258          KM
 259          RS       1    STOR      -1
 260          SV       0    0.91    1.01    1.11
 261          SE       0     4.5     5.0     5.5
 262          SQ       0      29      42      63
              *
```

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

 263          KK  C.OS14     ADD
 264          KM
 265          HC       3
              *

 266          KK   ROS14   ROUTE
 267          KM   ROUTE C.OS14 THRU SUB-BASIN S250
 268          RS       2    ELEV      10
 269          RC   0.055   0.035   0.055    3270   0.021
 270          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 271          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 272          KK    S250
 273          KM   SUB-BASIN S250
 274          BA   0.083
 275          LS              79
 276          UD    0.11
              *

 277          KK    C250
 278          KM   COMBINE C.OS14/ROS14 & S250
 279          HC       2
              *

 280          KK    R250   ROUTE
 281          KM   ROUTE C250 THRU SUB-BASIN S252
 282          RS       1    ELEV      10
 283          RC   0.055   0.035   0.055    1385   0.014
 284          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 285          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 286          KK    S252     SUB
 287          KM   SUB-BASIN S252
 288          BA   0.015
 289          LS              82
 290          UD    0.06
              *

 291          KK    S251
 292          KM   SUB-BASIN S251
 293          BA   0.025
 294          LS              85
 295          UD   0.088
              *

 296          KK    R251   ROUTE
 297          KM   ROUTE C251 THRU SUB-BASIN S253
 298          RS       1    ELEV      10
 299          RC   0.055   0.035   0.055    1120   0.013
 300          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 301          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *
```

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

 302          KK    S253     SUB
 303          KM   SUB-BASIN S253
 304          BA   0.016
 305          LS             85
 306          UD    0.06
              *

 307          KK    C253
 308          KM   COMBINE C250/R250, S252, S251/R251, & S253
 309          HC       4
              *

 310          KK    R253   ROUTE
 311          KM   ROUTE C253 THRU SUB-BASIN S254
 312          RS       3    ELEV      10
 313          RC   0.055   0.035   0.055    4360   0.021
 314          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 315          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 316          KK    S254     SUB
 317          KM   SUB-BASIN S254
 318          BA   0.080
 319          LS             82
 320          UD    0.15
              *

 321          KK    C254
 322          KM   COMBINE C253/R253 & S254
 323          HC       2
              *

 324          KK   C254b
 325          KM   COMBINE C254 & C272
 326          HC       2
              *

 327          KK   RET5L  RET
 328          KM
 329          DR   DIV5L
              *

 330          KK  R1.OS3   ROUTE
 331          KM
 332          RS       1    ELEV      10
 333          RC   0.055   0.035   0.055     570    0.02
 334          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 335          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 336          KK     OS3     SUB
 337          KM
 338          BA  0.0205
 339          LS             79
 340          UD  0.1250
              *

 341          KK   C.OS3     ADD
 342          KM
 343          HC       2
              *

 344          KK  DIV11R  DIVERT
 345          KM
 346          DT  DIV11L
 347          DI       0     100    1000   10000
 348          DQ       0      50     500    5000
              *

 349          KK  R1.OS5   ROUTE
 350          KM
 351          RS       1    ELEV      10
 352          RC   0.055   0.035   0.055     600    0.02
 353          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 354          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 355          KK     OS5     SUB
 356          KM
 357          BA  0.0043
 358          LS             79
 359          UD  0.0828
              *

 360          KK      F1     SUB
 361          KM
 362          BA  0.0020
 363          LS             85      35
 364          UD  0.0694
              *

 365          KK    RBF2 RET BAS
 366          KM
 367          RS       1    STOR      -1
 368          SV       0    0.21    0.23    0.26
 369          SE       0       3     3.5     4.0
 370          SQ       0      21      44      86
              *
```

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

 371          KK      D2     SUB
 372          KM
 373          BA  0.0077
 374          LS              85      35
 375          UD  0.0961
              *

 376          KK    RBD2 RET BAS
 377          KM
 378          RS       1    STOR      -1
 379          SV       0    0.67    0.74    0.82
 380          SE       0     4.5     5.0     5.5
 381          SQ       0      29      42      63
              *

 382          KK  R2.OS5   ROUTE
 383          KM
 384          RS       1    ELEV      10
 385          RC   0.055   0.035   0.055     200    0.02
 386          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 387          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 388          KK   C.OS5     ADD
 389          HC       4
              *

 390          KK    ROS5   ROUTE
 391          KM   ROUTE C.OS5 THRU S240
 392          RS       2    ELEV      10
 393          RC   0.055   0.035   0.055    3340   0.021
 394          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 395          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 396          KK    S240     SUB
 397          KM   SUB-BASIN S240
 398          BA   0.034
 399          LS              78
 400          UD    0.11
              *

 401          KK    C240     ADD
 402          KM   COMBINE C.OS5/ROS5 & S240
 403          HC       2
              *

 404          KK    R240   ROUTE
 405          KM   ROUTE C240 THRU S243
 406          RS       1    ELEV      10
 407          RC   0.055   0.035   0.055     765   0.020
 408          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 409          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 410          KK    S243     SUB
 411          KM   SUB-BASIN S243
 412          BA   0.013
 413          LS             78
 414          UD    0.06
              *

 415          KK    C243     ADD
 416          KM   COMBINE C240/R240 & S243
 417          HC       2
              *

 418          KK    S241     SUB
 419          KM   SUB-BASIN S241
 420          BA   0.025
 421          LS             80
 422          UD   0.078
              *

 423          KK    R241   ROUTE
 424          KM   ROUTE C241 THRU S244
 425          RS       1    ELEV      10
 426          RC   0.055   0.035   0.055     980   0.020
 427          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 428          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 429          KK    S244     SUB
 430          KM   SUB-BASIN S244
 431          BA   0.015
 432          LS             77
 433          UD    0.06
              *

 434          KK    C244
 435          KM   COMBINE C243, S241/C241, & S244
 436          HC       3
              *

 437          KK    R244   ROUTE
 438          KM   ROUTE C244 THRU S245
 439          RS       1    ELEV      10
 440          RC   0.055   0.035   0.055     270   0.019
 441          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 442          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 443          KK    S245     SUB
 444          KM   SUB-BASIN S245
 445          BA  0.0088
 446          LS             79
 447          UD    0.06
              *
```

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

 448          KK    C245
 449          KM   COMBINE C244/R244 & S245
 450          HC       2
              *

 451          KK  DIV25L  DIVERT
 452          KM
 453          DT  DIV25R
 454          DI       0     100    1000   10000
 455          DQ       0      50     500    5000
              *

 456          KK    R25L   ROUTE
 457          KM   ROUTE DIV25L THRU S246
 458          RS       3    ELEV      10
 459          RC   0.055   0.035   0.055    4480   0.019
 460          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 461          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 462          KK    S246     SUB
 463          KM   SUB-BASIN S246
 464          BA   0.061
 465          LS             77
 466          UD    0.15
              *

 467          KK    C246
 468          KM   COMBINE DIV25L/R25L & S246
 469          HC       2
              *

 470          KK    NULL
 471          HC       2
              *

 472          KK  RET25R     RET
 473          KM
 474          DR  DIV25R
              *

 475          KK    R25R   ROUTE
 476          KM   ROUTE DIV25R THRU S247
 477          RS       3    ELEV      10
 478          RC   0.055   0.035   0.055    4490   0.019
 479          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 480          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 481          KK    S247     SUB
 482          KM   SUB-BASIN S247
 483          BA   0.079
 484          LS             80
 485          UD    0.15
              *

 486          KK    C247
 487          KM   COMBINE DIV25R/R25R & S247
 488          HC       2
              *

 489          KK    NULL
 490          HC       2
              *

 491          KK    S242     SUB
 492          KM   SUB-BASIN S242
 493          BA   0.027
 494          LS             80
 495          UD   0.077
              *

 496          KK    R242   ROUTE
 497          KM   ROUTE S242 THRU S248
 498          RS       4    ELEV      10
 499          RC   0.055   0.035   0.055    5815   0.018
 500          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 501          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 502          KK    S248     SUB
 503          KM   SUB-BASIN S248
 504          BA   0.090
 505          LS             81
 506          UD    0.19
              *

 507          KK    C248
 508          KM   COMBINE S242/R242 & S248
 509          HC       2
              *

 510          KK    NULL
 511          HC       2
              *

 512          KK  RET11L     RET
 513          KM
 514          DR  DIV11L
              *
```

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

 515          KK  R1.OS6   ROUTE
 516          KM
 517          RS       1    ELEV      10
 518          RC   0.055   0.035   0.055     300    0.02
 519          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 520          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 521          KK     OS6     SUB
 522          KM
 523          BA  0.0013
 524          LS              79
 525          UD  0.0650
              *

 526          KK   C.OS6     ADD
 527          KM
 528          HC       2
              *

 529          KK  R1.OS7   ROUTE
 530          KM
 531          RS       1    ELEV      10
 532          RC   0.055   0.035   0.055     420    0.02
 533          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 534          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 535          KK     OS7     SUB
 536          KM
 537          BA  0.0044
 538          LS              79
 539          UD  0.0767
              *

 540          KK   C.OS7     ADD
 541          KM
 542          HC       2
              *

 543          KK    ROS7   ROUTE
 544          KM   ROUTE C.OS7 THRU S230
 545          RS       2    ELEV      10
 546          RC   0.055   0.035   0.055    3680   0.018
 547          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 548          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 549          KK    S230     SUB
 550          KM   SUB-BASIN S230
 551          BA   0.075
 552          LS              78
 553          UD    0.12
              *
```

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

 554          KK    C230     ADD
 555          KM   COMBINE C.OS7/ROS7 & S230
 556          HC       2
              *

 557          KK    R230   ROUTE
 558          KM   ROUTE C230 THRU S231
 559          RS       1    ELEV      10
 560          RC   0.055   0.035   0.055     465   0.022
 561          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 562          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 563          KK    S231     SUB
 564          KM   SUB-BASIN S231
 565          BA  0.0056
 566          LS              85
 567          UD    0.06
              *

 568          KK    C231
 569          KM   COMBINE C230/R230 & S231
 570          HC       2
              *

 571          KK     S90     SUB
 572          KM
 573          BA   0.063
 574          LS              86
 575          UD   0.152
              *

 576          KK  R10S11   ROUTE
 577          KM
 578          RS       1    ELEV      10
 579          RC   0.055   0.035   0.055     300    0.02
 580          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 581          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 582          KK    OS11     SUB
 583          KM
 584          BA  0.0041
 585          LS              79
 586          UD  0.0967       .
              *

 587          KK  C.OS11     ADD
 588          KM
 589          HC       2
              *
```

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

 590          KK  R1.OS8   ROUTE
 591          KM
 592          RS       1    ELEV      10
 593          RC   0.055   0.035   0.055     710    0.02
 594          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 595          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 596          KK     OS8     SUB
 597          KM
 598          BA  0.0139
 599          LS              79
 600          UD  0.1167
              *

 601          KK   C.OS8     ADD
 602          KM
 603          HC       2
              *

 604          KK  R1.OS9   ROUTE
 605          KM
 606          RS       2    ELEV      10
 607          RC   0.055   0.035   0.055    2070    0.02
 608          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 609          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 610          KK     OS9     SUB
 611          KM
 612          BA  0.0293
 613          LS              79
 614          UD  0.1778
              *

 615          KK  C1.OS9     ADD
 616          HC       2
              *

 617          KK      H2     SUB
 618          KM
 619          BA  0.0105
 620          LS              85      35
 621          UD  0.0889
              *

 622          KK    RBH2 RET BAS
 623          KM
 624          RS       1    STOR      -1
 625          SV       0     1.2    1.35     1.5
 626          SE       0     4.0     4.5     5.0
 627          SQ       0      26      82     181
              *
```

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

 628          KK  R2.OS9   ROUTE
 629          KM
 630          RS       2    ELEV      10
 631          RC   0.055   0.035   0.055    1390    0.02
 632          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 633          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 634          KK      E3     SUB
 635          KM
 636          BA  0.0099
 637          LS              85      35
 638          UD  0.1228
              *

 639          KK    RBE1 RET BAS
 640          KM        40 FOOT WEIR
 641          RS       1    STOR      -1
 642          SV       0    0.75   0.825     0.9
 643          SE       0       5     5.5     6.0
 644          SQ       0      31      75     155
              *

 645          KK  R3.OS9   ROUTE
 646          KM
 647          RS       1    ELEV      10
 648          RC   0.055   0.035   0.055    1120    0.02
 649          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 650          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 651          KK     S80     SUB
 652          KM
 653          BA  0.0580
 654          LS              85
 655          UD   0.166
              *

 656          KK  R1.OS4   ROUTE
 657          KM
 658          RS       1    ELEV      10
 659          RC   0.055   0.035   0.055     800    0.02
 660          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 661          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 662          KK     OS4     SUB
 663          KM
 664          BA  0.0075
 665          LS              79
 666          UD  0.0972
              *
```

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

 667          KK   C.OS4     ADD
 668          KM
 669          HC       2
              *

 670          KK      I1     SUB
 671          KM
 672          BA  0.0175
 673          LS             79
 674          UD  0.1078
              *

 675          KK    C.I1     ADD
 676          KM
 677          HC       2
              *

 678          KK    RBI2 RET BAS
 679          KM                RETENTION BASIN IS DRAINED BY 5 - 36 inch CORRUGATED METAL PIPES
 680          RS       1    STOR      -1
 681          SV       0    0.74   1.115
 682          SE       0       2       3
 683          SQ       0      95     175
              *

 684          KK    RBI3 RET BAS
 685          KM                RETENTION BASIN IS DRAINED BY 4 - 36 inch CORRUGATED METAL PIPES
 686          RS       1    STOR      -1
 687          SV       0    0.74   1.115
 688          SE       0       2       3
 689          SQ       0      76     140
              *

 690          KK  R10S10   ROUTE
 691          KM
 692          RS       2    ELEV      10
 693          RC   0.055   0.035   0.055    1600    0.02
 694          RX    48.5    51.5    91.5    94.0   106.0   108.5   148.5   151.5
 695          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 696          KK    OS10     SUB
 697          KM
 698          BA  0.0170
 699          LS             79
 700          UD  0.1445
              *

 701          KK      E1     SUB
 702          KM
 703          BA  0.0185
 704          LS             85      35
 705          UD  0.1111
              *
```

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

 706          KK  R20S10   ROUTE
 707          KM
 708          RS       1    ELEV      10
 709          RC   0.055   0.035   0.055    1000    0.02
 710          RX    48.5    51.5    91.5    94.0   106.0   108.5   148.5   151.5
 711          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 712          KK  C.OS10     ADD
 713          KM
 714          HC       3
              *

 715          KK    RBE2 RET BAS
 716          KM
 717          RS       1    STOR      -1
 718          SV       0   0.336   0.504   0.672    0.84
 719          SE       0       2       3       4     5.0
 720          SQ       0      57     105     147     180
              *

 721          KK    RBE3 RET BAS
 722          KM
 723          RS       1    STOR      -1
 724          SV       0    0.45   0.675    0.90
 725          SE       0       2       3     4.0
 726          SQ       0      57     105     147
              *

 727          KK      F2     SUB
 728          KM
 729          BA  0.0091
 730          LS              85      35
 731          UD  0.1067
              *

 732          KK    C.F1     ADD
 733          KM
 734          HC       2
              *

 735          KK    RBF1 RET BAS
 736          KM                RETENTION BASIN IS DRAINED BY 4 - 36 INCH C.M. PIPES
 737          RS       1    STOR      -1
 738          SV       0    0.59    0.89    1.18
 739          SE       0       2       3     4.0
 740          SQ       0      76     140     196
              *
```

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

 741          KK      E2     SUB
 742          KM
 743          BA  0.0165
 744          LS              85      35
 745          UD  0.1106
              *

 746          KK    C.E2     ADD
 747          KM
 748          HC       2
              *

 749          KK    RBE4 RET BAS
 750          KM
 751          RS       1    STOR      -1
 752          SV       0   0.745    1.12    1.49
 753          SE       0       2       3     4.0
 754          SQ       0      57     105     147
              *

 755          KK  R4.OS9   ROUTE
 756          KM
 757          RS       1    ELEV      10
 758          RC   0.055   0.035   0.055     200    0.02
 759          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 760          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 761          KK     S94     SUB
 762          KM
 763          BA   0.132
 764          LS              86
 765          UD   0.186
              *

 766          KK    S100     SUB
 767          KM
 768          BA   0.148
 769          LS              86
 770          UD   0.196
              *

 771          KK   CS100     ADD
 772          KM
 773          HC       2
              *

 774          KK  R10S12   ROUTE
 775          KM
 776          RS       1    ELEV      10
 777          RC   0.055   0.035   0.055     900    0.02
 778          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 779          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 780          KK    OS12     SUB
 781          KM
 782          BA  0.0107
 783          LS              79
 784          UD  0.1056
              *

 785          KK  C.OS12     ADD
 786          KM
 787          HC       2
              *

 788          KK  R5.OS9   ROUTE
 789          KM
 790          RS       2    ELEV      10
 791          RC   0.055   0.035   0.055    1410    0.02
 792          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 793          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 794          KK  C2.OS9     ADD
 795          KM
 796          HC       5
              *

 797          KK  R10S13   ROUTE
 798          KM
 799          RS       1    ELEV      10
 800          RC   0.055   0.035   0.055     200    0.02
 801          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 802          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 803          KK      F3     SUB
 804          KM
 805          BA  0.0031
 806          LS              85      35
 807          UD  0.0722
              *

 808          KK    RBF3 RET BAS
 809          KM
 810          RS       1    STOR      -1
 811          SV       0    0.34    0.41    0.48
 812          SE       0     4.0     4.5     5.0
 813          SQ       0      26      82     181
              *

 814          KK  R20S13   ROUTE
 815          KM
 816          RS       1    ELEV      10
 817          RC   0.055   0.035   0.055     150    0.02
 818          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 819          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 820          KK  C.OS13     ADD
 821          KM
 822          HC       2
              *

 823          KK   ROS13   ROUTE
 824          KM   ROUTE C.OS13 THRU SUB-BASIN S220
 825          RS       2    ELEV      10
 826          RC   0.055   0.035   0.055    3030   0.018
 827          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 828          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 829          KK    S220
 830          KM   SUB-BASIN S220
 831          BA   0.079
 832          LS              85
 833          UD    0.10
              *

 834          KK    C220
 835          KM   COMBINE C.OS13/ROS13 & S220
 836          HC       2
              *

 837          KK    R220   ROUTE
 838          KM   ROUTE C220 THRU SUB-BASIN S232
 839          RS       1    ELEV      10
 840          RC   0.055   0.035   0.055     410   0.025
 841          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 842          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 843          KK    S232
 844          KM   SUB-BASIN S232
 845          BA  0.0030
 846          LS              85
 847          UD    0.06
              *

 848          KK    C232
 849          KM   COMBINE C231, C220/R220, & S232
 850          HC       3
              *

 851          KK    R232   ROUTE
 852          KM   ROUTE C232 THRU SUB-BASIN S233
 853          RS       4    ELEV      10
 854          RC   0.055   0.035   0.055    5295   0.018
 855          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 856          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 857          KK    S233
 858          KM   SUB-BASIN S233
 859          BA    0.12
 860          LS              80
 861          UD    0.18
              *

 862          KK    C233
 863          KM   COMBINE  C232/R232 & S233
 864          HC       2
              *

 865          KK    NULL
 866          HC       2
              *

 867          KK    S255     SUB
 868          KM   SUB-BASIN S255
 869          BA   0.034
 870          LS              85
 871          UD   0.097
              *

 872          KK    S256     SUB
 873          KM   SUB-BASIN S256
 874          BA   0.025
 875          LS              81
 876          UD   0.081
              *

 877          KK      G1     SUB
 878          KM
 879          BA  0.0467
 880          LS              85      35
 881          UD  0.1928
              *

 882          KK    RBG1 RET BAS
 883          KM
 884          RS       1    STOR      -1
 885          SV       0     5.3    5.78    6.26
 886          SE       0     3.0     3.5     4.0
 887          SQ       0      21      76     176
              *
              *

 888          KK      H1     SUB
 889          KM
 890          BA  0.0125
 891          LS              85      35
 892          UD  0.1011
              *
```

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

 893          KK    RBH1 RET BAS
 894          KM
 895          RS       1    STOR      -1
 896          SV       0    1.28   1.465    1.65
 897          SE       0     3.5     4.0     4.5
 898          SQ       0   0.001    0.01     0.1
              *

 899          KK    S200
 900          KM   SUB-BASIN S200
 901          BA    0.77
 902          LS              85
 903          UD    0.70
              *

 904          KK    R200
 905          KM   ROUTE S200 THRU SUB-BASIN S201
 906          RS       9    ELEV      10
 907          RC    .055    .035    .055   13650   0.019
 908          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 909          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 910          KK    S201
 911          KM   SUB-BASIN S201
 912          BA    1.25
 913          LS              86
 914          UD    0.46
              *

 915          KK    C201
 916          KM   COMBINE S200/R200 & S201
 917          HC       2
              *

 918          KK    R201
 919          KM   ROUTE C201 THRU SUB-BASIN S202
 920          RS       3    ELEV      10
 921          RC    .055    .035    .055    4355   0.018
 922          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 923          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 924          KK    S202
 925          KM   SUB-BASIN S202
 926          BA    0.36
 927          LS              86
 928          UD    0.15
              *
```

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

 929          KK    C202
 930          KM   COMBINE C201/R201 & SUB-BASIN S202
 931          HC       2
              *

 932          KK  DIV20R DIVERT
 933          DT  DIV20L
 934          DI       0      17      68     175     343     870    1585    2488    3302
 935          DQ       0       0       8      24      48     149     281     452     390
              *

 936          KK    R20R
 937          KM   ROUTE DIV20R THRU SUB-BASIN S203
 938          RS       5    ELEV      10
 939          RC    .055    .035    .055    7575   0.017
 940          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 941          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 942          KK    S203
 943          KM   SUB-BASIN S203
 944          BA    0.43
 945          LS              82
 946          UD    0.25
              *

 947          KK    C203
 948          KM   COMBINE DIV20R/R20R & S203
 949          HC       2
              *

 950          KK  DIV21R DIVERT
 951          DT  DIV21L
 952          DI       0     100    1000   10000
 953          DQ       0      75     750    7500
              *

 954          KK    R21R
 955          KM   ROUTE DIV21R THRU SUB-BASIN S210
 956          RS       1    ELEV      10
 957          RC    .055    .035    .055    2190   0.017
 958          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
 959          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 960          KK    S210
 961          KM   SUB-BASIN S210
 962          BA   0.052
 963          LS              79
 964          UD    0.07
              *
```

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

 965          KK    C210
 966          KM   COMBINE DIV21R/R21R & S210
 967          HC       2
              *

 968          KK  DIV24L DIVERT
 969          DT  DIV24R
 970          DI       0     100    1000   10000
 971          DQ       0      10     100    1000
              *

 972          KK    R210
 973          KM   ROUTE C210 THRU SUB-BASIN S211
 974          RS       4    ELEV      10
 975          RC    .055    .035    .055    6150   0.018
 976          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
 977          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 978          KK    S211
 979          KM   SUB-BASIN S211
 980          BA    0.15
 981          LS              77
 982          UD    0.20
              *

 983          KK    C211
 984          KM   COMBINE C210/R210 & S211
 985          HC       2
              *

 986          KK    NULL
 987          HC       2
              *

 988          KK  RET24R RETURN
 989          DR  DIV24R
              *

 990          KK    R24R
 991          KM   ROUTE DIV24R THRU SUB-BASIN S212
 992          RS       4    ELEV      10
 993          RC    .055    .035    .055    5490   0.020
 994          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 995          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 996          KK    S212
 997          KM   SUB-BASIN S212
 998          BA   0.084
 999          LS              79
1000          UD    0.18
              *
```

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

1001          KK    C212
1002          KM   COMBINE DIV24R/R24R & S212
1003          HC       2
              *

1004          KK    NULL
1005          HC       2
              *

1006          KK  RET21L RETURN
1007          DR  DIV21L
              *

1008          KK    R21L
1009          KM   ROUTE DIV21L THRU SUB-BASIN S290
1010          RS       2    ELEV      10
1011          RC    .055    .035    .055    2475   0.017
1012          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1013          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1014          KK    S290
1015          KM   SUB-BASIN S290
1016          BA   0.072
1017          LS             77
1018          UD    0.08
              *

1019          KK    C290
1020          KM   COMBINE DIV21L/R21L & S290
1021          HC       2
              *

1022          KK    R290
1023          KM   ROUTE C290 THRU SUB-BASIN S291
1024          RS       1    ELEV      10
1025          RC    .055    .035    .055    2135   0.021
1026          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1027          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1028          KK    S291
1029          KM   SUB-BASIN S291
1030          BA   0.055
1031          LS             77
1032          UD    0.07
              *

1033          KK    C291
1034          KM   COMBINE C290/R290 & S291
1035          HC       2
              *
```

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

1036          KK    NULL
1037          HC       2
              *
              *

1038          KK    S300
1039          KM   SUB-BASIN S300
1040          BA  0.0078
1041          LS              77
1042          UD    0.06
              *

1043          KK    R300
1044          KM   ROUTE S300 THRU SUB-BASIN S301
1045          RS       1    ELEV      10
1046          RC    .055    .035    .055    1355   0.018
1047          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1048          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1049          KK    S301
1050          KM   SUB-BASIN S301
1051          BA   0.012
1052          LS              79
1053          UD    0.06
              *

1054          KK    C301
1055          KM   COMBINE S300/R300 & S301
1056          HC       2
              *

1057          KK    S310
1058          KM   SUB-BASIN S310
1059          BA   0.011
1060          LS              77
1061          UD    0.06
              *

1062          KK    R310
1063          KM   ROUTE S310 THRU SUB-BASIN S311
1064          RS       1    ELEV      10
1065          RC    .055    .035    .055    1470   0.020
1066          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1067          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1068          KK    S311
1069          KM   SUB-BASIN S311
1070          BA   0.012
1071          LS              79
1072          UD    0.06
              *
```

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

1073          KK    C311
1074          KM   COMBINE C301, S310/R310, & S311
1075          HC       3
              *

1076          KK    R311
1077          KM   ROUTE C311 THRU SUB-BASIN S302
1078          RS       1    ELEV      10
1079          RC    .055    .035    .055     765   0.026
1080          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1081          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1082          KK    S302
1083          KM   SUB-BASIN S302
1084          BA   0.012
1085          LS             80
1086          UD    0.06
              *

1087          KK    C302
1088          KM   COMBINE  C311/R311 & S302
1089          HC       2
              *

1090          KK  DIV22R DIVERT
1091          DT  DIV22L
1092          DI       0     100    1000   10000
1093          DQ       0      50     500    5000
              *

1094          KK    R22R
1095          KM   ROUTE DIV22R THRU SUB-BASIN S304
1096          RS       1    ELEV      10
1097          RC    .055    .035    .055     650   0.015
1098          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1099          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1100          KK    S304
1101          KM   SUB-BASIN S304
1102          BA   .0040
1103          LS             77
1104          UD    0.06
              *

1105          KK    C304
1106          KM   COMBINE  DIV22R/R22R & S304
1107          HC       2
              *
```

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

1108          KK  DIV23R DIVERT
1109          DT  DIV23L
1110          DI       0     100    1000   10000
1111          DQ       0      75     750    7500
              *
              *

1112          KK    R23R
1113          KM   ROUTE DIV23R THRU SUB-BASIN S306
1114          RS       1    ELEV      10
1115          RC    .055    .035    .055    1110   0.018
1116          RX    52.5    55.5    95.5      98     102   104.5   144.5   147.5
1117          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1118          KK    S306
1119          KM   SUB-BASIN S306
1120          BA   .0091
1121          LS              85
1122          UD    0.06
              *

1123          KK    C306
1124          KM   COMBINE  DIV23R/R23R & S306
1125          HC       2
              *

1126          KK    NULL
1127          HC       2
              *

1128          KK  RET23L RETURN
1129          DR  DIV23L
              *

1130          KK    R23L
1131          KM   ROUTE DIV23L THRU SUB-BASIN S305
1132          RS       1    ELEV      10
1133          RC    .055    .035    .055     580   0.017
1134          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1135          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1136          KK    S305
1137          KM   SUB-BASIN S305
1138          BA   .0039
1139          LS              81
1140          UD    0.06
              *
```

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

1141          KK    C305
1142          KM   COMBINE  DIV23L/R23L & S305
1143          HC       2
              *

1144          KK    NULL
1145          HC       2
              *

1146          KK  RET22L RETURN
1147          DR  DIV22L
              *

1148          KK    R22L
1149          KM   ROUTE DIV22L THRU SUB-BASIN S303
1150          RS       1    ELEV      10
1151          RC    .055    .035    .055     910   0.016
1152          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1153          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1154          KK    S303
1155          KM   SUB-BASIN S303
1156          BA    .013
1157          LS              80
1158          UD    0.06
              *

1159          KK    C303
1160          KM   COMBINE  DIV22L/R22L & S303
1161          HC       2
              *

1162          KK    S307
1163          KM   SUB-BASIN S307
1164          BA    .016
1165          LS              82
1166          UD    0.06
              *
              *
              *
1167          ZZ
```

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	S30	651.	3.50	116.	29.	28.	0.42		
ROUTED TO	R30	621.	3.58	116.	29.	28.	0.42	12.69	3.58
HYDROGRAPH AT	S32	82.	3.33	11.	3.	3.	0.07		
2 COMBINED AT	C32	680.	3.58	127.	32.	31.	0.49		
HYDROGRAPH AT	S40	1137.	4.08	345.	87.	84.	1.60		
ROUTED TO	R48	1079.	4.42	344.	87.	84.	1.60	13.57	4.42
HYDROGRAPH AT	S50	693.	3.58	138.	35.	34.	0.53		
2 COMBINED AT	C51	1315.	4.25	479.	122.	118.	2.13		
ROUTED TO	R51	1306.	4.33	479.	122.	118.	2.13	13.67	4.33
HYDROGRAPH AT	S54	57.	3.33	8.	2.	2.	0.04		
3 COMBINED AT	C54	1696.	3.75	612.	156.	150.	2.67		
ROUTED TO	R54	1651.	3.92	612.	156.	150.	2.67	12.65	3.92
HYDROGRAPH AT	S56	135.	3.50	23.	6.	6.	0.17		
2 COMBINED AT	C56	1742.	3.83	635.	162.	156.	2.84		
ROUTED TO	R56	1735.	3.92	634.	162.	156.	2.84	12.60	3.92
HYDROGRAPH AT	S110	141.	3.42	20.	5.	5.	0.11		
ROUTED TO	R110	131.	3.50	20.	5.	5.	0.11	10.55	3.50
HYDROGRAPH AT	S280	169.	3.08	11.	3.	3.	0.06		
3 COMBINED AT	C280	1816.	3.83	666.	170.	163.	3.00		
DIVERSION TO	DIV26R	1362.	3.83	500.	127.	123.	3.00		
HYDROGRAPH AT	DIV26L	454.	3.83	167.	42.	41.	3.00		
ROUTED TO	R26L	454.	3.92	166.	42.	41.	3.00	11.49	3.92
HYDROGRAPH AT	S281	30.	3.08	2.	1.	0.	0.01		
2 COMBINED AT	C281	456.	3.92	169.	43.	41.	3.01		
HYDROGRAPH AT	S60	1489.	4.00	432.	109.	105.	1.81		
DIVERSION TO	DIV4L	714.	4.00	233.	59.	57.	1.81		
HYDROGRAPH AT	DIV4R	775.	4.00	198.	50.	48.	1.81		

HYDROGRAPH AT	S70	86.	3.17	8.	2.	2.	0.03		
2 COMBINED AT	C70	781.	4.00	206.	52.	50.	1.84		
ROUTED TO	R70	750.	4.33	205.	52.	50.	1.84	12.93	4.33
HYDROGRAPH AT	S62	226.	3.58	39.	10.	9.	0.19		
2 COMBINED AT	C62	809.	4.33	244.	62.	59.	2.03		
ROUTED TO	R62	802.	4.42	244.	62.	59.	2.03	12.94	4.42
HYDROGRAPH AT	S270	175.	3.17	14.	3.	3.	0.07		
3 COMBINED AT	C270	1205.	4.42	426.	108.	104.	5.11		
DIVERSION TO	DIV27R	904.	4.42	320.	81.	78.	5.11		
HYDROGRAPH AT	DIV27L	301.	4.42	107.	27.	26.	5.11		
ROUTED TO	R27L	301.	4.42	107.	27.	26.	5.11	11.98	4.42
HYDROGRAPH AT	S271	66.	3.08	4.	1.	1.	0.02		
2 COMBINED AT	C271	303.	4.42	111.	28.	27.	5.13		
ROUTED TO	R271	303.	4.50	111.	28.	27.	5.13	11.72	4.50
HYDROGRAPH AT	S272	43.	3.08	3.	1.	1.	0.02		
HYDROGRAPH AT	S260	270.	3.25	28.	7.	7.	0.14		
ROUTED TO	R260	257.	3.33	28.	7.	7.	0.14	11.66	3.33
HYDROGRAPH AT	S261	104.	3.17	8.	2.	2.	0.04		
4 COMBINED AT	C272	428.	3.33	150.	38.	37.	5.34		
HYDROGRAPH AT	DIV4L	714.	4.00	233.	59.	57.	0.00		
ROUTED TO	R1.0S2	715.	4.08	233.	59.	57.	0.00	13.21	4.08
HYDROGRAPH AT	OS2	48.	3.25	5.	1.	1.	0.03		
2 COMBINED AT	C.OS2	719.	4.08	238.	60.	58.	0.03		
DIVERSION TO	DIV5L	355.	4.08	122.	30.	29.	0.03		
HYDROGRAPH AT	DIV5R	364.	4.08	116.	30.	29.	0.03		
ROUTED TO	R10S14	363.	4.08	116.	30.	29.	0.03	12.56	4.08
HYDROGRAPH AT	OS14	8.	3.17	1.	0.	0.	0.00		
HYDROGRAPH AT	D1	34.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBD1	16.	3.33	3.	1.	1.	0.01	2.46	3.33
3 COMBINED AT	C.OS14	369.	4.08	120.	31.	30.	0.04		

ROUTED TO	ROS14	362.	4.25	120.	31.	30.	0.04	12.52	4.25
HYDROGRAPH AT	S250	161.	3.17	13.	3.	3.	0.08		
2 COMBINED AT	C250	372.	4.25	133.	34.	33.	0.13		
ROUTED TO	R250	368.	4.25	132.	34.	33.	0.13	12.74	4.25
HYDROGRAPH AT	S252	40.	3.08	3.	1.	1.	0.01		
HYDROGRAPH AT	S251	66.	3.17	5.	1.	1.	0.03		
ROUTED TO	R251	58.	3.17	5.	1.	1.	0.03	11.00	3.17
HYDROGRAPH AT	S253	48.	3.08	3.	1.	1.	0.02		
4 COMBINED AT	C253	376.	4.25	143.	37.	35.	0.18		
ROUTED TO	R253	371.	4.42	143.	37.	35.	0.18	12.36	4.42
HYDROGRAPH AT	S254	150.	3.25	14.	4.	3.	0.08		
2 COMBINED AT	C254	424.	3.25	158.	40.	39.	0.26		
2 COMBINED AT	C254b	844.	3.33	308.	78.	75.	5.60		
HYDROGRAPH AT	RET5L	355.	4.08	122.	30.	29.	0.00		
ROUTED TO	R1.OS3	355.	4.08	122.	30.	29.	0.00	12.55	4.08
HYDROGRAPH AT	OS3	37.	3.17	3.	1.	1.	0.02		
2 COMBINED AT	C.OS3	358.	4.08	125.	31.	30.	0.02		
DIVERSION TO	DIV11L	179.	4.08	63.	16.	15.	0.02		
HYDROGRAPH AT	DIV11R	179.	4.08	63.	16.	15.	0.02		
ROUTED TO	R1.OS5	179.	4.08	63.	16.	15.	0.02	11.72	4.08
HYDROGRAPH AT	OS5	9.	3.17	1.	0.	0.	0.00		
HYDROGRAPH AT	F1	7.	3.08	1.	0.	0.	0.00		
ROUTED TO	RBF2	5.	3.17	1.	0.	0.	0.00	0.67	3.17
HYDROGRAPH AT	D2	24.	3.17	2.	0.	0.	0.01		
ROUTED TO	RBD2	13.	3.33	2.	0.	0.	0.01	1.97	3.33
ROUTED TO	R2.OS5	13.	3.25	2.	0.	0.	0.01	10.34	3.25
4 COMBINED AT	C.OS5	183.	4.08	66.	16.	16.	0.03		
ROUTED TO	ROS5	181.	4.17	66.	16.	16.	0.03	11.71	4.17
HYDROGRAPH AT	S240	63.	3.17	5.	1.	1.	0.03		
2 COMBINED AT	C240	186.	4.17	71.	18.	17.	0.07		

ROUTED TO	R240	185.	4.17	71.	18.	17.	0.07	11.76	4.17
HYDROGRAPH AT	S243	28.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C243	187.	4.17	73.	18.	18.	0.08		
HYDROGRAPH AT	S241	53.	3.17	4.	1.	1.	0.03		
ROUTED TO	R241	52.	3.17	4.	1.	1.	0.03	10.82	3.17
HYDROGRAPH AT	S244	31.	3.08	2.	1.	1.	0.01		
3 COMBINED AT	C244	192.	4.17	79.	20.	19.	0.12		
ROUTED TO	R244	192.	4.17	79.	20.	19.	0.12	11.67	4.17
HYDROGRAPH AT	S245	20.	3.08	1.	0.	0.	0.01		
2 COMBINED AT	C245	197.	3.17	80.	20.	19.	0.13		
DIVERSION TO	DIV25R	99.	3.17	40.	10.	10.	0.13		
HYDROGRAPH AT	DIV25L	99.	3.17	40.	10.	10.	0.13		
ROUTED TO	R25L	96.	4.33	40.	10.	10.	0.13	11.20	4.33
HYDROGRAPH AT	S246	90.	3.25	9.	2.	2.	0.06		
2 COMBINED AT	C246	152.	3.33	49.	12.	12.	0.19		
2 COMBINED AT	NULL	996.	3.33	356.	90.	87.	5.79		
HYDROGRAPH AT	RET25R	99.	3.17	40.	10.	10.	0.00		
ROUTED TO	R25R	96.	4.33	40.	10.	10.	0.00	11.20	4.33
HYDROGRAPH AT	S247	135.	3.25	13.	3.	3.	0.08		
2 COMBINED AT	C247	184.	3.33	53.	13.	13.	0.08		
2 COMBINED AT	NULL	1180.	3.33	409.	104.	100.	5.87		
HYDROGRAPH AT	S242	58.	3.17	4.	1.	1.	0.03		
ROUTED TO	R242	36.	3.42	4.	1.	1.	0.03	10.67	3.42
HYDROGRAPH AT	S248	149.	3.25	15.	4.	4.	0.09		
2 COMBINED AT	C248	160.	3.33	20.	5.	5.	0.12		
2 COMBINED AT	NULL	1340.	3.33	429.	109.	105.	5.99		
HYDROGRAPH AT	RET11L	179.	4.08	63.	16.	15.	0.00		
ROUTED TO	R1.OS6	179.	4.08	63.	16.	15.	0.00	11.73	4.08
HYDROGRAPH AT	OS6	3.	3.08	0.	0.	0.	0.00		
2 COMBINED AT	C.OS6	179.	4.08	63.	16.	15.	0.00		

ROUTED TO	R1.OS7	179.	4.08	63.	16.	15.	0.00	11.73	4.08
HYDROGRAPH AT	OS7	9.	3.17	1.	0.	0.	0.00		
2 COMBINED AT	C.OS7	179.	4.08	63.	16.	15.	0.01		
ROUTED TO	ROS7	178.	4.17	63.	16.	15.	0.01	11.77	4.17
HYDROGRAPH AT	S230	132.	3.17	11.	3.	3.	0.08		
2 COMBINED AT	C230	187.	4.17	75.	19.	18.	0.08		
ROUTED TO	R230	187.	4.17	75.	19.	18.	0.08	11.72	4.17
HYDROGRAPH AT	S231	17.	3.08	1.	0.	0.	0.01		
2 COMBINED AT	C231	188.	4.17	76.	19.	18.	0.09		
HYDROGRAPH AT	S90	139.	3.17	13.	3.	3.	0.06		
ROUTED TO	R10S11	142.	3.25	13.	3.	3.	0.06	11.50	3.25
HYDROGRAPH AT	OS11	8.	3.17	1.	0.	0.	0.00		
2 COMBINED AT	C.OS11	148.	3.25	14.	3.	3.	0.07		
ROUTED TO	R1.OS8	152.	3.25	14.	3.	3.	0.07	11.56	3.25
HYDROGRAPH AT	OS8	26.	3.17	2.	1.	1.	0.01		
2 COMBINED AT	C.OS8	174.	3.25	16.	4.	4.	0.08		
ROUTED TO	R1.OS9	162.	3.33	16.	4.	4.	0.08	11.62	3.33
HYDROGRAPH AT	OS9	46.	3.25	5.	1.	1.	0.03		
2 COMBINED AT	C1.OS9	205.	3.25	21.	5.	5.	0.11		
HYDROGRAPH AT	H2	32.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBH2	12.	3.33	3.	1.	1.	0.01	1.87	3.33
ROUTED TO	R2.OS9	12.	3.42	3.	1.	1.	0.01	10.33	3.42
HYDROGRAPH AT	E3	28.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBE1	16.	3.33	3.	1.	1.	0.01	2.54	3.33
ROUTED TO	R3.OS9	15.	3.42	3.	1.	1.	0.01	10.38	3.42
HYDROGRAPH AT	S80	121.	3.25	12.	3.	3.	0.06		
ROUTED TO	R1.OS4	123.	3.25	12.	3.	3.	0.06	11.38	3.25
HYDROGRAPH AT	OS4	15.	3.17	1.	0.	0.	0.01		
2 COMBINED AT	C.OS4	134.	3.25	13.	3.	3.	0.07		
HYDROGRAPH AT	I1	34.	3.17	3.	1.	1.	0.02		

2 COMBINED AT	C.I1	161.	3.25	16.	4.	4.	0.08		
ROUTED TO	RBI2	144.	3.33	16.	4.	4.	0.08	2.62	3.33
ROUTED TO	RBI3	129.	3.42	16.	4.	4.	0.08	2.83	3.42
ROUTED TO	R10S10	130.	3.42	16.	4.	4.	0.08	11.42	3.42
HYDROGRAPH AT	OS10	28.	3.25	3.	1.	1.	0.02		
HYDROGRAPH AT	E1	55.	3.17	5.	1.	1.	0.02		
ROUTED TO	R20S10	49.	3.17	5.	1.	1.	0.02	10.79	3.17
3 COMBINED AT	C.OS10	167.	3.42	23.	6.	6.	0.12		
ROUTED TO	RBE2	158.	3.50	23.	6.	6.	0.12	4.34	3.50
ROUTED TO	RBE3	154.	3.50	23.	6.	6.	0.12	4.17	3.50
HYDROGRAPH AT	F2	27.	3.17	2.	1.	1.	0.01		
2 COMBINED AT	C.F1	160.	3.50	25.	6.	6.	0.13		
ROUTED TO	RBF1	156.	3.58	25.	6.	6.	0.13	3.28	3.58
HYDROGRAPH AT	E2	49.	3.17	4.	1.	1.	0.02		
2 COMBINED AT	C.E2	164.	3.58	29.	7.	7.	0.14		
ROUTED TO	RBE4	156.	3.67	29.	7.	7.	0.14	4.20	3.67
ROUTED TO	R4.OS9	156.	3.67	29.	7.	7.	0.14	11.58	3.67
HYDROGRAPH AT	S94	276.	3.25	28.	7.	7.	0.13		
HYDROGRAPH AT	S100	301.	3.25	31.	8.	8.	0.15		
2 COMBINED AT	CS100	577.	3.25	59.	15.	14.	0.28		
ROUTED TO	R10S12	544.	3.33	59.	15.	14.	0.28	12.95	3.33
HYDROGRAPH AT	OS12	21.	3.17	2.	0.	0.	0.01		
2 COMBINED AT	C.OS12	555.	3.33	61.	15.	15.	0.29		
ROUTED TO	R5.OS9	527.	3.42	61.	15.	15.	0.29	12.92	3.42
5 COMBINED AT	C2.OS9	837.	3.33	116.	29.	28.	0.57		
ROUTED TO	R10S13	832.	3.42	116.	29.	28.	0.57	13.36	3.42
HYDROGRAPH AT	F3	10.	3.08	1.	0.	0.	0.00		
ROUTED TO	RBF3	7.	3.25	1.	0.	0.	0.00	1.05	3.25
ROUTED TO	R20S13	7.	3.25	1.	0.	0.	0.00	10.22	3.25
2 COMBINED AT	C.OS13	837.	3.42	117.	29.	28.	0.57		

ROUTED TO	ROS13	790.	3.50	117.	29.	28.	0.57	13.36	3.50
HYDROGRAPH AT	S220	206.	3.17	16.	4.	4.	0.08		
2 COMBINED AT	C220	837.	3.50	133.	33.	32.	0.65		
ROUTED TO	R220	837.	3.50	133.	33.	32.	0.65	13.25	3.50
HYDROGRAPH AT	S232	9.	3.08	1.	0.	0.	0.00		
3 COMBINED AT	C232	984.	3.50	209.	52.	50.	0.74		
ROUTED TO	R232	915.	3.75	209.	52.	50.	0.74	13.41	3.75
HYDROGRAPH AT	S233	195.	3.25	20.	5.	5.	0.12		
2 COMBINED AT	C233	963.	3.67	228.	57.	55.	0.86		
2 COMBINED AT	NULL	1940.	3.33	658.	166.	160.	6.84		
HYDROGRAPH AT	S255	89.	3.17	7.	2.	2.	0.03		
HYDROGRAPH AT	S256	56.	3.17	4.	1.	1.	0.03		
HYDROGRAPH AT	G1	109.	3.25	12.	3.	3.	0.05		
ROUTED TO	RBG1	16.	3.83	10.	3.	3.	0.05	2.23	3.83
HYDROGRAPH AT	H1	38.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBH1	0.	6.17	0.	0.	0.	0.01	4.34	6.25
HYDROGRAPH AT	S200	673.	3.83	156.	39.	38.	0.77		
ROUTED TO	R200	652.	4.17	156.	39.	38.	0.77	11.44	4.17
HYDROGRAPH AT	S201	1512.	3.58	263.	66.	63.	1.25		
2 COMBINED AT	C201	1525.	3.58	418.	105.	101.	2.02		
ROUTED TO	R201	1509.	3.67	418.	105.	101.	2.02	12.42	3.67
HYDROGRAPH AT	S202	801.	3.17	76.	19.	18.	0.36		
2 COMBINED AT	C202	1685.	3.58	493.	124.	119.	2.38		
DIVERSION TO	DIV20L	300.	3.58	82.	20.	20.	2.38		
HYDROGRAPH AT	DIV20R	1385.	3.58	411.	103.	99.	2.38		
ROUTED TO	R20R	1353.	3.83	411.	103.	99.	2.38	12.31	3.83
HYDROGRAPH AT	S203	642.	3.33	77.	19.	18.	0.43		
2 COMBINED AT	C203	1573.	3.67	487.	122.	118.	2.81		
DIVERSION TO	DIV21L	1180.	3.67	365.	92.	88.	2.81		
HYDROGRAPH AT	DIV21R	393.	3.67	122.	31.	29.	2.81		

ROUTED TO	R21R	383.	3.83	122.	31.	29.	2.81	13.10	3.83
HYDROGRAPH AT	S210	105.	3.08	8.	2.	2.	0.05		
2 COMBINED AT	C210	391.	3.83	129.	33.	31.	2.86		
DIVERSION TO	DIV24R	39.	3.83	13.	3.	3.	2.86		
HYDROGRAPH AT	DIV24L	352.	3.83	117.	29.	28.	2.86		
ROUTED TO	R210	334.	4.25	116.	29.	28.	2.86	12.96	4.25
HYDROGRAPH AT	S211	195.	3.25	21.	5.	5.	0.15		
2 COMBINED AT	C211	355.	4.17	137.	35.	33.	3.01		
2 COMBINED AT	NULL	355.	4.17	137.	35.	33.	3.02		
HYDROGRAPH AT	RET24R	39.	3.83	13.	3.	3.	0.00		
ROUTED TO	R24R	38.	4.00	13.	3.	3.	0.00	10.66	4.00
HYDROGRAPH AT	S212	130.	3.25	13.	3.	3.	0.08		
2 COMBINED AT	C212	133.	3.25	26.	7.	6.	0.08		
2 COMBINED AT	NULL	426.	3.33	163.	41.	40.	3.11		
HYDROGRAPH AT	RET21L	1180.	3.67	365.	92.	88.	0.00		
ROUTED TO	R21L	1177.	3.75	365.	92.	88.	0.00	13.86	3.75
HYDROGRAPH AT	S290	133.	3.17	10.	3.	2.	0.07		
2 COMBINED AT	C290	1190.	3.75	375.	94.	91.	0.07		
ROUTED TO	R290	1185.	3.83	374.	94.	91.	0.07	13.74	3.83
HYDROGRAPH AT	S291	101.	3.17	8.	2.	2.	0.05		
2 COMBINED AT	C291	1194.	3.75	382.	96.	93.	0.13		
2 COMBINED AT	NULL	1557.	3.83	545.	138.	133.	3.24		
HYDROGRAPH AT	S300	16.	3.08	1.	0.	0.	0.01		
ROUTED TO	R300	11.	3.17	1.	0.	0.	0.01	10.50	3.17
HYDROGRAPH AT	S301	27.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C301	34.	3.17	3.	1.	1.	0.02		
HYDROGRAPH AT	S310	22.	3.08	2.	0.	0.	0.01		
ROUTED TO	R310	16.	3.17	2.	0.	0.	0.01	10.33	3.17
HYDROGRAPH AT	S311	27.	3.08	2.	0.	0.	0.01		
3 COMBINED AT	C311	73.	3.17	6.	2.	2.	0.04		

ROUTED TO	R311	77.	3.17	6.	2.	2.	0.04	10.95	3.17
HYDROGRAPH AT	S302	29.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C302	101.	3.17	8.	2.	2.	0.05		
DIVERSION TO	DIV22L	51.	3.17	4.	1.	1.	0.05		
HYDROGRAPH AT	DIV22R	51.	3.17	4.	1.	1.	0.05		
ROUTED TO	R22R	49.	3.17	4.	1.	1.	0.05	10.84	3.17
HYDROGRAPH AT	S304	8.	3.08	1.	0.	0.	0.00		
2 COMBINED AT	C304	56.	3.17	5.	1.	1.	0.06		
DIVERSION TO	DIV23L	42.	3.17	4.	1.	1.	0.06		
HYDROGRAPH AT	DIV23R	14.	3.17	1.	0.	0.	0.06		
ROUTED TO	R23R	12.	3.25	1.	0.	0.	0.06	10.66	3.25
HYDROGRAPH AT	S306	28.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C306	31.	3.08	3.	1.	1.	0.07		
2 COMBINED AT	NULL	1561.	3.83	548.	138.	133.	3.30		
HYDROGRAPH AT	RET23L	42.	3.17	4.	1.	1.	0.00		
ROUTED TO	R23L	40.	3.25	4.	1.	1.	0.00	10.71	3.25
HYDROGRAPH AT	S305	10.	3.08	1.	0.	0.	0.00		
2 COMBINED AT	C305	45.	3.25	4.	1.	1.	0.00		
2 COMBINED AT	NULL	1568.	3.83	552.	139.	134.	3.31		
HYDROGRAPH AT	RET22L	51.	3.17	4.	1.	1.	0.00		
ROUTED TO	R22L	46.	3.17	4.	1.	1.	0.00	11.21	3.17
HYDROGRAPH AT	S303	31.	3.08	2.	1.	1.	0.01		
2 COMBINED AT	C303	72.	3.17	6.	2.	2.	0.01		
HYDROGRAPH AT	S307	42.	3.08	3.	1.	1.	0.02		

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

  1           ID       56th AND LONE MOUNTAIN
  2           ID
  3           ID
  4           ID        HEC-1 FILENAME:    1669FS1.HC1
  5           ID        DATE:              SEPTEMBER 11, 2000
  6           ID        CREATED BY:        JOSH LESSARD
  7           ID
  8           ID
  9           ID        HEC-1 HYDROLOGY MODEL
 10           ID
 11           ID          1. THE FOLLOWING MODEL ADJUSTS THE EXISTING CONDITION FLOW SPLITS.
 12           ID          2. THE ON-SITE SUB-BASINS THAT ARE AFFECTED ARE S272, S261, S212, AND
 13           ID             S305.
 14           ID          3. DIV4R 75%/DIV4L 25%
 15           ID          4. DIV26L 50%/DIV26R 50%
 16           ID          5. DIV27L 50%/DIV27R 50%
 17           ID          6. DIV24R 35%/DIV24L 65%
 18           ID          7. DIV21R 50%/DIV21L 50%
 19           ID          8. DIV20R 95%/DIV20L 5%
 20           ID          9. DIV22R 75%/DIV22L 25%
 21           ID         10. DIV23L 95%/DIV23R 5%
 22           ID
              *DIAGRAM
 23           IT       5 09SEP00       0     300
 24           IO       5       0
              *

 25           KK     S30
 26           KM   SUB-BASIN S30
 27           BA     .42
 28           PH                   0.80    1.46    2.36    2.70    2.92    3.35
 29           LS              88      38
 30           UD    .452
              *

 31           KK     R30
 32           KM   ROUTE S30 THRU S32
 33           RS       1    ELEV      10
 34           RC    .055    .035    .055    2250    .018
 35           RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 36           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 37           KK     S32
 38           KM   SUB-BASIN S32
 39           BA    .074
 40           LS              78
 41           UD    .287
              *
```

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

  42          KK     C32
  43          KM   COMBINE S30/R30 & S32
  44          HC       2
              *

  45          KK     S40
  46          KM   SUB-BASIN S40
  47          BA    1.60
  48          LS              84      15
  49          UD    .985
              *

  50          KK     R48
  51          KM   ROUTE R40
  52          RS       2    ELEV      10
  53          RC    .055    .035    .055    8400    .023
  54          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
  55          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  56          KK     S50
  57          KM   SUB-BASIN S50
  58          BA     .53
  59          LS              86      35
  60          UD    .535
              *

  61          KK     C51
  62          KM   COMBINE R48/S40 & S50
  63          HC       2
              *

  64          KK     R51
  65          KM   ROUTE C51 THRU BASIN 54
  66          RS       2    ELEV      10
  67          RC    .055    .035    .055    3050    .015
  68          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
  69          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  70          KK     S54
  71          KM   SUB-BASIN S54
  72          BA    .044
  73          LS              81
  74          UD    .291
              *

  75          KK     C54
  76          KM   COMBINE S54, C51, & C32
  77          HC       3
              *
```

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

 78           KK     R54
 79           KM   ROUTE C54 THRU BASIN 56
 80           RS       2    ELEV      10
 81           RC    .055    .035    .055    4150    .016
 82           RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 83           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 84           KK     S56
 85           KM   SUB-BASIN S56
 86           BA    .171
 87           LS              76
 88           UD    .427
              *

 89           KK     C56
 90           KM   COMBINE S56 & R54
 91           HC       2
              *

 92           KK     R56
 93           KM   ROUTE C56 THRU BASIN S280
 94           RS       1    ELEV      10
 95           RC    .055    .035    .055    1840    .019
 96           RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 97           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 98           KK    S110
 99           KM   SUB-BASIN S110
100           BA    .109
101           LS              83
102           UD    .345
              *

103           KK    R110
104           KM   ROUTE S110 THRU BASIN S280
105           RS       1    ELEV      10
106           RC    .055    .035    .055    1840    .019
107           RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
108           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

109           KK    S280     SUB
110           KM   SUB-BASIN S280
111           BA   0.056
112           LS              85
113           UD    0.06
              *
```

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

 114          KK    C280
 115          KM  COMBINE S56/R56, S110/R110, & S280
 116          HC       3
              *

 117          KK  DIV26L DIVERT
 118          DT  DIV26R
 119          DI       0     100    1000   10000
 120          DQ       0      50     500    5000
              *

 121          KK    R26L
 122          KM   ROUTE DIV26L THRU BASIN S281
 123          RS       1    ELEV      10
 124          RC    .055    .035    .055    1340    .019
 125          RX    48.5    51.5   101.5     104     144   146.5   196.5   199.5
 126          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 127          KK    S281     SUB
 128          KM   SUB-BASIN S281
 129          BA   0.010
 130          LS             85
 131          UD    0.06
              *

 132          KK    C281
 133          KM  COMBINE DIV26L/R26L & S281
 134          HC       2
              *

 135          KK     S60     SUB
 136          KM
 137          BA  1.8100
 138          LS             87      16
 139          UD   0.933
              *

 140          KK   DIV4R  DIVERT
 141          KM
 142          DT   DIV4L
 143          DI       0     100    1000   10000
 144          DQ       0      25     250    2500
              *

 145          KK     S70
 146          KM   SUB-BASIN S70
 147          BA    .029
 148          LS             85      40
 149          UD    .120
              *
```

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

 150          KK     C70
 151          KM   COMBINE DIV4R & S70
 152          HC       2
              *

 153          KK     R70
 154          KM   ROUTE C70 THRU BASIN S62
 155          RS       3    ELEV      10
 156          RC    .055    .035    .055    6850    .017
 157          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 158          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 159          KK     S62
 160          KM   SUB-BASIN S62
 161          BA    .193
 162          LS              85
 163          UD    .458
              *

 164          KK     C62
 165          KM   COMBINE S62 & C70
 166          HC       2
              *

 167          KK     R62
 168          KM   ROUTE C62 THRU BASIN S270
 169          RS       2    ELEV      10
 170          RC    .055    .035    .055    3110    .019
 171          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 172          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 173          KK    S270
 174          KM   SUB-BASIN S270
 175          BA    .067
 176          LS              85
 177          UD    .100
              *

 178          KK    C270
 179          KM   COMBINE C62/R62, S270, & C281
 180          HC       3
              *

 181          KK  DIV27L  DIVERT
 182          KM
 183          DT  DIV27R
 184          DI       0     100    1000   10000
 185          DQ       0      50     500    5000
              *
```

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

 186          KK    R27L
 187          KM   ROUTE DIV27L THRU BASIN S271
 188          RS       1    ELEV      10
 189          RC    .055    .035    .055    1505    .013
 190          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 191          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 192          KK    S271
 193          KM   SUB-BASIN S271
 194          BA   .0219
 195          LS             85
 196          UD    .060
              *

 197          KK    C271
 198          KM   COMBINE C270/R270 & S271
 199          HC       2
              *

 200          KK    R271
 201          KM   ROUTE C271 THRU BASIN S272
 202          RS       1    ELEV      10
 203          RC    .055    .035    .055    1205    .021
 204          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 205          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 206          KK    S272
 207          KM   SUB-BASIN S272
 208          BA    .019
 209          LS             79
 210          UD    .060
              *

 211          KK    S260
 212          KM   SUB-BASIN S260
 213          BA    .140
 214          LS             85
 215          UD    .200
              *

 216          KK    R260
 217          KM   ROUTE C260 THRU BASIN S261
 218          RS       2    ELEV      10
 219          RC    .055    .035    .055    2880    .017
 220          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 221          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

222           KK    S261
223           KM   SUB-BASIN S261
224           BA    .043
225           LS              83
226           UD    .096
              *

227           KK    C272
228           KM   COMBINE C271/R271, S272, S260/R260, & S261
229           HC       4
              *
              *

230           KK   DIV4L     RET
231           KM
232           DR   DIV4L
              *

233           KK  R1.0S2   ROUTE
234           KM
235           RS       1    ELEV      10
236           RC   0.055   0.035   0.055     620    0.02
237           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
238           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

239           KK     0S2     SUB
240           KM
241           BA  0.0295
242           LS              79
243           UD  0.1583
              *

244           KK   C.0S2     ADD
245           KM
246           HC       2
              *

247           KK   DIV5L  DIVERT
248           KM
249           DT   DIV5R
250           DI       0      11      71     204     665    1556    3038
251           DQ       0      11      47      76     336     794    1382
              *

252           KK  R1.0S3   ROUTE
253           KM
254           RS       1    ELEV      10
255           RC   0.055   0.035   0.055     570    0.02
256           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
257           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 258          KK     OS3     SUB
 259          KM
 260          BA  0.0205
 261          LS             79
 262          UD  0.1250
              *

 263          KK   C.OS3     ADD
 264          KM
 265          HC       2
              *

 266          KK  DIV11R  DIVERT
 267          KM
 268          DT  DIV11L
 269          DI       0     100    1000   10000
 270          DQ       0      50     500    5000
              *

 271          KK  R1.OS5   ROUTE
 272          KM
 273          RS       1    ELEV      10
 274          RC   0.055   0.035   0.055     600    0.02
 275          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 276          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 277          KK     OS5     SUB
 278          KM
 279          BA  0.0043
 280          LS             79
 281          UD  0.0828
              *

 282          KK      F1     SUB
 283          KM
 284          BA  0.0020
 285          LS             85      35
 286          UD  0.0694
              *

 287          KK    RBF2 RET BAS
 288          KM
 289          RS       1    STOR      -1
 290          SV       0    0.21    0.23    0.26
 291          SE       0       3     3.5     4.0
 292          SQ       0      21      44      86
              *
```

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

 293          KK      D2     SUB
 294          KM
 295          BA  0.0077
 296          LS             85      35
 297          UD  0.0961
              *

 298          KK    RBD2 RET BAS
 299          KM
 300          RS       1    STOR      -1
 301          SV       0    0.67    0.74    0.82
 302          SE       0     4.5     5.0     5.5
 303          SQ       0      29      42      63
              *

 304          KK  R2.OS5   ROUTE
 305          KM
 306          RS       1    ELEV      10
 307          RC   0.055   0.035   0.055     200    0.02
 308          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 309          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 310          KK   C.OS5     ADD
 311          HC       4
              *

 312          KK    ROS5   ROUTE
 313          KM   ROUTE C.OS5 THRU S240
 314          RS       2    ELEV      10
 315          RC   0.055   0.035   0.055    3340   0.021
 316          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 317          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 318          KK    S240     SUB
 319          KM   SUB-BASIN S240
 320          BA   0.034
 321          LS             78
 322          UD    0.11
              *

 323          KK    C240     ADD
 324          KM   COMBINE C.OS5/ROS5 & S240
 325          HC       2
              *

 326          KK    R240   ROUTE
 327          KM   ROUTE C240 THRU S243
 328          RS       1    ELEV      10
 329          RC   0.055   0.035   0.055     765   0.020
 330          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 331          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 332          KK    S243     SUB
 333          KM   SUB-BASIN S243
 334          BA   0.013
 335          LS             78
 336          UD    0.06
              *

 337          KK    C243     ADD
 338          KM   COMBINE C240/R240 & S243
 339          HC       2
              *

 340          KK    S241     SUB
 341          KM   SUB-BASIN S241
 342          BA   0.025
 343          LS             80
 344          UD   0.078
              *

 345          KK    R241   ROUTE
 346          KM   ROUTE C241 THRU S244
 347          RS       1    ELEV      10
 348          RC   0.055   0.035   0.055     980   0.020
 349          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 350          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 351          KK    S244     SUB
 352          KM   SUB-BASIN S244
 353          BA   0.015
 354          LS             77
 355          UD    0.06
              *

 356          KK    C244
 357          KM   COMBINE C243, S241/C241, & S244
 358          HC       3
              *

 359          KK    R244   ROUTE
 360          KM   ROUTE C244 THRU S245
 361          RS       1    ELEV      10
 362          RC   0.055   0.035   0.055     270   0.019
 363          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 364          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 365          KK    S245     SUB
 366          KM   SUB-BASIN S245
 367          BA  0.0088
 368          LS             79
 369          UD    0.06
              *
```

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

 370          KK    C245
 371          KM   COMBINE C244/R244 & S245
 372          HC       2
              *

 373          KK  DIV25L  DIVERT
 374          KM
 375          DT  DIV25R
 376          DI       0     100    1000   10000
 377          DQ       0      50     500    5000
              *

 378          KK    R25L   ROUTE
 379          KM   ROUTE DIV25L THRU S246
 380          RS       3    ELEV      10
 381          RC   0.055   0.035   0.055    4480   0.019
 382          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 383          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 384          KK    S246     SUB
 385          KM   SUB-BASIN S246
 386          BA   0.061
 387          LS              77
 388          UD    0.15
              *

 389          KK    C246
 390          KM   COMBINE DIV25L/R25L & S246
 391          HC       2
              *

 392          KK    NULL
 393          HC       2
              *

 394          KK  RET25R     RET
 395          KM
 396          DR  DIV25R
              *

 397          KK    R25R   ROUTE
 398          KM   ROUTE DIV25R THRU S247
 399          RS       3    ELEV      10
 400          RC   0.055   0.035   0.055    4490   0.019
 401          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 402          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 403          KK    S247     SUB
 404          KM   SUB-BASIN S247
 405          BA   0.079
 406          LS             80
 407          UD    0.15
              *

 408          KK    C247
 409          KM   COMBINE DIV25R/R25R & S247
 410          HC       2
              *

 411          KK    NULL
 412          HC       2
              *

 413          KK    S242     SUB
 414          KM   SUB-BASIN S242
 415          BA   0.027
 416          LS             80
 417          UD   0.077
              *

 418          KK    R242   ROUTE
 419          KM   ROUTE S242 THRU S248
 420          RS       4    ELEV      10
 421          RC   0.055   0.035   0.055    5815   0.018
 422          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 423          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 424          KK    S248     SUB
 425          KM   SUB-BASIN S248
 426          BA   0.090
 427          LS             81
 428          UD    0.19
              *

 429          KK    C248
 430          KM   COMBINE S242/R242 & S248
 431          HC       2
              *

 432          KK    NULL
 433          HC       2
              *

 434          KK  RET11L     RET
 435          KM
 436          DR  DIV11L
              *
```

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

 437          KK  R1.OS6   ROUTE
 438          KM
 439          RS       1    ELEV      10
 440          RC   0.055   0.035   0.055     300    0.02
 441          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 442          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 443          KK     OS6     SUB
 444          KM
 445          BA  0.0013
 446          LS              79
 447          UD  0.0650
              *

 448          KK   C.OS6     ADD
 449          KM
 450          HC       2
              *

 451          KK  R1.OS7   ROUTE
 452          KM
 453          RS       1    ELEV      10
 454          RC   0.055   0.035   0.055     420    0.02
 455          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 456          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 457          KK     OS7     SUB
 458          KM
 459          BA  0.0044
 460          LS              79
 461          UD  0.0767
              *

 462          KK   C.OS7     ADD
 463          KM
 464          HC       2
              *

 465          KK    ROS7   ROUTE
 466          KM   ROUTE C.OS7 THRU S230
 467          RS       2    ELEV      10
 468          RC   0.055   0.035   0.055    3680   0.018
 469          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 470          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 471          KK    S230     SUB
 472          KM   SUB-BASIN S230
 473          BA   0.075
 474          LS              78
 475          UD    0.12
              *
```

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

 476          KK    C230     ADD
 477          KM   COMBINE C.OS7/ROS7 & S230
 478          HC       2
              *

 479          KK    R230   ROUTE
 480          KM   ROUTE C230 THRU S231
 481          RS       1    ELEV      10
 482          RC   0.055   0.035   0.055     465   0.022
 483          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 484          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 485          KK    S231     SUB
 486          KM   SUB-BASIN S231
 487          BA  0.0056
 488          LS             85
 489          UD    0.06
              *

 490          KK    C231
 491          KM   COMBINE C230/R230 & S231
 492          HC       2
              *

 493          KK     S90     SUB
 494          KM
 495          BA   0.063
 496          LS             86
 497          UD   0.152
              *

 498          KK  R10S11   ROUTE
 499          KM
 500          RS       1    ELEV      10
 501          RC   0.055   0.035   0.055     300   0.02
 502          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 503          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 504          KK    OS11     SUB
 505          KM
 506          BA  0.0041
 507          LS             79
 508          UD  0.0967
              *

 509          KK  C.OS11     ADD
 510          KM
 511          HC       2
              *
```

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

 512          KK  R1.OS8   ROUTE
 513          KM
 514          RS       1    ELEV      10
 515          RC   0.055   0.035   0.055     710    0.02
 516          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 517          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 518          KK     OS8     SUB
 519          KM
 520          BA  0.0139
 521          LS              79
 522          UD  0.1167
              *

 523          KK   C.OS8     ADD
 524          KM
 525          HC       2
              *

 526          KK  R1.OS9   ROUTE
 527          KM
 528          RS       2    ELEV      10
 529          RC   0.055   0.035   0.055    2070    0.02
 530          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 531          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 532          KK     OS9     SUB
 533          KM
 534          BA  0.0293
 535          LS              79
 536          UD  0.1778
              *

 537          KK  C1.OS9     ADD
 538          HC       2
              *

 539          KK      H2     SUB
 540          KM
 541          BA  0.0105
 542          LS              85      35
 543          UD  0.0889
              *

 544          KK    RBH2 RET BAS
 545          KM
 546          RS       1    STOR      -1
 547          SV       0     1.2    1.35     1.5
 548          SE       0     4.0     4.5     5.0
 549          SQ       0      26      82     181
              *
```

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

 550          KK  R2.OS9   ROUTE
 551          KM
 552          RS       2    ELEV      10
 553          RC   0.055   0.035   0.055    1390    0.02
 554          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 555          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 556          KK      E3     SUB
 557          KM
 558          BA  0.0099
 559          LS              85      35
 560          UD  0.1228
              *

 561          KK    RBE1 RET BAS
 562          KM        40 FOOT WEIR
 563          RS       1    STOR      -1
 564          SV       0    0.75   0.825     0.9
 565          SE       0       5     5.5     6.0
 566          SQ       0      31      75     155
              *

 567          KK  R3.OS9   ROUTE
 568          KM
 569          RS       1    ELEV      10
 570          RC   0.055   0.035   0.055    1120    0.02
 571          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 572          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 573          KK     S80     SUB
 574          KM
 575          BA  0.0580
 576          LS              85
 577          UD   0.166
              *

 578          KK  R1.OS4   ROUTE
 579          KM
 580          RS       1    ELEV      10
 581          RC   0.055   0.035   0.055     800    0.02
 582          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 583          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 584          KK     OS4     SUB
 585          KM
 586          BA  0.0075
 587          LS              79
 588          UD  0.0972
              *
```

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

 589          KK   C.OS4     ADD
 590          KM
 591          HC       2
              *

 592          KK      I1     SUB
 593          KM
 594          BA  0.0175
 595          LS              79
 596          UD  0.1078
              *

 597          KK    C.I1     ADD
 598          KM
 599          HC       2
              *

 600          KK    RBI2 RET BAS
 601          KM                RETENTION BASIN IS DRAINED BY 5 - 36 inch CORRUGATED METAL PIPES
 602          RS       1    STOR      -1
 603          SV       0    0.74   1.115
 604          SE       0       2       3
 605          SQ       0      95     175
              *

 606          KK    RBI3 RET BAS
 607          KM                RETENTION BASIN IS DRAINED BY 4 - 36 inch CORRUGATED METAL PIPES
 608          RS       1    STOR      -1
 609          SV       0    0.74   1.115
 610          SE       0       2       3
 611          SQ       0      76     140
              *

 612          KK  R10S10   ROUTE
 613          KM
 614          RS       2    ELEV      10
 615          RC   0.055   0.035   0.055    1600    0.02
 616          RX    48.5    51.5    91.5    94.0   106.0   108.5   148.5   151.5
 617          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 618          KK    OS10     SUB
 619          KM
 620          BA  0.0170
 621          LS              79
 622          UD  0.1445
              *

 623          KK      E1     SUB
 624          KM
 625          BA  0.0185
 626          LS              85      35
 627          UD  0.1111
              *
```

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

 628          KK  R2OS10   ROUTE
 629          KM
 630          RS       1    ELEV      10
 631          RC   0.055   0.035   0.055    1000    0.02
 632          RX    48.5    51.5    91.5    94.0   106.0   108.5   148.5   151.5
 633          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 634          KK  C.OS10     ADD
 635          KM
 636          HC       3
              *

 637          KK    RBE2 RET BAS
 638          KM
 639          RS       1    STOR      -1
 640          SV       0   0.336   0.504   0.672    0.84
 641          SE       0       2       3       4     5.0
 642          SQ       0      57     105     147     180
              *

 643          KK    RBE3 RET BAS
 644          KM
 645          RS       1    STOR      -1
 646          SV       0    0.45   0.675    0.90
 647          SE       0       2       3     4.0
 648          SQ       0      57     105     147
              *

 649          KK      F2     SUB
 650          KM
 651          BA  0.0091
 652          LS              85      35
 653          UD  0.1067
              *

 654          KK    C.F1     ADD
 655          KM
 656          HC       2
              *

 657          KK    RBF1 RET BAS
 658          KM                RETENTION BASIN IS DRAINED BY 4 - 36 INCH C.M. PIPES
 659          RS       1    STOR      -1
 660          SV       0    0.59    0.89    1.18
 661          SE       0       2       3     4.0
 662          SQ       0      76     140     196
              *
```

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

 663          KK      E2     SUB
 664          KM
 665          BA  0.0165
 666          LS              85      35
 667          UD  0.1106
              *

 668          KK    C.E2     ADD
 669          KM
 670          HC       2
              *

 671          KK    RBE4 RET BAS
 672          KM
 673          RS       1    STOR      -1
 674          SV       0   0.745    1.12    1.49
 675          SE       0       2       3     4.0
 676          SQ       0      57     105     147
              *

 677          KK  R4.OS9   ROUTE
 678          KM
 679          RS       1    ELEV      10
 680          RC   0.055   0.035   0.055     200    0.02
 681          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 682          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 683          KK     S94     SUB
 684          KM
 685          BA   0.132
 686          LS              86
 687          UD   0.186
              *

 688          KK    S100     SUB
 689          KM
 690          BA   0.148
 691          LS              86
 692          UD   0.196
              *

 693          KK   CS100     ADD
 694          KM
 695          HC       2
              *

 696          KK  R10S12   ROUTE
 697          KM
 698          RS       1    ELEV      10
 699          RC   0.055   0.035   0.055     900    0.02
 700          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 701          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 702          KK    OS12     SUB
 703          KM
 704          BA  0.0107
 705          LS              79
 706          UD  0.1056
              *

 707          KK  C.OS12     ADD
 708          KM
 709          HC       2
              *

 710          KK  R5.OS9   ROUTE
 711          KM
 712          RS       2    ELEV      10
 713          RC   0.055   0.035   0.055    1410    0.02
 714          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 715          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 716          KK  C2.OS9     ADD
 717          KM
 718          HC       5
              *

 719          KK  R10S13   ROUTE
 720          KM
 721          RS       1    ELEV      10
 722          RC   0.055   0.035   0.055     200    0.02
 723          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 724          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 725          KK      F3     SUB
 726          KM
 727          BA  0.0031
 728          LS              85      35
 729          UD  0.0722
              *

 730          KK    RBF3 RET BAS
 731          KM
 732          RS       1    STOR      -1
 733          SV       0    0.34    0.41    0.48
 734          SE       0     4.0     4.5     5.0
 735          SQ       0      26      82     181
              *

 736          KK  R20S13   ROUTE
 737          KM
 738          RS       1    ELEV      10
 739          RC   0.055   0.035   0.055     150    0.02
 740          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 741          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 742          KK  C.OS13     ADD
 743          KM
 744          HC       2
              *

 745          KK   ROS13   ROUTE
 746          KM   ROUTE C.OS13 THRU SUB-BASIN S220
 747          RS       2    ELEV      10
 748          RC   0.055   0.035   0.055    3030   0.018
 749          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 750          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 751          KK    S220
 752          KM   SUB-BASIN S220
 753          BA   0.079
 754          LS              85
 755          UD    0.10
              *

 756          KK    C220
 757          KM   COMBINE C.OS13/ROS13 & S220
 758          HC       2
              *

 759          KK    R220   ROUTE
 760          KM   ROUTE C220 THRU SUB-BASIN S232
 761          RS       1    ELEV      10
 762          RC   0.055   0.035   0.055     410   0.025
 763          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 764          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 765          KK    S232
 766          KM   SUB-BASIN S232
 767          BA  0.0030
 768          LS              85
 769          UD    0.06
              *

 770          KK    C232
 771          KM   COMBINE C231, C220/R220, & S232
 772          HC       3
              *

 773          KK    R232   ROUTE
 774          KM   ROUTE C232 THRU SUB-BASIN S233
 775          RS       4    ELEV      10
 776          RC   0.055   0.035   0.055    5295   0.018
 777          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 778          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 779          KK    S233
 780          KM   SUB-BASIN S233
 781          BA    0.12
 782          LS              80
 783          UD    0.18
              *

 784          KK    C233
 785          KM   COMBINE  C232/R232 & S233
 786          HC       2
              *

 787          KK    NULL
 788          HC       2
              *

 789          KK   RET5R     RET
 790          KM
 791          DR   DIV5R
              *

 792          KK  R10S14   ROUTE
 793          KM
 794          RS       1    ELEV      10
 795          RC   0.055   0.035   0.055     700    0.02
 796          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 797          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 798          KK    OS14     SUB
 799          KM
 800          BA  0.0039
 801          LS              79
 802          UD  0.1028
              *

 803          KK      D1     SUB
 804          KM
 805          BA  0.0111
 806          LS              85      35
 807          UD  0.0989
              *

 808          KK    RBD1 RET BAS
 809          KM
 810          RS       1    STOR      -1
 811          SV       0    0.91    1.01    1.11
 812          SE       0     4.5     5.0     5.5
 813          SQ       0      29      42      63
              *
```

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

 814          KK  C.OS14     ADD
 815          KM
 816          HC       3
              *

 817          KK   ROS14   ROUTE
 818          KM   ROUTE C.OS14 THRU SUB-BASIN S250
 819          RS       2    ELEV      10
 820          RC   0.055   0.035   0.055    3270   0.021
 821          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 822          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 823          KK    S250
 824          KM   SUB-BASIN S250
 825          BA   0.083
 826          LS             79
 827          UD    0.11
              *

 828          KK    C250
 829          KM   COMBINE C.OS14/ROS14 & S250
 830          HC       2
              *

 831          KK    R250   ROUTE
 832          KM   ROUTE C250 THRU SUB-BASIN S252
 833          RS       1    ELEV      10
 834          RC   0.055   0.035   0.055    1385   0.014
 835          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 836          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 837          KK    S252     SUB
 838          KM   SUB-BASIN S252
 839          BA   0.015
 840          LS             82
 841          UD    0.06
              *

 842          KK    S251
 843          KM   SUB-BASIN S251
 844          BA   0.025
 845          LS             85
 846          UD   0.088
              *

 847          KK    R251   ROUTE
 848          KM   ROUTE C251 THRU SUB-BASIN S253
 849          RS       1    ELEV      10
 850          RC   0.055   0.035   0.055    1120   0.013
 851          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 852          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *
```

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

 853          KK    S253     SUB
 854          KM   SUB-BASIN S253
 855          BA   0.016
 856          LS              85
 857          UD    0.06
              *

 858          KK    C253
 859          KM   COMBINE C250/R250, S252, S251/R251, & S253
 860          HC       4
              *

 861          KK    R253   ROUTE
 862          KM   ROUTE C253 THRU SUB-BASIN S254
 863          RS       3    ELEV      10
 864          RC   0.055   0.035   0.055    4360   0.021
 865          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 866          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 867          KK    S254     SUB
 868          KM   SUB-BASIN S254
 869          BA   0.080
 870          LS              82
 871          UD    0.15
              *

 872          KK    C254
 873          KM   COMBINE C253/R253 & S254
 874          HC       2
              *

 875          KK    S255     SUB
 876          KM   SUB-BASIN S255
 877          BA   0.034
 878          LS              85
 879          UD   0.097
              *

 880          KK    S256     SUB
 881          KM   SUB-BASIN S256
 882          BA   0.025
 883          LS              81
 884          UD   0.081
              *

 885          KK      G1     SUB
 886          KM
 887          BA  0.0467
 888          LS              85      35
 889          UD  0.1928
              *
```

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

 890          KK    RBG1 RET BAS
 891          KM
 892          RS       1    STOR      -1
 893          SV       0     5.3    5.78    6.26
 894          SE       0     3.0     3.5     4.0
 895          SQ       0      21      76     176
              *
              *

 896          KK      H1     SUB
 897          KM
 898          BA  0.0125
 899          LS              85      35
 900          UD  0.1011
              *

 901          KK    RBH1 RET BAS
 902          KM
 903          RS       1    STOR      -1
 904          SV       0    1.28   1.465    1.65
 905          SE       0     3.5     4.0     4.5
 906          SQ       0   0.001    0.01     0.1
              *

 907          KK    S200
 908          KM   SUB-BASIN S200
 909          BA    0.77
 910          LS              85
 911          UD    0.70
              *

 912          KK    R200
 913          KM   ROUTE S200 THRU SUB-BASIN S201
 914          RS       9    ELEV      10
 915          RC    .055    .035    .055   13650   0.019
 916          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 917          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 918          KK    S201
 919          KM   SUB-BASIN S201
 920          BA    1.25
 921          LS              86
 922          UD    0.46
              *

 923          KK    C201
 924          KM   COMBINE S200/R200 & S201
 925          HC       2
              *
```

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

 926          KK    R201
 927          KM   ROUTE C201 THRU SUB-BASIN S202
 928          RS       3    ELEV      10
 929          RC    .055    .035    .055    4355   0.018
 930          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 931          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 932          KK    S202
 933          KM   SUB-BASIN S202
 934          BA    0.36
 935          LS              86
 936          UD    0.15
              *

 937          KK    C202
 938          KM   COMBINE C201/R201 & SUB-BASIN S202
 939          HC       2
              *

 940          KK  DIV20R DIVERT
 941          DT  DIV20L
 942          DI       0     100    1000   10000
 943          DQ       0       5      50     500
              *

 944          KK    R20R
 945          KM   ROUTE DIV20R THRU SUB-BASIN S203
 946          RS       5    ELEV      10
 947          RC    .055    .035    .055    7575   0.017
 948          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 949          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 950          KK    S203
 951          KM   SUB-BASIN S203
 952          BA    0.43
 953          LS              82
 954          UD    0.25
              *

 955          KK    C203
 956          KM   COMBINE DIV20R/R20R & S203
 957          HC       2
              *

 958          KK  DIV21R DIVERT
 959          DT  DIV21L
 960          DI       0     100    1000   10000
 961          DQ       0      50     500    5000
              *
```

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

 962          KK    R21R
 963          KM   ROUTE DIV21R THRU SUB-BASIN S210
 964          RS       1    ELEV      10
 965          RC    .055    .035    .055    2190   0.017
 966          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
 967          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 968          KK    S210
 969          KM   SUB-BASIN S210
 970          BA   0.052
 971          LS             79
 972          UD    0.07
              *

 973          KK    C210
 974          KM   COMBINE DIV21R/R21R & S210
 975          HC       2
              *

 976          KK  DIV24L DIVERT
 977          DT  DIV24R
 978          DI       0     100    1000   10000
 979          DQ       0      35     350    3500
              *

 980          KK    R210
 981          KM   ROUTE C210 THRU SUB-BASIN S211
 982          RS       4    ELEV      10
 983          RC    .055    .035    .055    6150   0.018
 984          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
 985          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 986          KK    S211
 987          KM   SUB-BASIN S211
 988          BA    0.15
 989          LS             77
 990          UD    0.20
              *

 991          KK    C211
 992          KM   COMBINE C210/R210 & S211
 993          HC       2
              *

 994          KK    NULL
 995          HC       2
              *
```

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

 996          KK  RET24R RETURN
 997          DR  DIV24R
              *

 998          KK    R24R
 999          KM   ROUTE DIV24R THRU SUB-BASIN S212
1000          RS       4    ELEV      10
1001          RC    .055    .035    .055    5490   0.020
1002          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1003          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1004          KK    S212
1005          KM   SUB-BASIN S212
1006          BA   0.084
1007          LS             79
1008          UD    0.18
              *

1009          KK    C212
1010          KM   COMBINE DIV24R/R24R & S212
1011          HC       2
              *

1012          KK    NULL
1013          HC       2
              *

1014          KK  RET21L RETURN
1015          DR  DIV21L
              *

1016          KK    R21L
1017          KM   ROUTE DIV21L THRU SUB-BASIN S290
1018          RS       2    ELEV      10
1019          RC    .055    .035    .055    2475   0.017
1020          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1021          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1022          KK    S290
1023          KM   SUB-BASIN S290
1024          BA   0.072
1025          LS             77
1026          UD    0.08
              *

1027          KK    C290
1028          KM   COMBINE DIV21L/R21L & S290
1029          HC       2
              *
```

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

1030          KK    R290
1031          KM   ROUTE C290 THRU SUB-BASIN S291
1032          RS       1    ELEV      10
1033          RC    .055    .035    .055    2135   0.021
1034          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1035          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1036          KK    S291
1037          KM   SUB-BASIN S291
1038          BA   0.055
1039          LS             77
1040          UD    0.07
              *

1041          KK    C291
1042          KM   COMBINE C290/R290 & S291
1043          HC       2
              *

1044          KK    NULL
1045          HC       2
              *
              *

1046          KK    S300
1047          KM   SUB-BASIN S300
1048          BA  0.0078
1049          LS             77
1050          UD    0.06
              *

1051          KK    R300
1052          KM   ROUTE S300 THRU SUB-BASIN S301
1053          RS       1    ELEV      10
1054          RC    .055    .035    .055    1355   0.018
1055          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1056          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1057          KK    S301
1058          KM   SUB-BASIN S301
1059          BA   0.012
1060          LS             79
1061          UD    0.06
              *

1062          KK    C301
1063          KM   COMBINE S300/R300 & S301
1064          HC       2
              *
```

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

1065          KK    S310
1066          KM   SUB-BASIN S310
1067          BA   0.011
1068          LS             77
1069          UD    0.06
              *

1070          KK    R310
1071          KM   ROUTE S310 THRU SUB-BASIN S311
1072          RS       1    ELEV      10
1073          RC    .055    .035    .055    1470   0.020
1074          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1075          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1076          KK    S311
1077          KM   SUB-BASIN S311
1078          BA   0.012
1079          LS             79
1080          UD    0.06
              *

1081          KK    C311
1082          KM   COMBINE C301, S310/R310, & S311
1083          HC       3
              *

1084          KK    R311
1085          KM   ROUTE C311 THRU SUB-BASIN S302
1086          RS       1    ELEV      10
1087          RC    .055    .035    .055     765   0.026
1088          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1089          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1090          KK    S302
1091          KM   SUB-BASIN S302
1092          BA   0.012
1093          LS             80
1094          UD    0.06
              *

1095          KK    C302
1096          KM   COMBINE  C311/R311 & S302
1097          HC       2
              *

1098          KK  DIV22R DIVERT
1099          DT  DIV22L
1100          DI       0     100    1000   10000
1101          DQ       0      25     250    2500
              *
```

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

1102        KK    R22R
1103        KM   ROUTE DIV22R THRU SUB-BASIN S304
1104        RS       1    ELEV      10
1105        RC    .055    .035    .055     650   0.015
1106        RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1107        RY      20    12.5    12.5      10      10    12.5    12.5      20
            *

1108        KK    S304
1109        KM   SUB-BASIN S304
1110        BA   .0040
1111        LS             77
1112        UD    0.06
            *

1113        KK    C304
1114        KM   COMBINE  DIV22R/R22R & S304
1115        HC       2
            *

1116        KK  DIV23R DIVERT
1117        DT  DIV23L
1118        DI       0     100    1000   10000
1119        DQ       0      95     950    9500
            *
            *

1120        KK    R23R
1121        KM   ROUTE DIV23R THRU SUB-BASIN S306
1122        RS       1    ELEV      10
1123        RC    .055    .035    .055    1110   0.018
1124        RX    52.5    55.5    95.5      98     102   104.5   144.5   147.5
1125        RY      20    12.5    12.5      10      10    12.5    12.5      20
            *

1126        KK    S306
1127        KM   SUB-BASIN S306
1128        BA   .0091
1129        LS             85
1130        UD    0.06
            *

1131        KK    C306
1132        KM   COMBINE  DIV23R/R23R & S306
1133        HC    .  2
            *

1134        KK    NULL
1135        HC       2
            *
```

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

1136          KK  RET23L RETURN
1137          DR  DIV23L
              *

1138          KK    R23L
1139          KM   ROUTE DIV23L THRU SUB-BASIN S305
1140          RS       1    ELEV      10
1141          RC    .055    .035    .055     580   0.017
1142          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1143          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1144          KK    S305
1145          KM   SUB-BASIN S305
1146          BA   .0039
1147          LS              81
1148          UD    0.06
              *

1149          KK    C305
1150          KM   COMBINE  DIV23L/R23L & S305
1151          HC       2
              *

1152          KK    NULL
1153          HC       2
              *

1154          KK  RET22L RETURN
1155          DR  DIV22L
              *

1156          KK    R22L
1157          KM   ROUTE DIV22L THRU SUB-BASIN S303
1158          RS       1    ELEV      10
1159          RC    .055    .035    .055     910   0.016
1160          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1161          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1162          KK    S303
1163          KM   SUB-BASIN S303
1164          BA    .013
1165          LS              80
1166          UD    0.06
              *

1167          KK    C303
1168          KM   COMBINE  DIV22L/R22L & S303
1169          HC       2
              *
```

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

1170          KK    S307
1171          KM   SUB-BASIN S307
1172          BA    .016
1173          LS              82
1174          UD    0.06
              *
              *
              *
1175          ZZ
```

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

  1           ID       56th AND LONE MOUNTAIN
  2           ID
  3           ID
  4           ID        HEC-1 FILENAME:    1669E100.HC1  FS2
  5           ID        DATE:              SEPTEMBER 11, 2000
  6           ID        CREATED BY:        JOSH LESSARD
  7           ID
  8           ID
  9           ID        HEC-1 HYDROLOGY MODEL
 10           ID
 11           ID         1. THE FOLLOWING MODEL ADJUSTS THE EXISTING CONDITIONS FLOW SPLITS
 12           ID         2. THE ON-SITE SUB-BASINS THAT ARE AFFECTED ARE S252, S253, S254, S211
 13           ID            AND S306
 14           ID         3. DIV4L 75%/DIV4R 25%
 15           ID         4. DIV5R 75%/DIV5L 25%
 16           ID         5. DIV24L 95%/DIV24R 5%
 17           ID         6. DIV21R 50%/DIV21L 50%
 18           ID         7. DIV20R 95%/DIV20L 5%
 19           ID         8. DIV22R 75%/DIV22L 25%
 20           ID         9. DIV23R 50%/DIV23L 50%
 21           ID
 22           ID
 23           ID
 24           ID
              *DIAGRAM
 25           IT       5 09SEP00       0     300
 26           IO       5       0
              *

 27           KK     S30
 28           KM   SUB-BASIN S30
 29           BA     .42
 30           PH                   0.80    1.46    2.36    2.70    2.92    3.35
 31           LS              88      38
 32           UD    .452
              *

 33           KK     R30
 34           KM   ROUTE S30 THRU S32
 35           RS       1    ELEV      10
 36           RC    .055    .035    .055    2250    .018
 37           RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 38           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 39           KK     S32
 40           KM   SUB-BASIN S32
 41           BA    .074
 42           LS              78
 43           UD    .287
              *
```

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

  44          KK     C32
  45          KM   COMBINE S30/R30 & S32
  46          HC       2
              *

  47          KK     S40
  48          KM   SUB-BASIN S40
  49          BA    1.60
  50          LS              84      15
  51          UD    .985
              *

  52          KK     R48
  53          KM   ROUTE R40
  54          RS       2    ELEV      10
  55          RC    .055    .035    .055    8400    .023
  56          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
  57          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  58          KK     S50
  59          KM   SUB-BASIN S50
  60          BA     .53
  61          LS              86      35
  62          UD    .535
              *

  63          KK     C51
  64          KM   COMBINE R48/S40 & S50
  65          HC       2
              *

  66          KK     R51
  67          KM   ROUTE C51 THRU BASIN 54
  68          RS       2    ELEV      10
  69          RC    .055    .035    .055    3050    .015
  70          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
  71          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  72          KK     S54
  73          KM   SUB-BASIN S54
  74          BA    .044
  75          LS              81
  76          UD    .291
              *

  77          KK     C54
  78          KM   COMBINE S54, C51, & C32
  79          HC       3
              *
```

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

  80          KK     R54
  81          KM   ROUTE C54 THRU BASIN 56
  82          RS       2    ELEV      10
  83          RC    .055    .035    .055    4150    .016
  84          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
  85          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  86          KK     S56
  87          KM   SUB-BASIN S56
  88          BA    .171
  89          LS              76
  90          UD    .427
              *

  91          KK     C56
  92          KM   COMBINE S56 & R54
  93          HC       2
              *

  94          KK     R56
  95          KM   ROUTE C56 THRU BASIN S280
  96          RS       1    ELEV      10
  97          RC    .055    .035    .055    1840    .019
  98          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
  99          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 100          KK    S110
 101          KM   SUB-BASIN S110
 102          BA    .109
 103          LS              83
 104          UD    .345
              *

 105          KK    R110
 106          KM   ROUTE S110 THRU BASIN S280
 107          RS       1    ELEV      10
 108          RC    .055    .035    .055    1840    .019
 109          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 110          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 111          KK    S280     SUB
 112          KM   SUB-BASIN S280
 113          BA   0.056
 114          LS              85
 115          UD    0.06
              *
```

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

 116          KK    C280
 117          KM  COMBINE S56/R56, S110/R110, & S280
 118          HC       3
              *

 119          KK  DIV26L DIVERT
 120          DT  DIV26R
 121          DI       0     100    1000   10000
 122          DQ       0      75     750    7500
              *

 123          KK    R26L
 124          KM   ROUTE DIV26L THRU BASIN S281
 125          RS       1    ELEV      10
 126          RC    .055    .035    .055    1340    .019
 127          RX    48.5    51.5   101.5     104     144   146.5   196.5   199.5
 128          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 129          KK    S281     SUB
 130          KM   SUB-BASIN S281
 131          BA   0.010
 132          LS             85
 133          UD    0.06
              *

 134          KK    C281
 135          KM  COMBINE DIV26L/R26L & S281
 136          HC       2
              *

 137          KK     S60     SUB
 138          KM
 139          BA  1.8100
 140          LS             87      16
 141          UD   0.933
              *

 142          KK   DIV4R  DIVERT
 143          KM
 144          DT   DIV4L
 145          DI       0     100    1000   10000
 146          DQ       0      75     750    7500
              *

 147          KK     S70
 148          KM   SUB-BASIN S70
 149          BA    .029
 150          LS             85      40
 151          UD    .120
              *
```

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

 152          KK     C70
 153          KM   COMBINE DIV4R & S70
 154          HC       2
              *

 155          KK     R70
 156          KM   ROUTE C70 THRU BASIN S62
 157          RS       3    ELEV      10
 158          RC    .055    .035    .055    6850    .017
 159          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 160          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 161          KK     S62
 162          KM   SUB-BASIN S62
 163          BA    .193
 164          LS              85
 165          UD    .458
              *

 166          KK     C62
 167          KM   COMBINE S62 & C70
 168          HC       2
              *

 169          KK     R62
 170          KM   ROUTE C62 THRU BASIN S270
 171          RS       2    ELEV      10
 172          RC    .055    .035    .055    3110    .019
 173          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 174          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 175          KK    S270
 176          KM   SUB-BASIN S270
 177          BA    .067
 178          LS              85
 179          UD    .100
              *

 180          KK    C270
 181          KM   COMBINE C62/R62, S270, & C281
 182          HC       3
              *

 183          KK  DIV27L  DIVERT
 184          KM
 185          DT  DIV27R
 186          DI       0     100    1000   10000
 187          DQ       0      75     750    7500
              *
```

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

 188        KK    R27L
 189        KM   ROUTE DIV27L THRU BASIN S271
 190        RS       1    ELEV      10
 191        RC    .055    .035    .055    1505    .013
 192        RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 193        RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
            *

 194        KK    S271
 195        KM   SUB-BASIN S271
 196        BA   .0219
 197        LS             85
 198        UD    .060
            *

 199        KK    C271
 200        KM   COMBINE C270/R270 & S271
 201        HC       2
            *

 202        KK    R271
 203        KM   ROUTE C271 THRU BASIN S272
 204        RS       1    ELEV      10
 205        RC    .055    .035    .055    1205    .021
 206        RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 207        RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
            *

 208        KK    S272
 209        KM   SUB-BASIN S272
 210        BA    .019
 211        LS             79
 212        UD    .060
            *

 213        KK    S260
 214        KM   SUB-BASIN S260
 215        BA    .140
 216        LS             85
 217        UD    .200
            *

 218        KK    R260
 219        KM   ROUTE C260 THRU BASIN S261
 220        RS       2    ELEV      10
 221        RC    .055    .035    .055    2880    .017
 222        RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 223        RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
            *
```

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

 224          KK    S261
 225          KM   SUB-BASIN S261
 226          BA    .043
 227          LS              83
 228          UD    .096
              *

 229          KK    C272
 230          KM   COMBINE C271/R271, S272, S260/R260, & S261
 231          HC       4
              *
              *

 232          KK   DIV4L     RET
 233          KM
 234          DR   DIV4L
              *

 235          KK  R1.0S2   ROUTE
 236          KM
 237          RS       1    ELEV      10
 238          RC   0.055   0.035   0.055     620    0.02
 239          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 240          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 241          KK     OS2     SUB
 242          KM
 243          BA  0.0295
 244          LS              79
 245          UD  0.1583
              *

 246          KK   C.OS2     ADD
 247          KM
 248          HC       2
              *

 249          KK   DIV5L  DIVERT
 250          KM
 251          DT   DIV5R
 252          DI       0     100    1000   10000
 253          DQ       0      75     750    7500
              *

 254          KK  R1.0S3   ROUTE
 255          KM
 256          RS       1    ELEV      10
 257          RC   0.055   0.035   0.055     570    0.02
 258          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 259          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 260          KK     OS3     SUB
 261          KM
 262          BA  0.0205
 263          LS             79
 264          UD  0.1250
              *

 265          KK   C.OS3     ADD
 266          KM
 267          HC       2
              *

 268          KK  DIV11R  DIVERT
 269          KM
 270          DT  DIV11L
 271          DI       0     100    1000   10000
 272          DQ       0      50     500    5000
              *

 273          KK  R1.OS5   ROUTE
 274          KM
 275          RS       1    ELEV      10
 276          RC   0.055   0.035   0.055     600    0.02
 277          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 278          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 279          KK     OS5     SUB
 280          KM
 281          BA  0.0043
 282          LS             79
 283          UD  0.0828
              *

 284          KK      F1     SUB
 285          KM
 286          BA  0.0020
 287          LS             85      35
 288          UD  0.0694
              *

 289          KK    RBF2 RET BAS
 290          KM
 291          RS       1    STOR      -1
 292          SV       0    0.21    0.23    0.26
 293          SE       0       3     3.5     4.0
 294          SQ       0      21      44      86
```

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

 295          KK      D2     SUB
 296          KM
 297          BA  0.0077
 298          LS              85      35
 299          UD  0.0961
              *

 300          KK    RBD2 RET BAS
 301          KM
 302          RS       1    STOR      -1
 303          SV       0    0.67    0.74    0.82
 304          SE       0     4.5     5.0     5.5
 305          SQ       0      29      42      63
              *

 306          KK  R2.OS5   ROUTE
 307          KM
 308          RS       1    ELEV      10
 309          RC   0.055   0.035   0.055     200    0.02
 310          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 311          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 312          KK   C.OS5     ADD
 313          HC       4
              *

 314          KK    ROS5   ROUTE
 315          KM   ROUTE C.OS5 THRU S240
 316          RS       2    ELEV      10
 317          RC   0.055   0.035   0.055    3340   0.021
 318          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 319          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 320          KK    S240     SUB
 321          KM   SUB-BASIN S240
 322          BA   0.034
 323          LS              78
 324          UD    0.11
              *

 325          KK    C240     ADD
 326          KM   COMBINE C.OS5/ROS5 & S240
 327          HC       2
              *

 328          KK    R240   ROUTE
 329          KM   ROUTE C240 THRU S243
 330          RS       1    ELEV      10
 331          RC   0.055   0.035   0.055     765   0.020
 332          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 333          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 334          KK    S243     SUB
 335          KM   SUB-BASIN S243
 336          BA   0.013
 337          LS             78
 338          UD    0.06
              *

 339          KK    C243     ADD
 340          KM   COMBINE C240/R240 & S243
 341          HC      2
              *

 342          KK    S241     SUB
 343          KM   SUB-BASIN S241
 344          BA   0.025
 345          LS             80
 346          UD   0.078
              *

 347          KK    R241   ROUTE
 348          KM   ROUTE C241 THRU S244
 349          RS      1    ELEV      10
 350          RC   0.055   0.035   0.055     980   0.020
 351          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 352          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 353          KK    S244     SUB
 354          KM   SUB-BASIN S244
 355          BA   0.015
 356          LS             77
 357          UD    0.06
              *

 358          KK    C244
 359          KM   COMBINE C243, S241/C241, & S244
 360          HC      3
              *

 361          KK    R244   ROUTE
 362          KM   ROUTE C244 THRU S245
 363          RS      1    ELEV      10
 364          RC   0.055   0.035   0.055     270   0.019
 365          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 366          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 367          KK    S245     SUB
 368          KM   SUB-BASIN S245
 369          BA  0.0088
 370          LS             79
 371          UD    0.06
              *
```

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

 372          KK    C245
 373          KM   COMBINE C244/R244 & S245
 374          HC       2
              *

 375          KK  DIV25L  DIVERT
 376          KM
 377          DT  DIV25R
 378          DI       0     100    1000   10000
 379          DQ       0      50     500    5000
              *

 380          KK    R25L   ROUTE
 381          KM   ROUTE DIV25L THRU S246
 382          RS       3    ELEV      10
 383          RC   0.055   0.035   0.055    4480   0.019
 384          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 385          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 386          KK    S246     SUB
 387          KM   SUB-BASIN S246
 388          BA   0.061
 389          LS             77
 390          UD    0.15
              *

 391          KK    C246
 392          KM   COMBINE DIV25L/R25L & S246
 393          HC       2
              *

 394          KK    NULL
 395          HC       2
              *

 396          KK  RET25R     RET
 397          KM
 398          DR  DIV25R
              *

 399          KK    R25R   ROUTE
 400          KM   ROUTE DIV25R THRU S247
 401          RS       3    ELEV      10
 402          RC   0.055   0.035   0.055    4490   0.019
 403          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 404          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 405          KK    S247     SUB
 406          KM   SUB-BASIN S247
 407          BA   0.079
 408          LS             80
 409          UD    0.15
              *

 410          KK    C247
 411          KM   COMBINE DIV25R/R25R & S247
 412          HC       2
              *

 413          KK    NULL
 414          HC       2
              *

 415          KK    S242     SUB
 416          KM   SUB-BASIN S242
 417          BA   0.027
 418          LS             80
 419          UD   0.077
              *

 420          KK    R242   ROUTE
 421          KM   ROUTE S242 THRU S248
 422          RS       4    ELEV      10
 423          RC   0.055   0.035   0.055    5815   0.018
 424          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 425          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 426          KK    S248     SUB
 427          KM   SUB-BASIN S248
 428          BA   0.090
 429          LS             81
 430          UD    0.19
              *

 431          KK    C248
 432          KM   COMBINE S242/R242 & S248
 433          HC       2
              *

 434          KK    NULL
 435          HC       2
              *

 436          KK  RET11L     RET
 437          KM
 438          DR  DIV11L
              *
```

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

 439          KK  R1.OS6   ROUTE
 440          KM
 441          RS       1    ELEV      10
 442          RC   0.055   0.035   0.055     300    0.02
 443          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 444          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 445          KK     OS6     SUB
 446          KM
 447          BA  0.0013
 448          LS              79
 449          UD  0.0650
              *

 450          KK   C.OS6     ADD
 451          KM
 452          HC       2
              *

 453          KK  R1.OS7   ROUTE
 454          KM
 455          RS       1    ELEV      10
 456          RC   0.055   0.035   0.055     420    0.02
 457          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 458          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 459          KK     OS7     SUB
 460          KM
 461          BA  0.0044
 462          LS              79
 463          UD  0.0767
              *

 464          KK   C.OS7     ADD
 465          KM
 466          HC       2
              *

 467          KK    ROS7   ROUTE
 468          KM   ROUTE C.OS7 THRU S230
 469          RS       2    ELEV      10
 470          RC   0.055   0.035   0.055    3680   0.018
 471          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 472          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 473          KK    S230     SUB
 474          KM   SUB-BASIN S230
 475          BA   0.075
```

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

 478          KK    C230     ADD
 479          KM   COMBINE C.OS7/ROS7 & S230
 480          HC       2
              *

 481          KK    R230   ROUTE
 482          KM   ROUTE C230 THRU S231
 483          RS       1    ELEV      10
 484          RC   0.055   0.035   0.055     465   0.022
 485          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 486          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 487          KK    S231     SUB
 488          KM   SUB-BASIN S231
 489          BA  0.0056
 490          LS             85
 491          UD    0.06
              *

 492          KK    C231
 493          KM   COMBINE C230/R230 & S231
 494          HC       2
              *

 495          KK     S90     SUB
 496          KM
 497          BA   0.063
 498          LS             86
 499          UD   0.152
              *

 500          KK  R10S11   ROUTE
 501          KM
 502          RS       1    ELEV      10
 503          RC   0.055   0.035   0.055     300    0.02
 504          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 505          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 506          KK    OS11     SUB
 507          KM
 508          BA  0.0041
 509          LS             79
 510          UD  0.0967
              *

 511          KK  C.OS11     ADD
 512          KM
 513          HC       2
              *
```

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

 514          KK  R1.OS8   ROUTE
 515          KM
 516          RS       1    ELEV      10
 517          RC   0.055   0.035   0.055     710    0.02
 518          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 519          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 520          KK     OS8     SUB
 521          KM
 522          BA  0.0139
 523          LS              79
 524          UD  0.1167
              *

 525          KK   C.OS8     ADD
 526          KM
 527          HC       2
              *

 528          KK  R1.OS9   ROUTE
 529          KM
 530          RS       2    ELEV      10
 531          RC   0.055   0.035   0.055    2070    0.02
 532          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 533          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 534          KK     OS9     SUB
 535          KM
 536          BA  0.0293
 537          LS              79
 538          UD  0.1778
              *

 539          KK  C1.OS9     ADD
 540          HC       2
              *

 541          KK      H2     SUB
 542          KM
 543          BA  0.0105
 544          LS              85      35
 545          UD  0.0889
              *

 546          KK    RBH2 RET BAS
 547          KM
 548          RS       1    STOR      -1
 549          SV       0     1.2    1.35     1.5
 550          SE       0     4.0     4.5     5.0
 551          SQ       0      26      82     181
              *
```

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

552           KK  R2.OS9   ROUTE
553           KM
554           RS       2    ELEV      10
555           RC   0.055   0.035   0.055    1390    0.02
556           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
557           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

558           KK      E3     SUB
559           KM
560           BA  0.0099
561           LS              85      35
562           UD  0.1228
              *

563           KK    RBE1 RET BAS
564           KM        40 FOOT WEIR
565           RS       1    STOR      -1
566           SV       0    0.75   0.825     0.9
567           SE       0       5     5.5     6.0
568           SQ       0      31      75     155
              *

569           KK  R3.OS9   ROUTE
570           KM
571           RS       1    ELEV      10
572           RC   0.055   0.035   0.055    1120    0.02
573           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
574           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

575           KK     S80     SUB
576           KM
577           BA  0.0580
578           LS              85
579           UD   0.166
              *

580           KK  R1.OS4   ROUTE
581           KM
582           RS       1    ELEV      10
583           RC   0.055   0.035   0.055     800    0.02
584           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
585           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

586           KK     OS4     SUB
587           KM
588           BA  0.0075
589           LS              79
590           UD  0.0972
              *
```

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

 591          KK   C.OS4     ADD
 592          KM
 593          HC       2
              *

 594          KK      I1     SUB
 595          KM
 596          BA  0.0175
 597          LS             79
 598          UD  0.1078
              *

 599          KK    C.I1     ADD
 600          KM
 601          HC       2
              *

 602          KK    RBI2 RET BAS
 603          KM                RETENTION BASIN IS DRAINED BY 5 - 36 inch CORRUGATED METAL PIPES
 604          RS       1    STOR      -1
 605          SV       0    0.74   1.115
 606          SE       0       2       3
 607          SQ       0      95     175
              *

 608          KK    RBI3 RET BAS
 609          KM                RETENTION BASIN IS DRAINED BY 4 - 36 inch CORRUGATED METAL PIPES
 610          RS       1    STOR      -1
 611          SV       0    0.74   1.115
 612          SE       0       2       3
 613          SQ       0      76     140
              *

 614          KK  R10S10   ROUTE
 615          KM
 616          RS       2    ELEV      10
 617          RC   0.055   0.035   0.055    1600    0.02
 618          RX    48.5    51.5    91.5    94.0   106.0   108.5   148.5   151.5
 619          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 620          KK    OS10     SUB
 621          KM
 622          BA  0.0170
 623          LS             79     -
 624          UD  0.1445
              *

 625          KK      E1     SUB
 626          KM
 627          BA  0.0185
 628          LS             85      35
 629          UD  0.1111
              *
```

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

 630          KK  R2OS10   ROUTE
 631          KM
 632          RS       1    ELEV      10
 633          RC   0.055   0.035   0.055    1000    0.02
 634          RX    48.5    51.5    91.5    94.0   106.0   108.5   148.5   151.5
 635          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 636          KK  C.OS10     ADD
 637          KM
 638          HC       3
              *

 639          KK    RBE2 RET BAS
 640          KM
 641          RS       1    STOR      -1
 642          SV       0   0.336   0.504   0.672    0.84
 643          SE       0       2       3       4     5.0
 644          SQ       0      57     105     147     180
              *

 645          KK    RBE3 RET BAS
 646          KM
 647          RS       1    STOR      -1
 648          SV       0    0.45   0.675    0.90
 649          SE       0       2       3     4.0
 650          SQ       0      57     105     147
              *

 651          KK      F2     SUB
 652          KM
 653          BA  0.0091
 654          LS              85      35
 655          UD  0.1067
              *

 656          KK    C.F1     ADD
 657          KM
 658          HC       2
              *

 659          KK    RBF1 RET BAS
 660          KM                RETENTION BASIN IS DRAINED BY 4 - 36 INCH C.M. PIPES
 661          RS       1    STOR      -1
 662          SV       0    0.59    0.89    1.18
 663          SE       0       2       3     4.0
 664          SQ       0      76     140     196
              *
```

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

665           KK      E2     SUB
666           KM
667           BA  0.0165
668           LS              85      35
669           UD  0.1106
              *

670           KK    C.E2     ADD
671           KM
672           HC       2
              *

673           KK    RBE4 RET BAS
674           KM
675           RS       1    STOR      -1
676           SV       0   0.745    1.12    1.49
677           SE       0       2       3     4.0
678           SQ       0      57     105     147
              *

679           KK  R4.OS9   ROUTE
680           KM
681           RS       1    ELEV      10
682           RC   0.055   0.035   0.055     200    0.02
683           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
684           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

685           KK     S94     SUB
686           KM
687           BA   0.132
688           LS              86
689           UD   0.186
              *

690           KK    S100     SUB
691           KM
692           BA   0.148
693           LS              86
694           UD   0.196
              *

695           KK   CS100     ADD
696           KM
697           HC       2
              *

698           KK  R10S12   ROUTE
699           KM
700           RS       1    ELEV      10
701           RC   0.055   0.035   0.055     900    0.02
702           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
703           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 704          KK    OS12     SUB
 705          KM
 706          BA  0.0107
 707          LS              79
 708          UD  0.1056
              *

 709          KK  C.OS12     ADD
 710          KM
 711          HC       2
              *

 712          KK  R5.OS9   ROUTE
 713          KM
 714          RS       2    ELEV      10
 715          RC   0.055   0.035   0.055    1410    0.02
 716          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 717          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 718          KK  C2.OS9     ADD
 719          KM
 720          HC       5
              *

 721          KK  R10S13   ROUTE
 722          KM
 723          RS       1    ELEV      10
 724          RC   0.055   0.035   0.055     200    0.02
 725          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 726          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 727          KK      F3     SUB
 728          KM
 729          BA  0.0031
 730          LS              85      35
 731          UD  0.0722
              *

 732          KK    RBF3 RET BAS
 733          KM
 734          RS       1    STOR      -1
 735          SV       0    0.34    0.41    0.48
 736          SE       0     4.0     4.5     5.0
 737          SQ       0      26      82     181
              *

 738          KK  R20S13   ROUTE
 739          KM
 740          RS       1    ELEV      10
 741          RC   0.055   0.035   0.055     150    0.02
 742          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 743          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 744          KK  C.OS13     ADD
 745          KM
 746          HC       2
              *

 747          KK   ROS13   ROUTE
 748          KM   ROUTE C.OS13 THRU SUB-BASIN S220
 749          RS       2    ELEV      10
 750          RC   0.055   0.035   0.055    3030   0.018
 751          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 752          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 753          KK    S220
 754          KM   SUB-BASIN S220
 755          BA   0.079
 756          LS              85
 757          UD    0.10
              *

 758          KK    C220
 759          KM   COMBINE C.OS13/ROS13 & S220
 760          HC       2
              *

 761          KK    R220   ROUTE
 762          KM   ROUTE C220 THRU SUB-BASIN S232
 763          RS       1    ELEV      10
 764          RC   0.055   0.035   0.055     410   0.025
 765          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 766          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 767          KK    S232
 768          KM   SUB-BASIN S232
 769          BA  0.0030
 770          LS              85
 771          UD    0.06
              *

 772          KK    C232
 773          KM   COMBINE C231, C220/R220, & S232
 774          HC       3
              *

 775          KK    R232   ROUTE
 776          KM   ROUTE C232 THRU SUB-BASIN S233
 777          RS       4    ELEV      10
 778          RC   0.055   0.035   0.055    5295   0.018
 779          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 780          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 781          KK    S233
 782          KM   SUB-BASIN S233
 783          BA    0.12
 784          LS              80
 785          UD    0.18
              *

 786          KK    C233
 787          KM   COMBINE  C232/R232 & S233
 788          HC       2
              *

 789          KK    NULL
 790          HC       2
              *

 791          KK   RET5R     RET
 792          KM
 793          DR   DIV5R
              *

 794          KK  R10S14   ROUTE
 795          KM
 796          RS       1    ELEV      10
 797          RC   0.055   0.035   0.055     700    0.02
 798          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 799          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 800          KK    OS14     SUB
 801          KM
 802          BA  0.0039
 803          LS              79
 804          UD  0.1028
              *

 805          KK      D1     SUB
 806          KM
 807          BA  0.0111
 808          LS              85      35
 809          UD  0.0989
              *

 810          KK    RBD1 RET BAS
 811          KM
 812          RS       1    STOR      -1
 813          SV       0    0.91    1.01    1.11
 814          SE       0     4.5     5.0     5.5
 815          SQ       0      29      42      63
              *
```

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

 816          KK  C.OS14     ADD
 817          KM
 818          HC       3
              *

 819          KK   ROS14   ROUTE
 820          KM   ROUTE C.OS14 THRU SUB-BASIN S250
 821          RS       2    ELEV      10
 822          RC   0.055   0.035   0.055    3270   0.021
 823          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 824          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 825          KK    S250
 826          KM   SUB-BASIN S250
 827          BA   0.083
 828          LS             79
 829          UD    0.11
              *

 830          KK    C250
 831          KM   COMBINE C.OS14/ROS14 & S250
 832          HC       2
              *

 833          KK    R250   ROUTE
 834          KM   ROUTE C250 THRU SUB-BASIN S252
 835          RS       1    ELEV      10
 836          RC   0.055   0.035   0.055    1385   0.014
 837          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 838          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 839          KK    S252     SUB
 840          KM   SUB-BASIN S252
 841          BA   0.015
 842          LS             82
 843          UD    0.06
              *

 844          KK    S251
 845          KM   SUB-BASIN S251
 846          BA   0.025
 847          LS             85
 848          UD   0.088
              *

 849          KK    R251   ROUTE
 850          KM   ROUTE C251 THRU SUB-BASIN S253
 851          RS       1    ELEV      10
 852          RC   0.055   0.035   0.055    1120   0.013
 853          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 854          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *
```

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

855           KK    S253     SUB
856           KM   SUB-BASIN S253
857           BA   0.016
858           LS              85
859           UD    0.06
              *

860           KK    C253
861           KM   COMBINE C250/R250, S252, S251/R251, & S253
862           HC       4
              *

863           KK    R253   ROUTE
864           KM   ROUTE C253 THRU SUB-BASIN S254
865           RS       3    ELEV      10
866           RC   0.055   0.035   0.055    4360   0.021
867           RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
868           RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

869           KK    S254     SUB
870           KM   SUB-BASIN S254
871           BA   0.080
872           LS              82
873           UD    0.15
              *

874           KK    C254
875           KM   COMBINE C253/R253 & S254
876           HC       2
              *

877           KK    S255     SUB
878           KM   SUB-BASIN S255
879           BA   0.034
880           LS              85
881           UD   0.097
              *

882           KK    S256     SUB
883           KM   SUB-BASIN S256
884           BA   0.025
885           LS              81
886           UD   0.081
              *

887           KK      G1     SUB
888           KM
889           BA  0.0467
890           LS              85      35
891           UD  0.1928
              *
```

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

 892          KK    RBG1 RET BAS
 893          KM
 894          RS       1    STOR      -1
 895          SV       0     5.3    5.78    6.26
 896          SE       0     3.0     3.5     4.0
 897          SQ       0      21      76     176
              *
              *

 898          KK      H1     SUB
 899          KM
 900          BA  0.0125
 901          LS              85      35
 902          UD  0.1011
              *

 903          KK    RBH1 RET BAS
 904          KM
 905          RS       1    STOR      -1
 906          SV       0    1.28   1.465    1.65
 907          SE       0     3.5     4.0     4.5
 908          SQ       0   0.001    0.01     0.1
              *

 909          KK    S200
 910          KM   SUB-BASIN S200
 911          BA    0.77
 912          LS              85
 913          UD    0.70
              *

 914          KK    R200
 915          KM   ROUTE S200 THRU SUB-BASIN S201
 916          RS       9    ELEV      10
 917          RC    .055    .035    .055   13650   0.019
 918          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 919          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 920          KK    S201
 921          KM   SUB-BASIN S201
 922          BA    1.25
 923          LS              86
 924          UD    0.46
              *

 925          KK    C201
 926          KM   COMBINE S200/R200 & S201
 927          HC       2
              *
```

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

 928          KK    R201
 929          KM   ROUTE C201 THRU SUB-BASIN S202
 930          RS       3    ELEV      10
 931          RC    .055    .035    .055    4355   0.018
 932          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 933          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 934          KK    S202
 935          KM   SUB-BASIN S202
 936          BA    0.36
 937          LS              86
 938          UD    0.15
              *

 939          KK    C202
 940          KM   COMBINE C201/R201 & SUB-BASIN S202
 941          HC       2
              *

 942          KK  DIV20R DIVERT
 943          DT  DIV20L
 944          DI       0     100    1000   10000
 945          DQ       0       5      50     500
              *

 946          KK    R20R
 947          KM   ROUTE DIV20R THRU SUB-BASIN S203
 948          RS       5    ELEV      10
 949          RC    .055    .035    .055    7575   0.017
 950          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 951          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 952          KK    S203
 953          KM   SUB-BASIN S203
 954          BA    0.43
 955          LS              82
 956          UD    0.25
              *

 957          KK    C203
 958          KM   COMBINE DIV20R/R20R & S203
 959          HC       2
              *

 960          KK  DIV21R DIVERT
 961          DT  DIV21L
 962          DI       0     100    1000   10000
 963          DQ       0      50     500    5000
              *
```

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

964           KK    R21R
965           KM   ROUTE DIV21R THRU SUB-BASIN S210
966           RS       1    ELEV      10
967           RC    .055    .035    .055    2190   0.017
968           RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
969           RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

970           KK    S210
971           KM   SUB-BASIN S210
972           BA   0.052
973           LS             79
974           UD    0.07
              *

975           KK    C210
976           KM   COMBINE DIV21R/R21R & S210
977           HC       2
              *

978           KK  DIV24L DIVERT
979           DT  DIV24R
980           DI       0     100    1000   10000
981           DQ       0       5      50     500
              *

982           KK    R210
983           KM   ROUTE C210 THRU SUB-BASIN S211
984           RS       4    ELEV      10
985           RC    .055    .035    .055    6150   0.018
986           RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
987           RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

988           KK    S211
989           KM   SUB-BASIN S211
990           BA    0.15
991           LS             77
992           UD    0.20
              *

993           KK    C211
994           KM   COMBINE C210/R210 & S211
995           HC       2
              *

996           KK    NULL
997           HC       2
              *
```

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

 998          KK  RET24R RETURN
 999          DR  DIV24R
              *

1000          KK    R24R
1001          KM   ROUTE DIV24R THRU SUB-BASIN S212
1002          RS       4    ELEV      10
1003          RC    .055    .035    .055    5490   0.020
1004          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1005          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1006          KK    S212
1007          KM   SUB-BASIN S212
1008          BA   0.084
1009          LS             79
1010          UD    0.18
              *

1011          KK    C212
1012          KM   COMBINE DIV24R/R24R & S212
1013          HC       2
              *

1014          KK    NULL
1015          HC       2
              *

1016          KK  RET21L RETURN
1017          DR  DIV21L
              *

1018          KK    R21L
1019          KM   ROUTE DIV21L THRU SUB-BASIN S290
1020          RS       2    ELEV      10
1021          RC    .055    .035    .055    2475   0.017
1022          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1023          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1024          KK    S290
1025          KM   SUB-BASIN S290
1026          BA   0.072
1027          LS             77
1028          UD    0.08
              *

1029          KK    C290
1030          KM   COMBINE DIV21L/R21L & S290
1031          HC       2
              *
```

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

1032          KK    R290
1033          KM   ROUTE C290 THRU SUB-BASIN S291
1034          RS       1    ELEV      10
1035          RC    .055    .035    .055    2135   0.021
1036          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1037          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1038          KK    S291
1039          KM   SUB-BASIN S291
1040          BA   0.055
1041          LS             77
1042          UD    0.07
              *

1043          KK    C291
1044          KM   COMBINE C290/R290 & S291
1045          HC       2
              *

1046          KK    NULL
1047          HC       2
              *
              *

1048          KK    S300
1049          KM   SUB-BASIN S300
1050          BA  0.0078
1051          LS             77
1052          UD    0.06
              *

1053          KK    R300
1054          KM   ROUTE S300 THRU SUB-BASIN S301
1055          RS       1    ELEV      10
1056          RC    .055    .035    .055    1355   0.018
1057          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1058          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1059          KK    S301
1060          KM   SUB-BASIN S301
1061          BA   0.012
1062          LS             79
1063          UD    0.06
              *

1064          KK    C301
1065          KM   COMBINE S300/R300 & S301
1066          HC       2
              *
```

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

1067          KK    S310
1068          KM   SUB-BASIN S310
1069          BA   0.011
1070          LS             77
1071          UD    0.06
              *

1072          KK    R310
1073          KM   ROUTE S310 THRU SUB-BASIN S311
1074          RS       1    ELEV      10
1075          RC    .055    .035    .055    1470   0.020
1076          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1077          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1078          KK    S311
1079          KM   SUB-BASIN S311
1080          BA   0.012
1081          LS             79
1082          UD    0.06
              *

1083          KK    C311
1084          KM   COMBINE C301, S310/R310, & S311
1085          HC       3
              *

1086          KK    R311
1087          KM   ROUTE C311 THRU SUB-BASIN S302
1088          RS       1    ELEV      10
1089          RC    .055    .035    .055     765   0.026
1090          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1091          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1092          KK    S302
1093          KM   SUB-BASIN S302
1094          BA   0.012
1095          LS             80
1096          UD    0.06
              *

1097          KK    C302
1098          KM   COMBINE  C311/R311 & S302
1099          HC       2
              *

1100          KK  DIV22R DIVERT
1101          DT  DIV22L
1102          DI       0     100    1000   10000
1103          DQ       0      25     250    2500
              *
```

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

1104          KK    R22R
1105          KM   ROUTE DIV22R THRU SUB-BASIN S304
1106          RS       1    ELEV      10
1107          RC    .055    .035    .055     650   0.015
1108          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1109          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1110          KK    S304
1111          KM   SUB-BASIN S304
1112          BA   .0040
1113          LS              77
1114          UD    0.06
              *

1115          KK    C304
1116          KM   COMBINE  DIV22R/R22R & S304
1117          HC       2
              *

1118          KK  DIV23R DIVERT
1119          DT  DIV23L
1120          DI       0     100    1000   10000
1121          DQ       0      50     500    5000
              *
              *

1122          KK    R23R
1123          KM   ROUTE DIV23R THRU SUB-BASIN S306
1124          RS       1    ELEV      10
1125          RC    .055    .035    .055    1110   0.018
1126          RX    52.5    55.5    95.5      98     102   104.5   144.5   147.5
1127          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1128          KK    S306
1129          KM   SUB-BASIN S306
1130          BA   .0091
1131          LS              85
1132          UD    0.06
              *

1133          KK    C306
1134          KM   COMBINE  DIV23R/R23R & S306
1135          HC       2
              *

1136          KK    NULL
1137          HC       2
              *
```

*

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

1138          KK  RET23L RETURN
1139          DR  DIV23L
              *

1140          KK    R23L
1141          KM   ROUTE DIV23L THRU SUB-BASIN S305
1142          RS       1    ELEV      10
1143          RC    .055    .035    .055     580   0.017
1144          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1145          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1146          KK    S305
1147          KM   SUB-BASIN S305
1148          BA   .0039
1149          LS             81
1150          UD    0.06
              *

1151          KK    C305
1152          KM   COMBINE  DIV23L/R23L & S305
1153          HC       2
              *

1154          KK    NULL
1155          HC       2
              *

1156          KK  RET22L RETURN
1157          DR  DIV22L
              *

1158          KK    R22L
1159          KM   ROUTE DIV22L THRU SUB-BASIN S303
1160          RS       1    ELEV      10
1161          RC    .055    .035    .055     910   0.016
1162          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1163          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1164          KK    S303
1165          KM   SUB-BASIN S303
1166          BA    .013
1167          LS             80
1168          UD    0.06
              *

1169          KK    C303
1170          KM   COMBINE  DIV22L/R22L & S303
1171          HC       2
              *
```

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

1172          KK    S307
1173          KM   SUB-BASIN S307
1174          BA    .016
1175          LS              82
1176          UD    0.06
              *
              *
              *
1177          ZZ
```

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	S30	651.	3.50	116.	29.	28.	0.42		
ROUTED TO	R30	621.	3.58	116.	29.	28.	0.42	12.69	3.58
HYDROGRAPH AT	S32	82.	3.33	11.	3.	3.	0.07		
2 COMBINED AT	C32	680.	3.58	127.	32.	31.	0.49		
HYDROGRAPH AT	S40	1137.	4.08	345.	87.	84.	1.60		
ROUTED TO	R48	1079.	4.42	344.	87.	84.	1.60	13.57	4.42
HYDROGRAPH AT	S50	693.	3.58	138.	35.	34.	0.53		
2 COMBINED AT	C51	1315.	4.25	479.	122.	118.	2.13		
ROUTED TO	R51	1306.	4.33	479.	122.	118.	2.13	13.67	4.33
HYDROGRAPH AT	S54	57.	3.33	8.	2.	2.	0.04		
3 COMBINED AT	C54	1696.	3.75	612.	156.	150.	2.67		
ROUTED TO	R54	1651.	3.92	612.	156.	150.	2.67	12.65	3.92
HYDROGRAPH AT	S56	135.	3.50	23.	6.	6.	0.17		
2 COMBINED AT	C56	1742.	3.83	635.	162.	156.	2.84		
ROUTED TO	R56	1735.	3.92	634.	162.	156.	2.84	12.60	3.92
HYDROGRAPH AT	S110	141.	3.42	20.	5.	5.	0.11		
ROUTED TO	R110	131.	3.50	20.	5.	5.	0.11	10.55	3.50
HYDROGRAPH AT	S280	169.	3.08	11.	3.	3.	0.06		
3 COMBINED AT	C280	1816.	3.83	666.	170.	163.	3.00		
DIVERSION TO	DIV26R	1362.	3.83	500.	127.	123.	3.00		
HYDROGRAPH AT	DIV26L	454.	3.83	167.	42.	41.	3.00		
ROUTED TO	R26L	454.	3.92	166.	42.	41.	3.00	11.49	3.92
HYDROGRAPH AT	S281	30.	3.08	2.	1.	0.	0.01		
2 COMBINED AT	C281	456.	3.92	169.	43.	41.	3.01		
HYDROGRAPH AT	S60	1489.	4.00	432.	109.	105.	1.81		
DIVERSION TO	DIV4L	1117.	4.00	324.	82.	79.	1.81		
HYDROGRAPH AT	DIV4R	372.	4.00	108.	27.	26.	1.81		

HYDROGRAPH AT	S70	86.	3.17	8.	2.	2.	0.03		
2 COMBINED AT	C70	378.	4.00	115.	29.	28.	1.84		
ROUTED TO	R70	374.	4.17	115.	29.	28.	1.84	12.08	4.17
HYDROGRAPH AT	S62	226.	3.58	39.	10.	9.	0.19		
2 COMBINED AT	C62	464.	4.00	154.	39.	38.	2.03		
ROUTED TO	R62	464.	4.08	154.	39.	38.	2.03	12.29	4.08
HYDROGRAPH AT	S270	175.	3.17	14.	3.	3.	0.07		
3 COMBINED AT	C270	923.	3.92	336.	85.	82.	5.11		
DIVERSION TO	DIV27R	693.	3.92	252.	64.	62.	5.11		
HYDROGRAPH AT	DIV27L	231.	3.92	84.	21.	21.	5.11		
ROUTED TO	R27L	231.	4.00	84.	21.	21.	5.11	11.69	4.00
HYDROGRAPH AT	S271	66.	3.08	4.	1.	1.	0.02		
2 COMBINED AT	C271	234.	4.00	88.	22.	22.	5.13		
ROUTED TO	R271	234.	4.00	88.	22.	22.	5.13	11.47	4.00
HYDROGRAPH AT	S272	43.	3.08	3.	1.	1.	0.02		
HYDROGRAPH AT	S260	270.	3.25	28.	7.	7.	0.14		
ROUTED TO	R260	257.	3.33	28.	7.	7.	0.14	11.66	3.33
HYDROGRAPH AT	S261	104.	3.17	8.	2.	2.	0.04		
4 COMBINED AT	C272	424.	3.33	128.	32.	31.	5.34		
HYDROGRAPH AT	DIV4L	1117.	4.00	324.	82.	79.	0.00		
ROUTED TO	R1.OS2	1118.	4.08	324.	82.	79.	0.00	13.70	4.08
HYDROGRAPH AT	OS2	48.	3.25	5.	1.	1.	0.03		
2 COMBINED AT	C.OS2	1122.	4.08	328.	83.	80.	0.03		
DIVERSION TO	DIV5R	842.	4.08	246.	62.	60.	0.03		
HYDROGRAPH AT	DIV5L	281.	4.08	82.	21.	20.	0.03		
ROUTED TO	R1.OS3	281.	4.08	82.	21.	20.	0.03	12.25	4.08
HYDROGRAPH AT	OS3	37.	3.17	3.	1.	1.	0.02		
2 COMBINED AT	C.OS3	284.	4.08	85.	22.	21.	0.05		
DIVERSION TO	DIV11L	142.	4.08	43.	11.	10.	0.05		
HYDROGRAPH AT	DIV11R	142.	4.08	43.	11.	10.	0.05		

ROUTED TO	R1.OS5	142.	4.08	43.	11.	10.	0.05	11.50	4.08
HYDROGRAPH AT	OS5	9.	3.17	1.	0.	0.	0.00		
HYDROGRAPH AT	F1	7.	3.08	1.	0.	0.	0.00		
ROUTED TO	RBF2	5.	3.17	1.	0.	0.	0.00	0.67	3.17
HYDROGRAPH AT	D2	24.	3.17	2.	0.	0.	0.01		
ROUTED TO	RBD2	13.	3.33	2.	0.	0.	0.01	1.97	3.33
ROUTED TO	R2.OS5	13.	3.25	2.	0.	0.	0.01	10.34	3.25
4 COMBINED AT	C.OS5	146.	4.08	46.	12.	11.	0.06		
ROUTED TO	ROS5	145.	4.17	46.	12.	11.	0.06	11.50	4.17
HYDROGRAPH AT	S240	63.	3.17	5.	1.	1.	0.03		
2 COMBINED AT	C240	149.	4.17	51.	13.	12.	0.10		
ROUTED TO	R240	149.	4.17	51.	13.	12.	0.10	11.55	4.17
HYDROGRAPH AT	S243	28.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C243	151.	4.17	53.	13.	13.	0.11		
HYDROGRAPH AT	S241	53.	3.17	4.	1.	1.	0.03		
ROUTED TO	R241	52.	3.17	4.	1.	1.	0.03	10.82	3.17
HYDROGRAPH AT	S244	31.	3.08	2.	1.	1.	0.01		
3 COMBINED AT	C244	177.	3.17	59.	15.	14.	0.15		
ROUTED TO	R244	178.	3.17	59.	15.	14.	0.15	11.59	3.17
HYDROGRAPH AT	S245	20.	3.08	1.	0.	0.	0.01		
2 COMBINED AT	C245	195.	3.17	60.	15.	15.	0.16		
DIVERSION TO	DIV25R	97.	3.17	30.	8.	7.	0.16		
HYDROGRAPH AT	DIV25L	97.	3.17	30.	8.	7.	0.16		
ROUTED TO	R25L	82.	3.42	30.	8.	7.	0.16	11.10	3.42
HYDROGRAPH AT	S246	90.	3.25	9.	2.	2.	0.06		
2 COMBINED AT	C246	148.	3.33	39.	10.	9.	0.22		
2 COMBINED AT	NULL	572.	3.33	166.	42.	41.	5.56		
HYDROGRAPH AT	RET25R	97.	3.17	30.	8.	7.	0.00		
ROUTED TO	R25R	82.	3.42	30.	8.	7.	0.00	11.10	3.42
HYDROGRAPH AT	S247	135.	3.25	13.	3.	3.	0.08		

2 COMBINED AT	C247	185.	3.25	43.	11.	10.	0.08		
2 COMBINED AT	NULL	753.	3.33	209.	53.	51.	5.64		
HYDROGRAPH AT	S242	58.	3.17	4.	1.	1.	0.03		
ROUTED TO	R242	36.	3.42	4.	1.	1.	0.03	10.67	3.42
HYDROGRAPH AT	S248	149.	3.25	15.	4.	4.	0.09		
2 COMBINED AT	C248	160.	3.33	20.	5.	5.	0.12		
2 COMBINED AT	NULL	912.	3.33	229.	58.	56.	5.75		
HYDROGRAPH AT	RET11L	142.	4.08	43.	11.	10.	0.00		
ROUTED TO	R1.OS6	142.	4.08	43.	11.	10.	0.00	11.50	4.08
HYDROGRAPH AT	OS6	3.	3.08	0.	0.	0.	0.00		
2 COMBINED AT	C.OS6	142.	4.08	43.	11.	10.	0.00		
ROUTED TO	R1.OS7	142.	4.08	43.	11.	10.	0.00	11.50	4.08
HYDROGRAPH AT	OS7	9.	3.17	1.	0.	0.	0.00		
2 COMBINED AT	C.OS7	143.	4.08	44.	11.	11.	0.01		
ROUTED TO	ROS7	141.	4.17	43.	11.	11.	0.01	11.54	4.17
HYDROGRAPH AT	S230	132.	3.17	11.	3.	3.	0.08		
2 COMBINED AT	C230	151.	4.17	55.	14.	13.	0.08		
ROUTED TO	R230	151.	4.17	55.	14.	13.	0.08	11.51	4.17
HYDROGRAPH AT	S231	17.	3.08	1.	0.	0.	0.01		
2 COMBINED AT	C231	153.	3.25	56.	14.	14.	0.09		
HYDROGRAPH AT	S90	139.	3.17	13.	3.	3.	0.06		
ROUTED TO	R10S11	142.	3.25	13.	3.	3.	0.06	11.50	3.25
HYDROGRAPH AT	OS11	8.	3.17	1.	0.	0.	0.00		
2 COMBINED AT	C.OS11	148.	3.25	14.	3.	3.	0.07		
ROUTED TO	R1.OS8	152.	3.25	14.	3.	3.	0.07	11.56	3.25
HYDROGRAPH AT	OS8	26.	3.17	2.	1.	1.	0.01		
2 COMBINED AT	C.OS8	174.	3.25	16.	4.	4.	0.08		
ROUTED TO	R1.OS9	162.	3.33	16.	4.	4.	0.08	11.62	3.33
HYDROGRAPH AT	OS9	46.	3.25	5.	1.	1.	0.03		
2 COMBINED AT	C1.OS9	205.	3.25	21.	5.	5.	0.11		

HYDROGRAPH AT	H2	32.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBH2	12.	3.33	3.	1.	1.	0.01	1.87	3.33
ROUTED TO	R2.OS9	12.	3.42	3.	1.	1.	0.01	10.33	3.42
HYDROGRAPH AT	E3	28.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBE1	16.	3.33	3.	1.	1.	0.01	2.54	3.33
ROUTED TO	R3.OS9	15.	3.42	3.	1.	1.	0.01	10.38	3.42
HYDROGRAPH AT	S80	121.	3.25	12.	3.	3.	0.06		
ROUTED TO	R1.OS4	123.	3.25	12.	3.	3.	0.06	11.38	3.25
HYDROGRAPH AT	OS4	15.	3.17	1.	0.	0.	0.01		
2 COMBINED AT	C.OS4	134.	3.25	13.	3.	3.	0.07		
HYDROGRAPH AT	I1	34.	3.17	3.	1.	1.	0.02		
2 COMBINED AT	C.I1	161.	3.25	16.	4.	4.	0.08		
ROUTED TO	RBI2	144.	3.33	16.	4.	4.	0.08	2.62	3.33
ROUTED TO	RBI3	129.	3.42	16.	4.	4.	0.08	2.83	3.42
ROUTED TO	R10S10	130.	3.42	16.	4.	4.	0.08	11.42	3.42
HYDROGRAPH AT	OS10	28.	3.25	3.	1.	1.	0.02		
HYDROGRAPH AT	E1	55.	3.17	5.	1.	1.	0.02		
ROUTED TO	R2OS10	49.	3.17	5.	1.	1.	0.02	10.79	3.17
3 COMBINED AT	C.OS10	167.	3.42	23.	6.	6.	0.12		
ROUTED TO	RBE2	158.	3.50	23.	6.	6.	0.12	4.34	3.50
ROUTED TO	RBE3	154.	3.50	23.	6.	6.	0.12	4.17	3.50
HYDROGRAPH AT	F2	27.	3.17	2.	1.	1.	0.01		
2 COMBINED AT	C.F1	160.	3.50	25.	6.	6.	0.13		
ROUTED TO	RBF1	156.	3.58	25.	6.	6.	0.13	3.28	3.58
HYDROGRAPH AT	E2	49.	3.17	4.	1.	1.	0.02		
2 COMBINED AT	C.E2	164.	3.58	29.	7.	7.	0.14		
ROUTED TO	RBE4	156.	3.67	29.	7.	7.	0.14	4.20	3.67
ROUTED TO	R4.OS9	156.	3.67	29.	7.	7.	0.14	11.58	3.67
HYDROGRAPH AT	S94	276.	3.25	28.	7.	7.	0.13		
HYDROGRAPH AT	S100	301.	3.25	31.	8.	8.	0.15		

2 COMBINED AT	CS100	577.	3.25	59.	15.	14.	0.28		
ROUTED TO	R10S12	544.	3.33	59.	15.	14.	0.28	12.95	3.33
HYDROGRAPH AT	OS12	21.	3.17	2.	0.	0.	0.01		
2 COMBINED AT	C.OS12	555.	3.33	61.	15.	15.	0.29		
ROUTED TO	R5.OS9	527.	3.42	61.	15.	15.	0.29	12.92	3.42
5 COMBINED AT	C2.OS9	837.	3.33	116.	29.	28.	0.57		
ROUTED TO	R10S13	832.	3.42	116.	29.	28.	0.57	13.36	3.42
HYDROGRAPH AT	F3	10.	3.08	1.	0.	0.	0.00		
ROUTED TO	RBF3	7.	3.25	1.	0.	0.	0.00	1.05	3.25
ROUTED TO	R2OS13	7.	3.25	1.	0.	0.	0.00	10.22	3.25
2 COMBINED AT	C.OS13	837.	3.42	117.	29.	28.	0.57		
ROUTED TO	ROS13	790.	3.50	117.	29.	28.	0.57	13.36	3.50
HYDROGRAPH AT	S220	206.	3.17	16.	4.	4.	0.08		
2 COMBINED AT	C220	837.	3.50	133.	33.	32.	0.65		
ROUTED TO	R220	837.	3.50	133.	33.	32.	0.65	13.25	3.50
HYDROGRAPH AT	S232	9.	3.08	1.	0.	0.	0.00		
3 COMBINED AT	C232	941.	3.50	189.	48.	46.	0.74		
ROUTED TO	R232	871.	3.75	189.	48.	46.	0.74	13.36	3.75
HYDROGRAPH AT	S233	195.	3.25	20.	5.	5.	0.12		
2 COMBINED AT	C233	922.	3.67	209.	52.	51.	0.86		
2 COMBINED AT	NULL	1511.	3.33	438.	110.	106.	6.61		
HYDROGRAPH AT	RET5R	842.	4.08	246.	62.	60.	0.00		
ROUTED TO	R10S14	842.	4.08	246.	62.	60.	0.00	13.36	4.08
HYDROGRAPH AT	OS14	8.	3.17	1.	0.	0.	0.00		
HYDROGRAPH AT	D1	34.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBD1	16.	3.33	3.	1.	1.	0.01	2.46	3.33
3 COMBINED AT	C.OS14	848.	4.08	250.	63.	61.	0.01		
ROUTED TO	ROS14	839.	4.17	250.	63.	61.	0.01	13.34	4.17
HYDROGRAPH AT	S250	161.	3.17	13.	3.	3.	0.08		
2 COMBINED AT	C250	850.	4.17	262.	66.	64.	0.10		

ROUTED TO	R250	846.	4.25	262.	66.	64.	0.10	13.57	4.25
HYDROGRAPH AT	S252	40.	3.08	3.	1.	1.	0.01		
HYDROGRAPH AT	S251	66.	3.17	5.	1.	1.	0.03		
ROUTED TO	R251	58.	3.17	5.	1.	1.	0.03	11.00	3.17
HYDROGRAPH AT	S253	48.	3.08	3.	1.	1.	0.02		
4 COMBINED AT	C253	853.	4.25	273.	69.	67.	0.15		
ROUTED TO	R253	843.	4.42	273.	69.	67.	0.15	13.24	4.42
HYDROGRAPH AT	S254	150.	3.25	14.	4.	3.	0.08		
2 COMBINED AT	C254	853.	4.42	288.	73.	70.	0.23		
HYDROGRAPH AT	S255	89.	3.17	7.	2.	2.	0.03		
HYDROGRAPH AT	S256	56.	3.17	4.	1.	1.	0.03		
HYDROGRAPH AT	G1	109.	3.25	12.	3.	3.	0.05		
ROUTED TO	RBG1	16.	3.83	10.	3.	3.	0.05	2.23	3.83
HYDROGRAPH AT	H1	38.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBH1	0.	6.17	0.	0.	0.	0.01	4.34	6.25
HYDROGRAPH AT	S200	673.	3.83	156.	39.	38.	0.77		
ROUTED TO	R200	652.	4.17	156.	39.	38.	0.77	11.44	4.17
HYDROGRAPH AT	S201	1512.	3.58	263.	66.	63.	1.25		
2 COMBINED AT	C201	1525.	3.58	418.	105.	101.	2.02		
ROUTED TO	R201	1509.	3.67	418.	105.	101.	2.02	12.42	3.67
HYDROGRAPH AT	S202	801.	3.17	76.	19.	18.	0.36		
2 COMBINED AT	C202	1685.	3.58	493.	124.	119.	2.38		
DIVERSION TO	DIV20L	84.	3.58	25.	6.	6.	2.38		
HYDROGRAPH AT	DIV20R	1601.	3.58	469.	118.	113.	2.38		
ROUTED TO	R20R	1563.	3.83	468.	118.	113.	2.38	12.52	3.83
HYDROGRAPH AT	S203	642.	3.33	77.	19.	18.	0.43		
2 COMBINED AT	C203	1778.	3.75	544.	137.	132.	2.81		
DIVERSION TO	DIV21L	889.	3.75	272.	68.	66.	2.81		
HYDROGRAPH AT	DIV21R	889.	3.75	272.	68.	66.	2.81		
ROUTED TO	R21R	880.	3.75	272.	68.	66.	2.81	13.87	3.75

HYDROGRAPH AT	S210	105.	3.08	8.	2.	2.	0.05		
2 COMBINED AT	C210	890.	3.75	280.	70.	68.	2.86		
DIVERSION TO	DIV24R	44.	3.75	14.	4.	3.	2.86		
HYDROGRAPH AT	DIV24L	845.	3.75	266.	67.	64.	2.86		
ROUTED TO	R210	831.	4.00	265.	67.	64.	2.86	13.78	4.00
HYDROGRAPH AT	S211	195.	3.25	21.	5.	5.	0.15		
2 COMBINED AT	C211	859.	4.00	286.	72.	70.	3.01		
2 COMBINED AT	NULL	859.	4.00	286.	72.	70.	3.02		
HYDROGRAPH AT	RET24R	44.	3.75	14.	4.	3.	0.00		
ROUTED TO	R24R	44.	4.00	14.	4.	3.	0.00	10.71	4.00
HYDROGRAPH AT	S212	130.	3.25	13.	3.	3.	0.08		
2 COMBINED AT	C212	132.	3.25	27.	7.	7.	0.08		
2 COMBINED AT	NULL	918.	4.00	313.	79.	76.	3.11		
HYDROGRAPH AT	RET21L	889.	3.75	272.	68.	66.	0.00		
ROUTED TO	R21L	882.	3.83	272.	68.	66.	0.00	13.51	3.83
HYDROGRAPH AT	S290	133.	3.17	10.	3.	2.	0.07		
2 COMBINED AT	C290	894.	3.83	282.	71.	68.	0.07		
ROUTED TO	R290	887.	3.83	281.	71.	68.	0.07	13.39	3.83
HYDROGRAPH AT	S291	101.	3.17	8.	2.	2.	0.05		
2 COMBINED AT	C291	896.	3.83	289.	73.	70.	0.13		
2 COMBINED AT	NULL	1807.	3.92	602.	152.	146.	3.24		
HYDROGRAPH AT	S300	16.	3.08	1.	0.	0.	0.01		
ROUTED TO	R300	11.	3.17	1.	0.	0.	0.01	10.50	3.17
HYDROGRAPH AT	S301	27.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C301	34.	3.17	3.	1.	1.	0.02		
HYDROGRAPH AT	S310	22.	3.08	2.	0.	0.	0.01		
ROUTED TO	R310	16.	3.17	2.	0.	0.	0.01	10.33	3.17
HYDROGRAPH AT	S311	27.	3.08	2.	0.	0.	0.01		
3 COMBINED AT	C311	73.	3.17	6.	2.	2.	0.04		
ROUTED TO	R311	77.	3.17	6.	2.	2.	0.04	10.95	3.17

HYDROGRAPH AT	S302	29.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C302	101.	3.17	8.	2.	2.	0.05		
DIVERSION TO	DIV22L	25.	3.17	2.	1.	1.	0.05		
HYDROGRAPH AT	DIV22R	76.	3.17	6.	2.	2.	0.05		
ROUTED TO	R22R	73.	3.17	6.	2.	2.	0.05	11.10	3.17
HYDROGRAPH AT	S304	8.	3.08	1.	0.	0.	0.00		
2 COMBINED AT	C304	80.	3.17	7.	2.	2.	0.06		
DIVERSION TO	DIV23L	40.	3.17	3.	1.	1.	0.06		
HYDROGRAPH AT	DIV23R	40.	3.17	3.	1.	1.	0.06		
ROUTED TO	R23R	37.	3.25	3.	1.	1.	0.06	11.29	3.25
HYDROGRAPH AT	S306	28.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C306	53.	3.17	5.	1.	1.	0.07		
2 COMBINED AT	NULL	1814.	3.92	607.	153.	148.	3.30		
HYDROGRAPH AT	RET23L	40.	3.17	3.	1.	1.	0.00		
ROUTED TO	R23L	38.	3.25	3.	1.	1.	0.00	10.69	3.25
HYDROGRAPH AT	S305	10.	3.08	1.	0.	0.	0.00		
2 COMBINED AT	C305	43.	3.25	4.	1.	1.	0.00		
2 COMBINED AT	NULL	1819.	3.92	611.	154.	149.	3.31		
HYDROGRAPH AT	RET22L	25.	3.17	2.	1.	1.	0.00		
ROUTED TO	R22L	22.	3.25	2.	1.	1.	0.00	10.76	3.25
HYDROGRAPH AT	S303	31.	3.08	2.	1.	1.	0.01		
2 COMBINED AT	C303	48.	3.17	4.	1.	1.	0.01		
HYDROGRAPH AT	S307	42.	3.08	3.	1.	1.	0.02		

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

  1           ID       56th AND LONE MOUNTAIN
  2           ID
  3           ID
  4           ID        HEC-1 FILENAME:    1669E100.HC1   FS3
  5           ID        DATE:              SEPTEMBER 11, 2000
  6           ID        CREATED BY:        JOSH LESSARD
  7           ID
  8           ID
  9           ID        HEC-1 HYDROLOGY MODEL
 10           ID
 11           ID         1. THE FOLLOWING MODEL ADJUSTS THE EXISTING CONDITIONS FLOW SPLITS
 12           ID         2. THE ON-SITE SUB-BASINS THAT ARE AFFECTED ARE S243, S245, S246, AND
 13           ID            S291.
 14           ID         3. DIV4L 75%/DIV4R 25%
 15           ID         4. DIV5L 75%/DIV5R 25%
 16           ID         5. DIV11R 75%/DIV11L 25%
 17           ID         6. DIV25L 75%/DIV25R 25%
 18           ID         7. DIV21L 95%/DIV21R 5%
 19           ID         8. DIV20R 95%/DIV20L 5%
 20           ID
 21           ID
 22           ID
              *DIAGRAM
 23           IT       5 09SEP00       0     300
 24           IO       5       0
              *

 25           KK     S30
 26           KM   SUB-BASIN S30
 27           BA     .42
 28           PH                   0.80    1.46    2.36    2.70    2.92    3.35
 29           LS              88      38
 30           UD    .452
              *

 31           KK     R30
 32           KM   ROUTE S30 THRU S32
 33           RS       1    ELEV      10
 34           RC    .055    .035    .055    2250    .018
 35           RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 36           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 37           KK     S32
 38           KM   SUB-BASIN S32
 39           BA    .074
 40           LS              78
 41           UD    .287
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  42          KK     C32
  43          KM   COMBINE S30/R30 & S32
  44          HC       2
              *

  45          KK     S40
  46          KM   SUB-BASIN S40
  47          BA    1.60
  48          LS              84      15
  49          UD    .985
              *

  50          KK     R48
  51          KM   ROUTE R40
  52          RS       2    ELEV      10
  53          RC    .055    .035    .055    8400    .023
  54          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
  55          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  56          KK     S50
  57          KM   SUB-BASIN S50
  58          BA     .53
  59          LS              86      35
  60          UD    .535
              *

  61          KK     C51
  62          KM   COMBINE R48/S40 & S50
  63          HC       2
              *

  64          KK     R51
  65          KM   ROUTE C51 THRU BASIN 54
  66          RS       2    ELEV      10
  67          RC    .055    .035    .055    3050    .015
  68          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
  69          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  70          KK     S54
  71          KM   SUB-BASIN S54
  72          BA    .044
  73          LS              81
  74          UD    .291
              *

  75          KK     C54
  76          KM   COMBINE S54, C51, & C32
  77          HC       3
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  78          KK     R54
  79          KM   ROUTE C54 THRU BASIN 56
  80          RS       2    ELEV      10
  81          RC    .055    .035    .055    4150    .016
  82          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
  83          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  84          KK     S56
  85          KM   SUB-BASIN S56
  86          BA    .171
  87          LS              76
  88          UD    .427
              *

  89          KK     C56
  90          KM   COMBINE S56 & R54
  91          HC       2
              *

  92          KK     R56
  93          KM   ROUTE C56 THRU BASIN S280
  94          RS       1    ELEV      10
  95          RC    .055    .035    .055    1840    .019
  96          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
  97          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  98          KK    S110
  99          KM   SUB-BASIN S110
 100          BA    .109
 101          LS              83
 102          UD    .345
              *

 103          KK    R110
 104          KM   ROUTE S110 THRU BASIN S280
 105          RS       1    ELEV      10
 106          RC    .055    .035    .055    1840    .019
 107          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 108          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 109          KK    S280     SUB
 110          KM   SUB-BASIN S280
 111          BA   0.056
 112          LS              85
 113          UD    0.06
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 114          KK    C280
 115          KM  COMBINE S56/R56, S110/R110, & S280
 116          HC       3
              *

 117          KK  DIV26L DIVERT
 118          DT  DIV26R
 119          DI       0     100    1000   10000
 120          DQ       0      75     750    7500
              *

 121          KK    R26L
 122          KM   ROUTE DIV26L THRU BASIN S281
 123          RS       1    ELEV      10
 124          RC    .055    .035    .055    1340    .019
 125          RX    48.5    51.5   101.5     104     144   146.5   196.5   199.5
 126          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 127          KK    S281     SUB
 128          KM   SUB-BASIN S281
 129          BA   0.010
 130          LS             85
 131          UD    0.06
              *

 132          KK    C281
 133          KM  COMBINE DIV26L/R26L & S281
 134          HC       2
              *

 135          KK     S60     SUB
 136          KM
 137          BA  1.8100
 138          LS             87      16
 139          UD   0.933
              *

 140          KK   DIV4R  DIVERT
 141          KM
 142          DT   DIV4L
 143          DI       0     100    1000   10000
 144          DQ       0      75     750    7500
              *

 145          KK     S70
 146          KM   SUB-BASIN S70
 147          BA    .029
 148          LS             85      40
 149          UD    .120
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 150          KK     C70
 151          KM   COMBINE DIV4R & S70
 152          HC       2
              *

 153          KK     R70
 154          KM   ROUTE C70 THRU BASIN S62
 155          RS       3    ELEV      10
 156          RC    .055    .035    .055    6850    .017
 157          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 158          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 159          KK     S62
 160          KM   SUB-BASIN S62
 161          BA    .193
 162          LS              85
 163          UD    .458
              *

 164          KK     C62
 165          KM   COMBINE S62 & C70
 166          HC       2
              *

 167          KK     R62
 168          KM   ROUTE C62 THRU BASIN S270
 169          RS       2    ELEV      10
 170          RC    .055    .035    .055    3110    .019
 171          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 172          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 173          KK    S270
 174          KM   SUB-BASIN S270
 175          BA    .067
 176          LS              85
 177          UD    .100
              *

 178          KK    C270
 179          KM   COMBINE C62/R62, S270, & C281
 180          HC       3
              *

 181          KK  DIV27L  DIVERT
 182          KM
 183          DT  DIV27R
 184          DI       0     100    1000   10000
 185          DQ       0      75     750    7500
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 186          KK    R27L
 187          KM   ROUTE DIV27L THRU BASIN S271
 188          RS       1    ELEV      10
 189          RC    .055    .035    .055    1505    .013
 190          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 191          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 192          KK    S271
 193          KM   SUB-BASIN S271
 194          BA   .0219
 195          LS             85
 196          UD    .060
              *

 197          KK    C271
 198          KM   COMBINE C270/R270 & S271
 199          HC       2
              *

 200          KK    R271
 201          KM   ROUTE C271 THRU BASIN S272
 202          RS       1    ELEV      10
 203          RC    .055    .035    .055    1205    .021
 204          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 205          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 206          KK    S272
 207          KM   SUB-BASIN S272
 208          BA    .019
 209          LS             79
 210          UD    .060
              *

 211          KK    S260
 212          KM   SUB-BASIN S260
 213          BA    .140
 214          LS             85
 215          UD    .200
              *

 216          KK    R260
 217          KM   ROUTE C260 THRU BASIN S261
 218          RS       2    ELEV      10
 219          RC    .055    .035    .055    2880    .017
 220          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 221          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 222          KK    S261
 223          KM   SUB-BASIN S261
 224          BA    .043
 225          LS             83
 226          UD    .096
              *

 227          KK    C272
 228          KM   COMBINE C271/R271, S272, S260/R260, & S261
 229          HC       4
              *
              *

 230          KK   DIV4L     RET
 231          KM
 232          DR   DIV4L
              *

 233          KK  R1.0S2   ROUTE
 234          KM
 235          RS       1    ELEV      10
 236          RC   0.055   0.035   0.055     620    0.02
 237          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 238          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 239          KK     OS2     SUB
 240          KM
 241          BA  0.0295
 242          LS             79
 243          UD  0.1583
              *

 244          KK   C.OS2     ADD
 245          KM
 246          HC       2
              *

 247          KK   DIV5L  DIVERT
 248          KM
 249          DT   DIV5R
 250          DI       0     100    1000   10000
 251          DQ       0      25     250    2500
              *

 252          KK  R1.0S3   ROUTE
 253          KM
 254          RS       1    ELEV      10
 255          RC   0.055   0.035   0.055     570    0.02
 256          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 257          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 258          KK     OS3     SUB
 259          KM
 260          BA  0.0205
 261          LS             79
 262          UD  0.1250
              *

 263          KK   C.OS3     ADD
 264          KM
 265          HC       2
              *

 266          KK  DIV11R  DIVERT
 267          KM
 268          DT  DIV11L
 269          DI       0     100    1000   10000
 270          DQ       0      25     250    2500
              *

 271          KK  R1.OS5   ROUTE
 272          KM
 273          RS       1    ELEV      10
 274          RC   0.055   0.035   0.055     600    0.02
 275          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 276          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 277          KK     OS5     SUB
 278          KM
 279          BA  0.0043
 280          LS             79
 281          UD  0.0828
              *

 282          KK      F1     SUB
 283          KM
 284          BA  0.0020
 285          LS             85      35
 286          UD  0.0694
              *

 287          KK    RBF2 RET BAS
 288          KM
 289          RS       1    STOR      -1
 290          SV       0    0.21    0.23    0.26
 291          SE       0       3     3.5     4.0
 292          SQ       0      21      44      86
              *
```

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

 293          KK      D2     SUB
 294          KM
 295          BA  0.0077
 296          LS              85      35
 297          UD  0.0961
              *

 298          KK    RBD2 RET BAS
 299          KM
 300          RS       1    STOR      -1
 301          SV       0    0.67    0.74    0.82
 302          SE       0     4.5     5.0     5.5
 303          SQ       0      29      42      63
              *

 304          KK  R2.OS5   ROUTE
 305          KM
 306          RS       1    ELEV      10
 307          RC   0.055   0.035   0.055     200    0.02
 308          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 309          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 310          KK   C.OS5     ADD
 311          HC       4
              *

 312          KK    ROS5   ROUTE
 313          KM   ROUTE C.OS5 THRU S240
 314          RS       2    ELEV      10
 315          RC   0.055   0.035   0.055    3340   0.021
 316          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 317          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 318          KK    S240     SUB
 319          KM   SUB-BASIN S240
 320          BA   0.034
 321          LS              78
 322          UD    0.11
              *

 323          KK    C240     ADD
 324          KM   COMBINE C.OS5/ROS5 & S240
 325          HC       2
              *

 326          KK    R240   ROUTE
 327          KM   ROUTE C240 THRU S243
 328          RS       1    ELEV      10
 329          RC   0.055   0.035   0.055     765   0.020
 330          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 331          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 332          KK    S243     SUB
 333          KM   SUB-BASIN S243
 334          BA   0.013
 335          LS             78
 336          UD    0.06
              *

 337          KK    C243     ADD
 338          KM   COMBINE C240/R240 & S243
 339          HC       2
              *

 340          KK    S241     SUB
 341          KM   SUB-BASIN S241
 342          BA   0.025
 343          LS             80
 344          UD   0.078
              *

 345          KK    R241   ROUTE
 346          KM   ROUTE C241 THRU S244
 347          RS       1    ELEV      10
 348          RC   0.055   0.035   0.055     980   0.020
 349          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 350          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 351          KK    S244     SUB
 352          KM   SUB-BASIN S244
 353          BA   0.015
 354          LS             77
 355          UD    0.06
              *

 356          KK    C244
 357          KM   COMBINE C243, S241/C241, & S244
 358          HC       3
              *

 359          KK    R244   ROUTE
 360          KM   ROUTE C244 THRU S245
 361          RS       1    ELEV      10
 362          RC   0.055   0.035   0.055     270   0.019
 363          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 364          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 365          KK    S245     SUB
 366          KM   SUB-BASIN S245
 367          BA  0.0088
 368          LS             79
 369          UD    0.06
              *
```

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

 370          KK    C245
 371          KM   COMBINE C244/R244 & S245
 372          HC       2
              *

 373          KK  DIV25L  DIVERT
 374          KM
 375          DT  DIV25R
 376          DI       0     100    1000   10000
 377          DQ       0      25     250    2500
              *

 378          KK    R25L   ROUTE
 379          KM   ROUTE DIV25L THRU S246
 380          RS       3    ELEV      10
 381          RC   0.055   0.035   0.055    4480   0.019
 382          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 383          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 384          KK    S246     SUB
 385          KM   SUB-BASIN S246
 386          BA   0.061
 387          LS             77
 388          UD    0.15
              *

 389          KK    C246
 390          KM   COMBINE DIV25L/R25L & S246
 391          HC       2
              *

 392          KK    NULL
 393          HC       2
              *

 394          KK  RET25R     RET
 395          KM
 396          DR  DIV25R
              *

 397          KK    R25R   ROUTE
 398          KM   ROUTE DIV25R THRU S247
 399          RS       3    ELEV      10
 400          RC   0.055   0.035   0.055    4490   0.019
 401          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 402          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 403          KK    S247     SUB
 404          KM   SUB-BASIN S247
 405          BA   0.079
 406          LS             80
 407          UD    0.15
              *

 408          KK    C247
 409          KM   COMBINE DIV25R/R25R & S247
 410          HC       2
              *

 411          KK    NULL
 412          HC       2
              *

 413          KK    S242     SUB
 414          KM   SUB-BASIN S242
 415          BA   0.027
 416          LS             80
 417          UD   0.077
              *

 418          KK    R242   ROUTE
 419          KM   ROUTE S242 THRU S248
 420          RS       4    ELEV      10
 421          RC   0.055   0.035   0.055    5815   0.018
 422          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 423          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 424          KK    S248     SUB
 425          KM   SUB-BASIN S248
 426          BA   0.090
 427          LS             81
 428          UD    0.19
              *

 429          KK    C248
 430          KM   COMBINE S242/R242 & S248
 431          HC       2
              *

 432          KK    NULL
 433          HC       2
              *

 434          KK  RET11L     RET
 435          KM
 436          DR  DIV11L
              *
```

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

 437          KK  R1.OS6   ROUTE
 438          KM
 439          RS       1    ELEV      10
 440          RC   0.055   0.035   0.055     300    0.02
 441          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 442          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 443          KK     OS6     SUB
 444          KM
 445          BA  0.0013
 446          LS              79
 447          UD  0.0650
              *

 448          KK   C.OS6     ADD
 449          KM
 450          HC       2
              *

 451          KK  R1.OS7   ROUTE
 452          KM
 453          RS       1    ELEV      10
 454          RC   0.055   0.035   0.055     420    0.02
 455          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 456          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 457          KK     OS7     SUB
 458          KM
 459          BA  0.0044
 460          LS              79
 461          UD  0.0767
              *

 462          KK   C.OS7     ADD
 463          KM
 464          HC       2
              *

 465          KK    ROS7   ROUTE
 466          KM   ROUTE C.OS7 THRU S230
 467          RS       2    ELEV      10
 468          RC   0.055   0.035   0.055    3680   0.018
 469          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 470          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 471          KK    S230     SUB
 472          KM   SUB-BASIN S230
 473          BA   0.075
 474          LS              78
 475          UD    0.12
              *
```

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

 476          KK    C230     ADD
 477          KM   COMBINE C.OS7/ROS7 & S230
 478          HC       2
              *

 479          KK    R230   ROUTE
 480          KM   ROUTE C230 THRU S231
 481          RS       1    ELEV      10
 482          RC   0.055   0.035   0.055     465   0.022
 483          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 484          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 485          KK    S231     SUB
 486          KM   SUB-BASIN S231
 487          BA  0.0056
 488          LS             85
 489          UD    0.06
              *

 490          KK    C231
 491          KM   COMBINE C230/R230 & S231
 492          HC       2
              *

 493          KK     S90     SUB
 494          KM
 495          BA   0.063
 496          LS             86
 497          UD   0.152
              *

 498          KK  R1OS11   ROUTE
 499          KM
 500          RS       1    ELEV      10
 501          RC   0.055   0.035   0.055     300    0.02
 502          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 503          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 504          KK    OS11     SUB
 505          KM
 506          BA  0.0041
 507          LS             79
 508          UD  0.0967
              *

 509          KK  C.OS11     ADD
 510          KM
 511          HC       2
              *
```

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

 512          KK  R1.OS8   ROUTE
 513          KM
 514          RS       1    ELEV      10
 515          RC   0.055   0.035   0.055     710    0.02
 516          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 517          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 518          KK     OS8     SUB
 519          KM
 520          BA  0.0139
 521          LS              79
 522          UD  0.1167
              *

 523          KK   C.OS8     ADD
 524          KM
 525          HC       2
              *

 526          KK  R1.OS9   ROUTE
 527          KM
 528          RS       2    ELEV      10
 529          RC   0.055   0.035   0.055    2070    0.02
 530          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 531          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 532          KK     OS9     SUB
 533          KM
 534          BA  0.0293
 535          LS              79
 536          UD  0.1778
              *

 537          KK  C1.OS9     ADD
 538          HC       2
              *

 539          KK      H2     SUB
 540          KM
 541          BA  0.0105
 542          LS              85      35
 543          UD  0.0889
              *

 544          KK    RBH2 RET BAS
 545          KM
 546          RS       1    STOR      -1
 547          SV       0     1.2    1.35     1.5
 548          SE       0     4.0     4.5     5.0
 549          SQ       0      26      82     181
              *
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```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 550          KK  R2.OS9   ROUTE
 551          KM
 552          RS       2    ELEV      10
 553          RC   0.055   0.035   0.055    1390    0.02
 554          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 555          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 556          KK      E3     SUB
 557          KM
 558          BA  0.0099
 559          LS              85      35
 560          UD  0.1228
              *

 561          KK    RBE1 RET BAS
 562          KM        40 FOOT WEIR
 563          RS       1    STOR      -1
 564          SV       0    0.75   0.825     0.9
 565          SE       0       5     5.5     6.0
 566          SQ       0      31      75     155
              *

 567          KK  R3.OS9   ROUTE
 568          KM
 569          RS       1    ELEV      10
 570          RC   0.055   0.035   0.055    1120    0.02
 571          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 572          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 573          KK     S80     SUB
 574          KM
 575          BA  0.0580
 576          LS              85
 577          UD   0.166
              *

 578          KK  R1.OS4   ROUTE
 579          KM
 580          RS       1    ELEV      10
 581          RC   0.055   0.035   0.055     800    0.02
 582          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 583          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 584          KK     OS4     SUB
 585          KM
 586          BA  0.0075
 587          LS              79
 588          UD  0.0972
              *
```

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

 589          KK   C.OS4     ADD
 590          KM
 591          HC       2
              *

 592          KK      I1     SUB
 593          KM
 594          BA  0.0175
 595          LS              79
 596          UD  0.1078
              *

 597          KK    C.I1     ADD
 598          KM
 599          HC       2
              *

 600          KK    RBI2 RET BAS
 601          KM                RETENTION BASIN IS DRAINED BY 5 - 36 inch CORRUGATED METAL PIPES
 602          RS       1    STOR      -1
 603          SV       0    0.74   1.115
 604          SE       0       2       3
 605          SQ       0      95     175
              *

 606          KK    RBI3 RET BAS
 607          KM                RETENTION BASIN IS DRAINED BY 4 - 36 inch CORRUGATED METAL PIPES
 608          RS       1    STOR      -1
 609          SV       0    0.74   1.115
 610          SE       0       2       3
 611          SQ       0      76     140
              *

 612          KK  R10S10   ROUTE
 613          KM
 614          RS       2    ELEV      10
 615          RC   0.055   0.035   0.055    1600    0.02
 616          RX    48.5    51.5    91.5    94.0   106.0   108.5   148.5   151.5
 617          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 618          KK    OS10     SUB
 619          KM
 620          BA  0.0170
 621          LS              79
 622          UD  0.1445
              *

 623          KK      E1     SUB
 624          KM
 625          BA  0.0185
 626          LS              85      35
 627          UD  0.1111
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 628          KK  R20S10   ROUTE
 629          KM
 630          RS       1    ELEV      10
 631          RC   0.055   0.035   0.055    1000    0.02
 632          RX    48.5    51.5    91.5    94.0   106.0   108.5   148.5   151.5
 633          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 634          KK  C.OS10     ADD
 635          KM
 636          HC       3
              *

 637          KK    RBE2 RET BAS
 638          KM
 639          RS       1    STOR      -1
 640          SV       0   0.336   0.504   0.672    0.84
 641          SE       0       2       3       4     5.0
 642          SQ       0      57     105     147     180
              *

 643          KK    RBE3 RET BAS
 644          KM
 645          RS       1    STOR      -1
 646          SV       0    0.45   0.675    0.90
 647          SE       0       2       3     4.0
 648          SQ       0      57     105     147
              *

 649          KK      F2     SUB
 650          KM
 651          BA  0.0091
 652          LS              85      35
 653          UD  0.1067
              *

 654          KK    C.F1     ADD
 655          KM
 656          HC       2
              *

 657          KK    RBF1 RET BAS
 658          KM                RETENTION BASIN IS DRAINED BY 4 - 36 INCH C.M. PIPES
 659          RS       1    STOR      -1
 660          SV       0    0.59    0.89    1.18
 661          SE       0       2       3     4.0
 662          SQ       0      76     140     196
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 663          KK      E2     SUB
 664          KM
 665          BA  0.0165
 666          LS              85      35
 667          UD  0.1106
              *

 668          KK    C.E2     ADD
 669          KM
 670          HC       2
              *

 671          KK    RBE4 RET BAS
 672          KM
 673          RS       1    STOR      -1
 674          SV       0   0.745    1.12    1.49
 675          SE       0       2       3     4.0
 676          SQ       0      57     105     147
              *

 677          KK  R4.OS9   ROUTE
 678          KM
 679          RS       1    ELEV      10
 680          RC   0.055   0.035   0.055     200    0.02
 681          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 682          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 683          KK     S94     SUB
 684          KM
 685          BA   0.132
 686          LS              86
 687          UD   0.186
              *

 688          KK    S100     SUB
 689          KM
 690          BA   0.148
 691          LS              86
 692          UD   0.196
              *

 693          KK   CS100     ADD
 694          KM
 695          HC      . 2
              *

 696          KK  R10S12   ROUTE
 697          KM
 698          RS       1    ELEV      10
 699          RC   0.055   0.035   0.055     900    0.02
 700          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 701          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 702          KK    OS12     SUB
 703          KM
 704          BA  0.0107
 705          LS              79
 706          UD  0.1056
              *

 707          KK  C.OS12     ADD
 708          KM
 709          HC       2
              *

 710          KK  R5.OS9   ROUTE
 711          KM
 712          RS       2    ELEV      10
 713          RC   0.055   0.035   0.055    1410    0.02
 714          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 715          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 716          KK  C2.OS9     ADD
 717          KM
 718          HC       5
              *

 719          KK  R1OS13   ROUTE
 720          KM
 721          RS       1    ELEV      10
 722          RC   0.055   0.035   0.055     200    0.02
 723          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 724          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 725          KK      F3     SUB
 726          KM
 727          BA  0.0031
 728          LS              85      35
 729          UD  0.0722
              *

 730          KK    RBF3 RET BAS
 731          KM
 732          RS       1    STOR      -1
 733          SV       0    0.34    0.41    0.48
 734          SE       0     4.0     4.5     5.0
 735          SQ       0      26      82     181
              *

 736          KK  R2OS13   ROUTE
 737          KM
 738          RS       1    ELEV      10
 739          RC   0.055   0.035   0.055     150    0.02
 740          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 741          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

742           KK  C.OS13     ADD
743           KM
744           HC       2
              *

745           KK   ROS13   ROUTE
746           KM   ROUTE C.OS13 THRU SUB-BASIN S220
747           RS       2    ELEV      10
748           RC   0.055   0.035   0.055    3030   0.018
749           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
750           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

751           KK    S220
752           KM   SUB-BASIN S220
753           BA   0.079
754           LS             85
755           UD    0.10
              *

756           KK    C220
757           KM   COMBINE C.OS13/ROS13 & S220
758           HC       2
              *

759           KK    R220   ROUTE
760           KM   ROUTE C220 THRU SUB-BASIN S232
761           RS       1    ELEV      10
762           RC   0.055   0.035   0.055     410   0.025
763           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
764           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

765           KK    S232
766           KM   SUB-BASIN S232
767           BA  0.0030
768           LS             85
769           UD    0.06
              *

770           KK    C232
771           KM   COMBINE C231, C220/R220, & S232
772           HC       3
              *

773           KK    R232   ROUTE
774           KM   ROUTE C232 THRU SUB-BASIN S233
775           RS       4    ELEV      10
776           RC   0.055   0.035   0.055    5295   0.018
777           RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
778           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 779          KK    S233
 780          KM   SUB-BASIN S233
 781          BA    0.12
 782          LS             80
 783          UD    0.18
              *

 784          KK    C233
 785          KM   COMBINE  C232/R232 & S233
 786          HC       2
              *

 787          KK    NULL
 788          HC       2
              *

 789          KK   RET5R     RET
 790          KM
 791          DR   DIV5R
              *

 792          KK  R10S14   ROUTE
 793          KM
 794          RS       1    ELEV      10
 795          RC   0.055   0.035   0.055     700    0.02
 796          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 797          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 798          KK    OS14     SUB
 799          KM
 800          BA  0.0039
 801          LS             79
 802          UD  0.1028
              *

 803          KK      D1     SUB
 804          KM
 805          BA  0.0111
 806          LS             85      35
 807          UD  0.0989
              *

 808          KK    RBD1 RET BAS
 809          KM
 810          RS       1    STOR      -1
 811          SV       0    0.91    1.01    1.11
 812          SE       0     4.5     5.0     5.5
 813          SQ       0      29      42      63
              *
```

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

 814          KK  C.OS14     ADD
 815          KM
 816          HC       3
              *

 817          KK   ROS14   ROUTE
 818          KM   ROUTE C.OS14 THRU SUB-BASIN S250
 819          RS       2    ELEV      10
 820          RC   0.055   0.035   0.055    3270   0.021
 821          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 822          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 823          KK    S250
 824          KM   SUB-BASIN S250
 825          BA   0.083
 826          LS             79
 827          UD    0.11
              *

 828          KK    C250
 829          KM   COMBINE C.OS14/ROS14 & S250
 830          HC       2
              *

 831          KK    R250   ROUTE
 832          KM   ROUTE C250 THRU SUB-BASIN S252
 833          RS       1    ELEV      10
 834          RC   0.055   0.035   0.055    1385   0.014
 835          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 836          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 837          KK    S252     SUB
 838          KM   SUB-BASIN S252
 839          BA   0.015
 840          LS             82
 841          UD    0.06
              *

 842          KK    S251
 843          KM   SUB-BASIN S251
 844          BA   0.025
 845          LS             85
 846          UD   0.088
              *

 847          KK    R251   ROUTE
 848          KM   ROUTE C251 THRU SUB-BASIN S253
 849          RS       1    ELEV      10
 850          RC   0.055   0.035   0.055    1120   0.013
 851          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 852          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *
```

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

 853          KK    S253     SUB
 854          KM   SUB-BASIN S253
 855          BA   0.016
 856          LS              85
 857          UD    0.06
              *

 858          KK    C253
 859          KM   COMBINE C250/R250, S252, S251/R251, & S253
 860          HC       4
              *

 861          KK    R253   ROUTE
 862          KM   ROUTE C253 THRU SUB-BASIN S254
 863          RS       3    ELEV      10
 864          RC   0.055   0.035   0.055    4360   0.021
 865          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 866          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 867          KK    S254     SUB
 868          KM   SUB-BASIN S254
 869          BA   0.080
 870          LS              82
 871          UD    0.15
              *

 872          KK    C254
 873          KM   COMBINE C253/R253 & S254
 874          HC       2
              *

 875          KK    S255     SUB
 876          KM   SUB-BASIN S255
 877          BA   0.034
 878          LS              85
 879          UD   0.097
              *

 880          KK    S256     SUB
 881          KM   SUB-BASIN S256
 882          BA   0.025
 883          LS              81
 884          UD   0.081
              *

 885          KK      G1     SUB
 886          KM
 887          BA  0.0467
 888          LS              85      35
 889          UD  0.1928
              *
```

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

890           KK    RBG1 RET BAS
891           KM
892           RS       1    STOR      -1
893           SV       0     5.3    5.78    6.26
894           SE       0     3.0     3.5     4.0
895           SQ       0      21      76     176
              *
              *

896           KK      H1     SUB
897           KM
898           BA  0.0125
899           LS              85      35
900           UD  0.1011
              *

901           KK    RBH1 RET BAS
902           KM
903           RS       1    STOR      -1
904           SV       0    1.28   1.465    1.65
905           SE       0     3.5     4.0     4.5
906           SQ       0   0.001    0.01     0.1
              *

907           KK    S200
908           KM   SUB-BASIN S200
909           BA    0.77
910           LS              85
911           UD    0.70
              *

912           KK    R200
913           KM   ROUTE S200 THRU SUB-BASIN S201
914           RS       9    ELEV      10
915           RC    .055    .035    .055   13650   0.019
916           RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
917           RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

918           KK    S201
919           KM   SUB-BASIN S201
920           BA    1.25
921           LS              86
922           UD    0.46
              *

923           KK    C201
924           KM   COMBINE S200/R200 & S201
925           HC       2
              *
```

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

 926          KK    R201
 927          KM   ROUTE C201 THRU SUB-BASIN S202
 928          RS       3    ELEV      10
 929          RC    .055    .035    .055    4355   0.018
 930          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 931          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 932          KK    S202
 933          KM   SUB-BASIN S202
 934          BA    0.36
 935          LS              86
 936          UD    0.15
              *

 937          KK    C202
 938          KM   COMBINE C201/R201 & SUB-BASIN S202
 939          HC       2
              *

 940          KK  DIV20R DIVERT
 941          DT  DIV20L
 942          DI       0     100    1000   10000
 943          DQ       0       5      50     500
              *

 944          KK    R20R
 945          KM   ROUTE DIV20R THRU SUB-BASIN S203
 946          RS       5    ELEV      10
 947          RC    .055    .035    .055    7575   0.017
 948          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 949          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 950          KK    S203
 951          KM   SUB-BASIN S203
 952          BA    0.43
 953          LS              82
 954          UD    0.25
              *

 955          KK    C203
 956          KM   COMBINE DIV20R/R20R & S203
 957          HC       2
              *

 958          KK  DIV21R DIVERT
 959          DT  DIV21L
 960          DI       0     100    1000   10000
 961          DQ       0      95     950    9500
              *
```

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

962           KK    R21R
963           KM   ROUTE DIV21R THRU SUB-BASIN S210
964           RS       1    ELEV      10
965           RC    .055    .035    .055    2190   0.017
966           RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
967           RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

968           KK    S210
969           KM   SUB-BASIN S210
970           BA   0.052
971           LS             79
972           UD    0.07
              *

973           KK    C210
974           KM   COMBINE DIV21R/R21R & S210
975           HC       2
              *

976           KK  DIV24L DIVERT
977           DT  DIV24R
978           DI       0     100    1000   10000
979           DQ       0      10     100    1000
              *

980           KK    R210
981           KM   ROUTE C210 THRU SUB-BASIN S211
982           RS       4    ELEV      10
983           RC    .055    .035    .055    6150   0.018
984           RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
985           RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

986           KK    S211
987           KM   SUB-BASIN S211
988           BA    0.15
989           LS             77
990           UD    0.20
              *

991           KK    C211
992           KM   COMBINE C210/R210 & S211
993           HC       2
              *

994           KK    NULL
995           HC       2
              *
```

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

 996          KK  RET24R RETURN
 997          DR  DIV24R
              *

 998          KK    R24R
 999          KM   ROUTE DIV24R THRU SUB-BASIN S212
1000          RS       4    ELEV      10
1001          RC    .055    .035    .055    5490   0.020
1002          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1003          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1004          KK    S212
1005          KM   SUB-BASIN S212
1006          BA   0.084
1007          LS             79
1008          UD    0.18
              *

1009          KK    C212
1010          KM   COMBINE DIV24R/R24R & S212
1011          HC       2
              *

1012          KK    NULL
1013          HC       2
              *

1014          KK  RET21L RETURN
1015          DR  DIV21L
              *

1016          KK    R21L
1017          KM   ROUTE DIV21L THRU SUB-BASIN S290
1018          RS       2    ELEV      10
1019          RC    .055    .035    .055    2475   0.017
1020          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1021          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1022          KK    S290
1023          KM   SUB-BASIN S290
1024          BA   0.072
1025          LS             77
1026          UD    0.08
              *

1027          KK    C290
1028          KM   COMBINE DIV21L/R21L & S290
1029          HC       2
              *
```

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

1030          KK    R290
1031          KM   ROUTE C290 THRU SUB-BASIN S291
1032          RS       1    ELEV      10
1033          RC    .055    .035    .055    2135   0.021
1034          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1035          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1036          KK    S291
1037          KM   SUB-BASIN S291
1038          BA   0.055
1039          LS              77
1040          UD    0.07
              *

1041          KK    C291
1042          KM   COMBINE C290/R290 & S291
1043          HC       2
              *

1044          KK    NULL
1045          HC       2
              *
              *

1046          KK    S300
1047          KM   SUB-BASIN S300
1048          BA  0.0078
1049          LS              77
1050          UD    0.06
              *

1051          KK    R300
1052          KM   ROUTE S300 THRU SUB-BASIN S301
1053          RS       1    ELEV      10
1054          RC    .055    .035    .055    1355   0.018
1055          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1056          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1057          KK    S301
1058          KM   SUB-BASIN S301
1059          BA   0.012
1060          LS              79
1061          UD    0.06
              *

1062          KK    C301
1063          KM   COMBINE S300/R300 & S301
1064          HC       2
              *
```

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

1065          KK    S310
1066          KM   SUB-BASIN S310
1067          BA   0.011
1068          LS              77
1069          UD    0.06
              *

1070          KK    R310
1071          KM   ROUTE S310 THRU SUB-BASIN S311
1072          RS       1    ELEV      10
1073          RC    .055    .035    .055    1470   0.020
1074          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1075          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1076          KK    S311
1077          KM   SUB-BASIN S311
1078          BA   0.012
1079          LS              79
1080          UD    0.06
              *

1081          KK    C311
1082          KM   COMBINE C301, S310/R310, & S311
1083          HC       3
              *

1084          KK    R311
1085          KM   ROUTE C311 THRU SUB-BASIN S302
1086          RS       1    ELEV      10
1087          RC    .055    .035    .055     765   0.026
1088          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1089          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1090          KK    S302
1091          KM   SUB-BASIN S302
1092          BA   0.012
1093          LS              80
1094          UD    0.06
              *

1095          KK    C302
1096          KM   COMBINE  C311/R311 & S302
1097          HC       2
              *

1098          KK  DIV22R DIVERT
1099          DT  DIV22L
1100          DI       0     100    1000   10000
1101          DQ       0      50     500    5000
              *
```

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

1102          KK    R22R
1103          KM   ROUTE DIV22R THRU SUB-BASIN S304
1104          RS       1    ELEV      10
1105          RC    .055    .035    .055     650   0.015
1106          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1107          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1108          KK    S304
1109          KM   SUB-BASIN S304
1110          BA   .0040
1111          LS             77
1112          UD    0.06
              *

1113          KK    C304
1114          KM   COMBINE  DIV22R/R22R & S304
1115          HC       2
              *

1116          KK  DIV23R DIVERT
1117          DT  DIV23L
1118          DI       0     100    1000   10000
1119          DQ       0      75     750    7500
              *
              *

1120          KK    R23R
1121          KM   ROUTE DIV23R THRU SUB-BASIN S306
1122          RS       1    ELEV      10
1123          RC    .055    .035    .055    1110   0.018
1124          RX    52.5    55.5    95.5      98     102   104.5   144.5   147.5
1125          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1126          KK    S306
1127          KM   SUB-BASIN S306
1128          BA   .0091
1129          LS             85
1130          UD    0.06
              *

1131          KK    C306
1132          KM   COMBINE  DIV23R/R23R & S306
1133          HC       2
              *

1134          KK    NULL
1135          HC       2
              *
```

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

1136          KK  RET23L RETURN
1137          DR  DIV23L
              *

1138          KK    R23L
1139          KM   ROUTE DIV23L THRU SUB-BASIN S305
1140          RS       1    ELEV      10
1141          RC    .055    .035    .055     580   0.017
1142          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1143          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1144          KK    S305
1145          KM   SUB-BASIN S305
1146          BA   .0039
1147          LS             81
1148          UD    0.06
              *

1149          KK    C305
1150          KM   COMBINE  DIV23L/R23L & S305
1151          HC       2
              *

1152          KK    NULL
1153          HC       2
              *

1154          KK  RET22L RETURN
1155          DR  DIV22L
              *

1156          KK    R22L
1157          KM   ROUTE DIV22L THRU SUB-BASIN S303
1158          RS       1    ELEV      10
1159          RC    .055    .035    .055     910   0.016
1160          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1161          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1162          KK    S303
1163          KM   SUB-BASIN S303
1164          BA    .013
1165          LS             80
1166          UD    0.06
              *

1167          KK    C303
1168          KM   COMBINE  DIV22L/R22L & S303
1169          HC       2
              *
```

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


1170          KK    S307
1171          KM   SUB-BASIN S307
1172          BA    .016
1173          LS              82
1174          UD    0.06
              *
              *
              *
1175          ZZ
```

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	S30	651.	3.50	116.	29.	28.	0.42		
ROUTED TO	R30	621.	3.58	116.	29.	28.	0.42	12.69	3.58
HYDROGRAPH AT	S32	82.	3.33	11.	3.	3.	0.07		
2 COMBINED AT	C32	680.	3.58	127.	32.	31.	0.49		
HYDROGRAPH AT	S40	1137.	4.08	345.	87.	84.	1.60		
ROUTED TO	R48	1079.	4.42	344.	87.	84.	1.60	13.57	4.42
HYDROGRAPH AT	S50	693.	3.58	138.	35.	34.	0.53		
2 COMBINED AT	C51	1315.	4.25	479.	122.	118.	2.13		
ROUTED TO	R51	1306.	4.33	479.	122.	118.	2.13	13.67	4.33
HYDROGRAPH AT	S54	57.	3.33	8.	2.	2.	0.04		
3 COMBINED AT	C54	1696.	3.75	612.	156.	150.	2.67		
ROUTED TO	R54	1651.	3.92	612.	156.	150.	2.67	12.65	3.92
HYDROGRAPH AT	S56	135.	3.50	23.	6.	6.	0.17		
2 COMBINED AT	C56	1742.	3.83	635.	162.	156.	2.84		
ROUTED TO	R56	1735.	3.92	634.	162.	156.	2.84	12.60	3.92
HYDROGRAPH AT	S110	141.	3.42	20.	5.	5.	0.11		
ROUTED TO	R110	131.	3.50	20.	5.	5.	0.11	10.55	3.50
HYDROGRAPH AT	S280	169.	3.08	11.	3.	3.	0.06		
3 COMBINED AT	C280	1816.	3.83	666.	170.	163.	3.00		
DIVERSION TO	DIV26R	1362.	3.83	500.	127.	123.	3.00		
HYDROGRAPH AT	DIV26L	454.	3.83	167.	42.	41.	3.00		
ROUTED TO	R26L	454.	3.92	166.	42.	41.	3.00	11.49	3.92
HYDROGRAPH AT	S281	30.	3.08	2.	1.	0.	0.01		
2 COMBINED AT	C281	456.	3.92	169.	43.	41.	3.01		
HYDROGRAPH AT	S60	1489.	4.00	432.	109.	105.	1.81		
DIVERSION TO	DIV4L	1117.	4.00	324.	82.	79.	1.81		
HYDROGRAPH AT	DIV4R	372.	4.00	108.	27.	26.	1.81		

HYDROGRAPH AT	S70	86.	3.17	8.	2.	2.	0.03		
2 COMBINED AT	C70	378.	4.00	115.	29.	28.	1.84		
ROUTED TO	R70	374.	4.17	115.	29.	28.	1.84	12.08	4.17
HYDROGRAPH AT	S62	226.	3.58	39.	10.	9.	0.19		
2 COMBINED AT	C62	464.	4.00	154.	39.	38.	2.03		
ROUTED TO	R62	464.	4.08	154.	39.	38.	2.03	12.29	4.08
HYDROGRAPH AT	S270	175.	3.17	14.	3.	3.	0.07		
3 COMBINED AT	C270	923.	3.92	336.	85.	82.	5.11		
DIVERSION TO	DIV27R	693.	3.92	252.	64.	62.	5.11		
HYDROGRAPH AT	DIV27L	231.	3.92	84.	21.	21.	5.11		
ROUTED TO	R27L	231.	4.00	84.	21.	21.	5.11	11.69	4.00
HYDROGRAPH AT	S271	66.	3.08	4.	1.	1.	0.02		
2 COMBINED AT	C271	234.	4.00	88.	22.	22.	5.13		
ROUTED TO	R271	234.	4.00	88.	22.	22.	5.13	11.47	4.00
HYDROGRAPH AT	S272	43.	3.08	3.	1.	1.	0.02		
HYDROGRAPH AT	S260	270.	3.25	28.	7.	7.	0.14		
ROUTED TO	R260	257.	3.33	28.	7.	7.	0.14	11.66	3.33
HYDROGRAPH AT	S261	104.	3.17	8.	2.	2.	0.04		
4 COMBINED AT	C272	424.	3.33	128.	32.	31.	5.34		
HYDROGRAPH AT	DIV4L	1117.	4.00	324.	82.	79.	0.00		
ROUTED TO	R1.0S2	1118.	4.08	324.	82.	79.	0.00	13.70	4.08
HYDROGRAPH AT	OS2	48.	3.25	5.	1.	1.	0.03		
2 COMBINED AT	C.OS2	1122.	4.08	328.	83.	80.	0.03		
DIVERSION TO	DIV5R	281.	4.08	82.	21.	20.	0.03		
HYDROGRAPH AT	DIV5L	842.	4.08	246.	62.	60.	0.03		
ROUTED TO	R1.OS3	842.	4.08	246.	62.	60.	0.03	13.37	4.08
HYDROGRAPH AT	OS3	37.	3.17	3.	1.	1.	0.02		
2 COMBINED AT	C.OS3	845.	4.08	249.	63.	61.	0.05		
DIVERSION TO	DIV11L	211.	4.08	62.	16.	15.	0.05		
HYDROGRAPH AT	DIV11R	634.	4.08	187.	47.	46.	0.05		

2 COMBINED AT	C247	167.	4.42	64.	16.	16.	0.08		
2 COMBINED AT	NULL	862.	4.50	354.	89.	86.	5.64		
HYDROGRAPH AT	S242	58.	3.17	4.	1.	1.	0.03		
ROUTED TO	R242	36.	3.42	4.	1.	1.	0.03	10.67	3.42
HYDROGRAPH AT	S248	149.	3.25	15.	4.	4.	0.09		
2 COMBINED AT	C248	160.	3.33	20.	5.	5.	0.12		
2 COMBINED AT	NULL	991.	3.33	373.	94.	91.	5.75		
HYDROGRAPH AT	RET11L	211.	4.08	62.	16.	15.	0.00		
ROUTED TO	R1.OS6	211.	4.08	62.	16.	15.	0.00	11.90	4.08
HYDROGRAPH AT	OS6	3.	3.08	0.	0.	0.	0.00		
2 COMBINED AT	C.OS6	212.	4.08	63.	16.	15.	0.00		
ROUTED TO	R1.OS7	211.	4.08	63.	16.	15.	0.00	11.90	4.08
HYDROGRAPH AT	OS7	9.	3.17	1.	0.	0.	0.00		
2 COMBINED AT	C.OS7	212.	4.08	63.	16.	15.	0.01		
ROUTED TO	ROS7	210.	4.17	63.	16.	15.	0.01	11.96	4.17
HYDROGRAPH AT	S230	132.	3.17	11.	3.	3.	0.08		
2 COMBINED AT	C230	220.	4.17	74.	19.	18.	0.08		
ROUTED TO	R230	220.	4.17	74.	19.	18.	0.08	11.89	4.17
HYDROGRAPH AT	S231	17.	3.08	1.	0.	0.	0.01		
2 COMBINED AT	C231	220.	4.17	75.	19.	18.	0.09		
HYDROGRAPH AT	S90	139.	3.17	13.	3.	3.	0.06		
ROUTED TO	R10S11	142.	3.25	13.	3.	3.	0.06	11.50	3.25
HYDROGRAPH AT	OS11	8.	3.17	1.	0.	0.	0.00		
2 COMBINED AT	C.OS11	148.	3.25	14.	3.	3.	0.07		
ROUTED TO	R1.OS8	152.	3.25	14.	3.	3.	0.07	11.56	3.25
HYDROGRAPH AT	OS8	26.	3.17	2.	1.	1.	0.01		
2 COMBINED AT	C.OS8	174.	3.25	16.	4.	4.	0.08		
ROUTED TO	R1.OS9	162.	3.33	16.	4.	4.	0.08	11.62	3.33
HYDROGRAPH AT	OS9	46.	3.25	5.	1.	1.	0.03		
2 COMBINED AT	C1.OS9	205.	3.25	21.	5.	5.	0.11		

ROUTED TO	R1.OS5	633.	4.08	187.	47.	46.	0.05	13.09	4.08
HYDROGRAPH AT	OS5	9.	3.17	1.	0.	0.	0.00		
HYDROGRAPH AT	F1	7.	3.08	1.	0.	0.	0.00		
ROUTED TO	RBF2	5.	3.17	1.	0.	0.	0.00	0.67	3.17
HYDROGRAPH AT	D2	24.	3.17	2.	0.	0.	0.01		
ROUTED TO	RBD2	13.	3.33	2.	0.	0.	0.01	1.97	3.33
ROUTED TO	R2.OS5	13.	3.25	2.	0.	0.	0.01	10.34	3.25
4 COMBINED AT	C.OS5	637.	4.08	190.	48.	46.	0.06		
ROUTED TO	ROS5	627.	4.25	190.	48.	46.	0.06	13.05	4.25
HYDROGRAPH AT	S240	63.	3.17	5.	1.	1.	0.03		
2 COMBINED AT	C240	631.	4.25	195.	49.	48.	0.10		
ROUTED TO	R240	629.	4.25	195.	49.	48.	0.10	13.08	4.25
HYDROGRAPH AT	S243	28.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C243	630.	4.25	197.	50.	48.	0.11		
HYDROGRAPH AT	S241	53.	3.17	4.	1.	1.	0.03		
ROUTED TO	R241	52.	3.17	4.	1.	1.	0.03	10.82	3.17
HYDROGRAPH AT	S244	31.	3.08	2.	1.	1.	0.01		
3 COMBINED AT	C244	635.	4.25	203.	51.	49.	0.15		
ROUTED TO	R244	634.	4.33	203.	51.	49.	0.15	13.00	4.33
HYDROGRAPH AT	S245	20.	3.08	1.	0.	0.	0.01		
2 COMBINED AT	C245	635.	4.33	205.	52.	50.	0.16		
DIVERSION TO	DIV25R	159.	4.33	51.	13.	12.	0.16		
HYDROGRAPH AT	DIV25L	476.	4.33	154.	39.	37.	0.16		
ROUTED TO	R25L	460.	4.58	153.	39.	37.	0.16	12.82	4.58
HYDROGRAPH AT	S246	90.	3.25	9.	2.	2.	0.06		
2 COMBINED AT	C246	466.	4.58	162.	41.	39.	0.22		
2 COMBINED AT	NULL	698.	4.50	290.	73.	71.	5.56		
HYDROGRAPH AT	RET25R	159.	4.33	51.	13.	12.	0.00		
ROUTED TO	R25R	158.	4.42	51.	13.	12.	0.00	11.62	4.42
HYDROGRAPH AT	S247	135.	3.25	13.	3.	3.	0.08		

HYDROGRAPH AT	H2	32.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBH2	12.	3.33	3.	1.	1.	0.01	1.87	3.33
ROUTED TO	R2.0S9	12.	3.42	3.	1.	1.	0.01	10.33	3.42
HYDROGRAPH AT	E3	28.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBE1	16.	3.33	3.	1.	1.	0.01	2.54	3.33
ROUTED TO	R3.0S9	15.	3.42	3.	1.	1.	0.01	10.38	3.42
HYDROGRAPH AT	S80	121.	3.25	12.	3.	3.	0.06		
ROUTED TO	R1.0S4	123.	3.25	12.	3.	3.	0.06	11.38	3.25
HYDROGRAPH AT	0S4	15.	3.17	1.	0.	0.	0.01		
2 COMBINED AT	C.0S4	134.	3.25	13.	3.	3.	0.07		
HYDROGRAPH AT	I1	34.	3.17	3.	1.	1.	0.02		
2 COMBINED AT	C.I1	161.	3.25	16.	4.	4.	0.08		
ROUTED TO	RBI2	144.	3.33	16.	4.	4.	0.08	2.62	3.33
ROUTED TO	RBI3	129.	3.42	16.	4.	4.	0.08	2.83	3.42
ROUTED TO	R10S10	130.	3.42	16.	4.	4.	0.08	11.42	3.42
HYDROGRAPH AT	0S10	28.	3.25	3.	1.	1.	0.02		
HYDROGRAPH AT	E1	55.	3.17	5.	1.	1.	0.02		
ROUTED TO	R20S10	49.	3.17	5.	1.	1.	0.02	10.79	3.17
3 COMBINED AT	C.0S10	167.	3.42	23.	6.	6.	0.12		
ROUTED TO	RBE2	158.	3.50	23.	6.	6.	0.12	4.34	3.50
ROUTED TO	RBE3	154.	3.50	23.	6.	6.	0.12	4.17	3.50
HYDROGRAPH AT	F2	27.	3.17	2.	1.	1.	0.01		
2 COMBINED AT	C.F1	160.	3.50	25.	6.	6.	0.13		
ROUTED TO	RBF1	156.	3.58	25.	6.	6.	0.13	3.28	3.58
HYDROGRAPH AT	E2	49.	3.17	4.	1.	1.	0.02		
2 COMBINED AT	C.E2	164.	3.58	29.	7.	7.	0.14		
ROUTED TO	RBE4	156.	3.67	29.	7.	7.	0.14	4.20	3.67
ROUTED TO	R4.0S9	156.	3.67	29.	7.	7.	0.14	11.58	3.67
HYDROGRAPH AT	S94	276.	3.25	28.	7.	7.	0.13		
HYDROGRAPH AT	S100	301.	3.25	31.	8.	8.	0.15		

2 COMBINED AT	CS100	577.	3.25	59.	15.	14.	0.28		
ROUTED TO	R10S12	544.	3.33	59.	15.	14.	0.28	12.95	3.33
HYDROGRAPH AT	OS12	21.	3.17	2.	0.	0.	0.01		
2 COMBINED AT	C.OS12	555.	3.33	61.	15.	15.	0.29		
ROUTED TO	R5.OS9	527.	3.42	61.	15.	15.	0.29	12.92	3.42
5 COMBINED AT	C2.OS9	837.	3.33	116.	29.	28.	0.57		
ROUTED TO	R10S13	832.	3.42	116.	29.	28.	0.57	13.36	3.42
HYDROGRAPH AT	F3	10.	3.08	1.	0.	0.	0.00		
ROUTED TO	RBF3	7.	3.25	1.	0.	0.	0.00	1.05	3.25
ROUTED TO	R20S13	7.	3.25	1.	0.	0.	0.00	10.22	3.25
2 COMBINED AT	C.OS13	837.	3.42	117.	29.	28.	0.57		
ROUTED TO	ROS13	790.	3.50	117.	29.	28.	0.57	13.36	3.50
HYDROGRAPH AT	S220	206.	3.17	16.	4.	4.	0.08		
2 COMBINED AT	C220	837.	3.50	133.	33.	32.	0.65		
ROUTED TO	R220	837.	3.50	133.	33.	32.	0.65	13.25	3.50
HYDROGRAPH AT	S232	9.	3.08	1.	0.	0.	0.00		
3 COMBINED AT	C232	959.	3.50	209.	53.	51.	0.74		
ROUTED TO	R232	894.	3.75	209.	53.	51.	0.74	13.39	3.75
HYDROGRAPH AT	S233	195.	3.25	20.	5.	5.	0.12		
2 COMBINED AT	C233	939.	3.67	228.	57.	55.	0.86		
2 COMBINED AT	NULL	1706.	3.67	602.	152.	146.	6.61		
HYDROGRAPH AT	RET5R	281.	4.08	82.	21.	20.	0.00		
ROUTED TO	R10S14	281.	4.08	82.	21.	20.	0.00	12.23	4.08
HYDROGRAPH AT	OS14	8.	3.17	1.	0.	0.	0.00		
HYDROGRAPH AT	D1	34.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBD1	16.	3.33	3.	1.	1.	0.01	2.46	3.33
3 COMBINED AT	C.OS14	286.	4.08	85.	22.	21.	0.01		
ROUTED TO	ROS14	282.	4.17	85.	22.	21.	0.01	12.21	4.17
HYDROGRAPH AT	S250	161.	3.17	13.	3.	3.	0.08		
2 COMBINED AT	C250	293.	4.17	98.	25.	24.	0.10		

ROUTED TO	R250	291.	4.25	98.	25.	24.	0.10	12.50	4.25
HYDROGRAPH AT	S252	40.	3.08	3.	1.	1.	0.01		
HYDROGRAPH AT	S251	66.	3.17	5.	1.	1.	0.03		
ROUTED TO	R251	58.	3.17	5.	1.	1.	0.03	11.00	3.17
HYDROGRAPH AT	S253	48.	3.08	3.	1.	1.	0.02		
4 COMBINED AT	C253	299.	4.25	109.	28.	27.	0.15		
ROUTED TO	R253	298.	4.33	109.	28.	27.	0.15	12.10	4.33
HYDROGRAPH AT	S254	150.	3.25	14.	4.	3.	0.08		
2 COMBINED AT	C254	390.	3.25	124.	31.	30.	0.23		
HYDROGRAPH AT	S255	89.	3.17	7.	2.	2.	0.03		
HYDROGRAPH AT	S256	56.	3.17	4.	1.	1.	0.03		
HYDROGRAPH AT	G1	109.	3.25	12.	3.	3.	0.05		
ROUTED TO	RBG1	16.	3.83	10.	3.	3.	0.05	2.23	3.83
HYDROGRAPH AT	H1	38.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBH1	0.	6.17	0.	0.	0.	0.01	4.34	6.25
HYDROGRAPH AT	S200	673.	3.83	156.	39.	38.	0.77		
ROUTED TO	R200	652.	4.17	156.	39.	38.	0.77	11.44	4.17
HYDROGRAPH AT	S201	1512.	3.58	263.	66.	63.	1.25		
2 COMBINED AT	C201	1525.	3.58	418.	105.	101.	2.02		
ROUTED TO	R201	1509.	3.67	418.	105.	101.	2.02	12.42	3.67
HYDROGRAPH AT	S202	801.	3.17	76.	19.	18.	0.36		
2 COMBINED AT	C202	1685.	3.58	493.	124.	119.	2.38		
DIVERSION TO	DIV20L	84.	3.58	25.	6.	6.	2.38		
HYDROGRAPH AT	DIV20R	1601.	3.58	469.	118.	113.	2.38		
ROUTED TO	R20R	1563.	3.83	468.	118.	113.	2.38	12.52	3.83
HYDROGRAPH AT	S203	642.	3.33	77.	19.	18.	0.43		
2 COMBINED AT	C203	1778.	3.75	544.	137.	132.	2.81		
DIVERSION TO	DIV21L	1689.	3.75	517.	130.	125.	2.81		
HYDROGRAPH AT	DIV21R	89.	3.75	27.	7.	7.	2.81		
ROUTED TO	R21R	88.	3.75	27.	7.	7.	2.81	11.75	3.75

HYDROGRAPH AT	S210	105.	3.08	8.	2.	2.	0.05		
2 COMBINED AT	C210	114.	3.17	35.	9.	9.	2.86		
DIVERSION TO	DIV24R	11.	3.17	4.	1.	1.	2.86		
HYDROGRAPH AT	DIV24L	102.	3.17	32.	8.	8.	2.86		
ROUTED TO	R210	89.	3.83	32.	8.	8.	2.86	11.73	3.83
HYDROGRAPH AT	S211	195.	3.25	21.	5.	5.	0.15		
2 COMBINED AT	C211	265.	3.33	53.	13.	13.	3.01		
2 COMBINED AT	NULL	265.	3.33	53.	13.	13.	3.02		
HYDROGRAPH AT	RET24R	11.	3.17	4.	1.	1.	0.00		
ROUTED TO	R24R	10.	4.08	4.	1.	1.	0.00	10.20	4.08
HYDROGRAPH AT	S212	130.	3.25	13.	3.	3.	0.08		
2 COMBINED AT	C212	132.	3.25	17.	4.	4.	0.08		
2 COMBINED AT	NULL	382.	3.33	69.	17.	17.	3.11		
HYDROGRAPH AT	RET21L	1689.	3.75	517.	130.	125.	0.00		
ROUTED TO	R21L	1680.	3.75	516.	130.	125.	0.00	14.37	3.75
HYDROGRAPH AT	S290	133.	3.17	10.	3.	2.	0.07		
2 COMBINED AT	C290	1693.	3.75	526.	132.	128.	0.07		
ROUTED TO	R290	1689.	3.83	526.	132.	128.	0.07	14.22	3.83
HYDROGRAPH AT	S291	101.	3.17	8.	2.	2.	0.05		
2 COMBINED AT	C291	1698.	3.83	534.	134.	129.	0.13		
2 COMBINED AT	NULL	1859.	3.75	603.	152.	146.	3.24		
HYDROGRAPH AT	S300	16.	3.08	1.	0.	0.	0.01		
ROUTED TO	R300	11.	3.17	1.	0.	0.	0.01	10.50	3.17
HYDROGRAPH AT	S301	27.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C301	34.	3.17	3.	1.	1.	0.02		
HYDROGRAPH AT	S310	22.	3.08	2.	0.	0.	0.01		
ROUTED TO	R310	16.	3.17	2.	0.	0.	0.01	10.33	3.17
HYDROGRAPH AT	S311	27.	3.08	2.	0.	0.	0.01		
3 COMBINED AT	C311	73.	3.17	6.	2.	2.	0.04		
ROUTED TO	R311	77.	3.17	6.	2.	2.	0.04	10.95	3.17

HYDROGRAPH AT	S302	29.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C302	101.	3.17	8.	2.	2.	0.05		
DIVERSION TO	DIV22L	51.	3.17	4.	1.	1.	0.05		
HYDROGRAPH AT	DIV22R	51.	3.17	4.	1.	1.	0.05		
ROUTED TO	R22R	49.	3.17	4.	1.	1.	0.05	10.84	3.17
HYDROGRAPH AT	S304	8.	3.08	1.	0.	0.	0.00		
2 COMBINED AT	C304	56.	3.17	5.	1.	1.	0.06		
DIVERSION TO	DIV23L	42.	3.17	4.	1.	1.	0.06		
HYDROGRAPH AT	DIV23R	14.	3.17	1.	0.	0.	0.06		
ROUTED TO	R23R	12.	3.25	1.	0.	0.	0.06	10.66	3.25
HYDROGRAPH AT	S306	28.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C306	31.	3.08	3.	1.	1.	0.07		
2 COMBINED AT	NULL	1864.	3.75	606.	153.	147.	3.30		
HYDROGRAPH AT	RET23L	42.	3.17	4.	1.	1.	0.00		
ROUTED TO	R23L	40.	3.25	4.	1.	1.	0.00	10.71	3.25
HYDROGRAPH AT	S305	10.	3.08	1.	0.	0.	0.00		
2 COMBINED AT	C305	45.	3.25	4.	1.	1.	0.00		
2 COMBINED AT	NULL	1872.	3.75	610.	154.	148.	3.31		
HYDROGRAPH AT	RET22L	51.	3.17	4.	1.	1.	0.00		
ROUTED TO	R22L	46.	3.17	4.	1.	1.	0.00	11.21	3.17
HYDROGRAPH AT	S303	31.	3.08	2.	1.	1.	0.01		
2 COMBINED AT	C303	72.	3.17	6.	2.	2.	0.01		
HYDROGRAPH AT	S307	42.	3.08	3.	1.	1.	0.02		

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

  1           ID       56th AND LONE MOUNTAIN
  2           ID
  3           ID
  4           ID        HEC-1 FILENAME:    1669E100.HC1
  5           ID        DATE:              SEPTEMBER 11, 2000
  6           ID        CREATED BY:        JOSH LESSARD
  7           ID
  8           ID
  9           ID        HEC-1 HYDROLOGY MODEL
 10           ID
 11           ID         1. THE FOLLOWING MODEL ADJUSTS THE EXISTING CONDITIONS FLOW SPLITS.
 12           ID         2. THE ON-SITE SUB-BASINS THAT ARE AFFECTED ARE S247 AND S303
 13           ID         3. DIV4L 75%/DIV4R 25%
 14           ID         4. DIV5L 75%/DIV5R 25%
 15           ID         5. DIV11R 75%/DIV11L 25%
 16           ID         6. DIV25R 75%/DIV25L 25%
 17           ID         7. DIV22L 75%/DIV22R 25%
 18           ID
 19           ID
              *DIAGRAM
 20           IT       5 09SEP00       0     300
 21           IO       5       0
              *

 22           KK     S30
 23           KM   SUB-BASIN S30
 24           BA     .42
 25           PH                   0.80    1.46    2.36    2.70    2.92    3.35
 26           LS              88      38
 27           UD    .452
              *

 28           KK     R30
 29           KM   ROUTE S30 THRU S32
 30           RS       1    ELEV      10
 31           RC    .055    .035    .055    2250    .018
 32           RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 33           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 34           KK     S32
 35           KM   SUB-BASIN S32
 36           BA    .074
 37           LS              78
 38           UD    .287
              *

 39           KK     C32
 40           KM   COMBINE S30/R30 & S32
 41           HC       2
              *
```

f54

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

  42          KK     S40
  43          KM   SUB-BASIN S40
  44          BA    1.60
  45          LS              84      15
  46          UD    .985
              *

  47          KK     R48
  48          KM   ROUTE R40
  49          RS       2    ELEV      10
  50          RC    .055    .035    .055    8400    .023
  51          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
  52          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  53          KK     S50
  54          KM   SUB-BASIN S50
  55          BA     .53
  56          LS              86      35
  57          UD    .535
              *

  58          KK     C51
  59          KM   COMBINE R48/S40 & S50
  60          HC       2
              *

  61          KK     R51
  62          KM   ROUTE C51 THRU BASIN 54
  63          RS       2    ELEV      10
  64          RC    .055    .035    .055    3050    .015
  65          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
  66          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  67          KK     S54
  68          KM   SUB-BASIN S54
  69          BA    .044
  70          LS              81
  71          UD    .291
              *

  72          KK     C54
  73          KM   COMBINE S54, C51, & C32
  74          HC       3
              *

  75          KK     R54
  76          KM   ROUTE C54 THRU BASIN 56
  77          RS       2    ELEV      10
  78          RC    .055    .035    .055    4150    .016
  79          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
  80          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

  81          KK     S56
  82          KM   SUB-BASIN S56
  83          BA    .171
  84          LS              76
  85          UD    .427
              *

  86          KK     C56
  87          KM   COMBINE S56 & R54
  88          HC       2
              *

  89          KK     R56
  90          KM   ROUTE C56 THRU BASIN S280
  91          RS       1    ELEV      10
  92          RC    .055    .035    .055    1840    .019
  93          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
  94          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  95          KK    S110
  96          KM   SUB-BASIN S110
  97          BA    .109
  98          LS              83
  99          UD    .345
              *

 100          KK    R110
 101          KM   ROUTE S110 THRU BASIN S280
 102          RS       1    ELEV      10
 103          RC    .055    .035    .055    1840    .019
 104          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 105          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 106          KK    S280     SUB
 107          KM   SUB-BASIN S280
 108          BA   0.056
 109          LS              85
 110          UD    0.06
              *

 111          KK    C280
 112          KM  COMBINE S56/R56, S110/R110, & S280
 113          HC       3
              *

 114          KK  DIV26L DIVERT
 115          DT  DIV26R
 116          DI       0     100    1000   10000
 117          DQ       0      75     750    7500
              *
```

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

 118          KK    R26L
 119          KM   ROUTE DIV26L THRU BASIN S281
 120          RS       1    ELEV      10
 121          RC    .055    .035    .055    1340    .019
 122          RX    48.5    51.5   101.5     104     144   146.5   196.5   199.5
 123          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 124          KK    S281     SUB
 125          KM   SUB-BASIN S281
 126          BA   0.010
 127          LS             85
 128          UD    0.06
              *

 129          KK    C281
 130          KM  COMBINE DIV26L/R26L & S281
 131          HC       2
              *

 132          KK     S60     SUB
 133          KM
 134          BA  1.8100
 135          LS             87      16
 136          UD   0.933
              *

 137          KK   DIV4R  DIVERT
 138          KM
 139          DT   DIV4L
 140          DI       0     100    1000   10000
 141          DQ       0      75     750    7500
              *

 142          KK     S70
 143          KM   SUB-BASIN S70
 144          BA    .029
 145          LS             85      40
 146          UD    .120
              *

 147          KK     C70
 148          KM   COMBINE DIV4R & S70
 149          HC       2
              *

 150          KK     R70
 151          KM   ROUTE C70 THRU BASIN S62
 152          RS       3    ELEV      10
 153          RC    .055    .035    .055    6850    .017
 154          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 155          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 156          KK     S62
 157          KM   SUB-BASIN S62
 158          BA    .193
 159          LS              85
 160          UD    .458
              *

 161          KK     C62
 162          KM   COMBINE S62 & C70
 163          HC       2
              *

 164          KK     R62
 165          KM   ROUTE C62 THRU BASIN S270
 166          RS       2    ELEV      10
 167          RC    .055    .035    .055    3110    .019
 168          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 169          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 170          KK    S270
 171          KM   SUB-BASIN S270
 172          BA    .067
 173          LS              85
 174          UD    .100
              *

 175          KK    C270
 176          KM   COMBINE C62/R62, S270, & C281
 177          HC       3
              *

 178          KK  DIV27L  DIVERT
 179          KM
 180          DT  DIV27R
 181          DI       0     100    1000   10000
 182          DQ       0      75     750    7500
              *

 183          KK    R27L
 184          KM   ROUTE DIV27L THRU BASIN S271
 185          RS       1    ELEV      10
 186          RC    .055    .035    .055    1505    .013
 187          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 188          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 189          KK    S271
 190          KM   SUB-BASIN S271
 191          BA   .0219
 192          LS              85
 193          UD    .060
              *
```

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

 194          KK    C271
 195          KM   COMBINE C270/R270 & S271
 196          HC       2
              *

 197          KK    R271
 198          KM   ROUTE C271 THRU BASIN S272
 199          RS       1    ELEV      10
 200          RC    .055    .035    .055    1205    .021
 201          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 202          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 203          KK    S272
 204          KM   SUB-BASIN S272
 205          BA    .019
 206          LS              79
 207          UD    .060
              *

 208          KK    S260
 209          KM   SUB-BASIN S260
 210          BA    .140
 211          LS              85
 212          UD    .200
              *

 213          KK    R260
 214          KM   ROUTE C260 THRU BASIN S261
 215          RS       2    ELEV      10
 216          RC    .055    .035    .055    2880    .017
 217          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 218          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 219          KK    S261
 220          KM   SUB-BASIN S261
 221          BA    .043
 222          LS              83
 223          UD    .096
              *

 224          KK    C272
 225          KM   COMBINE C271/R271, S272, S260/R260, & S261
 226          HC       4
              *
              *

 227          KK   DIV4L     RET
 228          KM
 229          DR   DIV4L
              *
```

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

 230          KK  R1.0S2   ROUTE
 231          KM
 232          RS       1    ELEV      10
 233          RC   0.055   0.035   0.055     620    0.02
 234          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 235          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 236          KK     0S2     SUB
 237          KM
 238          BA  0.0295
 239          LS              79
 240          UD  0.1583
              *

 241          KK   C.0S2     ADD
 242          KM
 243          HC       2
              *

 244          KK   DIV5L  DIVERT
 245          KM
 246          DT   DIV5R
 247          DI       0     100    1000   10000
 248          DQ       0      25     250    2500
              *

 249          KK  R1.0S3   ROUTE
 250          KM
 251          RS       1    ELEV      10
 252          RC   0.055   0.035   0.055     570    0.02
 253          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 254          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 255          KK     0S3     SUB
 256          KM
 257          BA  0.0205
 258          LS              79
 259          UD  0.1250
              *

 260          KK   C.0S3     ADD
 261          KM
 262          HC       2
              *

 263          KK  DIV11R  DIVERT
 264          KM
 265          DT  DIV11L
 266          DI       0     100    1000   10000
 267          DQ       0      25     250    2500
              *
```

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

 268          KK  R1.OS5   ROUTE
 269          KM
 270          RS       1    ELEV      10
 271          RC   0.055   0.035   0.055     600    0.02
 272          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 273          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 274          KK     OS5     SUB
 275          KM
 276          BA  0.0043
 277          LS             79
 278          UD  0.0828
              *

 279          KK      F1     SUB
 280          KM
 281          BA  0.0020
 282          LS             85      35
 283          UD  0.0694
              *

 284          KK    RBF2 RET BAS
 285          KM
 286          RS       1    STOR      -1
 287          SV       0    0.21    0.23    0.26
 288          SE       0       3     3.5     4.0
 289          SQ       0      21      44      86
              *

 290          KK      D2     SUB
 291          KM
 292          BA  0.0077
 293          LS             85      35
 294          UD  0.0961
              *

 295          KK    RBD2 RET BAS
 296          KM
 297          RS       1    STOR      -1
 298          SV       0    0.67    0.74    0.82
 299          SE       0     4.5     5.0     5.5
 300          SQ       0      29      42      63
              *

 301          KK  R2.OS5   ROUTE
 302          KM
 303          RS       1    ELEV      10
 304          RC   0.055   0.035   0.055     200    0.02
 305          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 306          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 307          KK   C.OS5     ADD
 308          HC       4
              *

 309          KK    ROS5   ROUTE
 310          KM   ROUTE C.OS5 THRU S240
 311          RS       2    ELEV      10
 312          RC   0.055   0.035   0.055    3340   0.021
 313          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 314          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 315          KK    S240     SUB
 316          KM   SUB-BASIN S240
 317          BA   0.034
 318          LS              78
 319          UD    0.11
              *

 320          KK    C240     ADD
 321          KM   COMBINE C.OS5/ROS5 & S240
 322          HC       2
              *

 323          KK    R240   ROUTE
 324          KM   ROUTE C240 THRU S243
 325          RS       1    ELEV      10
 326          RC   0.055   0.035   0.055     765   0.020
 327          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 328          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 329          KK    S243     SUB
 330          KM   SUB-BASIN S243
 331          BA   0.013
 332          LS              78
 333          UD    0.06
              *

 334          KK    C243     ADD
 335          KM   COMBINE C240/R240 & S243
 336          HC       2
              *

 337          KK    S241     SUB
 338          KM   SUB-BASIN S241
 339          BA   0.025
 340          LS              80
 341          UD   0.078
              *
```

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

 342          KK    R241   ROUTE
 343          KM   ROUTE C241 THRU S244
 344          RS       1    ELEV      10
 345          RC   0.055   0.035   0.055     980   0.020
 346          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 347          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 348          KK    S244     SUB
 349          KM   SUB-BASIN S244
 350          BA   0.015
 351          LS             77
 352          UD    0.06
              *

 353          KK    C244
 354          KM   COMBINE C243, S241/C241, & S244
 355          HC       3
              *

 356          KK    R244   ROUTE
 357          KM   ROUTE C244 THRU S245
 358          RS       1    ELEV      10
 359          RC   0.055   0.035   0.055     270   0.019
 360          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 361          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 362          KK    S245     SUB
 363          KM   SUB-BASIN S245
 364          BA  0.0088
 365          LS             79
 366          UD    0.06
              *

 367          KK    C245
 368          KM   COMBINE C244/R244 & S245
 369          HC       2
              *

 370          KK  DIV25L  DIVERT
 371          KM
 372          DT  DIV25R
 373          DI       0     100    1000   10000
 374          DQ       0      75     750    7500
              *

 375          KK    R25L   ROUTE
 376          KM   ROUTE DIV25L THRU S246
 377          RS       3    ELEV      10
 378          RC   0.055   0.035   0.055    4480   0.019
 379          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 380          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 381          KK    S246     SUB
 382          KM   SUB-BASIN S246
 383          BA   0.061
 384          LS             77
 385          UD    0.15
              *

 386          KK    C246
 387          KM   COMBINE DIV25L/R25L & S246
 388          HC       2
              *

 389          KK    NULL
 390          HC       2
              *

 391          KK  RET25R     RET
 392          KM
 393          DR  DIV25R
              *

 394          KK    R25R   ROUTE
 395          KM   ROUTE DIV25R THRU S247
 396          RS       3    ELEV      10
 397          RC   0.055   0.035   0.055    4490   0.019
 398          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 399          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 400          KK    S247     SUB
 401          KM   SUB-BASIN S247
 402          BA   0.079
 403          LS             80
 404          UD    0.15
              *

 405          KK    C247
 406          KM   COMBINE DIV25R/R25R & S247
 407          HC       2
              *

 408          KK    NULL
 409          HC       2
              *

 410          KK    S242     SUB
 411          KM   SUB-BASIN S242
 412          BA   0.027
 413          LS             80
 414          UD   0.077
              *
```

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

 415          KK    R242   ROUTE
 416          KM   ROUTE S242 THRU S248
 417          RS       4    ELEV      10
 418          RC   0.055   0.035   0.055    5815   0.018
 419          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 420          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 421          KK    S248     SUB
 422          KM   SUB-BASIN S248
 423          BA   0.090
 424          LS              81
 425          UD    0.19
              *

 426          KK    C248
 427          KM   COMBINE S242/R242 & S248
 428          HC       2
              *

 429          KK    NULL
 430          HC       2
              *

 431          KK  RET11L     RET
 432          KM
 433          DR  DIV11L
              *

 434          KK  R1.OS6   ROUTE
 435          KM
 436          RS       1    ELEV      10
 437          RC   0.055   0.035   0.055     300    0.02
 438          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 439          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 440          KK     OS6     SUB
 441          KM
 442          BA  0.0013
 443          LS              79
 444          UD  0.0650
              *

 445          KK   C.OS6     ADD
 446          KM
 447          HC       2
              *
```

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

 448          KK  R1.OS7   ROUTE
 449          KM
 450          RS       1    ELEV      10
 451          RC   0.055   0.035   0.055     420    0.02
 452          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 453          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 454          KK     OS7     SUB
 455          KM
 456          BA  0.0044
 457          LS             79
 458          UD  0.0767
              *

 459          KK   C.OS7     ADD
 460          KM
 461          HC       2
              *

 462          KK    ROS7   ROUTE
 463          KM   ROUTE C.OS7 THRU S230
 464          RS       2    ELEV      10
 465          RC   0.055   0.035   0.055    3680   0.018
 466          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 467          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 468          KK    S230     SUB
 469          KM   SUB-BASIN S230
 470          BA   0.075
 471          LS             78
 472          UD    0.12
              *

 473          KK    C230     ADD
 474          KM   COMBINE C.OS7/ROS7 & S230
 475          HC       2
              *

 476          KK    R230   ROUTE
 477          KM   ROUTE C230 THRU S231
 478          RS       1    ELEV      10
 479          RC   0.055   0.035   0.055     465   0.022
 480          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 481          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 482          KK    S231     SUB
 483          KM   SUB-BASIN S231
 484          BA  0.0056
 485          LS             85
 486          UD    0.06
              *
```

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

 487          KK    C231
 488          KM   COMBINE C230/R230 & S231
 489          HC       2
              *

 490          KK     S90     SUB
 491          KM
 492          BA   0.063
 493          LS              86
 494          UD   0.152
              *

 495          KK  R10S11   ROUTE
 496          KM
 497          RS       1    ELEV      10
 498          RC   0.055   0.035   0.055     300    0.02
 499          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 500          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 501          KK    OS11     SUB
 502          KM
 503          BA  0.0041
 504          LS              79
 505          UD  0.0967
              *

 506          KK  C.OS11     ADD
 507          KM
 508          HC       2
              *

 509          KK  R1.OS8   ROUTE
 510          KM
 511          RS       1    ELEV      10
 512          RC   0.055   0.035   0.055     710    0.02
 513          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 514          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 515          KK     OS8     SUB
 516          KM
 517          BA  0.0139
 518          LS              79
 519          UD  0.1167
              *

 520          KK   C.OS8     ADD
 521          KM
 522          HC       2
              *
```

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

 523          KK  R1.OS9   ROUTE
 524          KM
 525          RS       2    ELEV      10
 526          RC   0.055   0.035   0.055    2070    0.02
 527          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 528          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 529          KK     OS9     SUB
 530          KM
 531          BA  0.0293
 532          LS              79
 533          UD  0.1778
              *

 534          KK  C1.OS9     ADD
 535          HC       2
              *

 536          KK      H2     SUB
 537          KM
 538          BA  0.0105
 539          LS              85      35
 540          UD  0.0889
              *

 541          KK    RBH2 RET BAS
 542          KM
 543          RS       1    STOR      -1
 544          SV       0     1.2    1.35     1.5
 545          SE       0     4.0     4.5     5.0
 546          SQ       0      26      82     181
              *

 547          KK  R2.OS9   ROUTE
 548          KM
 549          RS       2    ELEV      10
 550          RC   0.055   0.035   0.055    1390    0.02
 551          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 552          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 553          KK      E3     SUB
 554          KM
 555          BA  0.0099
 556          LS              85      35
 557          UD  0.1228
              *
```

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

 558          KK    RBE1 RET BAS
 559          KM        40 FOOT WEIR
 560          RS       1    STOR      -1
 561          SV       0    0.75   0.825     0.9
 562          SE       0       5     5.5     6.0
 563          SQ       0      31      75     155
              *

 564          KK  R3.OS9   ROUTE
 565          KM
 566          RS       1    ELEV      10
 567          RC   0.055   0.035   0.055    1120    0.02
 568          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 569          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 570          KK     S80     SUB
 571          KM
 572          BA  0.0580
 573          LS              85
 574          UD   0.166
              *

 575          KK  R1.OS4   ROUTE
 576          KM
 577          RS       1    ELEV      10
 578          RC   0.055   0.035   0.055     800    0.02
 579          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 580          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 581          KK     OS4     SUB
 582          KM
 583          BA  0.0075
 584          LS              79
 585          UD  0.0972
              *

 586          KK   C.OS4     ADD
 587          KM
 588          HC       2
              *

 589          KK      I1     SUB
 590          KM
 591          BA  0.0175
 592          LS              79
 593          UD  0.1078
              *
```

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

 594          KK    C.I1     ADD
 595          KM
 596          HC       2
              *

 597          KK    RBI2 RET BAS
 598          KM                RETENTION BASIN IS DRAINED BY 5 - 36 inch CORRUGATED METAL PIPES
 599          RS       1    STOR      -1
 600          SV       0    0.74   1.115
 601          SE       0       2       3
 602          SQ       0      95     175
              *

 603          KK    RBI3 RET BAS
 604          KM                RETENTION BASIN IS DRAINED BY 4 - 36 inch CORRUGATED METAL PIPES
 605          RS       1    STOR      -1
 606          SV       0    0.74   1.115
 607          SE       0       2       3
 608          SQ       0      76     140
              *

 609          KK  R10S10   ROUTE
 610          KM
 611          RS       2    ELEV      10
 612          RC   0.055   0.035   0.055    1600    0.02
 613          RX    48.5    51.5    91.5    94.0   106.0   108.5   148.5   151.5
 614          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 615          KK    0S10     SUB
 616          KM
 617          BA  0.0170
 618          LS              79
 619          UD  0.1445
              *

 620          KK      E1     SUB
 621          KM
 622          BA  0.0185
 623          LS              85      35
 624          UD  0.1111
              *

 625          KK  R20S10   ROUTE
 626          KM
 627          RS       1    ELEV      10
 628          RC   0.055   0.035   0.055    1000    0.02
 629          RX    48.5    51.5    91.5    94.0   106.0   108.5   148.5   151.5
 630          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 631          KK  C.OS10     ADD
 632          KM
 633          HC       3
              *

 634          KK    RBE2 RET BAS
 635          KM
 636          RS       1    STOR      -1
 637          SV       0   0.336   0.504   0.672    0.84
 638          SE       0       2       3       4     5.0
 639          SQ       0      57     105     147     180
              *

 640          KK    RBE3 RET BAS
 641          KM
 642          RS       1    STOR      -1
 643          SV       0    0.45   0.675    0.90
 644          SE       0       2       3     4.0
 645          SQ       0      57     105     147
              *

 646          KK      F2     SUB
 647          KM
 648          BA  0.0091
 649          LS              85      35
 650          UD  0.1067
              *

 651          KK    C.F1     ADD
 652          KM
 653          HC       2
              *

 654          KK    RBF1 RET BAS
 655          KM                RETENTION BASIN IS DRAINED BY 4 - 36 INCH C.M. PIPES
 656          RS       1    STOR      -1
 657          SV       0    0.59    0.89    1.18
 658          SE       0       2       3     4.0
 659          SQ       0      76     140     196
              *

 660          KK      E2     SUB
 661          KM
 662          BA  0.0165
 663          LS      .       85      35
 664          UD  0.1106
              *

 665          KK    C.E2     ADD
 666          KM
 667          HC       2
              *
```

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

 668          KK    RBE4 RET BAS
 669          KM
 670          RS       1    STOR      -1
 671          SV       0   0.745    1.12    1.49
 672          SE       0       2       3     4.0
 673          SQ       0      57     105     147
              *

 674          KK  R4.OS9   ROUTE
 675          KM
 676          RS       1    ELEV      10
 677          RC   0.055   0.035   0.055     200    0.02
 678          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 679          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 680          KK     S94     SUB
 681          KM
 682          BA   0.132
 683          LS              86
 684          UD   0.186
              *

 685          KK    S100     SUB
 686          KM
 687          BA   0.148
 688          LS              86
 689          UD   0.196
              *

 690          KK   CS100     ADD
 691          KM
 692          HC       2
              *

 693          KK  R10S12   ROUTE
 694          KM
 695          RS       1    ELEV      10
 696          RC   0.055   0.035   0.055     900    0.02
 697          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 698          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 699          KK    OS12     SUB
 700          KM
 701          BA  0.0107
 702          LS              79
 703          UD  0.1056
              *
```

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

 704          KK  C.0S12     ADD
 705          KM
 706          HC       2
              *

 707          KK  R5.0S9   ROUTE
 708          KM
 709          RS       2    ELEV      10
 710          RC   0.055   0.035   0.055    1410    0.02
 711          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 712          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 713          KK  C2.0S9     ADD
 714          KM
 715          HC       5
              *

 716          KK  R10S13   ROUTE
 717          KM
 718          RS       1    ELEV      10
 719          RC   0.055   0.035   0.055     200    0.02
 720          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 721          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 722          KK      F3     SUB
 723          KM
 724          BA  0.0031
 725          LS              85      35
 726          UD  0.0722
              *

 727          KK    RBF3 RET BAS
 728          KM
 729          RS       1    STOR      -1
 730          SV       0    0.34    0.41    0.48
 731          SE       0     4.0     4.5     5.0
 732          SQ       0      26      82     181
              *

 733          KK  R20S13   ROUTE
 734          KM
 735          RS       1    ELEV      10
 736          RC   0.055   0.035   0.055     150    0.02
 737          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 738          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 739          KK  C.OS13     ADD
 740          KM
 741          HC       2
              *

 742          KK   ROS13   ROUTE
 743          KM   ROUTE C.OS13 THRU SUB-BASIN S220
 744          RS       2    ELEV      10
 745          RC   0.055   0.035   0.055    3030   0.018
 746          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 747          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 748          KK    S220
 749          KM   SUB-BASIN S220
 750          BA   0.079
 751          LS              85
 752          UD    0.10
              *

 753          KK    C220
 754          KM   COMBINE C.OS13/ROS13 & S220
 755          HC       2
              *

 756          KK    R220   ROUTE
 757          KM   ROUTE C220 THRU SUB-BASIN S232
 758          RS       1    ELEV      10
 759          RC   0.055   0.035   0.055     410   0.025
 760          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 761          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 762          KK    S232
 763          KM   SUB-BASIN S232
 764          BA  0.0030
 765          LS              85
 766          UD    0.06
              *

 767          KK    C232
 768          KM   COMBINE C231, C220/R220, & S232
 769          HC       3
              *

 770          KK    R232   ROUTE
 771          KM   ROUTE C232 THRU SUB-BASIN S233
 772          RS       4    ELEV      10
 773          RC   0.055   0.035   0.055    5295   0.018
 774          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 775          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 776          KK    S233
 777          KM   SUB-BASIN S233
 778          BA    0.12
 779          LS              80
 780          UD    0.18
              *

 781          KK    C233
 782          KM   COMBINE  C232/R232 & S233
 783          HC       2
              *

 784          KK    NULL
 785          HC       2
              *

 786          KK   RET5R     RET
 787          KM
 788          DR   DIV5R
              *

 789          KK  R10S14   ROUTE
 790          KM
 791          RS       1    ELEV      10
 792          RC   0.055   0.035   0.055     700    0.02
 793          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 794          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 795          KK    OS14     SUB
 796          KM
 797          BA  0.0039
 798          LS              79
 799          UD  0.1028
              *

 800          KK      D1     SUB
 801          KM
 802          BA  0.0111
 803          LS              85      35
 804          UD  0.0989
              *

 805          KK    RBD1 RET BAS
 806          KM
 807          RS       1    STOR      -1
 808          SV       0    0.91    1.01    1.11
 809          SE       0     4.5     5.0     5.5
 810          SQ       0      29      42      63
              *
```

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

 811          KK  C.OS14     ADD
 812          KM
 813          HC       3
              *

 814          KK   ROS14   ROUTE
 815          KM   ROUTE C.OS14 THRU SUB-BASIN S250
 816          RS       2    ELEV      10
 817          RC   0.055   0.035   0.055    3270   0.021
 818          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 819          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 820          KK    S250
 821          KM   SUB-BASIN S250
 822          BA   0.083
 823          LS              79
 824          UD    0.11
              *

 825          KK    C250
 826          KM   COMBINE C.OS14/ROS14 & S250
 827          HC       2
              *

 828          KK    R250   ROUTE
 829          KM   ROUTE C250 THRU SUB-BASIN S252
 830          RS       1    ELEV      10
 831          RC   0.055   0.035   0.055    1385   0.014
 832          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 833          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 834          KK    S252     SUB
 835          KM   SUB-BASIN S252
 836          BA   0.015
 837          LS              82
 838          UD    0.06
              *

 839          KK    S251
 840          KM   SUB-BASIN S251
 841          BA   0.025
 842          LS              85
 843          UD   0.088
              *

 844          KK    R251   ROUTE
 845          KM   ROUTE C251 THRU SUB-BASIN S253
 846          RS       1    ELEV      10
 847          RC   0.055   0.035   0.055    1120   0.013
 848          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 849          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *
```

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

 850          KK    S253     SUB
 851          KM   SUB-BASIN S253
 852          BA   0.016
 853          LS             85
 854          UD    0.06
              *

 855          KK    C253
 856          KM   COMBINE C250/R250, S252, S251/R251, & S253
 857          HC       4
              *

 858          KK    R253   ROUTE
 859          KM   ROUTE C253 THRU SUB-BASIN S254
 860          RS       3    ELEV      10
 861          RC   0.055   0.035   0.055    4360   0.021
 862          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 863          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 864          KK    S254     SUB
 865          KM   SUB-BASIN S254
 866          BA   0.080
 867          LS             82
 868          UD    0.15
              *

 869          KK    C254
 870          KM   COMBINE C253/R253 & S254
 871          HC       2
              *

 872          KK    S255     SUB
 873          KM   SUB-BASIN S255
 874          BA   0.034
 875          LS             85
 876          UD   0.097
              *

 877          KK    S256     SUB
 878          KM   SUB-BASIN S256
 879          BA   0.025
 880          LS             81
 881          UD   0.081
              *

 882          KK      G1     SUB
 883          KM
 884          BA  0.0467
 885          LS             85      35
 886          UD  0.1928
              *
```

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

 887          KK    RBG1 RET BAS
 888          KM
 889          RS       1    STOR      -1
 890          SV       0     5.3    5.78    6.26
 891          SE       0     3.0     3.5     4.0
 892          SQ       0      21      76     176
              *
              *

 893          KK      H1     SUB
 894          KM
 895          BA  0.0125
 896          LS              85      35
 897          UD  0.1011
              *

 898          KK    RBH1 RET BAS
 899          KM
 900          RS       1    STOR      -1
 901          SV       0    1.28   1.465    1.65
 902          SE       0     3.5     4.0     4.5
 903          SQ       0   0.001    0.01     0.1
              *

 904          KK    S200
 905          KM   SUB-BASIN S200
 906          BA    0.77
 907          LS              85
 908          UD    0.70
              *

 909          KK    R200
 910          KM   ROUTE S200 THRU SUB-BASIN S201
 911          RS       9    ELEV      10
 912          RC    .055    .035    .055   13650   0.019
 913          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 914          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 915          KK    S201
 916          KM   SUB-BASIN S201
 917          BA    1.25
 918          LS              86
 919          UD    0.46
              *

 920          KK    C201
 921          KM   COMBINE S200/R200 & S201
 922          HC       2
              *
```

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

 923          KK    R201
 924          KM   ROUTE C201 THRU SUB-BASIN S202
 925          RS       3    ELEV      10
 926          RC    .055    .035    .055    4355   0.018
 927          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 928          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 929          KK    S202
 930          KM   SUB-BASIN S202
 931          BA    0.36
 932          LS              86
 933          UD    0.15
              *

 934          KK    C202
 935          KM   COMBINE C201/R201 & SUB-BASIN S202
 936          HC       2
              *

 937          KK  DIV20R DIVERT
 938          DT  DIV20L
 939          DI       0      17      68     175     343     870    1585    2488    3302
 940          DQ       0       0       8      24      48     149     281     452     390
              *

 941          KK    R20R
 942          KM   ROUTE DIV20R THRU SUB-BASIN S203
 943          RS       5    ELEV      10
 944          RC    .055    .035    .055    7575   0.017
 945          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 946          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 947          KK    S203
 948          KM   SUB-BASIN S203
 949          BA    0.43
 950          LS              82
 951          UD    0.25
              *

 952          KK    C203
 953          KM   COMBINE DIV20R/R20R & S203
 954          HC       2
              *

 955          KK  DIV21R DIVERT
 956          DT  DIV21L
 957          DI       0     100    1000   10000
 958          DQ       0      75     750    7500
              *
```

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

 959          KK    R21R
 960          KM   ROUTE DIV21R THRU SUB-BASIN S210
 961          RS       1    ELEV      10
 962          RC    .055    .035    .055    2190   0.017
 963          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
 964          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 965          KK    S210
 966          KM   SUB-BASIN S210
 967          BA   0.052
 968          LS             79
 969          UD    0.07
              *

 970          KK    C210
 971          KM   COMBINE DIV21R/R21R & S210
 972          HC       2
              *

 973          KK  DIV24L DIVERT
 974          DT  DIV24R
 975          DI       0     100    1000   10000
 976          DQ       0      10     100    1000
              *

 977          KK    R210
 978          KM   ROUTE C210 THRU SUB-BASIN S211
 979          RS       4    ELEV      10
 980          RC    .055    .035    .055    6150   0.018
 981          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
 982          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 983          KK    S211
 984          KM   SUB-BASIN S211
 985          BA    0.15
 986          LS             77
 987          UD    0.20
              *

 988          KK    C211
 989          KM   COMBINE C210/R210 & S211
 990          HC       2
              *

 991          KK    NULL
 992          HC       2
              *
```

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

 993          KK  RET24R RETURN
 994          DR  DIV24R
              *

 995          KK    R24R
 996          KM   ROUTE DIV24R THRU SUB-BASIN S212
 997          RS       4    ELEV      10
 998          RC    .055    .035    .055    5490   0.020
 999          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1000          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1001          KK    S212
1002          KM   SUB-BASIN S212
1003          BA   0.084
1004          LS              79
1005          UD    0.18
              *

1006          KK    C212
1007          KM   COMBINE DIV24R/R24R & S212
1008          HC       2
              *

1009          KK    NULL
1010          HC       2
              *

1011          KK  RET21L RETURN
1012          DR  DIV21L
              *

1013          KK    R21L
1014          KM   ROUTE DIV21L THRU SUB-BASIN S290
1015          RS       2    ELEV      10
1016          RC    .055    .035    .055    2475   0.017
1017          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1018          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1019          KK    S290
1020          KM   SUB-BASIN S290
1021          BA   0.072
1022          LS              77
1023          UD    0.08
              *

1024          KK    C290
1025          KM   COMBINE DIV21L/R21L & S290
1026          HC       2
              *
```

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

1027          KK    R290
1028          KM   ROUTE C290 THRU SUB-BASIN S291
1029          RS       1    ELEV      10
1030          RC    .055    .035    .055    2135   0.021
1031          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1032          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1033          KK    S291
1034          KM   SUB-BASIN S291
1035          BA   0.055
1036          LS             77
1037          UD    0.07
              *

1038          KK    C291
1039          KM   COMBINE C290/R290 & S291
1040          HC       2
              *

1041          KK    NULL
1042          HC       2
              *
              *

1043          KK    S300
1044          KM   SUB-BASIN S300
1045          BA  0.0078
1046          LS             77
1047          UD    0.06
              *

1048          KK    R300
1049          KM   ROUTE S300 THRU SUB-BASIN S301
1050          RS       1    ELEV      10
1051          RC    .055    .035    .055    1355   0.018
1052          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1053          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1054          KK    S301
1055          KM   SUB-BASIN S301
1056          BA   0.012
1057          LS             79
1058          UD    0.06
              *

1059          KK    C301
1060          KM   COMBINE S300/R300 & S301
1061          HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1062          KK    S310
1063          KM   SUB-BASIN S310
1064          BA   0.011
1065          LS              77
1066          UD    0.06
              *

1067          KK    R310
1068          KM   ROUTE S310 THRU SUB-BASIN S311
1069          RS       1    ELEV      10
1070          RC    .055    .035    .055    1470   0.020
1071          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1072          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1073          KK    S311
1074          KM   SUB-BASIN S311
1075          BA   0.012
1076          LS              79
1077          UD    0.06
              *

1078          KK    C311
1079          KM   COMBINE C301, S310/R310, & S311
1080          HC       3
              *

1081          KK    R311
1082          KM   ROUTE C311 THRU SUB-BASIN S302
1083          RS       1    ELEV      10
1084          RC    .055    .035    .055     765   0.026
1085          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1086          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1087          KK    S302
1088          KM   SUB-BASIN S302
1089          BA   0.012
1090          LS              80
1091          UD    0.06
              *

1092          KK    C302
1093          KM   COMBINE  C311/R311 & S302
1094          HC       2
              *

1095          KK  DIV22R DIVERT
1096          DT  DIV22L
1097          DI       0     100    1000   10000
1098          DQ       0      75     750    7500
              *
```

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

1099          KK    R22R
1100          KM   ROUTE DIV22R THRU SUB-BASIN S304
1101          RS       1    ELEV      10
1102          RC    .055    .035    .055     650   0.015
1103          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1104          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1105          KK    S304
1106          KM   SUB-BASIN S304
1107          BA   .0040
1108          LS             77
1109          UD    0.06
              *

1110          KK    C304
1111          KM   COMBINE  DIV22R/R22R & S304
1112          HC       2
              *

1113          KK  DIV23R DIVERT
1114          DT  DIV23L
1115          DI       0     100    1000   10000
1116          DQ       0      75     750    7500
              *
              *

1117          KK    R23R
1118          KM   ROUTE DIV23R THRU SUB-BASIN S306
1119          RS       1    ELEV      10
1120          RC    .055    .035    .055    1110   0.018
1121          RX    52.5    55.5    95.5      98     102   104.5   144.5   147.5
1122          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1123          KK    S306
1124          KM   SUB-BASIN S306
1125          BA   .0091
1126          LS             85
1127          UD    0.06
              *

1128          KK    C306
1129          KM   COMBINE  DIV23R/R23R & S306
1130          HC       2
              *

1131          KK    NULL
1132          HC       2
              *
```

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

1133          KK  RET23L RETURN
1134          DR  DIV23L
              *

1135          KK    R23L
1136          KM   ROUTE DIV23L THRU SUB-BASIN S305
1137          RS       1    ELEV      10
1138          RC    .055    .035    .055     580   0.017
1139          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1140          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1141          KK    S305
1142          KM   SUB-BASIN S305
1143          BA   .0039
1144          LS             81
1145          UD    0.06
              *

1146          KK    C305
1147          KM   COMBINE  DIV23L/R23L & S305
1148          HC       2
              *

1149          KK    NULL
1150          HC       2
              *

1151          KK  RET22L RETURN
1152          DR  DIV22L
              *

1153          KK    R22L
1154          KM   ROUTE DIV22L THRU SUB-BASIN S303
1155          RS       1    ELEV      10
1156          RC    .055    .035    .055     910   0.016
1157          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1158          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1159          KK    S303
1160          KM   SUB-BASIN S303
1161          BA    .013
1162          LS             80
1163          UD    0.06
              *

1164          KK    C303
1165          KM   COMBINE  DIV22L/R22L & S303
1166          HC       2
              *
```

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

1167          KK    S307
1168          KM   SUB-BASIN S307
1169          BA    .016
1170          LS              82
1171          UD    0.06
              *
              *
              *
1172          ZZ
```

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	S30	651.	3.50	116.	29.	28.	0.42		
ROUTED TO	R30	621.	3.58	116.	29.	28.	0.42	12.69	3.58
HYDROGRAPH AT	S32	82.	3.33	11.	3.	3.	0.07		
2 COMBINED AT	C32	680.	3.58	127.	32.	31.	0.49		
HYDROGRAPH AT	S40	1137.	4.08	345.	87.	84.	1.60		
ROUTED TO	R48	1079.	4.42	344.	87.	84.	1.60	13.57	4.42
HYDROGRAPH AT	S50	693.	3.58	138.	35.	34.	0.53		
2 COMBINED AT	C51	1315.	4.25	479.	122.	118.	2.13		
ROUTED TO	R51	1306.	4.33	479.	122.	118.	2.13	13.67	4.33
HYDROGRAPH AT	S54	57.	3.33	8.	2.	2.	0.04		
3 COMBINED AT	C54	1696.	3.75	612.	156.	150.	2.67		
ROUTED TO	R54	1651.	3.92	612.	156.	150.	2.67	12.65	3.92
HYDROGRAPH AT	S56	135.	3.50	23.	6.	6.	0.17		
2 COMBINED AT	C56	1742.	3.83	635.	162.	156.	2.84		
ROUTED TO	R56	1735.	3.92	634.	162.	156.	2.84	12.60	3.92
HYDROGRAPH AT	S110	141.	3.42	20.	5.	5.	0.11		
ROUTED TO	R110	131.	3.50	20.	5.	5.	0.11	10.55	3.50
HYDROGRAPH AT	S280	169.	3.08	11.	3.	3.	0.06		
3 COMBINED AT	C280	1816.	3.83	666.	170.	163.	3.00		
DIVERSION TO	DIV26R	1362.	3.83	500.	127.	123.	3.00		
HYDROGRAPH AT	DIV26L	454.	3.83	167.	42.	41.	3.00		
ROUTED TO	R26L	454.	3.92	166.	42.	41.	3.00	11.49	3.92
HYDROGRAPH AT	S281	30.	3.08	2.	1.	0.	0.01		
2 COMBINED AT	C281	456.	3.92	169.	43.	41.	3.01		
HYDROGRAPH AT	S60	1489.	4.00	432.	109.	105.	1.81		
DIVERSION TO	DIV4L	1117.	4.00	324.	82.	79.	1.81		
HYDROGRAPH AT	DIV4R	372.	4.00	108.	27.	26.	1.81		

HYDROGRAPH AT	S70	86.	3.17	8.	2.	2.	0.03		
2 COMBINED AT	C70	378.	4.00	115.	29.	28.	1.84		
ROUTED TO	R70	374.	4.17	115.	29.	28.	1.84	12.08	4.17
HYDROGRAPH AT	S62	226.	3.58	39.	10.	9.	0.19		
2 COMBINED AT	C62	464.	4.00	154.	39.	38.	2.03		
ROUTED TO	R62	464.	4.08	154.	39.	38.	2.03	12.29	4.08
HYDROGRAPH AT	S270	175.	3.17	14.	3.	3.	0.07		
3 COMBINED AT	C270	923.	3.92	336.	85.	82.	5.11		
DIVERSION TO	DIV27R	693.	3.92	252.	64.	62.	5.11		
HYDROGRAPH AT	DIV27L	231.	3.92	84.	21.	21.	5.11		
ROUTED TO	R27L	231.	4.00	84.	21.	21.	5.11	11.69	4.00
HYDROGRAPH AT	S271	66.	3.08	4.	1.	1.	0.02		
2 COMBINED AT	C271	234.	4.00	88.	22.	22.	5.13		
ROUTED TO	R271	234.	4.00	88.	22.	22.	5.13	11.47	4.00
HYDROGRAPH AT	S272	43.	3.08	3.	1.	1.	0.02		
HYDROGRAPH AT	S260	270.	3.25	28.	7.	7.	0.14		
ROUTED TO	R260	257.	3.33	28.	7.	7.	0.14	11.66	3.33
HYDROGRAPH AT	S261	104.	3.17	8.	2.	2.	0.04		
4 COMBINED AT	C272	424.	3.33	128.	32.	31.	5.34		
HYDROGRAPH AT	DIV4L	1117.	4.00	324.	82.	79.	0.00		
ROUTED TO	R1.OS2	1118.	4.08	324.	82.	79.	0.00	13.70	4.08
HYDROGRAPH AT	OS2	48.	3.25	5.	1.	1.	0.03		
2 COMBINED AT	C.OS2	1122.	4.08	328.	83.	80.	0.03		
DIVERSION TO	DIV5R	281.	4.08	82.	21.	20.	0.03		
HYDROGRAPH AT	DIV5L	842.	4.08	246.	62.	60.	0.03		
ROUTED TO	R1.OS3	842.	4.08	246.	62.	60.	0.03	13.37	4.08
HYDROGRAPH AT	OS3	37.	3.17	3.	1.	1.	0.02		
2 COMBINED AT	C.OS3	845.	4.08	249.	63.	61.	0.05		
DIVERSION TO	DIV11L	211.	4.08	62.	16.	15.	0.05		
HYDROGRAPH AT	DIV11R	634.	4.08	187.	47.	46.	0.05		

ROUTED TO	R1.OS5	633.	4.08	187.	47.	46.	0.05	13.09	4.08
HYDROGRAPH AT	OS5	9.	3.17	1.	0.	0.	0.00		
HYDROGRAPH AT	F1	7.	3.08	1.	0.	0.	0.00		
ROUTED TO	RBF2	5.	3.17	1.	0.	0.	0.00	0.67	3.17
HYDROGRAPH AT	D2	24.	3.17	2.	0.	0.	0.01		
ROUTED TO	RBD2	13.	3.33	2.	0.	0.	0.01	1.97	3.33
ROUTED TO	R2.OS5	13.	3.25	2.	0.	0.	0.01	10.34	3.25
4 COMBINED AT	C.OS5	637.	4.08	190.	48.	46.	0.06		
ROUTED TO	ROS5	627.	4.25	190.	48.	46.	0.06	13.05	4.25
HYDROGRAPH AT	S240	63.	3.17	5.	1.	1.	0.03		
2 COMBINED AT	C240	631.	4.25	195.	49.	48.	0.10		
ROUTED TO	R240	629.	4.25	195.	49.	48.	0.10	13.08	4.25
HYDROGRAPH AT	S243	28.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C243	630.	4.25	197.	50.	48.	0.11		
HYDROGRAPH AT	S241	53.	3.17	4.	1.	1.	0.03		
ROUTED TO	R241	52.	3.17	4.	1.	1.	0.03	10.82	3.17
HYDROGRAPH AT	S244	31.	3.08	2.	1.	1.	0.01		
3 COMBINED AT	C244	635.	4.25	203.	51.	49.	0.15		
ROUTED TO	R244	634.	4.33	203.	51.	49.	0.15	13.00	4.33
HYDROGRAPH AT	S245	20.	3.08	1.	0.	0.	0.01		
2 COMBINED AT	C245	635.	4.33	205.	52.	50.	0.16		
DIVERSION TO	DIV25R	476.	4.33	154.	39.	37.	0.16		
HYDROGRAPH AT	DIV25L	159.	4.33	51.	13.	12.	0.16		
ROUTED TO	R25L	158.	4.42	51.	13.	12.	0.16	11.62	4.42
HYDROGRAPH AT	S246	90.	3.25	9.	2.	2.	0.06		
2 COMBINED AT	C246	164.	4.42	60.	15.	15.	0.22		
2 COMBINED AT	NULL	542.	3.33	187.	47.	46.	5.56		
HYDROGRAPH AT	RET25R	476.	4.33	154.	39.	37.	0.00		
ROUTED TO	R25R	460.	4.58	153.	39.	37.	0.00	12.82	4.58
HYDROGRAPH AT	S247	135.	3.25	13.	3.	3.	0.08		

2 COMBINED AT	C247	468.	4.58	166.	42.	40.	0.08		
2 COMBINED AT	NULL	862.	4.50	354.	89.	86.	5.64		
HYDROGRAPH AT	S242	58.	3.17	4.	1.	1.	0.03		
ROUTED TO	R242	36.	3.42	4.	1.	1.	0.03	10.67	3.42
HYDROGRAPH AT	S248	149.	3.25	15.	4.	4.	0.09		
2 COMBINED AT	C248	160.	3.33	20.	5.	5.	0.12		
2 COMBINED AT	NULL	991.	3.33	373.	94.	91.	5.75		
HYDROGRAPH AT	RET11L	211.	4.08	62.	16.	15.	0.00		
ROUTED TO	R1.OS6	211.	4.08	62.	16.	15.	0.00	11.90	4.08
HYDROGRAPH AT	OS6	3.	3.08	0.	0.	0.	0.00		
2 COMBINED AT	C.OS6	212.	4.08	63.	16.	15.	0.00		
ROUTED TO	R1.OS7	211.	4.08	63.	16.	15.	0.00	11.90	4.08
HYDROGRAPH AT	OS7	9.	3.17	1.	0.	0.	0.00		
2 COMBINED AT	C.OS7	212.	4.08	63.	16.	15.	0.01		
ROUTED TO	ROS7	210.	4.17	63.	16.	15.	0.01	11.96	4.17
HYDROGRAPH AT	S230	132.	3.17	11.	3.	3.	0.08		
2 COMBINED AT	C230	220.	4.17	74.	19.	18.	0.08		
ROUTED TO	R230	220.	4.17	74.	19.	18.	0.08	11.89	4.17
HYDROGRAPH AT	S231	17.	3.08	1.	0.	0.	0.01		
2 COMBINED AT	C231	220.	4.17	75.	19.	18.	0.09		
HYDROGRAPH AT	S90	139.	3.17	13.	3.	3.	0.06		
ROUTED TO	R10S11	142.	3.25	13.	3.	3.	0.06	11.50	3.25
HYDROGRAPH AT	OS11	8.	3.17	1.	0.	0.	0.00		
2 COMBINED AT	C.OS11	148.	3.25	14.	3.	3.	0.07		
ROUTED TO	R1.OS8	152.	3.25	14.	3.	3.	0.07	11.56	3.25
HYDROGRAPH AT	OS8	26.	3.17	2.	1.	1.	0.01		
2 COMBINED AT	C.OS8	174.	3.25	16.	4.	4.	0.08		
ROUTED TO	R1.OS9	162.	3.33	16.	4.	4.	0.08	11.62	3.33
HYDROGRAPH AT	OS9	46.	3.25	5.	1.	1.	0.03		
2 COMBINED AT	C1.OS9	205.	3.25	21.	5.	5.	0.11		

HYDROGRAPH AT	H2	32.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBH2	12.	3.33	3.	1.	1.	0.01	1.87	3.33
ROUTED TO	R2.0S9	12.	3.42	3.	1.	1.	0.01	10.33	3.42
HYDROGRAPH AT	E3	28.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBE1	16.	3.33	3.	1.	1.	0.01	2.54	3.33
ROUTED TO	R3.0S9	15.	3.42	3.	1.	1.	0.01	10.38	3.42
HYDROGRAPH AT	S80	121.	3.25	12.	3.	3.	0.06		
ROUTED TO	R1.0S4	123.	3.25	12.	3.	3.	0.06	11.38	3.25
HYDROGRAPH AT	0S4	15.	3.17	1.	0.	0.	0.01		
2 COMBINED AT	C.0S4	134.	3.25	13.	3.	3.	0.07		
HYDROGRAPH AT	I1	34.	3.17	3.	1.	1.	0.02		
2 COMBINED AT	C.I1	161.	3.25	16.	4.	4.	0.08		
ROUTED TO	RBI2	144.	3.33	16.	4.	4.	0.08	2.62	3.33
ROUTED TO	RBI3	129.	3.42	16.	4.	4.	0.08	2.83	3.42
ROUTED TO	R10S10	130.	3.42	16.	4.	4.	0.08	11.42	3.42
HYDROGRAPH AT	0S10	28.	3.25	3.	1.	1.	0.02		
HYDROGRAPH AT	E1	55.	3.17	5.	1.	1.	0.02		
ROUTED TO	R20S10	49.	3.17	5.	1.	1.	0.02	10.79	3.17
3 COMBINED AT	C.0S10	167.	3.42	23.	6.	6.	0.12		
ROUTED TO	RBE2	158.	3.50	23.	6.	6.	0.12	4.34	3.50
ROUTED TO	RBE3	154.	3.50	23.	6.	6.	0.12	4.17	3.50
HYDROGRAPH AT	F2	27.	3.17	2.	1.	1.	0.01		
2 COMBINED AT	C.F1	160.	3.50	25.	6.	6.	0.13		
ROUTED TO	RBF1	156.	3.58	25.	6.	6.	0.13	3.28	3.58
HYDROGRAPH AT	E2	49.	3.17	4.	1.	1.	0.02		
2 COMBINED AT	C.E2	164.	3.58	29.	7.	7.	0.14		
ROUTED TO	RBE4	156.	3.67	29.	7.	7.	0.14	4.20	3.67
ROUTED TO	R4.0S9	156.	3.67	29.	7.	7.	0.14	11.58	3.67
HYDROGRAPH AT	S94	276.	3.25	28.	7.	7.	0.13		
HYDROGRAPH AT	S100	301.	3.25	31.	8.	8.	0.15		

2 COMBINED AT	CS100	577.	3.25	59.	15.	14.	0.28		
ROUTED TO	R10S12	544.	3.33	59.	15.	14.	0.28	12.95	3.33
HYDROGRAPH AT	OS12	21.	3.17	2.	0.	0.	0.01		
2 COMBINED AT	C.OS12	555.	3.33	61.	15.	15.	0.29		
ROUTED TO	R5.OS9	527.	3.42	61.	15.	15.	0.29	12.92	3.42
5 COMBINED AT	C2.OS9	837.	3.33	116.	29.	28.	0.57		
ROUTED TO	R10S13	832.	3.42	116.	29.	28.	0.57	13.36	3.42
HYDROGRAPH AT	F3	10.	3.08	1.	0.	0.	0.00		
ROUTED TO	RBF3	7.	3.25	1.	0.	0.	0.00	1.05	3.25
ROUTED TO	R2OS13	7.	3.25	1.	0.	0.	0.00	10.22	3.25
2 COMBINED AT	C.OS13	837.	3.42	117.	29.	28.	0.57		
ROUTED TO	ROS13	790.	3.50	117.	29.	28.	0.57	13.36	3.50
HYDROGRAPH AT	S220	206.	3.17	16.	4.	4.	0.08		
2 COMBINED AT	C220	837.	3.50	133.	33.	32.	0.65		
ROUTED TO	R220	837.	3.50	133.	33.	32.	0.65	13.25	3.50
HYDROGRAPH AT	S232	9.	3.08	1.	0.	0.	0.00		
3 COMBINED AT	C232	959.	3.50	209.	53.	51.	0.74		
ROUTED TO	R232	894.	3.75	209.	53.	51.	0.74	13.39	3.75
HYDROGRAPH AT	S233	195.	3.25	20.	5.	5.	0.12		
2 COMBINED AT	C233	939.	3.67	228.	57.	55.	0.86		
2 COMBINED AT	NULL	1706.	3.67	602.	152.	146.	6.61		
HYDROGRAPH AT	RET5R	281.	4.08	82.	21.	20.	0.00		
ROUTED TO	R10S14	281.	4.08	82.	21.	20.	0.00	12.23	4.08
HYDROGRAPH AT	OS14	8.	3.17	1.	0.	0.	0.00		
HYDROGRAPH AT	D1	34.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBD1	16.	3.33	3.	1.	1.	0.01	2.46	3.33
3 COMBINED AT	C.OS14	286.	4.08	85.	22.	21.	0.01		
ROUTED TO	ROS14	282.	4.17	85.	22.	21.	0.01	12.21	4.17
HYDROGRAPH AT	S250	161.	3.17	13.	3.	3.	0.08		
2 COMBINED AT	C250	293.	4.17	98.	25.	24.	0.10		

ROUTED TO	R250	291.	4.25	98.	25.	24.	0.10	12.50	4.25
HYDROGRAPH AT	S252	40.	3.08	3.	1.	1.	0.01		
HYDROGRAPH AT	S251	66.	3.17	5.	1.	1.	0.03		
ROUTED TO	R251	58.	3.17	5.	1.	1.	0.03	11.00	3.17
HYDROGRAPH AT	S253	48.	3.08	3.	1.	1.	0.02		
4 COMBINED AT	C253	299.	4.25	109.	28.	27.	0.15		
ROUTED TO	R253	298.	4.33	109.	28.	27.	0.15	12.10	4.33
HYDROGRAPH AT	S254	150.	3.25	14.	4.	3.	0.08		
2 COMBINED AT	C254	390.	3.25	124.	31.	30.	0.23		
HYDROGRAPH AT	S255	89.	3.17	7.	2.	2.	0.03		
HYDROGRAPH AT	S256	56.	3.17	4.	1.	1.	0.03		
HYDROGRAPH AT	G1	109.	3.25	12.	3.	3.	0.05		
ROUTED TO	RBG1	16.	3.83	10.	3.	3.	0.05	2.23	3.83
HYDROGRAPH AT	H1	38.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBH1	0.	6.17	0.	0.	0.	0.01	4.34	6.25
HYDROGRAPH AT	S200	673.	3.83	156.	39.	38.	0.77		
ROUTED TO	R200	652.	4.17	156.	39.	38.	0.77	11.44	4.17
HYDROGRAPH AT	S201	1512.	3.58	263.	66.	63.	1.25		
2 COMBINED AT	C201	1525.	3.58	418.	105.	101.	2.02		
ROUTED TO	R201	1509.	3.67	418.	105.	101.	2.02	12.42	3.67
HYDROGRAPH AT	S202	801.	3.17	76.	19.	18.	0.36		
2 COMBINED AT	C202	1685.	3.58	493.	124.	119.	2.38		
DIVERSION TO	DIV20L	300.	3.58	82.	20.	20.	2.38		
HYDROGRAPH AT	DIV20R	1385.	3.58	411.	103.	99.	2.38		
ROUTED TO	R20R	1353.	3.83	411.	103.	99.	2.38	12.31	3.83
HYDROGRAPH AT	S203	642.	3.33	77.	19.	18.	0.43		
2 COMBINED AT	C203	1573.	3.67	487.	122.	118.	2.81		
DIVERSION TO	DIV21L	1180.	3.67	365.	92.	88.	2.81		
HYDROGRAPH AT	DIV21R	393.	3.67	122.	31.	29.	2.81		
ROUTED TO	R21R	383.	3.83	122.	31.	29.	2.81	13.10	3.83

HYDROGRAPH AT	S210	105.	3.08	8.	2.	2.	0.05		
2 COMBINED AT	C210	391.	3.83	129.	33.	31.	2.86		
DIVERSION TO	DIV24R	39.	3.83	13.	3.	3.	2.86		
HYDROGRAPH AT	DIV24L	352.	3.83	117.	29.	28.	2.86		
ROUTED TO	R210	334.	4.25	116.	29.	28.	2.86	12.96	4.25
HYDROGRAPH AT	S211	195.	3.25	21.	5.	5.	0.15		
2 COMBINED AT	C211	355.	4.17	137.	35.	33.	3.01		
2 COMBINED AT	NULL	355.	4.17	137.	35.	33.	3.02		
HYDROGRAPH AT	RET24R	39.	3.83	13.	3.	3.	0.00		
ROUTED TO	R24R	38.	4.00	13.	3.	3.	0.00	10.66	4.00
HYDROGRAPH AT	S212	130.	3.25	13.	3.	3.	0.08		
2 COMBINED AT	C212	133.	3.25	26.	7.	6.	0.08		
2 COMBINED AT	NULL	426.	3.33	163.	41.	40.	3.11		
HYDROGRAPH AT	RET21L	1180.	3.67	365.	92.	88.	0.00		
ROUTED TO	R21L	1177.	3.75	365.	92.	88.	0.00	13.86	3.75
HYDROGRAPH AT	S290	133.	3.17	10.	3.	2.	0.07		
2 COMBINED AT	C290	1190.	3.75	375.	94.	91.	0.07		
ROUTED TO	R290	1185.	3.83	374.	94.	91.	0.07	13.74	3.83
HYDROGRAPH AT	S291	101.	3.17	8.	2.	2.	0.05		
2 COMBINED AT	C291	1194.	3.75	382.	96.	93.	0.13		
2 COMBINED AT	NULL	1557.	3.83	545.	138.	133.	3.24		
HYDROGRAPH AT	S300	16.	3.08	1.	0.	0.	0.01		
ROUTED TO	R300	11.	3.17	1.	0.	0.	0.01	10.50	3.17
HYDROGRAPH AT	S301	27.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C301	34.	3.17	3.	1.	1.	0.02		
HYDROGRAPH AT	S310	22.	3.08	2.	0.	0.	0.01		
ROUTED TO	R310	16.	3.17	2.	0.	0.	0.01	10.33	3.17
HYDROGRAPH AT	S311	27.	3.08	2.	0.	0.	0.01		
3 COMBINED AT	C311	73.	3.17	6.	2.	2.	0.04		
ROUTED TO	R311	77.	3.17	6.	2.	2.	0.04	10.95	3.17

HYDROGRAPH AT	S302	29.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C302	101.	3.17	8.	2.	2.	0.05		
DIVERSION TO	DIV22L	76.	3.17	6.	2.	2.	0.05		
HYDROGRAPH AT	DIV22R	25.	3.17	2.	1.	1.	0.05		
ROUTED TO	R22R	22.	3.25	2.	1.	1.	0.05	10.53	3.25
HYDROGRAPH AT	S304	8.	3.08	1.	0.	0.	0.00		
2 COMBINED AT	C304	28.	3.17	3.	1.	1.	0.06		
DIVERSION TO	DIV23L	21.	3.17	2.	0.	0.	0.06		
HYDROGRAPH AT	DIV23R	7.	3.17	1.	0.	0.	0.06		
ROUTED TO	R23R	6.	3.25	1.	0.	0.	0.06	10.40	3.25
HYDROGRAPH AT	S306	28.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C306	30.	3.08	3.	1.	1.	0.07		
2 COMBINED AT	NULL	1560.	3.83	547.	138.	133.	3.30		
HYDROGRAPH AT	RET23L	21.	3.17	2.	0.	0.	0.00		
ROUTED TO	R23L	20.	3.25	2.	0.	0.	0.00	10.47	3.25
HYDROGRAPH AT	S305	10.	3.08	1.	0.	0.	0.00		
2 COMBINED AT	C305	25.	3.17	3.	1.	1.	0.00		
2 COMBINED AT	NULL	1564.	3.83	550.	139.	134.	3.31		
HYDROGRAPH AT	RET22L	76.	3.17	6.	2.	2.	0.00		
ROUTED TO	R22L	71.	3.17	6.	2.	2.	0.00	11.58	3.17
HYDROGRAPH AT	S303	31.	3.08	2.	1.	1.	0.01		
2 COMBINED AT	C303	97.	3.17	8.	2.	2.	0.01		
HYDROGRAPH AT	S307	42.	3.08	3.	1.	1.	0.02		

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

  1           ID       56th AND LONE MOUNTAIN
  2           ID
  3           ID
  4           ID        HEC-1 FILENAME:    1669E100.HC1 FSS
  5           ID        DATE:              SEPTEMBER 11, 2000
  6           ID        CREATED BY:        JOSH LESSARD
  7           ID
  8           ID
  9           ID        HEC-1 HYDROLOGY MODEL
 10           ID
 11           ID         1. THE FOLLOWING MODEL ADJUSTS THE EXISTING CONDITIONS FLOW SPLITS.
 12           ID         2. THE ON-SITE SUB-BASINS THAT ARE AFFECTED ARE S231 AND S233
 13           ID         3. DIV4L 75%/DIV4R 25%
 14           ID         4. DIV5L 75%/DIV5R 25%
 15           ID         5. DIV11L 75%/DIV11R 25%
 16           ID
 17           ID
              *DIAGRAM
 18           IT       5 09SEP00       0     300
 19           IO       5       0
              *

 20           KK     S30
 21           KM   SUB-BASIN S30
 22           BA     .42
 23           PH                   0.80    1.46    2.36    2.70    2.92    3.35
 24           LS              88      38
 25           UD    .452
              *

 26           KK     R30
 27           KM   ROUTE S30 THRU S32
 28           RS       1    ELEV      10
 29           RC    .055    .035    .055    2250    .018
 30           RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 31           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 32           KK     S32
 33           KM   SUB-BASIN S32
 34           BA    .074
 35           LS              78
 36           UD    .287
              *

 37           KK     C32
 38           KM   COMBINE S30/R30 & S32
 39           HC       2
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  40          KK     S40
  41          KM   SUB-BASIN S40
  42          BA    1.60
  43          LS              84      15
  44          UD    .985
              *

  45          KK     R48
  46          KM   ROUTE R40
  47          RS       2    ELEV      10
  48          RC    .055    .035    .055    8400    .023
  49          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
  50          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  51          KK     S50
  52          KM   SUB-BASIN S50
  53          BA     .53
  54          LS              86      35
  55          UD    .535
              *

  56          KK     C51
  57          KM   COMBINE R48/S40 & S50
  58          HC       2
              *

  59          KK     R51
  60          KM   ROUTE C51 THRU BASIN 54
  61          RS       2    ELEV      10
  62          RC    .055    .035    .055    3050    .015
  63          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
  64          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  65          KK     S54
  66          KM   SUB-BASIN S54
  67          BA    .044
  68          LS              81
  69          UD    .291
              *

  70          KK     C54
  71          KM   COMBINE S54, C51, & C32
  72          HC       3
              *

  73          KK     R54
  74          KM   ROUTE C54 THRU BASIN 56
  75          RS       2    ELEV      10
  76          RC    .055    .035    .055    4150    .016
  77          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
  78          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  79          KK     S56
  80          KM   SUB-BASIN S56
  81          BA    .171
  82          LS              76
  83          UD    .427
              *

  84          KK     C56
  85          KM   COMBINE S56 & R54
  86          HC       2
              *

  87          KK     R56
  88          KM   ROUTE C56 THRU BASIN S280
  89          RS       1    ELEV      10
  90          RC    .055    .035    .055    1840    .019
  91          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
  92          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  93          KK    S110
  94          KM   SUB-BASIN S110
  95          BA    .109
  96          LS              83
  97          UD    .345
              *

  98          KK    R110
  99          KM   ROUTE S110 THRU BASIN S280
 100          RS       1    ELEV      10
 101          RC    .055    .035    .055    1840    .019
 102          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 103          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 104          KK    S280     SUB
 105          KM   SUB-BASIN S280
 106          BA   0.056
 107          LS              85
 108          UD    0.06
              *

 109          KK    C280
 110          KM  COMBINE S56/R56, S110/R110, & S280
 111          HC       3
              *

 112          KK  DIV26L DIVERT
 113          DT  DIV26R
 114          DI       0     100    1000   10000
 115          DQ       0      75     750    7500
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 116          KK    R26L
 117          KM   ROUTE DIV26L THRU BASIN S281
 118          RS       1    ELEV      10
 119          RC    .055    .035    .055    1340    .019
 120          RX    48.5    51.5   101.5     104     144   146.5   196.5   199.5
 121          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 122          KK    S281     SUB
 123          KM   SUB-BASIN S281
 124          BA   0.010
 125          LS              85
 126          UD    0.06
              *

 127          KK    C281
 128          KM  COMBINE DIV26L/R26L & S281
 129          HC       2
              *

 130          KK     S60     SUB
 131          KM
 132          BA  1.8100
 133          LS              87      16
 134          UD   0.933
              *

 135          KK   DIV4R  DIVERT
 136          KM
 137          DT   DIV4L
 138          DI       0     100    1000   10000
 139          DQ       0      75     750    7500
              *

 140          KK     S70
 141          KM   SUB-BASIN S70
 142          BA    .029
 143          LS              85      40
 144          UD    .120
              *

 145          KK     C70
 146          KM   COMBINE DIV4R & S70
 147          HC       2
              *

 148          KK     R70
 149          KM   ROUTE C70 THRU BASIN S62
 150          RS       3    ELEV      10
 151          RC    .055    .035    .055    6850    .017
 152          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 153          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 154          KK     S62
 155          KM   SUB-BASIN S62
 156          BA    .193
 157          LS              85
 158          UD    .458
              *

 159          KK     C62
 160          KM   COMBINE S62 & C70
 161          HC       2
              *

 162          KK     R62
 163          KM   ROUTE C62 THRU BASIN S270
 164          RS       2    ELEV      10
 165          RC    .055    .035    .055    3110    .019
 166          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 167          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 168          KK    S270
 169          KM   SUB-BASIN S270
 170          BA    .067
 171          LS              85
 172          UD    .100
              *

 173          KK    C270
 174          KM   COMBINE C62/R62, S270, & C281
 175          HC       3
              *

 176          KK  DIV27L  DIVERT
 177          KM
 178          DT  DIV27R
 179          DI       0     100    1000   10000
 180          DQ       0      75     750    7500
              *

 181          KK    R27L
 182          KM   ROUTE DIV27L THRU BASIN S271
 183          RS       1    ELEV      10
 184          RC    .055    .035    .055    1505    .013
 185          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 186          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 187          KK    S271
 188          KM   SUB-BASIN S271
 189          BA   .0219
 190          LS              85
 191          UD    .060
              *
```

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

 192          KK    C271
 193          KM   COMBINE C270/R270 & S271
 194          HC       2
              *

 195          KK    R271
 196          KM   ROUTE C271 THRU BASIN S272
 197          RS       1    ELEV      10
 198          RC    .055    .035    .055    1205    .021
 199          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 200          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 201          KK    S272
 202          KM   SUB-BASIN S272
 203          BA    .019
 204          LS              79
 205          UD    .060
              *

 206          KK    S260
 207          KM   SUB-BASIN S260
 208          BA    .140
 209          LS              85
 210          UD    .200
              *

 211          KK    R260
 212          KM   ROUTE C260 THRU BASIN S261
 213          RS       2    ELEV      10
 214          RC    .055    .035    .055    2880    .017
 215          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 216          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 217          KK    S261
 218          KM   SUB-BASIN S261
 219          BA    .043
 220          LS              83
 221          UD    .096
              *

 222          KK    C272
 223          KM   COMBINE C271/R271, S272, S260/R260, & S261
 224          HC       4
              *
              *

 225          KK   DIV4L     RET
 226          KM
 227          DR   DIV4L
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 228          KK  R1.0S2   ROUTE
 229          KM
 230          RS       1    ELEV      10
 231          RC   0.055   0.035   0.055     620    0.02
 232          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 233          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 234          KK     0S2     SUB
 235          KM
 236          BA  0.0295
 237          LS              79
 238          UD  0.1583
              *

 239          KK   C.0S2     ADD
 240          KM
 241          HC       2
              *

 242          KK   DIV5L  DIVERT
 243          KM
 244          DT   DIV5R
 245          DI       0     100    1000   10000
 246          DQ       0      25     250    2500
              *

 247          KK  R1.0S3   ROUTE
 248          KM
 249          RS       1    ELEV      10
 250          RC   0.055   0.035   0.055     570    0.02
 251          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 252          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 253          KK     0S3     SUB
 254          KM
 255          BA  0.0205
 256          LS              79
 257          UD  0.1250
              *

 258          KK   C.0S3     ADD
 259          KM
 260          HC       2
              *

 261          KK  DIV11R  DIVERT
 262          KM
 263          DT  DIV11L
 264          DI       0     100    1000   10000
 265          DQ       0      75     750    7500
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 266          KK  R1.OS5   ROUTE
 267          KM
 268          RS       1    ELEV      10
 269          RC   0.055   0.035   0.055     600    0.02
 270          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 271          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 272          KK     OS5     SUB
 273          KM
 274          BA  0.0043
 275          LS              79
 276          UD  0.0828
              *

 277          KK      F1     SUB
 278          KM
 279          BA  0.0020
 280          LS              85      35
 281          UD  0.0694
              *

 282          KK    RBF2 RET BAS
 283          KM
 284          RS       1    STOR      -1
 285          SV       0    0.21    0.23    0.26
 286          SE       0       3     3.5     4.0
 287          SQ       0      21      44      86
              *

 288          KK      D2     SUB
 289          KM
 290          BA  0.0077
 291          LS              85      35
 292          UD  0.0961
              *

 293          KK    RBD2 RET BAS
 294          KM
 295          RS       1    STOR      -1
 296          SV       0    0.67    0.74    0.82
 297          SE       0     4.5     5.0     5.5
 298          SQ       0      29      42      63
              *

 299          KK  R2.OS5   ROUTE
 300          KM
 301          RS       1    ELEV      10
 302          RC   0.055   0.035   0.055     200    0.02
 303          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 304          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
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```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 305          KK   C.OS5     ADD
 306          HC       4
              *

 307          KK    ROS5   ROUTE
 308          KM   ROUTE C.OS5 THRU S240
 309          RS       2    ELEV      10
 310          RC   0.055   0.035   0.055    3340   0.021
 311          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 312          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 313          KK    S240     SUB
 314          KM   SUB-BASIN S240
 315          BA   0.034
 316          LS              78
 317          UD    0.11
              *

 318          KK    C240     ADD
 319          KM   COMBINE C.OS5/ROS5 & S240
 320          HC       2
              *

 321          KK    R240   ROUTE
 322          KM   ROUTE C240 THRU S243
 323          RS       1    ELEV      10
 324          RC   0.055   0.035   0.055     765   0.020
 325          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 326          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 327          KK    S243     SUB
 328          KM   SUB-BASIN S243
 329          BA   0.013
 330          LS              78
 331          UD    0.06
              *

 332          KK    C243     ADD
 333          KM   COMBINE C240/R240 & S243
 334          HC       2
              *

 335          KK    S241     SUB
 336          KM   SUB-BASIN S241
 337          BA   0.025
 338          LS              80
 339          UD   0.078
              *
```

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

 340          KK    R241   ROUTE
 341          KM   ROUTE C241 THRU S244
 342          RS       1    ELEV      10
 343          RC   0.055   0.035   0.055     980   0.020
 344          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 345          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 346          KK    S244     SUB
 347          KM   SUB-BASIN S244
 348          BA   0.015
 349          LS             77
 350          UD    0.06
              *

 351          KK    C244
 352          KM   COMBINE C243, S241/C241, & S244
 353          HC       3
              *

 354          KK    R244   ROUTE
 355          KM   ROUTE C244 THRU S245
 356          RS       1    ELEV      10
 357          RC   0.055   0.035   0.055     270   0.019
 358          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 359          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 360          KK    S245     SUB
 361          KM   SUB-BASIN S245
 362          BA  0.0088
 363          LS             79
 364          UD    0.06
              *

 365          KK    C245
 366          KM   COMBINE C244/R244 & S245
 367          HC       2
              *

 368          KK  DIV25L  DIVERT
 369          KM
 370          DT  DIV25R
 371          DI       0     100    1000   10000
 372          DQ       0      50     500    5000
              *

 373          KK    R25L   ROUTE
 374          KM   ROUTE DIV25L THRU S246
 375          RS       3    ELEV      10
 376          RC   0.055   0.035   0.055    4480   0.019
 377          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 378          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 379          KK    S246     SUB
 380          KM   SUB-BASIN S246
 381          BA   0.061
 382          LS              77
 383          UD    0.15
              *

 384          KK    C246
 385          KM   COMBINE DIV25L/R25L & S246
 386          HC       2
              *

 387          KK    NULL
 388          HC       2
              *

 389          KK  RET25R     RET
 390          KM
 391          DR  DIV25R
              *

 392          KK    R25R   ROUTE
 393          KM   ROUTE DIV25R THRU S247
 394          RS       3    ELEV      10
 395          RC   0.055   0.035   0.055    4490   0.019
 396          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 397          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 398          KK    S247     SUB
 399          KM   SUB-BASIN S247
 400          BA   0.079
 401          LS              80
 402          UD    0.15
              *

 403          KK    C247
 404          KM   COMBINE DIV25R/R25R & S247
 405          HC       2
              *

 406          KK    NULL
 407          HC       2
              *

 408          KK    S242     SUB
 409          KM   SUB-BASIN S242
 410          BA   0.027
 411          LS              80
 412          UD   0.077
              *
```

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

 413          KK    R242   ROUTE
 414          KM   ROUTE S242 THRU S248
 415          RS       4    ELEV      10
 416          RC   0.055   0.035   0.055    5815   0.018
 417          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 418          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 419          KK    S248     SUB
 420          KM   SUB-BASIN S248
 421          BA   0.090
 422          LS              81
 423          UD    0.19
              *

 424          KK    C248
 425          KM   COMBINE S242/R242 & S248
 426          HC       2
              *

 427          KK    NULL
 428          HC       2
              *

 429          KK  RET11L     RET
 430          KM
 431          DR  DIV11L
              *

 432          KK  R1.OS6   ROUTE
 433          KM
 434          RS       1    ELEV      10
 435          RC   0.055   0.035   0.055     300    0.02
 436          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 437          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 438          KK     OS6     SUB
 439          KM
 440          BA  0.0013
 441          LS              79
 442          UD  0.0650
              *

 443          KK   C.OS6     ADD
 444          KM
 445          HC       2
              *
```

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

 446          KK  R1.OS7   ROUTE
 447          KM
 448          RS       1    ELEV      10
 449          RC   0.055   0.035   0.055     420    0.02
 450          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 451          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 452          KK     OS7     SUB
 453          KM
 454          BA  0.0044
 455          LS              79
 456          UD  0.0767
              *

 457          KK   C.OS7     ADD
 458          KM
 459          HC       2
              *

 460          KK    ROS7   ROUTE
 461          KM   ROUTE C.OS7 THRU S230
 462          RS       2    ELEV      10
 463          RC   0.055   0.035   0.055    3680   0.018
 464          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 465          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 466          KK    S230     SUB
 467          KM   SUB-BASIN S230
 468          BA   0.075
 469          LS              78
 470          UD    0.12
              *

 471          KK    C230     ADD
 472          KM   COMBINE C.OS7/ROS7 & S230
 473          HC       2
              *

 474          KK    R230   ROUTE
 475          KM   ROUTE C230 THRU S231
 476          RS       1    ELEV      10
 477          RC   0.055   0.035   0.055     465   0.022
 478          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 479          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 480          KK    S231     SUB
 481          KM   SUB-BASIN S231
 482          BA  0.0056
 483          LS              85
 484          UD    0.06
              *
```

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

 485          KK    C231
 486          KM   COMBINE C230/R230 & S231
 487          HC       2
              *

 488          KK     S90     SUB
 489          KM
 490          BA   0.063
 491          LS             86
 492          UD   0.152
              *

 493          KK  R10S11   ROUTE
 494          KM
 495          RS       1    ELEV      10
 496          RC   0.055   0.035   0.055     300    0.02
 497          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 498          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 499          KK    OS11     SUB
 500          KM
 501          BA  0.0041
 502          LS             79
 503          UD  0.0967
              *

 504          KK  C.OS11     ADD
 505          KM
 506          HC       2
              *

 507          KK  R1.OS8   ROUTE
 508          KM
 509          RS       1    ELEV      10
 510          RC   0.055   0.035   0.055     710    0.02
 511          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 512          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 513          KK     OS8     SUB
 514          KM
 515          BA  0.0139
 516          LS             79
 517          UD  0.1167
              *

 518          KK   C.OS8     ADD
 519          KM
 520          HC       2
              *
```

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

 521          KK  R1.OS9   ROUTE
 522          KM
 523          RS       2    ELEV      10
 524          RC   0.055   0.035   0.055    2070    0.02
 525          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 526          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 527          KK     OS9     SUB
 528          KM
 529          BA  0.0293
 530          LS              79
 531          UD  0.1778
              *

 532          KK  C1.OS9     ADD
 533          HC       2
              *

 534          KK      H2     SUB
 535          KM
 536          BA  0.0105
 537          LS              85      35
 538          UD  0.0889
              *

 539          KK    RBH2 RET BAS
 540          KM
 541          RS       1    STOR      -1
 542          SV       0     1.2    1.35     1.5
 543          SE       0     4.0     4.5     5.0
 544          SQ       0      26      82     181
              *

 545          KK  R2.OS9   ROUTE
 546          KM
 547          RS       2    ELEV      10
 548          RC   0.055   0.035   0.055    1390    0.02
 549          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 550          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 551          KK      E3     SUB
 552          KM
 553          BA  0.0099
 554          LS              85      35
 555          UD  0.1228
              *
```

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

 556          KK    RBE1 RET BAS
 557          KM        40 FOOT WEIR
 558          RS       1    STOR      -1
 559          SV       0    0.75   0.825     0.9
 560          SE       0       5     5.5     6.0
 561          SQ       0      31      75     155
              *

 562          KK  R3.OS9   ROUTE
 563          KM
 564          RS       1    ELEV      10
 565          RC   0.055   0.035   0.055    1120    0.02
 566          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 567          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 568          KK     S80     SUB
 569          KM
 570          BA  0.0580
 571          LS              85
 572          UD   0.166
              *

 573          KK  R1.OS4   ROUTE
 574          KM
 575          RS       1    ELEV      10
 576          RC   0.055   0.035   0.055     800    0.02
 577          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 578          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 579          KK     OS4     SUB
 580          KM
 581          BA  0.0075
 582          LS              79
 583          UD  0.0972
              *

 584          KK   C.OS4     ADD
 585          KM
 586          HC       2
              *

 587          KK      I1     SUB
 588          KM
 589          BA  0.0175
 590          LS              79
 591          UD  0.1078
              *
```

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

 592          KK    C.I1     ADD
 593          KM
 594          HC       2
              *

 595          KK    RBI2 RET BAS
 596          KM                RETENTION BASIN IS DRAINED BY 5 - 36 inch CORRUGATED METAL PIPES
 597          RS       1    STOR      -1
 598          SV       0    0.74   1.115
 599          SE       0       2       3
 600          SQ       0      95     175
              *

 601          KK    RBI3 RET BAS
 602          KM                RETENTION BASIN IS DRAINED BY 4 - 36 inch CORRUGATED METAL PIPES
 603          RS       1    STOR      -1
 604          SV       0    0.74   1.115
 605          SE       0       2       3
 606          SQ       0      76     140
              *

 607          KK  R10S10   ROUTE
 608          KM
 609          RS       2    ELEV      10
 610          RC   0.055   0.035   0.055    1600    0.02
 611          RX    48.5    51.5    91.5    94.0   106.0   108.5   148.5   151.5
 612          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 613          KK    OS10     SUB
 614          KM
 615          BA  0.0170
 616          LS              79
 617          UD  0.1445
              *

 618          KK      E1     SUB
 619          KM
 620          BA  0.0185
 621          LS              85      35
 622          UD  0.1111
              *

 623          KK  R20S10   ROUTE
 624          KM
 625          RS       1    ELEV      10
 626          RC   0.055   0.035   0.055    1000    0.02
 627          RX    48.5    51.5    91.5    94.0   106.0   108.5   148.5   151.5
 628          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 629          KK  C.OS10     ADD
 630          KM
 631          HC       3
              *

 632          KK    RBE2 RET BAS
 633          KM
 634          RS       1    STOR      -1
 635          SV       0   0.336   0.504   0.672    0.84
 636          SE       0       2       3       4     5.0
 637          SQ       0      57     105     147     180
              *

 638          KK    RBE3 RET BAS
 639          KM
 640          RS       1    STOR      -1
 641          SV       0    0.45   0.675    0.90
 642          SE       0       2       3     4.0
 643          SQ       0      57     105     147
              *

 644          KK      F2     SUB
 645          KM
 646          BA  0.0091
 647          LS              85      35
 648          UD  0.1067
              *

 649          KK    C.F1     ADD
 650          KM
 651          HC       2
              *

 652          KK    RBF1 RET BAS
 653          KM                RETENTION BASIN IS DRAINED BY 4 - 36 INCH C.M. PIPES
 654          RS       1    STOR      -1
 655          SV       0    0.59    0.89    1.18
 656          SE       0       2       3     4.0
 657          SQ       0      76     140     196
              *

 658          KK      E2     SUB
 659          KM
 660          BA  0.0165
 661          LS              85      35
 662          UD  0.1106
              *

 663          KK    C.E2     ADD
 664          KM
 665          HC       2
              *
```

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

 666          KK    RBE4 RET BAS
 667          KM
 668          RS       1    STOR      -1
 669          SV       0   0.745    1.12    1.49
 670          SE       0       2       3     4.0
 671          SQ       0      57     105     147
              *

 672          KK  R4.OS9   ROUTE
 673          KM
 674          RS       1    ELEV      10
 675          RC   0.055   0.035   0.055     200    0.02
 676          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 677          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 678          KK     S94     SUB
 679          KM
 680          BA   0.132
 681          LS              86
 682          UD   0.186
              *

 683          KK    S100     SUB
 684          KM
 685          BA   0.148
 686          LS              86
 687          UD   0.196
              *

 688          KK   CS100     ADD
 689          KM
 690          HC       2
              *

 691          KK  R10S12   ROUTE
 692          KM
 693          RS       1    ELEV      10
 694          RC   0.055   0.035   0.055     900    0.02
 695          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 696          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 697          KK    OS12     SUB
 698          KM
 699          BA  0.0107
 700          LS              79
 701          UD  0.1056
              *
```

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

 702          KK  C.0S12     ADD
 703          KM
 704          HC       2
              *

 705          KK  R5.0S9   ROUTE
 706          KM
 707          RS       2    ELEV      10
 708          RC   0.055   0.035   0.055    1410    0.02
 709          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 710          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 711          KK  C2.0S9     ADD
 712          KM
 713          HC       5
              *

 714          KK  R10S13   ROUTE
 715          KM
 716          RS       1    ELEV      10
 717          RC   0.055   0.035   0.055     200    0.02
 718          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 719          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 720          KK      F3     SUB
 721          KM
 722          BA  0.0031
 723          LS               85      35
 724          UD  0.0722
              *

 725          KK    RBF3 RET BAS
 726          KM
 727          RS       1    STOR      -1
 728          SV       0    0.34    0.41    0.48
 729          SE       0     4.0     4.5     5.0
 730          SQ       0      26      82     181
              *

 731          KK  R20S13   ROUTE
 732          KM
 733          RS       1    ELEV      10
 734          RC   0.055   0.035   0.055     150    0.02
 735          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 736          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 737          KK  C.OS13     ADD
 738          KM
 739          HC       2
              *

 740          KK   ROS13   ROUTE
 741          KM   ROUTE C.OS13 THRU SUB-BASIN S220
 742          RS       2    ELEV      10
 743          RC   0.055   0.035   0.055    3030   0.018
 744          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 745          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 746          KK    S220
 747          KM   SUB-BASIN S220
 748          BA   0.079
 749          LS              85
 750          UD    0.10
              *

 751          KK    C220
 752          KM   COMBINE C.OS13/ROS13 & S220
 753          HC       2
              *

 754          KK    R220   ROUTE
 755          KM   ROUTE C220 THRU SUB-BASIN S232
 756          RS       1    ELEV      10
 757          RC   0.055   0.035   0.055     410   0.025
 758          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 759          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 760          KK    S232
 761          KM   SUB-BASIN S232
 762          BA  0.0030
 763          LS              85
 764          UD    0.06
              *

 765          KK    C232
 766          KM   COMBINE C231, C220/R220, & S232
 767          HC       3
              *

 768          KK    R232   ROUTE
 769          KM   ROUTE C232 THRU SUB-BASIN S233
 770          RS       4    ELEV      10
 771          RC   0.055   0.035   0.055    5295   0.018
 772          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 773          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 774          KK    S233
 775          KM   SUB-BASIN S233
 776          BA    0.12
 777          LS              80
 778          UD    0.18
              *

 779          KK    C233
 780          KM   COMBINE  C232/R232 & S233
 781          HC       2
              *

 782          KK    NULL
 783          HC       2
              *

 784          KK   RET5R     RET
 785          KM
 786          DR   DIV5R
              *

 787          KK  R10S14   ROUTE
 788          KM
 789          RS       1    ELEV      10
 790          RC   0.055   0.035   0.055     700    0.02
 791          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 792          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 793          KK    OS14     SUB
 794          KM
 795          BA  0.0039
 796          LS              79
 797          UD  0.1028
              *

 798          KK      D1     SUB
 799          KM
 800          BA  0.0111
 801          LS              85      35
 802          UD  0.0989
              *

 803          KK    RBD1 RET BAS
 804          KM                      -
 805          RS       1    STOR      -1
 806          SV       0    0.91    1.01    1.11
 807          SE       0     4.5     5.0     5.5
 808          SQ       0      29      42      63
              *
```

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

 809          KK  C.OS14     ADD
 810          KM
 811          HC       3
              *

 812          KK   ROS14   ROUTE
 813          KM   ROUTE C.OS14 THRU SUB-BASIN S250
 814          RS       2    ELEV      10
 815          RC   0.055   0.035   0.055    3270   0.021
 816          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 817          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 818          KK    S250
 819          KM   SUB-BASIN S250
 820          BA   0.083
 821          LS              79
 822          UD    0.11
              *

 823          KK    C250
 824          KM   COMBINE C.OS14/ROS14 & S250
 825          HC       2
              *

 826          KK    R250   ROUTE
 827          KM   ROUTE C250 THRU SUB-BASIN S252
 828          RS       1    ELEV      10
 829          RC   0.055   0.035   0.055    1385   0.014
 830          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 831          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 832          KK    S252     SUB
 833          KM   SUB-BASIN S252
 834          BA   0.015
 835          LS              82
 836          UD    0.06
              *

 837          KK    S251
 838          KM   SUB-BASIN S251
 839          BA   0.025
 840          LS              85
 841          UD   0.088
              *

 842          KK    R251   ROUTE
 843          KM   ROUTE C251 THRU SUB-BASIN S253
 844          RS       1    ELEV      10
 845          RC   0.055   0.035   0.055    1120   0.013
 846          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 847          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *
```

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

 848          KK    S253     SUB
 849          KM   SUB-BASIN S253
 850          BA   0.016
 851          LS             85
 852          UD    0.06
              *

 853          KK    C253
 854          KM   COMBINE C250/R250, S252, S251/R251, & S253
 855          HC       4
              *

 856          KK    R253   ROUTE
 857          KM   ROUTE C253 THRU SUB-BASIN S254
 858          RS       3    ELEV      10
 859          RC   0.055   0.035   0.055    4360   0.021
 860          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 861          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 862          KK    S254     SUB
 863          KM   SUB-BASIN S254
 864          BA   0.080
 865          LS             82
 866          UD    0.15
              *

 867          KK    C254
 868          KM   COMBINE C253/R253 & S254
 869          HC       2
              *

 870          KK    S255     SUB
 871          KM   SUB-BASIN S255
 872          BA   0.034
 873          LS             85
 874          UD   0.097
              *

 875          KK    S256     SUB
 876          KM   SUB-BASIN S256
 877          BA   0.025
 878          LS             81
 879          UD   0.081
              *

 880          KK      G1     SUB
 881          KM
 882          BA  0.0467
 883          LS             85      35
 884          UD  0.1928
              *
```

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

885           KK    RBG1 RET BAS
886           KM
887           RS       1    STOR      -1
888           SV       0     5.3    5.78    6.26
889           SE       0     3.0     3.5     4.0
890           SQ       0      21      76     176
              *
              *

891           KK      H1     SUB
892           KM
893           BA  0.0125
894           LS              85      35
895           UD  0.1011
              *

896           KK    RBH1 RET BAS
897           KM
898           RS       1    STOR      -1
899           SV       0    1.28   1.465    1.65
900           SE       0     3.5     4.0     4.5
901           SQ       0   0.001    0.01     0.1
              *

902           KK    S200
903           KM   SUB-BASIN S200
904           BA    0.77
905           LS              85
906           UD    0.70
              *

907           KK    R200
908           KM   ROUTE S200 THRU SUB-BASIN S201
909           RS       9    ELEV      10
910           RC    .055    .035    .055   13650   0.019
911           RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
912           RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

913           KK    S201
914           KM   SUB-BASIN S201
915           BA    1.25
916           LS              86
917           UD    0.46
              *

918           KK    C201
919           KM   COMBINE S200/R200 & S201
920           HC       2
              *
```

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

921           KK    R201
922           KM   ROUTE C201 THRU SUB-BASIN S202
923           RS       3    ELEV      10
924           RC    .055    .035    .055    4355   0.018
925           RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
926           RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

927           KK    S202
928           KM   SUB-BASIN S202
929           BA    0.36
930           LS              86
931           UD    0.15
              *

932           KK    C202
933           KM   COMBINE C201/R201 & SUB-BASIN S202
934           HC       2
              *

935           KK  DIV20R DIVERT
936           DT  DIV20L
937           DI       0      17      68     175     343     870    1585    2488    3302
938           DQ       0       0       8      24      48     149     281     452     390
              *

939           KK    R20R
940           KM   ROUTE DIV20R THRU SUB-BASIN S203
941           RS       5    ELEV      10
942           RC    .055    .035    .055    7575   0.017
943           RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
944           RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

945           KK    S203
946           KM   SUB-BASIN S203
947           BA    0.43
948           LS              82
949           UD    0.25
              *

950           KK    C203
951           KM   COMBINE DIV20R/R20R & S203
952           HC       2
              *

953           KK  DIV21R DIVERT
954           DT  DIV21L
955           DI       0     100    1000   10000
956           DQ       0      75     750    7500
              *
```

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

 957          KK    R21R
 958          KM   ROUTE DIV21R THRU SUB-BASIN S210
 959          RS       1    ELEV      10
 960          RC    .055    .035    .055    2190   0.017
 961          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
 962          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 963          KK    S210
 964          KM   SUB-BASIN S210
 965          BA   0.052
 966          LS             79
 967          UD    0.07
              *

 968          KK    C210
 969          KM   COMBINE DIV21R/R21R & S210
 970          HC       2
              *

 971          KK  DIV24L DIVERT
 972          DT  DIV24R
 973          DI       0     100    1000   10000
 974          DQ       0      10     100    1000
              *

 975          KK    R210
 976          KM   ROUTE C210 THRU SUB-BASIN S211
 977          RS       4    ELEV      10
 978          RC    .055    .035    .055    6150   0.018
 979          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
 980          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 981          KK    S211
 982          KM   SUB-BASIN S211
 983          BA    0.15
 984          LS             77
 985          UD    0.20
              *

 986          KK    C211
 987          KM   COMBINE C210/R210 & S211
 988          HC       2
              *

 989          KK    NULL
 990          HC       2
              *
```

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

 991          KK  RET24R RETURN
 992          DR  DIV24R
              *

 993          KK    R24R
 994          KM   ROUTE DIV24R THRU SUB-BASIN S212
 995          RS       4    ELEV      10
 996          RC    .055    .035    .055    5490   0.020
 997          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 998          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 999          KK    S212
1000          KM   SUB-BASIN S212
1001          BA   0.084
1002          LS             79
1003          UD    0.18
              *

1004          KK    C212
1005          KM   COMBINE DIV24R/R24R & S212
1006          HC       2
              *

1007          KK    NULL
1008          HC       2
              *

1009          KK  RET21L RETURN
1010          DR  DIV21L
              *

1011          KK    R21L
1012          KM   ROUTE DIV21L THRU SUB-BASIN S290
1013          RS       2    ELEV      10
1014          RC    .055    .035    .055    2475   0.017
1015          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1016          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1017          KK    S290
1018          KM   SUB-BASIN S290
1019          BA   0.072
1020          LS             77
1021          UD    0.08
              *

1022          KK    C290
1023          KM   COMBINE DIV21L/R21L & S290
1024          HC       2
              *
```

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

1025          KK    R290
1026          KM   ROUTE C290 THRU SUB-BASIN S291
1027          RS       1    ELEV      10
1028          RC    .055    .035    .055    2135   0.021
1029          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1030          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1031          KK    S291
1032          KM   SUB-BASIN S291
1033          BA   0.055
1034          LS              77
1035          UD    0.07
              *

1036          KK    C291
1037          KM   COMBINE C290/R290 & S291
1038          HC       2
              *

1039          KK    NULL
1040          HC       2
              *
              *

1041          KK    S300
1042          KM   SUB-BASIN S300
1043          BA  0.0078
1044          LS              77
1045          UD    0.06
              *

1046          KK    R300
1047          KM   ROUTE S300 THRU SUB-BASIN S301
1048          RS       1    ELEV      10
1049          RC    .055    .035    .055    1355   0.018
1050          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1051          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1052          KK    S301
1053          KM   SUB-BASIN S301
1054          BA   0.012
1055          LS              79
1056          UD   0.06
              *

1057          KK    C301
1058          KM   COMBINE S300/R300 & S301
1059          HC       2
              *
```

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

1060        KK    S310
1061        KM   SUB-BASIN S310
1062        BA   0.011
1063        LS              77
1064        UD    0.06
            *

1065        KK    R310
1066        KM   ROUTE S310 THRU SUB-BASIN S311
1067        RS       1    ELEV      10
1068        RC    .055    .035    .055    1470   0.020
1069        RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1070        RY      20    12.5    12.5      10      10    12.5    12.5      20
            *

1071        KK    S311
1072        KM   SUB-BASIN S311
1073        BA   0.012
1074        LS              79
1075        UD    0.06
            *

1076        KK    C311
1077        KM   COMBINE C301, S310/R310, & S311
1078        HC       3
            *

1079        KK    R311
1080        KM   ROUTE C311 THRU SUB-BASIN S302
1081        RS       1    ELEV      10
1082        RC    .055    .035    .055     765   0.026
1083        RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1084        RY      20    12.5    12.5      10      10    12.5    12.5      20
            *

1085        KK    S302
1086        KM   SUB-BASIN S302
1087        BA   0.012
1088        LS              80
1089        UD    0.06
            *

1090        KK    C302
1091        KM   COMBINE  C311/R311 & S302
1092        HC       2
            *

1093        KK  DIV22R DIVERT
1094        DT  DIV22L
1095        DI       0     100    1000   10000
1096        DQ       0      50     500    5000
            *
```

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

1097          KK    R22R
1098          KM   ROUTE DIV22R THRU SUB-BASIN S304
1099          RS       1    ELEV      10
1100          RC    .055    .035    .055     650   0.015
1101          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1102          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1103          KK    S304
1104          KM   SUB-BASIN S304
1105          BA   .0040
1106          LS             77
1107          UD    0.06
              *

1108          KK    C304
1109          KM   COMBINE  DIV22R/R22R & S304
1110          HC       2
              *

1111          KK  DIV23R DIVERT
1112          DT  DIV23L
1113          DI       0     100    1000   10000
1114          DQ       0      75     750    7500
              *
              *

1115          KK    R23R
1116          KM   ROUTE DIV23R THRU SUB-BASIN S306
1117          RS       1    ELEV      10
1118          RC    .055    .035    .055    1110   0.018
1119          RX    52.5    55.5    95.5      98     102   104.5   144.5   147.5
1120          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1121          KK    S306
1122          KM   SUB-BASIN S306
1123          BA   .0091
1124          LS             85
1125          UD    0.06
              *

1126          KK    C306
1127          KM   COMBINE  DIV23R/R23R & S306
1128          HC       2
              *

1129          KK    NULL
1130          HC       2
              *
```

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

1131          KK  RET23L RETURN
1132          DR  DIV23L
              *

1133          KK    R23L
1134          KM   ROUTE DIV23L THRU SUB-BASIN S305
1135          RS       1    ELEV      10
1136          RC    .055    .035    .055     580   0.017
1137          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1138          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1139          KK    S305
1140          KM   SUB-BASIN S305
1141          BA   .0039
1142          LS             81
1143          UD    0.06
              *

1144          KK    C305
1145          KM   COMBINE  DIV23L/R23L & S305
1146          HC       2
              *

1147          KK    NULL
1148          HC       2
              *

1149          KK  RET22L RETURN
1150          DR  DIV22L
              *

1151          KK    R22L
1152          KM   ROUTE DIV22L THRU SUB-BASIN S303
1153          RS       1    ELEV      10
1154          RC    .055    .035    .055     910   0.016
1155          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1156          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1157          KK    S303
1158          KM   SUB-BASIN S303
1159          BA    .013
1160          LS             80
1161          UD    0.06
              *

1162          KK    C303
1163          KM   COMBINE  DIV22L/R22L & S303
1164          HC       2
              *
```

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


1165          KK    S307
1166          KM   SUB-BASIN S307
1167          BA    .016
1168          LS              82
1169          UD    0.06
              *
              *
              *
1170          ZZ
```

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	S30	651.	3.50	116.	29.	28.	0.42		
ROUTED TO	R30	621.	3.58	116.	29.	28.	0.42	12.69	3.58
HYDROGRAPH AT	S32	82.	3.33	11.	3.	3.	0.07		
2 COMBINED AT	C32	680.	3.58	127.	32.	31.	0.49		
HYDROGRAPH AT	S40	1137.	4.08	345.	87.	84.	1.60		
ROUTED TO	R48	1079.	4.42	344.	87.	84.	1.60	13.57	4.42
HYDROGRAPH AT	S50	693.	3.58	138.	35.	34.	0.53		
2 COMBINED AT	C51	1315.	4.25	479.	122.	118.	2.13		
ROUTED TO	R51	1306.	4.33	479.	122.	118.	2.13	13.67	4.33
HYDROGRAPH AT	S54	57.	3.33	8.	2.	2.	0.04		
3 COMBINED AT	C54	1696.	3.75	612.	156.	150.	2.67		
ROUTED TO	R54	1651.	3.92	612.	156.	150.	2.67	12.65	3.92
HYDROGRAPH AT	S56	135.	3.50	23.	6.	6.	0.17		
2 COMBINED AT	C56	1742.	3.83	635.	162.	156.	2.84		
ROUTED TO	R56	1735.	3.92	634.	162.	156.	2.84	12.60	3.92
HYDROGRAPH AT	S110	141.	3.42	20.	5.	5.	0.11		
ROUTED TO	R110	131.	3.50	20.	5.	5.	0.11	10.55	3.50
HYDROGRAPH AT	S280	169.	3.08	11.	3.	3.	0.06		
3 COMBINED AT	C280	1816.	3.83	666.	170.	163.	3.00		
DIVERSION TO	DIV26R	1362.	3.83	500.	127.	123.	3.00		
HYDROGRAPH AT	DIV26L	454.	3.83	167.	42.	41.	3.00		
ROUTED TO	R26L	454.	3.92	166.	42.	41.	3.00	11.49	3.92
HYDROGRAPH AT	S281	30.	3.08	2.	1.	0.	0.01		
2 COMBINED AT	C281	456.	3.92	169.	43.	41.	3.01		
HYDROGRAPH AT	S60	1489.	4.00	432.	109.	105.	1.81		
DIVERSION TO	DIV4L	1117.	4.00	324.	82.	79.	1.81		
HYDROGRAPH AT	DIV4R	372.	4.00	108.	27.	26.	1.81		

HYDROGRAPH AT	S70	86.	3.17	8.	2.	2.	0.03		
2 COMBINED AT	C70	378.	4.00	115.	29.	28.	1.84		
ROUTED TO	R70	374.	4.17	115.	29.	28.	1.84	12.08	4.17
HYDROGRAPH AT	S62	226.	3.58	39.	10.	9.	0.19		
2 COMBINED AT	C62	464.	4.00	154.	39.	38.	2.03		
ROUTED TO	R62	464.	4.08	154.	39.	38.	2.03	12.29	4.08
HYDROGRAPH AT	S270	175.	3.17	14.	3.	3.	0.07		
3 COMBINED AT	C270	923.	3.92	336.	85.	82.	5.11		
DIVERSION TO	DIV27R	693.	3.92	252.	64.	62.	5.11		
HYDROGRAPH AT	DIV27L	231.	3.92	84.	21.	21.	5.11		
ROUTED TO	R27L	231.	4.00	84.	21.	21.	5.11	11.69	4.00
HYDROGRAPH AT	S271	66.	3.08	4.	1.	1.	0.02		
2 COMBINED AT	C271	234.	4.00	88.	22.	22.	5.13		
ROUTED TO	R271	234.	4.00	88.	22.	22.	5.13	11.47	4.00
HYDROGRAPH AT	S272	43.	3.08	3.	1.	1.	0.02		
HYDROGRAPH AT	S260	270.	3.25	28.	7.	7.	0.14		
ROUTED TO	R260	257.	3.33	28.	7.	7.	0.14	11.66	3.33
HYDROGRAPH AT	S261	104.	3.17	8.	2.	2.	0.04		
4 COMBINED AT	C272	424.	3.33	128.	32.	31.	5.34		
HYDROGRAPH AT	DIV4L	1117.	4.00	324.	82.	79.	0.00		
ROUTED TO	R1.0S2	1118.	4.08	324.	82.	79.	0.00	13.70	4.08
HYDROGRAPH AT	OS2	48.	3.25	5.	1.	1.	0.03		
2 COMBINED AT	C.OS2	1122.	4.08	328.	83.	80.	0.03		
DIVERSION TO	DIV5R	281.	4.08	82.	21.	20.	0.03		
HYDROGRAPH AT	DIV5L	842.	4.08	246.	62.	60.	0.03		
ROUTED TO	R1.OS3	842.	4.08	246.	62.	60.	0.03	13.37	4.08
HYDROGRAPH AT	OS3	37.	3.17	3.	1.	1.	0.02		
2 COMBINED AT	C.OS3	845.	4.08	249.	63.	61.	0.05		
DIVERSION TO	DIV11L	634.	4.08	187.	47.	46.	0.05		
HYDROGRAPH AT	DIV11R	211.	4.08	62.	16.	15.	0.05		

ROUTED TO	R1.OS5	211.	4.08	62.	16.	15.	0.05	11.90	4.08
HYDROGRAPH AT	OS5	9.	3.17	1.	0.	0.	0.00		
HYDROGRAPH AT	F1	7.	3.08	1.	0.	0.	0.00		
ROUTED TO	RBF2	5.	3.17	1.	0.	0.	0.00	0.67	3.17
HYDROGRAPH AT	D2	24.	3.17	2.	0.	0.	0.01		
ROUTED TO	RBD2	13.	3.33	2.	0.	0.	0.01	1.97	3.33
ROUTED TO	R2.OS5	13.	3.25	2.	0.	0.	0.01	10.34	3.25
4 COMBINED AT	C.OS5	215.	4.08	65.	17.	16.	0.06		
ROUTED TO	ROS5	214.	4.17	65.	17.	16.	0.06	11.89	4.17
HYDROGRAPH AT	S240	63.	3.17	5.	1.	1.	0.03		
2 COMBINED AT	C240	218.	4.17	70.	18.	17.	0.10		
ROUTED TO	R240	218.	4.17	70.	18.	17.	0.10	11.94	4.17
HYDROGRAPH AT	S243	28.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C243	220.	4.17	72.	18.	18.	0.11		
HYDROGRAPH AT	S241	53.	3.17	4.	1.	1.	0.03		
ROUTED TO	R241	52.	3.17	4.	1.	1.	0.03	10.82	3.17
HYDROGRAPH AT	S244	31.	3.08	2.	1.	1.	0.01		
3 COMBINED AT	C244	225.	4.17	79.	20.	19.	0.15		
ROUTED TO	R244	225.	4.17	79.	20.	19.	0.15	11.83	4.17
HYDROGRAPH AT	S245	20.	3.08	1.	0.	0.	0.01		
2 COMBINED AT	C245	226.	4.17	80.	20.	19.	0.16		
DIVERSION TO	DIV25R	113.	4.17	40.	10.	10.	0.16		
HYDROGRAPH AT	DIV25L	113.	4.17	40.	10.	10.	0.16		
ROUTED TO	R25L	112.	4.33	40.	10.	10.	0.16	11.32	4.33
HYDROGRAPH AT	S246	90.	3.25	9.	2.	2.	0.06		
2 COMBINED AT	C246	152.	3.33	49.	12.	12.	0.22		
2 COMBINED AT	NULL	575.	3.33	176.	45.	43.	5.56		
HYDROGRAPH AT	RET25R	113.	4.17	40.	10.	10.	0.00		
ROUTED TO	R25R	112.	4.33	40.	10.	10.	0.00	11.32	4.33
HYDROGRAPH AT	S247	135.	3.25	13.	3.	3.	0.08		

2 COMBINED AT	C247	188.	3.25	53.	13.	13.	0.08		
2 COMBINED AT	NULL	759.	3.33	229.	58.	56.	5.64		
HYDROGRAPH AT	S242	58.	3.17	4.	1.	1.	0.03		
ROUTED TO	R242	36.	3.42	4.	1.	1.	0.03	10.67	3.42
HYDROGRAPH AT	S248	149.	3.25	15.	4.	4.	0.09		
2 COMBINED AT	C248	160.	3.33	20.	5.	5.	0.12		
2 COMBINED AT	NULL	919.	3.33	249.	63.	61.	5.75		
HYDROGRAPH AT	RET11L	634.	4.08	187.	47.	46.	0.00		
ROUTED TO	R1.OS6	634.	4.08	187.	47.	46.	0.00	13.09	4.08
HYDROGRAPH AT	OS6	3.	3.08	0.	0.	0.	0.00		
2 COMBINED AT	C.OS6	634.	4.08	187.	47.	46.	0.00		
ROUTED TO	R1.OS7	633.	4.08	187.	47.	46.	0.00	13.09	4.08
HYDROGRAPH AT	OS7	9.	3.17	1.	0.	0.	0.00		
2 COMBINED AT	C.OS7	634.	4.08	188.	48.	46.	0.01		
ROUTED TO	ROS7	619.	4.25	188.	48.	46.	0.01	13.12	4.25
HYDROGRAPH AT	S230	132.	3.17	11.	3.	3.	0.08		
2 COMBINED AT	C230	627.	4.25	199.	50.	48.	0.08		
ROUTED TO	R230	627.	4.33	199.	50.	48.	0.08	13.03	4.33
HYDROGRAPH AT	S231	17.	3.08	1.	0.	0.	0.01		
2 COMBINED AT	C231	627.	4.33	200.	51.	49.	0.09		
HYDROGRAPH AT	S90	139.	3.17	13.	3.	3.	0.06		
ROUTED TO	R10S11	142.	3.25	13.	3.	3.	0.06	11.50	3.25
HYDROGRAPH AT	OS11	8.	3.17	1.	0.	0.	0.00		
2 COMBINED AT	C.OS11	148.	3.25	14.	3.	3.	0.07		
ROUTED TO	R1.OS8	152.	3.25	14.	3.	3.	0.07	11.56	3.25
HYDROGRAPH AT	OS8	26.	3.17	2.	1.	1.	0.01		
2 COMBINED AT	C.OS8	174.	3.25	16.	4.	4.	0.08		
ROUTED TO	R1.OS9	162.	3.33	16.	4.	4.	0.08	11.62	3.33
HYDROGRAPH AT	OS9	46.	3.25	5.	1.	1.	0.03		
2 COMBINED AT	C1.OS9	205.	3.25	21.	5.	5.	0.11		

HYDROGRAPH AT	H2	32.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBH2	12.	3.33	3.	1.	1.	0.01	1.87	3.33
ROUTED TO	R2.0S9	12.	3.42	3.	1.	1.	0.01	10.33	3.42
HYDROGRAPH AT	E3	28.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBE1	16.	3.33	3.	1.	1.	0.01	2.54	3.33
ROUTED TO	R3.0S9	15.	3.42	3.	1.	1.	0.01	10.38	3.42
HYDROGRAPH AT	S80	121.	3.25	12.	3.	3.	0.06		
ROUTED TO	R1.0S4	123.	3.25	12.	3.	3.	0.06	11.38	3.25
HYDROGRAPH AT	0S4	15.	3.17	1.	0.	0.	0.01		
2 COMBINED AT	C.0S4	134.	3.25	13.	3.	3.	0.07		
HYDROGRAPH AT	I1	34.	3.17	3.	1.	1.	0.02		
2 COMBINED AT	C.I1	161.	3.25	16.	4.	4.	0.08		
ROUTED TO	RBI2	144.	3.33	16.	4.	4.	0.08	2.62	3.33
ROUTED TO	RBI3	129.	3.42	16.	4.	4.	0.08	2.83	3.42
ROUTED TO	R10S10	130.	3.42	16.	4.	4.	0.08	11.42	3.42
HYDROGRAPH AT	0S10	28.	3.25	3.	1.	1.	0.02		
HYDROGRAPH AT	E1	55.	3.17	5.	1.	1.	0.02		
ROUTED TO	R20S10	49.	3.17	5.	1.	1.	0.02	10.79	3.17
3 COMBINED AT	C.0S10	167.	3.42	23.	6.	6.	0.12		
ROUTED TO	RBE2	158.	3.50	23.	6.	6.	0.12	4.34	3.50
ROUTED TO	RBE3	154.	3.50	23.	6.	6.	0.12	4.17	3.50
HYDROGRAPH AT	F2	27.	3.17	2.	1.	1.	0.01		
2 COMBINED AT	C.F1	160.	3.50	25.	6.	6.	0.13		
ROUTED TO	RBF1	156.	3.58	25.	6.	6.	0.13	3.28	3.58
HYDROGRAPH AT	E2	49.	3.17	4.	1.	1.	0.02		
2 COMBINED AT	C.E2	164.	3.58	29.	7.	7.	0.14		
ROUTED TO	RBE4	156.	3.67	29.	7.	7.	0.14	4.20	3.67
ROUTED TO	R4.0S9	156.	3.67	29.	7.	7.	0.14	11.58	3.67
HYDROGRAPH AT	S94	276.	3.25	28.	7.	7.	0.13		
HYDROGRAPH AT	S100	301.	3.25	31.	8.	8.	0.15		

2 COMBINED AT	CS100	577.	3.25	59.	15.	14.	0.28		
ROUTED TO	R10S12	544.	3.33	59.	15.	14.	0.28	12.95	3.33
HYDROGRAPH AT	OS12	21.	3.17	2.	0.	0.	0.01		
2 COMBINED AT	C.OS12	555.	3.33	61.	15.	15.	0.29		
ROUTED TO	R5.OS9	527.	3.42	61.	15.	15.	0.29	12.92	3.42
5 COMBINED AT	C2.OS9	837.	3.33	116.	29.	28.	0.57		
ROUTED TO	R10S13	832.	3.42	116.	29.	28.	0.57	13.36	3.42
HYDROGRAPH AT	F3	10.	3.08	1.	0.	0.	0.00		
ROUTED TO	RBF3	7.	3.25	1.	0.	0.	0.00	1.05	3.25
ROUTED TO	R2OS13	7.	3.25	1.	0.	0.	0.00	10.22	3.25
2 COMBINED AT	C.OS13	837.	3.42	117.	29.	28.	0.57		
ROUTED TO	ROS13	790.	3.50	117.	29.	28.	0.57	13.36	3.50
HYDROGRAPH AT	S220	206.	3.17	16.	4.	4.	0.08		
2 COMBINED AT	C220	837.	3.50	133.	33.	32.	0.65		
ROUTED TO	R220	837.	3.50	133.	33.	32.	0.65	13.25	3.50
HYDROGRAPH AT	S232	9.	3.08	1.	0.	0.	0.00		
3 COMBINED AT	C232	1123.	3.50	334.	84.	81.	0.74		
ROUTED TO	R232	1074.	3.75	334.	84.	81.	0.74	13.60	3.75
HYDROGRAPH AT	S233	195.	3.25	20.	5.	5.	0.12		
2 COMBINED AT	C233	1115.	3.67	353.	89.	86.	0.86		
2 COMBINED AT	NULL	1708.	3.67	602.	152.	146.	6.61		
HYDROGRAPH AT	RET5R	281.	4.08	82.	21.	20.	0.00		
ROUTED TO	R10S14	281.	4.08	82.	21.	20.	0.00	12.23	4.08
HYDROGRAPH AT	OS14	8.	3.17	1.	0.	0.	0.00		
HYDROGRAPH AT	D1	34.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBD1	16.	3.33	3.	1.	1.	0.01	2.46	3.33
3 COMBINED AT	C.OS14	286.	4.08	85.	22.	21.	0.01		
ROUTED TO	ROS14	282.	4.17	85.	22.	21.	0.01	12.21	4.17
HYDROGRAPH AT	S250	161.	3.17	13.	3.	3.	0.08		
2 COMBINED AT	C250	293.	4.17	98.	25.	24.	0.10		

ROUTED TO	R250	291.	4.25	98.	25.	24.	0.10	12.50	4.25
HYDROGRAPH AT	S252	40.	3.08	3.	1.	1.	0.01		
HYDROGRAPH AT	S251	66.	3.17	5.	1.	1.	0.03		
ROUTED TO	R251	58.	3.17	5.	1.	1.	0.03	11.00	3.17
HYDROGRAPH AT	S253	48.	3.08	3.	1.	1.	0.02		
4 COMBINED AT	C253	299.	4.25	109.	28.	27.	0.15		
ROUTED TO	R253	298.	4.33	109.	28.	27.	0.15	12.10	4.33
HYDROGRAPH AT	S254	150.	3.25	14.	4.	3.	0.08		
2 COMBINED AT	C254	390.	3.25	124.	31.	30.	0.23		
HYDROGRAPH AT	S255	89.	3.17	7.	2.	2.	0.03		
HYDROGRAPH AT	S256	56.	3.17	4.	1.	1.	0.03		
HYDROGRAPH AT	G1	109.	3.25	12.	3.	3.	0.05		
ROUTED TO	RBG1	16.	3.83	10.	3.	3.	0.05	2.23	3.83
HYDROGRAPH AT	H1	38.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBH1	0.	6.17	0.	0.	0.	0.01	4.34	6.25
HYDROGRAPH AT	S200	673.	3.83	156.	39.	38.	0.77		
ROUTED TO	R200	652.	4.17	156.	39.	38.	0.77	11.44	4.17
HYDROGRAPH AT	S201	1512.	3.58	263.	66.	63.	1.25		
2 COMBINED AT	C201	1525.	3.58	418.	105.	101.	2.02		
ROUTED TO	R201	1509.	3.67	418.	105.	101.	2.02	12.42	3.67
HYDROGRAPH AT	S202	801.	3.17	76.	19.	18.	0.36		
2 COMBINED AT	C202	1685.	3.58	493.	124.	119.	2.38		
DIVERSION TO	DIV20L	300.	3.58	82.	20.	20.	2.38		
HYDROGRAPH AT	DIV20R	1385.	3.58	411.	103.	99.	2.38		
ROUTED TO	R20R	1353.	3.83	411.	103.	99.	2.38	12.31	3.83
HYDROGRAPH AT	S203	642.	3.33	77.	19.	18.	0.43		
2 COMBINED AT	C203	1573.	3.67	487.	122.	118.	2.81		
DIVERSION TO	DIV21L	1180.	3.67	365.	92.	88.	2.81		
HYDROGRAPH AT	DIV21R	393.	3.67	122.	31.	29.	2.81		
ROUTED TO	R21R	383.	3.83	122.	31.	29.	2.81	13.10	3.83

HYDROGRAPH AT	S210	105.	3.08	8.	2.	2.	0.05		
2 COMBINED AT	C210	391.	3.83	129.	33.	31.	2.86		
DIVERSION TO	DIV24R	39.	3.83	13.	3.	3.	2.86		
HYDROGRAPH AT	DIV24L	352.	3.83	117.	29.	28.	2.86		
ROUTED TO	R210	334.	4.25	116.	29.	28.	2.86	12.96	4.25
HYDROGRAPH AT	S211	195.	3.25	21.	5.	5.	0.15		
2 COMBINED AT	C211	355.	4.17	137.	35.	33.	3.01		
2 COMBINED AT	NULL	355.	4.17	137.	35.	33.	3.02		
HYDROGRAPH AT	RET24R	39.	3.83	13.	3.	3.	0.00		
ROUTED TO	R24R	38.	4.00	13.	3.	3.	0.00	10.66	4.00
HYDROGRAPH AT	S212	130.	3.25	13.	3.	3.	0.08		
2 COMBINED AT	C212	133.	3.25	26.	7.	6.	0.08		
2 COMBINED AT	NULL	426.	3.33	163.	41.	40.	3.11		
HYDROGRAPH AT	RET21L	1180.	3.67	365.	92.	88.	0.00		
ROUTED TO	R21L	1177.	3.75	365.	92.	88.	0.00	13.86	3.75
HYDROGRAPH AT	S290	133.	3.17	10.	3.	2.	0.07		
2 COMBINED AT	C290	1190.	3.75	375.	94.	91.	0.07		
ROUTED TO	R290	1185.	3.83	374.	94.	91.	0.07	13.74	3.83
HYDROGRAPH AT	S291	101.	3.17	8.	2.	2.	0.05		
2 COMBINED AT	C291	1194.	3.75	382.	96.	93.	0.13		
2 COMBINED AT	NULL	1557.	3.83	545.	138.	133.	3.24		
HYDROGRAPH AT	S300	16.	3.08	1.	0.	0.	0.01		
ROUTED TO	R300	11.	3.17	1.	0.	0.	0.01	10.50	3.17
HYDROGRAPH AT	S301	27.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C301	34.	3.17	3.	1.	1.	0.02		
HYDROGRAPH AT	S310	22.	3.08	2.	0.	0.	0.01		
ROUTED TO	R310	16.	3.17	2.	0.	0.	0.01	10.33	3.17
HYDROGRAPH AT	S311	27.	3.08	2.	0.	0.	0.01		
3 COMBINED AT	C311	73.	3.17	6.	2.	2.	0.04		
ROUTED TO	R311	77.	3.17	6.	2.	2.	0.04	10.95	3.17

HYDROGRAPH AT	S302	29.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C302	101.	3.17	8.	2.	2.	0.05		
DIVERSION TO	DIV22L	51.	3.17	4.	1.	1.	0.05		
HYDROGRAPH AT	DIV22R	51.	3.17	4.	1.	1.	0.05		
ROUTED TO	R22R	49.	3.17	4.	1.	1.	0.05	10.84	3.17
HYDROGRAPH AT	S304	8.	3.08	1.	0.	0.	0.00		
2 COMBINED AT	C304	56.	3.17	5.	1.	1.	0.06		
DIVERSION TO	DIV23L	42.	3.17	4.	1.	1.	0.06		
HYDROGRAPH AT	DIV23R	14.	3.17	1.	0.	0.	0.06		
ROUTED TO	R23R	12.	3.25	1.	0.	0.	0.06	10.66	3.25
HYDROGRAPH AT	S306	28.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C306	31.	3.08	3.	1.	1.	0.07		
2 COMBINED AT	NULL	1561.	3.83	548.	138.	133.	3.30		
HYDROGRAPH AT	RET23L	42.	3.17	4.	1.	1.	0.00		
ROUTED TO	R23L	40.	3.25	4.	1.	1.	0.00	10.71	3.25
HYDROGRAPH AT	S305	10.	3.08	1.	0.	0.	0.00		
2 COMBINED AT	C305	45.	3.25	4.	1.	1.	0.00		
2 COMBINED AT	NULL	1568.	3.83	552.	139.	134.	3.31		
HYDROGRAPH AT	RET22L	51.	3.17	4.	1.	1.	0.00		
ROUTED TO	R22L	46.	3.17	4.	1.	1.	0.00	11.21	3.17
HYDROGRAPH AT	S303	31.	3.08	2.	1.	1.	0.01		
2 COMBINED AT	C303	72.	3.17	6.	2.	2.	0.01		
HYDROGRAPH AT	S307	42.	3.08	3.	1.	1.	0.02		

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

  1           ID       56th AND LONE MOUNTAIN
  2           ID
  3           ID
  4           ID        HEC-1 FILENAME:    1669E100.HC1 FSG
  5           ID        DATE:              SEPTEMBER 28, 2000
  6           ID        CREATED BY:        JOSH LESSARD
  7           ID
  8           ID
  9           ID        HEC-1 HYDROLOGY MODEL
 10           ID
 11           ID        1. THE FOLLOWING MODEL ADJUSTS THE EXISTING CONDITIONS FLOW SPLITS
 12           ID           IN ORDER TO MAXIMIZE C254b
 13           ID
 14           ID        2. DIV27L 50%/DIV27R 50%
 15           ID        3. DIV4R 75%/DIV4L 25%
 16           ID        4. DIV26L 50%/DIV26R 50%
 17           ID        5. DIV5R 75%/DIV5L 25%
 18           ID
              *DIAGRAM
 19           IT       5 28SEP00       0     300
 20           IO       5       0
              *

 21           KK     S30
 22           KM   SUB-BASIN S30
 23           BA     .42
 24           PH                   0.80    1.46    2.36    2.70    2.92    3.35
 25           LS              88      38
 26           UD    .452
              *

 27           KK     R30
 28           KM   ROUTE S30 THRU S32
 29           RS       1    ELEV      10
 30           RC    .055    .035    .055    2250    .018
 31           RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 32           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 33           KK     S32
 34           KM   SUB-BASIN S32
 35           BA    .074
 36           LS              78
 37           UD    .287
              *

 38           KK     C32
 39           KM   COMBINE S30/R30 & S32
 40           HC       2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  41          KK     S40
  42          KM   SUB-BASIN S40
  43          BA    1.60
  44          LS              84      15
  45          UD    .985
              *

  46          KK     R48
  47          KM   ROUTE R40
  48          RS       2    ELEV      10
  49          RC    .055    .035    .055    8400    .023
  50          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
  51          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  52          KK     S50
  53          KM   SUB-BASIN S50
  54          BA     .53
  55          LS              86      35
  56          UD    .535
              *

  57          KK     C51
  58          KM   COMBINE R48/S40 & S50
  59          HC       2
              *

  60          KK     R51
  61          KM   ROUTE C51 THRU BASIN 54
  62          RS       2    ELEV      10
  63          RC    .055    .035    .055    3050    .015
  64          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
  65          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  66          KK     S54
  67          KM   SUB-BASIN S54
  68          BA    .044
  69          LS              81
  70          UD    .291
              *

  71          KK     C54
  72          KM   COMBINE S54, C51, & C32
  73          HC       3
              *

  74          KK     R54
  75          KM   ROUTE C54 THRU BASIN 56
  76          RS       2    ELEV      10
  77          RC    .055    .035    .055    4150    .016
  78          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
  79          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 80           KK     S56
 81           KM   SUB-BASIN S56
 82           BA    .171
 83           LS              76
 84           UD    .427
              *

 85           KK     C56
 86           KM   COMBINE S56 & R54
 87           HC       2
              *

 88           KK     R56
 89           KM   ROUTE C56 THRU BASIN S280
 90           RS       1    ELEV      10
 91           RC    .055    .035    .055    1840    .019
 92           RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 93           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 94           KK    S110
 95           KM   SUB-BASIN S110
 96           BA    .109
 97           LS              83
 98           UD    .345
              *

 99           KK    R110
100           KM   ROUTE S110 THRU BASIN S280
101           RS       1    ELEV      10
102           RC    .055    .035    .055    1840    .019
103           RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
104           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

105           KK    S280     SUB
106           KM   SUB-BASIN S280
107           BA   0.056
108           LS              85
109           UD    0.06
              *

110           KK    C280
111           KM  COMBINE S56/R56, S110/R110, & S280
112           HC       3
              *

113           KK  DIV26L DIVERT
114           DT  DIV26R
115           DI       0     100    1000   10000
116           DQ       0      50     500    5000
              *
```

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

 117          KK    R26L
 118          KM   ROUTE DIV26L THRU BASIN S281
 119          RS       1    ELEV      10
 120          RC    .055    .035    .055    1340    .019
 121          RX    48.5    51.5   101.5     104     144   146.5   196.5   199.5
 122          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 123          KK    S281     SUB
 124          KM   SUB-BASIN S281
 125          BA   0.010
 126          LS             85
 127          UD    0.06
              *

 128          KK    C281
 129          KM  COMBINE DIV26L/R26L & S281
 130          HC       2
              *

 131          KK     S60     SUB
 132          KM
 133          BA  1.8100
 134          LS             87      16
 135          UD   0.933
              *

 136          KK   DIV4R  DIVERT
 137          KM
 138          DT   DIV4L
 139          DI       0     294     633    1081    1186    2008
 140          DQ       0     188     372     606     530    1028
              *

 141          KK     S70
 142          KM   SUB-BASIN S70
 143          BA    .029
 144          LS             85      40
 145          UD    .120
              *

 146          KK     C70
 147          KM   COMBINE DIV4R & S70
 148          HC       2
              *

 149          KK     R70
 150          KM   ROUTE C70 THRU BASIN S62
 151          RS       3    ELEV      10
 152          RC    .055    .035    .055    6850    .017
 153          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 154          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 155          KK     S62
 156          KM   SUB-BASIN S62
 157          BA    .193
 158          LS              85
 159          UD    .458
              *

 160          KK     C62
 161          KM   COMBINE S62 & C70
 162          HC       2
              *

 163          KK     R62
 164          KM   ROUTE C62 THRU BASIN S270
 165          RS       2    ELEV      10
 166          RC    .055    .035    .055    3110    .019
 167          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 168          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 169          KK    S270
 170          KM   SUB-BASIN S270
 171          BA    .067
 172          LS              85
 173          UD    .100
              *

 174          KK    C270
 175          KM   COMBINE C62/R62, S270, & C281
 176          HC       3
              *

 177          KK  DIV27L  DIVERT
 178          KM
 179          DT  DIV27R
 180          DI       0     100    1000   10000
 181          DQ       0      50     500    5000
              *

 182          KK    R27L
 183          KM   ROUTE DIV27L THRU BASIN S271
 184          RS       1    ELEV      10
 185          RC    .055    .035    .055    1505    .013
 186          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 187          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 188          KK    S271
 189          KM   SUB-BASIN S271
 190          BA   .0219
 191          LS              85
 192          UD    .060
              *
```

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

 193          KK    C271
 194          KM   COMBINE C270/R270 & S271
 195          HC       2
              *

 196          KK    R271
 197          KM   ROUTE C271 THRU BASIN S272
 198          RS       1    ELEV      10
 199          RC    .055    .035    .055    1205    .021
 200          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 201          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 202          KK    S272
 203          KM   SUB-BASIN S272
 204          BA    .019
 205          LS              79
 206          UD    .060
              *

 207          KK    S260
 208          KM   SUB-BASIN S260
 209          BA    .140
 210          LS              85
 211          UD    .200
              *

 212          KK    R260
 213          KM   ROUTE C260 THRU BASIN S261
 214          RS       2    ELEV      10
 215          RC    .055    .035    .055    2880    .017
 216          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 217          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 218          KK    S261
 219          KM   SUB-BASIN S261
 220          BA    .043
 221          LS              83
 222          UD    .096
              *

 223          KK    C272
 224          KM   COMBINE C271/R271, S272, S260/R260, & S261
 225          HC       4
              *

 226          KK   DIV4L     RET
 227          KM
 228          DR   DIV4L
              *
```

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

 229          KK  R1.0S2   ROUTE
 230          KM
 231          RS       1    ELEV      10
 232          RC   0.055   0.035   0.055     620    0.02
 233          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 234          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 235          KK     0S2     SUB
 236          KM
 237          BA  0.0295
 238          LS              79
 239          UD  0.1583
              *

 240          KK   C.0S2     ADD
 241          KM
 242          HC       2
              *

 243          KK   DIV5R     RET
 244          KM
 245          DT   DIV5L
 246          DI       0     100    1000   10000
 247          DQ       0      25     250    2500
              *

 248          KK  R10S14   ROUTE
 249          KM
 250          RS       1    ELEV      10
 251          RC   0.055   0.035   0.055     700    0.02
 252          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 253          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 254          KK    0S14     SUB
 255          KM
 256          BA  0.0039
 257          LS              79
 258          UD  0.1028
              *

 259          KK      D1     SUB
 260          KM
 261          BA  0.0111
 262          LS              85      35
 263          UD  0.0989
              *
```

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

 264          KK    RBD1 RET BAS
 265          KM
 266          RS       1    STOR      -1
 267          SV       0    0.91    1.01    1.11
 268          SE       0     4.5     5.0     5.5
 269          SQ       0      29      42      63
              *

 270          KK  C.OS14     ADD
 271          KM
 272          HC       3
              *

 273          KK   ROS14   ROUTE
 274          KM   ROUTE C.OS14 THRU SUB-BASIN S250
 275          RS       2    ELEV      10
 276          RC   0.055   0.035   0.055    3270   0.021
 277          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 278          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 279          KK    S250
 280          KM   SUB-BASIN S250
 281          BA   0.083
 282          LS             79
 283          UD    0.11
              *

 284          KK    C250
 285          KM   COMBINE C.OS14/ROS14 & S250
 286          HC       2
              *

 287          KK    R250   ROUTE
 288          KM   ROUTE C250 THRU SUB-BASIN S252
 289          RS       1    ELEV      10
 290          RC   0.055   0.035   0.055    1385   0.014
 291          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 292          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 293          KK    S252     SUB
 294          KM   SUB-BASIN S252
 295          BA   0.015
 296          LS       .      82
 297          UD    0.06
              *

 298          KK    S251
 299          KM   SUB-BASIN S251
 300          BA   0.025
 301          LS             85
 302          UD   0.088
              *
```

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

 303        KK    R251   ROUTE
 304        KM   ROUTE C251 THRU SUB-BASIN S253
 305        RS       1    ELEV      10
 306        RC   0.055   0.035   0.055    1120   0.013
 307        RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 308        RY      20    12.5    12.5      10      10    12.5    12.5      20
            *

 309        KK    S253     SUB
 310        KM   SUB-BASIN S253
 311        BA   0.016
 312        LS             85
 313        UD    0.06
            *

 314        KK    C253
 315        KM   COMBINE C250/R250, S252, S251/R251, & S253
 316        HC       4
            *

 317        KK    R253   ROUTE
 318        KM   ROUTE C253 THRU SUB-BASIN S254
 319        RS       3    ELEV      10
 320        RC   0.055   0.035   0.055    4360   0.021
 321        RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 322        RY      20    12.5    12.5      10      10    12.5    12.5      20
            *

 323        KK    S254     SUB
 324        KM   SUB-BASIN S254
 325        BA   0.080
 326        LS             82
 327        UD    0.15
            *

 328        KK    C254
 329        KM   COMBINE C253/R253 & S254
 330        HC       2
            *

 331        KK   C254b
 332        KM   COMBINE C254 & C272
 333        HC       2
            *

 334        KK   RET5L  RET
 335        KM
 336        DR   DIV5L
            *
```

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

 337          KK  R1.OS3   ROUTE
 338          KM
 339          RS       1    ELEV      10
 340          RC   0.055   0.035   0.055     570    0.02
 341          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 342          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 343          KK     OS3     SUB
 344          KM
 345          BA  0.0205
 346          LS              79
 347          UD  0.1250
              *

 348          KK   C.OS3     ADD
 349          KM
 350          HC       2
              *

 351          KK  DIV11R  DIVERT
 352          KM
 353          DT  DIV11L
 354          DI       0     100    1000   10000
 355          DQ       0      50     500    5000
              *

 356          KK  R1.OS5   ROUTE
 357          KM
 358          RS       1    ELEV      10
 359          RC   0.055   0.035   0.055     600    0.02
 360          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 361          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 362          KK     OS5     SUB
 363          KM
 364          BA  0.0043
 365          LS              79
 366          UD  0.0828
              *

 367          KK      F1     SUB
 368          KM
 369          BA  0.0020
 370          LS              85      35
 371          UD  0.0694
              *
```

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

 372          KK    RBF2 RET BAS
 373          KM
 374          RS       1    STOR      -1
 375          SV       0    0.21    0.23    0.26
 376          SE       0       3     3.5     4.0
 377          SQ       0      21      44      86
              *

 378          KK      D2     SUB
 379          KM
 380          BA  0.0077
 381          LS              85      35
 382          UD  0.0961
              *

 383          KK    RBD2 RET BAS
 384          KM
 385          RS       1    STOR      -1
 386          SV       0    0.67    0.74    0.82
 387          SE       0     4.5     5.0     5.5
 388          SQ       0      29      42      63
              *

 389          KK  R2.OS5   ROUTE
 390          KM
 391          RS       1    ELEV      10
 392          RC   0.055   0.035   0.055     200    0.02
 393          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 394          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 395          KK   C.OS5     ADD
 396          HC       4
              *

 397          KK    ROS5   ROUTE
 398          KM   ROUTE C.OS5 THRU S240
 399          RS       2    ELEV      10
 400          RC   0.055   0.035   0.055    3340   0.021
 401          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 402          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 403          KK    S240     SUB
 404          KM   SUB-BASIN S240
 405          BA   0.034
 406          LS              78
 407          UD    0.11
              *
```

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

 444          KK    R244   ROUTE
 445          KM   ROUTE C244 THRU S245
 446          RS       1    ELEV      10
 447          RC   0.055   0.035   0.055     270   0.019
 448          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 449          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 450          KK    S245     SUB
 451          KM   SUB-BASIN S245
 452          BA  0.0088
 453          LS              79
 454          UD    0.06
              *

 455          KK    C245
 456          KM   COMBINE C244/R244 & S245
 457          HC       2
              *

 458          KK  DIV25L  DIVERT
 459          KM
 460          DT  DIV25R
 461          DI       0     100    1000   10000
 462          DQ       0      50     500    5000
              *

 463          KK    R25L   ROUTE
 464          KM   ROUTE DIV25L THRU S246
 465          RS       3    ELEV      10
 466          RC   0.055   0.035   0.055    4480   0.019
 467          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 468          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 469          KK    S246     SUB
 470          KM   SUB-BASIN S246
 471          BA   0.061
 472          LS              77
 473          UD    0.15
              *

 474          KK    C246
 475          KM   COMBINE DIV25L/R25L & S246
 476          HC       2
              *

 477          KK    NULL
 478          HC       2
              *
```

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

 479          KK  RET25R     RET
 480          KM
 481          DR  DIV25R
              *

 482          KK    R25R   ROUTE
 483          KM   ROUTE DIV25R THRU S247
 484          RS       3    ELEV      10
 485          RC   0.055   0.035   0.055    4490   0.019
 486          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 487          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 488          KK    S247     SUB
 489          KM   SUB-BASIN S247
 490          BA   0.079
 491          LS             80
 492          UD    0.15
              *

 493          KK    C247
 494          KM   COMBINE DIV25R/R25R & S247
 495          HC       2
              *

 496          KK    NULL
 497          HC       2
              *

 498          KK    S242     SUB
 499          KM   SUB-BASIN S242
 500          BA   0.027
 501          LS             80
 502          UD   0.077
              *

 503          KK    R242   ROUTE
 504          KM   ROUTE S242 THRU S248
 505          RS       4    ELEV      10
 506          RC   0.055   0.035   0.055    5815   0.018
 507          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 508          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 509          KK    S248     SUB
 510          KM   SUB-BASIN S248
 511          BA   0.090
 512          LS             81
 513          UD    0.19
              *
```

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

514           KK    C248
515           KM   COMBINE S242/R242 & S248
516           HC       2
              *

517           KK    NULL
518           HC       2
              *

519           KK  RET11L     RET
520           KM
521           DR  DIV11L
              *

522           KK  R1.OS6   ROUTE
523           KM
524           RS       1    ELEV      10
525           RC   0.055   0.035   0.055     300    0.02
526           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
527           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

528           KK     OS6     SUB
529           KM
530           BA  0.0013
531           LS              79
532           UD  0.0650
              *

533           KK   C.OS6     ADD
534           KM
535           HC       2
              *

536           KK  R1.OS7   ROUTE
537           KM
538           RS       1    ELEV      10
539           RC   0.055   0.035   0.055     420    0.02
540           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
541           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

542           KK     OS7     SUB
543           KM
544           BA  0.0044
545           LS              79
546           UD  0.0767
              *
```

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

547           KK   C.OS7     ADD
548           KM
549           HC       2
              *

550           KK    ROS7   ROUTE
551           KM   ROUTE C.OS7 THRU S230
552           RS       2    ELEV      10
553           RC   0.055   0.035   0.055    3680   0.018
554           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
555           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

556           KK    S230     SUB
557           KM   SUB-BASIN S230
558           BA   0.075
559           LS              78
560           UD    0.12
              *

561           KK    C230     ADD
562           KM   COMBINE C.OS7/ROS7 & S230
563           HC       2
              *

564           KK    R230   ROUTE
565           KM   ROUTE C230 THRU S231
566           RS       1    ELEV      10
567           RC   0.055   0.035   0.055     465   0.022
568           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
569           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

570           KK    S231     SUB
571           KM   SUB-BASIN S231
572           BA  0.0056
573           LS              85
574           UD    0.06
              *

575           KK    C231
576           KM   COMBINE C230/R230 & S231
577           HC       2
              *

578           KK     S90     SUB
579           KM
580           BA   0.063
581           LS              86
582           UD   0.152
              *
```

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

 583          KK  R10S11   ROUTE
 584          KM
 585          RS       1    ELEV      10
 586          RC   0.055   0.035   0.055     300    0.02
 587          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 588          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 589          KK    OS11     SUB
 590          KM
 591          BA  0.0041
 592          LS              79
 593          UD  0.0967
              *

 594          KK  C.OS11     ADD
 595          KM
 596          HC       2
              *

 597          KK  R1.OS8   ROUTE
 598          KM
 599          RS       1    ELEV      10
 600          RC   0.055   0.035   0.055     710    0.02
 601          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 602          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 603          KK     OS8     SUB
 604          KM
 605          BA  0.0139
 606          LS              79
 607          UD  0.1167
              *

 608          KK   C.OS8     ADD
 609          KM
 610          HC       2
              *

 611          KK  R1.OS9   ROUTE
 612          KM
 613          RS       2    ELEV      10
 614          RC   0.055   0.035   0.055    2070    0.02
 615          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 616          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 617          KK     OS9     SUB
 618          KM
 619          BA  0.0293
 620          LS              79
 621          UD  0.1778
              *
```

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

 622          KK  C1.OS9     ADD
 623          HC       2
              *

 624          KK      H2     SUB
 625          KM
 626          BA  0.0105
 627          LS              85      35
 628          UD  0.0889
              *

 629          KK    RBH2 RET BAS
 630          KM
 631          RS       1    STOR      -1
 632          SV       0     1.2    1.35     1.5
 633          SE       0     4.0     4.5     5.0
 634          SQ       0      26      82     181
              *

 635          KK  R2.OS9   ROUTE
 636          KM
 637          RS       2    ELEV      10
 638          RC   0.055   0.035   0.055    1390    0.02
 639          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 640          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 641          KK      E3     SUB
 642          KM
 643          BA  0.0099
 644          LS              85      35
 645          UD  0.1228
              *

 646          KK    RBE1 RET BAS
 647          KM        40 FOOT WEIR
 648          RS       1    STOR      -1
 649          SV       0    0.75   0.825     0.9
 650          SE       0       5     5.5     6.0
 651          SQ       0      31      75     155
              *

 652          KK  R3.OS9   ROUTE
 653          KM
 654          RS       1    ELEV      10
 655          RC   0.055   0.035   0.055    1120    0.02
 656          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 657          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 658          KK     S80     SUB
 659          KM
 660          BA  0.0580
 661          LS              85
 662          UD   0.166
              *

 663          KK  R1.OS4   ROUTE
 664          KM
 665          RS       1    ELEV      10
 666          RC   0.055   0.035   0.055     800    0.02
 667          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 668          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 669          KK     OS4     SUB
 670          KM
 671          BA  0.0075
 672          LS              79
 673          UD  0.0972
              *

 674          KK   C.OS4     ADD
 675          KM
 676          HC       2
              *

 677          KK      I1     SUB
 678          KM
 679          BA  0.0175
 680          LS              79
 681          UD  0.1078
              *

 682          KK    C.I1     ADD
 683          KM
 684          HC       2
              *

 685          KK    RBI2 RET BAS
 686          KM                RETENTION BASIN IS DRAINED BY 5 - 36 inch CORRUGATED METAL PIPES
 687          RS       1    STOR      -1
 688          SV       0    0.74   1.115
 689          SE       0       2       3
 690          SQ       0      95     175 .
              *

 691          KK    RBI3 RET BAS
 692          KM                RETENTION BASIN IS DRAINED BY 4 - 36 inch CORRUGATED METAL PIPES
 693          RS       1    STOR      -1
 694          SV       0    0.74   1.115
 695          SE       0       2       3
 696          SQ       0      76     140
              *
```

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

 697          KK  R10S10   ROUTE
 698          KM
 699          RS       2    ELEV      10
 700          RC   0.055   0.035   0.055    1600    0.02
 701          RX    48.5    51.5    91.5    94.0   106.0   108.5   148.5   151.5
 702          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 703          KK    0S10     SUB
 704          KM
 705          BA  0.0170
 706          LS              79
 707          UD  0.1445
              *

 708          KK      E1     SUB
 709          KM
 710          BA  0.0185
 711          LS              85      35
 712          UD  0.1111
              *

 713          KK  R20S10   ROUTE
 714          KM
 715          RS       1    ELEV      10
 716          RC   0.055   0.035   0.055    1000    0.02
 717          RX    48.5    51.5    91.5    94.0   106.0   108.5   148.5   151.5
 718          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 719          KK  C.0S10     ADD
 720          KM
 721          HC       3
              *

 722          KK    RBE2 RET BAS
 723          KM
 724          RS       1    STOR      -1
 725          SV       0   0.336   0.504   0.672    0.84
 726          SE       0       2       3       4     5.0
 727          SQ       0      57     105     147     180
              *

 728          KK    RBE3 RET BAS
 729          KM
 730          RS       1    STOR      -1
 731          SV       0    0.45   0.675    0.90
 732          SE       0       2       3     4.0
 733          SQ       0      57     105     147
              *
```

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

 734          KK      F2     SUB
 735          KM
 736          BA  0.0091
 737          LS              85      35
 738          UD  0.1067
              *

 739          KK    C.F1     ADD
 740          KM
 741          HC       2
              *

 742          KK    RBF1 RET BAS
 743          KM                RETENTION BASIN IS DRAINED BY 4 - 36 INCH C.M. PIPES
 744          RS       1    STOR      -1
 745          SV       0    0.59    0.89    1.18
 746          SE       0       2       3     4.0
 747          SQ       0      76     140     196
              *

 748          KK      E2     SUB
 749          KM
 750          BA  0.0165
 751          LS              85      35
 752          UD  0.1106
              *

 753          KK    C.E2     ADD
 754          KM
 755          HC       2
              *

 756          KK    RBE4 RET BAS
 757          KM
 758          RS       1    STOR      -1
 759          SV       0   0.745    1.12    1.49
 760          SE       0       2       3     4.0
 761          SQ       0      57     105     147
              *

 762          KK  R4.OS9   ROUTE
 763          KM
 764          RS       1    ELEV      10
 765          RC   0.055   0.035   0.055     200    0.02
 766          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 767          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 768          KK     S94     SUB
 769          KM
 770          BA   0.132
 771          LS              86
 772          UD   0.186
              *
```

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

 773          KK    S100     SUB
 774          KM
 775          BA   0.148
 776          LS              86
 777          UD   0.196
              *

 778          KK   CS100     ADD
 779          KM
 780          HC       2
              *

 781          KK  R10S12   ROUTE
 782          KM
 783          RS       1    ELEV      10
 784          RC   0.055   0.035   0.055     900    0.02
 785          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 786          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 787          KK    0S12     SUB
 788          KM
 789          BA  0.0107
 790          LS              79
 791          UD  0.1056
              *

 792          KK  C.0S12     ADD
 793          KM
 794          HC       2
              *

 795          KK  R5.0S9   ROUTE
 796          KM
 797          RS       2    ELEV      10
 798          RC   0.055   0.035   0.055    1410    0.02
 799          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 800          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 801          KK  C2.0S9     ADD
 802          KM
 803          HC       5
              *

 804          KK  R10S13   ROUTE
 805          KM
 806          RS       1    ELEV      10
 807          RC   0.055   0.035   0.055     200    0.02
 808          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 809          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 810          KK      F3     SUB
 811          KM
 812          BA  0.0031
 813          LS              85      35
 814          UD  0.0722
              *

 815          KK    RBF3 RET BAS
 816          KM
 817          RS       1    STOR      -1
 818          SV       0    0.34    0.41    0.48
 819          SE       0     4.0     4.5     5.0
 820          SQ       0      26      82     181
              *

 821          KK  R20S13   ROUTE
 822          KM
 823          RS       1    ELEV      10
 824          RC   0.055   0.035   0.055     150    0.02
 825          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 826          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 827          KK  C.OS13     ADD
 828          KM
 829          HC       2
              *

 830          KK   ROS13   ROUTE
 831          KM   ROUTE C.OS13 THRU SUB-BASIN S220
 832          RS       2    ELEV      10
 833          RC   0.055   0.035   0.055    3030   0.018
 834          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 835          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 836          KK    S220
 837          KM   SUB-BASIN S220
 838          BA   0.079
 839          LS              85
 840          UD    0.10
              *

 841          KK    C220
 842          KM   COMBINE C.OS13/ROS13 & S220
 843          HC       2
              *

 844          KK    R220   ROUTE
 845          KM   ROUTE C220 THRU SUB-BASIN S232
 846          RS       1    ELEV      10
 847          RC   0.055   0.035   0.055     410   0.025
 848          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 849          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 850          KK    S232
 851          KM   SUB-BASIN S232
 852          BA  0.0030
 853          LS              85
 854          UD    0.06
              *

 855          KK    C232
 856          KM   COMBINE C231, C220/R220, & S232
 857          HC       3
              *

 858          KK    R232   ROUTE
 859          KM   ROUTE C232 THRU SUB-BASIN S233
 860          RS       4    ELEV      10
 861          RC   0.055   0.035   0.055    5295   0.018
 862          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 863          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 864          KK    S233
 865          KM   SUB-BASIN S233
 866          BA    0.12
 867          LS              80
 868          UD    0.18
              *

 869          KK    C233
 870          KM   COMBINE  C232/R232 & S233
 871          HC       2
              *

 872          KK    NULL
 873          HC       2
              *

 874          KK    S255     SUB
 875          KM   SUB-BASIN S255
 876          BA   0.034
 877          LS              85
 878          UD   0.097
              *

 879          KK    S256     SUB
 880          KM   SUB-BASIN S256
 881          BA   0.025
 882          LS              81
 883          UD   0.081
              *
```

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

 884          KK      G1     SUB
 885          KM
 886          BA  0.0467
 887          LS              85      35
 888          UD  0.1928
              *

 889          KK    RBG1 RET BAS
 890          KM
 891          RS       1    STOR      -1
 892          SV       0     5.3    5.78    6.26
 893          SE       0     3.0     3.5     4.0
 894          SQ       0      21      76     176
              *
              *

 895          KK      H1     SUB
 896          KM
 897          BA  0.0125
 898          LS              85      35
 899          UD  0.1011
              *

 900          KK    RBH1 RET BAS
 901          KM
 902          RS       1    STOR      -1
 903          SV       0    1.28   1.465    1.65
 904          SE       0     3.5     4.0     4.5
 905          SQ       0   0.001    0.01     0.1
              *

 906          KK    S200
 907          KM   SUB-BASIN S200
 908          BA    0.77
 909          LS              85
 910          UD    0.70
              *

 911          KK    R200
 912          KM   ROUTE S200 THRU SUB-BASIN S201
 913          RS       9    ELEV      10
 914          RC    .055    .035    .055   13650   0.019
 915          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 916          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 917          KK    S201
 918          KM   SUB-BASIN S201
 919          BA    1.25
 920          LS              86
 921          UD    0.46
              *
```

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

 922          KK    C201
 923          KM   COMBINE S200/R200 & S201
 924          HC       2
              *

 925          KK    R201
 926          KM   ROUTE C201 THRU SUB-BASIN S202
 927          RS       3    ELEV      10
 928          RC    .055    .035    .055    4355   0.018
 929          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 930          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 931          KK    S202
 932          KM   SUB-BASIN S202
 933          BA    0.36
 934          LS              86
 935          UD    0.15
              *

 936          KK    C202
 937          KM   COMBINE C201/R201 & SUB-BASIN S202
 938          HC       2
              *

 939          KK  DIV20R DIVERT
 940          DT  DIV20L
 941          DI       0      17      68     175     343     870    1585    2488    3302
 942          DQ       0       0       8      24      48     149     281     452     390
              *

 943          KK    R20R
 944          KM   ROUTE DIV20R THRU SUB-BASIN S203
 945          RS       5    ELEV      10
 946          RC    .055    .035    .055    7575   0.017
 947          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 948          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 949          KK    S203
 950          KM   SUB-BASIN S203
 951          BA    0.43
 952          LS              82
 953          UD    0.25
              *

 954          KK    C203
 955          KM   COMBINE DIV20R/R20R & S203
 956          HC       2
              *
```

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

 957          KK  DIV21R DIVERT
 958          DT  DIV21L
 959          DI       0     100    1000   10000
 960          DQ       0      75     750    7500
              *

 961          KK    R21R
 962          KM   ROUTE DIV21R THRU SUB-BASIN S210
 963          RS       1    ELEV      10
 964          RC    .055    .035    .055    2190   0.017
 965          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
 966          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 967          KK    S210
 968          KM   SUB-BASIN S210
 969          BA   0.052
 970          LS             79
 971          UD    0.07
              *

 972          KK    C210
 973          KM   COMBINE DIV21R/R21R & S210
 974          HC       2
              *

 975          KK  DIV24L DIVERT
 976          DT  DIV24R
 977          DI       0     100    1000   10000
 978          DQ       0      10     100    1000
              *

 979          KK    R210
 980          KM   ROUTE C210 THRU SUB-BASIN S211
 981          RS       4    ELEV      10
 982          RC    .055    .035    .055    6150   0.018
 983          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
 984          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 985          KK    S211
 986          KM   SUB-BASIN S211
 987          BA    0.15
 988          LS             77
 989          UD    0.20
              *

 990          KK    C211
 991          KM   COMBINE C210/R210 & S211
 992          HC       2
              *
```

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

 993          KK    NULL
 994          HC       2
              *

 995          KK  RET24R RETURN
 996          DR  DIV24R
              *

 997          KK    R24R
 998          KM   ROUTE DIV24R THRU SUB-BASIN S212
 999          RS       4    ELEV      10
1000          RC    .055    .035    .055    5490   0.020
1001          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1002          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1003          KK    S212
1004          KM   SUB-BASIN S212
1005          BA   0.084
1006          LS             79
1007          UD    0.18
              *

1008          KK    C212
1009          KM   COMBINE DIV24R/R24R & S212
1010          HC       2
              *

1011          KK    NULL
1012          HC       2
              *

1013          KK  RET21L RETURN
1014          DR  DIV21L
              *

1015          KK    R21L
1016          KM   ROUTE DIV21L THRU SUB-BASIN S290
1017          RS       2    ELEV      10
1018          RC    .055    .035    .055    2475   0.017
1019          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1020          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1021          KK    S290
1022          KM   SUB-BASIN S290
1023          BA   0.072
1024          LS             77
1025          UD    0.08
              *
```

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

1026          KK    C290
1027          KM   COMBINE DIV21L/R21L & S290
1028          HC       2
              *

1029          KK    R290
1030          KM   ROUTE C290 THRU SUB-BASIN S291
1031          RS       1    ELEV      10
1032          RC    .055    .035    .055    2135   0.021
1033          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1034          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1035          KK    S291
1036          KM   SUB-BASIN S291
1037          BA   0.055
1038          LS             77
1039          UD    0.07
              *

1040          KK    C291
1041          KM   COMBINE C290/R290 & S291
1042          HC       2
              *

1043          KK    NULL
1044          HC       2
              *
              *

1045          KK    S300
1046          KM   SUB-BASIN S300
1047          BA  0.0078
1048          LS             77
1049          UD    0.06
              *

1050          KK    R300
1051          KM   ROUTE S300 THRU SUB-BASIN S301
1052          RS       1    ELEV      10
1053          RC    .055    .035    .055    1355   0.018
1054          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1055          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1056          KK    S301
1057          KM   SUB-BASIN S301
1058          BA   0.012
1059          LS             79
1060          UD    0.06
              *
```

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

1061          KK    C301
1062          KM   COMBINE S300/R300 & S301
1063          HC       2
              *

1064          KK    S310
1065          KM   SUB-BASIN S310
1066          BA   0.011
1067          LS             77
1068          UD    0.06
              *

1069          KK    R310
1070          KM   ROUTE S310 THRU SUB-BASIN S311
1071          RS       1    ELEV      10
1072          RC    .055    .035    .055    1470   0.020
1073          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1074          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1075          KK    S311
1076          KM   SUB-BASIN S311
1077          BA   0.012
1078          LS             79
1079          UD    0.06
              *

1080          KK    C311
1081          KM   COMBINE C301, S310/R310, & S311
1082          HC       3
              *

1083          KK    R311
1084          KM   ROUTE C311 THRU SUB-BASIN S302
1085          RS       1    ELEV      10
1086          RC    .055    .035    .055     765   0.026
1087          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1088          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1089          KK    S302
1090          KM   SUB-BASIN S302
1091          BA   0.012
1092          LS             80
1093          UD    0.06
              *

1094          KK    C302
1095          KM   COMBINE  C311/R311 & S302
1096          HC       2
              *
```

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

1097          KK  DIV22R DIVERT
1098          DT  DIV22L
1099          DI       0     100    1000   10000
1100          DQ       0      50     500    5000
              *

1101          KK    R22R
1102          KM   ROUTE DIV22R THRU SUB-BASIN S304
1103          RS       1    ELEV      10
1104          RC    .055    .035    .055     650   0.015
1105          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1106          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1107          KK    S304
1108          KM   SUB-BASIN S304
1109          BA   .0040
1110          LS             77
1111          UD    0.06
              *

1112          KK    C304
1113          KM   COMBINE  DIV22R/R22R & S304
1114          HC       2
              *

1115          KK  DIV23R DIVERT
1116          DT  DIV23L
1117          DI       0     100    1000   10000
1118          DQ       0      75     750    7500
              *
              *

1119          KK    R23R
1120          KM   ROUTE DIV23R THRU SUB-BASIN S306
1121          RS       1    ELEV      10
1122          RC    .055    .035    .055    1110   0.018
1123          RX    52.5    55.5    95.5      98     102   104.5   144.5   147.5
1124          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1125          KK    S306
1126          KM   SUB-BASIN S306
1127          BA   .0091
1128          LS             85
1129          UD    0.06
              *

1130          KK    C306
1131          KM   COMBINE  DIV23R/R23R & S306
1132          HC       2
              *
```

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

1133          KK    NULL
1134          HC       2
              *

1135          KK  RET23L RETURN
1136          DR  DIV23L
              *

1137          KK    R23L
1138          KM   ROUTE DIV23L THRU SUB-BASIN S305
1139          RS       1    ELEV      10
1140          RC    .055    .035    .055     580   0.017
1141          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1142          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1143          KK    S305
1144          KM   SUB-BASIN S305
1145          BA   .0039
1146          LS             81
1147          UD    0.06
              *

1148          KK    C305
1149          KM   COMBINE  DIV23L/R23L & S305
1150          HC       2
              *

1151          KK    NULL
1152          HC       2
              *

1153          KK  RET22L RETURN
1154          DR  DIV22L
              *

1155          KK    R22L
1156          KM   ROUTE DIV22L THRU SUB-BASIN S303
1157          RS       1    ELEV      10
1158          RC    .055    .035    .055     910   0.016
1159          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1160          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1161          KK    S303
1162          KM   SUB-BASIN S303
1163          BA   .013
1164          LS             80
1165          UD    0.06
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1166          KK    C303
1167          KM   COMBINE  DIV22L/R22L & S303
1168          HC       2
              *

1169          KK    S307
1170          KM   SUB-BASIN S307
1171          BA    .016
1172          LS              82
1173          UD    0.06
              *
              *
              *
1174          ZZ
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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	S30	651.	3.50	116.	29.	28.	0.42		
ROUTED TO	R30	621.	3.58	116.	29.	28.	0.42	12.69	3.58
HYDROGRAPH AT	S32	82.	3.33	11.	3.	3.	0.07		
2 COMBINED AT	C32	680.	3.58	127.	32.	31.	0.49		
HYDROGRAPH AT	S40	1137.	4.08	345.	87.	84.	1.60		
ROUTED TO	R48	1079.	4.42	344.	87.	84.	1.60	13.57	4.42
HYDROGRAPH AT	S50	693.	3.58	138.	35.	34.	0.53		
2 COMBINED AT	C51	1315.	4.25	479.	122.	118.	2.13		
ROUTED TO	R51	1306.	4.33	479.	122.	118.	2.13	13.67	4.33
HYDROGRAPH AT	S54	57.	3.33	8.	2.	2.	0.04		
3 COMBINED AT	C54	1696.	3.75	612.	156.	150.	2.67		
ROUTED TO	R54	1651.	3.92	612.	156.	150.	2.67	12.65	3.92
HYDROGRAPH AT	S56	135.	3.50	23.	6.	6.	0.17		
2 COMBINED AT	C56	1742.	3.83	635.	162.	156.	2.84		
ROUTED TO	R56	1735.	3.92	634.	162.	156.	2.84	12.60	3.92
HYDROGRAPH AT	S110	141.	3.42	20.	5.	5.	0.11		
ROUTED TO	R110	131.	3.50	20.	5.	5.	0.11	10.55	3.50
HYDROGRAPH AT	S280	169.	3.08	11.	3.	3.	0.06		
3 COMBINED AT	C280	1816.	3.83	666.	170.	163.	3.00		
DIVERSION TO	DIV26R	908.	3.83	333.	85.	82.	3.00		
HYDROGRAPH AT	DIV26L	908.	3.83	333.	85.	82.	3.00		
ROUTED TO	R26L	908.	3.92	333.	85.	82.	3.00	12.26	3.92
HYDROGRAPH AT	S281	30.	3.08	2.	1.	0.	0.01		
2 COMBINED AT	C281	910.	3.92	335.	85.	82.	3.01		
HYDROGRAPH AT	S60	1489.	4.00	432.	109.	105.	1.81		
DIVERSION TO	DIV4L	714.	4.00	233.	59.	57.	1.81		
HYDROGRAPH AT	DIV4R	775.	4.00	198.	50.	48.	1.81		

HYDROGRAPH AT	S70	86.	3.17	8.	2.	2.	0.03		
2 COMBINED AT	C70	781.	4.00	206.	52.	50.	1.84		
ROUTED TO	R70	750.	4.33	205.	52.	50.	1.84	12.93	4.33
HYDROGRAPH AT	S62	226.	3.58	39.	10.	9.	0.19		
2 COMBINED AT	C62	809.	4.33	244.	62.	59.	2.03		
ROUTED TO	R62	802.	4.42	244.	62.	59.	2.03	12.94	4.42
HYDROGRAPH AT	S270	175.	3.17	14.	3.	3.	0.07		
3 COMBINED AT	C270	1599.	4.42	593.	150.	145.	5.11		
DIVERSION TO	DIV27R	800.	4.42	296.	75.	72.	5.11		
HYDROGRAPH AT	DIV27L	800.	4.42	296.	75.	72.	5.11		
ROUTED TO	R27L	798.	4.42	296.	75.	72.	5.11	13.15	4.42
HYDROGRAPH AT	S271	66.	3.08	4.	1.	1.	0.02		
2 COMBINED AT	C271	801.	4.42	301.	76.	74.	5.13		
ROUTED TO	R271	800.	4.50	301.	76.	74.	5.13	12.88	4.50
HYDROGRAPH AT	S272	43.	3.08	3.	1.	1.	0.02		
HYDROGRAPH AT	S260	270.	3.25	28.	7.	7.	0.14		
ROUTED TO	R260	257.	3.33	28.	7.	7.	0.14	11.66	3.33
HYDROGRAPH AT	S261	104.	3.17	8.	2.	2.	0.04		
4 COMBINED AT	C272	832.	4.17	340.	86.	83.	5.34		
HYDROGRAPH AT	DIV4L	714.	4.00	233.	59.	57.	0.00		
ROUTED TO	R1.0S2	715.	4.08	233.	59.	57.	0.00	13.21	4.08
HYDROGRAPH AT	OS2	48.	3.25	5.	1.	1.	0.03		
2 COMBINED AT	C.OS2	719.	4.08	238.	60.	58.	0.03		
DIVERSION TO	DIV5L	180.	4.08	60.	15.	15.	0.03		
HYDROGRAPH AT	DIV5R	539.	4.08	179.	45.	44.	0.03		
ROUTED TO	R10S14	538.	4.08	179.	45.	44.	0.03	12.91	4.08
HYDROGRAPH AT	OS14	8.	3.17	1.	0.	0.	0.00		
HYDROGRAPH AT	D1	34.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBD1	16.	3.33	3.	1.	1.	0.01	2.46	3.33
3 COMBINED AT	C.OS14	544.	4.08	182.	46.	44.	0.04		

ROUTED TO	ROS14	532.	4.25	182.	46.	44.	0.04	12.88	4.25
HYDROGRAPH AT	S250	161.	3.17	13.	3.	3.	0.08		
2 COMBINED AT	C250	542.	4.25	195.	49.	48.	0.13		
ROUTED TO	R250	536.	4.33	195.	49.	48.	0.13	13.10	4.33
HYDROGRAPH AT	S252	40.	3.08	3.	1.	1.	0.01		
HYDROGRAPH AT	S251	66.	3.17	5.	1.	1.	0.03		
ROUTED TO	R251	58.	3.17	5.	1.	1.	0.03	11.00	3.17
HYDROGRAPH AT	S253	48.	3.08	3.	1.	1.	0.02		
4 COMBINED AT	C253	543.	4.33	206.	52.	50.	0.18		
ROUTED TO	R253	534.	4.50	206.	52.	50.	0.18	12.77	4.50
HYDROGRAPH AT	S254	150.	3.25	14.	4.	3.	0.08		
2 COMBINED AT	C254	543.	4.50	220.	56.	54.	0.26		
2 COMBINED AT	C254b	1369.	4.50	560.	142.	137.	5.60		
HYDROGRAPH AT	RET5L	180.	4.08	60.	15.	15.	0.00		
ROUTED TO	R1.OS3	180.	4.08	60.	15.	15.	0.00	11.73	4.08
HYDROGRAPH AT	OS3	37.	3.17	3.	1.	1.	0.02		
2 COMBINED AT	C.OS3	183.	4.08	63.	16.	15.	0.02		
DIVERSION TO	DIV11L	91.	4.08	31.	8.	8.	0.02		
HYDROGRAPH AT	DIV11R	91.	4.08	31.	8.	8.	0.02		
ROUTED TO	R1.OS5	91.	4.08	31.	8.	8.	0.02	11.15	4.08
HYDROGRAPH AT	OS5	9.	3.17	1.	0.	0.	0.00		
HYDROGRAPH AT	F1	7.	3.08	1.	0.	0.	0.00		
ROUTED TO	RBF2	5.	3.17	1.	0.	0.	0.00	0.67	3.17
HYDROGRAPH AT	D2	24.	3.17	2.	0.	0.	0.01		
ROUTED TO	RBD2	13.	3.33	2.	0.	0.	0.01	1.97	3.33
ROUTED TO	R2.OS5	13.	3.25	2.	0.	0.	0.01	10.34	3.25
4 COMBINED AT	C.OS5	95.	4.08	34.	9.	8.	0.03		
ROUTED TO	ROS5	94.	4.17	34.	9.	8.	0.03	11.16	4.17
HYDROGRAPH AT	S240	63.	3.17	5.	1.	1.	0.03		
2 COMBINED AT	C240	98.	4.17	39.	10.	10.	0.07		

ROUTED TO	R240	98.	4.17	39.	10.	10.	0.07	11.20	4.17
HYDROGRAPH AT	S243	28.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C243	104.	3.25	41.	10.	10.	0.08		
HYDROGRAPH AT	S241	53.	3.17	4.	1.	1.	0.03		
ROUTED TO	R241	52.	3.17	4.	1.	1.	0.03	10.82	3.17
HYDROGRAPH AT	S244	31.	3.08	2.	1.	1.	0.01		
3 COMBINED AT	C244	175.	3.17	48.	12.	12.	0.12		
ROUTED TO	R244	176.	3.17	48.	12.	12.	0.12	11.58	3.17
HYDROGRAPH AT	S245	20.	3.08	1.	0.	0.	0.01		
2 COMBINED AT	C245	193.	3.17	49.	12.	12.	0.13		
DIVERSION TO	DIV25R	96.	3.17	24.	6.	6.	0.13		
HYDROGRAPH AT	DIV25L	96.	3.17	24.	6.	6.	0.13		
ROUTED TO	R25L	80.	3.42	24.	6.	6.	0.13	11.08	3.42
HYDROGRAPH AT	S246	90.	3.25	9.	2.	2.	0.06		
2 COMBINED AT	C246	147.	3.33	33.	8.	8.	0.19		
2 COMBINED AT	NULL	1426.	4.50	593.	150.	145.	5.79		
HYDROGRAPH AT	RET25R	96.	3.17	24.	6.	6.	0.00		
ROUTED TO	R25R	80.	3.42	24.	6.	6.	0.00	11.08	3.42
HYDROGRAPH AT	S247	135.	3.25	13.	3.	3.	0.08		
2 COMBINED AT	C247	184.	3.25	37.	9.	9.	0.08		
2 COMBINED AT	NULL	1485.	4.50	630.	160.	154.	5.87		
HYDROGRAPH AT	S242	58.	3.17	4.	1.	1.	0.03		
ROUTED TO	R242	36.	3.42	4.	1.	1.	0.03	10.67	3.42
HYDROGRAPH AT	S248	149.	3.25	15.	4.	4.	0.09		
2 COMBINED AT	C248	160.	3.33	20.	5.	5.	0.12		
2 COMBINED AT	NULL	1501.	4.42	650.	165.	158.	5.99		
HYDROGRAPH AT	RET11L	91.	4.08	31.	8.	8.	0.00		
ROUTED TO	R1.0S6	91.	4.08	31.	8.	8.	0.00	11.16	4.08
HYDROGRAPH AT	OS6	3.	3.08	0.	0.	0.	0.00		
2 COMBINED AT	C.OS6	91.	4.08	32.	8.	8.	0.00		

ROUTED TO	R1.OS7	91.	4.08	32.	8.	8.	0.00	11.16	4.08
HYDROGRAPH AT	OS7	9.	3.17	1.	0.	0.	0.00		
2 COMBINED AT	C.OS7	92.	4.08	32.	8.	8.	0.01		
ROUTED TO	ROS7	91.	4.17	32.	8.	8.	0.01	11.19	4.17
HYDROGRAPH AT	S230	132.	3.17	11.	3.	3.	0.08		
2 COMBINED AT	C230	142.	3.17	43.	11.	11.	0.08		
ROUTED TO	R230	142.	3.25	43.	11.	11.	0.08	11.46	3.25
HYDROGRAPH AT	S231	17.	3.08	1.	0.	0.	0.01		
2 COMBINED AT	C231	150.	3.25	44.	11.	11.	0.09		
HYDROGRAPH AT	S90	139.	3.17	13.	3.	3.	0.06		
ROUTED TO	R10S11	142.	3.25	13.	3.	3.	0.06	11.50	3.25
HYDROGRAPH AT	OS11	8.	3.17	1.	0.	0.	0.00		
2 COMBINED AT	C.OS11	148.	3.25	14.	3.	3.	0.07		
ROUTED TO	R1.OS8	152.	3.25	14.	3.	3.	0.07	11.56	3.25
HYDROGRAPH AT	OS8	26.	3.17	2.	1.	1.	0.01		
2 COMBINED AT	C.OS8	174.	3.25	16.	4.	4.	0.08		
ROUTED TO	R1.OS9	162.	3.33	16.	4.	4.	0.08	11.62	3.33
HYDROGRAPH AT	OS9	46.	3.25	5.	1.	1.	0.03		
2 COMBINED AT	C1.OS9	205.	3.25	21.	5.	5.	0.11		
HYDROGRAPH AT	H2	32.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBH2	12.	3.33	3.	1.	1.	0.01	1.87	3.33
ROUTED TO	R2.OS9	12.	3.42	3.	1.	1.	0.01	10.33	3.42
HYDROGRAPH AT	E3	28.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBE1	16.	3.33	3.	1.	1.	0.01	2.54	3.33
ROUTED TO	R3.OS9	15.	3.42	3.	1.	1.	0.01	10.38	3.42
HYDROGRAPH AT	S80	121.	3.25	12.	3.	3.	0.06		
ROUTED TO	R1.OS4	123.	3.25	12.	3.	3.	0.06	11.38	3.25
HYDROGRAPH AT	OS4	15.	3.17	1.	0.	0.	0.01		
2 COMBINED AT	C.OS4	134.	3.25	13.	3.	3.	0.07		
HYDROGRAPH AT	I1	34.	3.17	3.	1.	1.	0.02		

2 COMBINED AT	C.I1	161.	3.25	16.	4.	4.	0.08		
ROUTED TO	RBI2	144.	3.33	16.	4.	4.	0.08	2.62	3.33
ROUTED TO	RBI3	129.	3.42	16.	4.	4.	0.08	2.83	3.42
ROUTED TO	R10S10	130.	3.42	16.	4.	4.	0.08	11.42	3.42
HYDROGRAPH AT	OS10	28.	3.25	3.	1.	1.	0.02		
HYDROGRAPH AT	E1	55.	3.17	5.	1.	1.	0.02		
ROUTED TO	R2OS10	49.	3.17	5.	1.	1.	0.02	10.79	3.17
3 COMBINED AT	C.OS10	167.	3.42	23.	6.	6.	0.12		
ROUTED TO	RBE2	158.	3.50	23.	6.	6.	0.12	4.34	3.50
ROUTED TO	RBE3	154.	3.50	23.	6.	6.	0.12	4.17	3.50
HYDROGRAPH AT	F2	27.	3.17	2.	1.	1.	0.01		
2 COMBINED AT	C.F1	160.	3.50	25.	6.	6.	0.13		
ROUTED TO	RBF1	156.	3.58	25.	6.	6.	0.13	3.28	3.58
HYDROGRAPH AT	E2	49.	3.17	4.	1.	1.	0.02		
2 COMBINED AT	C.E2	164.	3.58	29.	7.	7.	0.14		
ROUTED TO	RBE4	156.	3.67	29.	7.	7.	0.14	4.20	3.67
ROUTED TO	R4.OS9	156.	3.67	29.	7.	7.	0.14	11.58	3.67
HYDROGRAPH AT	S94	276.	3.25	28.	7.	7.	0.13		
HYDROGRAPH AT	S100	301.	3.25	31.	8.	8.	0.15		
2 COMBINED AT	CS100	577.	3.25	59.	15.	14.	0.28		
ROUTED TO	R10S12	544.	3.33	59.	15.	14.	0.28	12.95	3.33
HYDROGRAPH AT	OS12	21.	3.17	2.	0.	0.	0.01		
2 COMBINED AT	C.OS12	555.	3.33	61.	15.	15.	0.29		
ROUTED TO	R5.OS9	527.	3.42	61.	15.	15.	0.29	12.92	3.42
5 COMBINED AT	C2.OS9	837.	3.33	116.	29.	28.	0.57		
ROUTED TO	R10S13	832.	3.42	116.	29.	28.	0.57	13.36	3.42
HYDROGRAPH AT	F3	10.	3.08	1.	0.	0.	0.00		
ROUTED TO	RBF3	7.	3.25	1.	0.	0.	0.00	1.05	3.25
ROUTED TO	R2OS13	7.	3.25	1.	0.	0.	0.00	10.22	3.25
2 COMBINED AT	C.OS13	837.	3.42	117.	29.	28.	0.57		

ROUTED TO	ROS13	790.	3.50	117.	29.	28.	0.57	13.36	3.50
HYDROGRAPH AT	S220	206.	3.17	16.	4.	4.	0.08		
2 COMBINED AT	C220	837.	3.50	133.	33.	32.	0.65		
ROUTED TO	R220	837.	3.50	133.	33.	32.	0.65	13.25	3.50
HYDROGRAPH AT	S232	9.	3.08	1.	0.	0.	0.00		
3 COMBINED AT	C232	934.	3.50	178.	45.	43.	0.74		
ROUTED TO	R232	861.	3.67	178.	45.	43.	0.74	13.34	3.67
HYDROGRAPH AT	S233	195.	3.25	20.	5.	5.	0.12		
2 COMBINED AT	C233	915.	3.67	197.	50.	48.	0.86		
2 COMBINED AT	NULL	2233.	3.67	848.	214.	206.	6.84		
HYDROGRAPH AT	S255	89.	3.17	7.	2.	2.	0.03		
HYDROGRAPH AT	S256	56.	3.17	4.	1.	1.	0.03		
HYDROGRAPH AT	G1	109.	3.25	12.	3.	3.	0.05		
ROUTED TO	RBG1	16.	3.83	10.	3.	3.	0.05	2.23	3.83
HYDROGRAPH AT	H1	38.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBH1	0.	6.17	0.	0.	0.	0.01	4.34	6.25
HYDROGRAPH AT	S200	673.	3.83	156.	39.	38.	0.77		
ROUTED TO	R200	652.	4.17	156.	39.	38.	0.77	11.44	4.17
HYDROGRAPH AT	S201	1512.	3.58	263.	66.	63.	1.25		
2 COMBINED AT	C201	1525.	3.58	418.	105.	101.	2.02		
ROUTED TO	R201	1509.	3.67	418.	105.	101.	2.02	12.42	3.67
HYDROGRAPH AT	S202	801.	3.17	76.	19.	18.	0.36		
2 COMBINED AT	C202	1685.	3.58	493.	124.	119.	2.38		
DIVERSION TO	DIV20L	300.	3.58	82.	20.	20.	2.38		
HYDROGRAPH AT	DIV20R	1385.	3.58	411.	103.	99.	2.38		
ROUTED TO	R20R	1353.	3.83	411.	103.	99.	2.38	12.31	3.83
HYDROGRAPH AT	S203	642.	3.33	77.	19.	18.	0.43		
2 COMBINED AT	C203	1573.	3.67	487.	122.	118.	2.81		
DIVERSION TO	DIV21L	1180.	3.67	365.	92.	88.	2.81		
HYDROGRAPH AT	DIV21R	393.	3.67	122.	31.	29.	2.81		

ROUTED TO	R21R	383.	3.83	122.	31.	29.	2.81	13.10	3.83
HYDROGRAPH AT	S210	105.	3.08	8.	2.	2.	0.05		
2 COMBINED AT	C210	391.	3.83	129.	33.	31.	2.86		
DIVERSION TO	DIV24R	39.	3.83	13.	3.	3.	2.86		
HYDROGRAPH AT	DIV24L	352.	3.83	117.	29.	28.	2.86		
ROUTED TO	R210	334.	4.25	116.	29.	28.	2.86	12.96	4.25
HYDROGRAPH AT	S211	195.	3.25	21.	5.	5.	0.15		
2 COMBINED AT	C211	355.	4.17	137.	35.	33.	3.01		
2 COMBINED AT	NULL	355.	4.17	137.	35.	33.	3.02		
HYDROGRAPH AT	RET24R	39.	3.83	13.	3.	3.	0.00		
ROUTED TO	R24R	38.	4.00	13.	3.	3.	0.00	10.66	4.00
HYDROGRAPH AT	S212	130.	3.25	13.	3.	3.	0.08		
2 COMBINED AT	C212	133.	3.25	26.	7.	6.	0.08		
2 COMBINED AT	NULL	426.	3.33	163.	41.	40.	3.11		
HYDROGRAPH AT	RET21L	1180.	3.67	365.	92.	88.	0.00		
ROUTED TO	R21L	1177.	3.75	365.	92.	88.	0.00	13.86	3.75
HYDROGRAPH AT	S290	133.	3.17	10.	3.	2.	0.07		
2 COMBINED AT	C290	1190.	3.75	375.	94.	91.	0.07		
ROUTED TO	R290	1185.	3.83	374.	94.	91.	0.07	13.74	3.83
HYDROGRAPH AT	S291	101.	3.17	8.	2.	2.	0.05		
2 COMBINED AT	C291	1194.	3.75	382.	96.	93.	0.13		
2 COMBINED AT	NULL	1557.	3.83	545.	138.	133.	3.24		
HYDROGRAPH AT	S300	16.	3.08	1.	0.	0.	0.01		
ROUTED TO	R300	11.	3.17	1.	0.	0.	0.01	10.50	3.17
HYDROGRAPH AT	S301	27.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C301	34.	3.17	3.	1.	1.	0.02		
HYDROGRAPH AT	S310	22.	3.08	2.	0.	0.	0.01		
ROUTED TO	R310	16.	3.17	2.	0.	0.	0.01	10.33	3.17
HYDROGRAPH AT	S311	27.	3.08	2.	0.	0.	0.01		
3 COMBINED AT	C311	73.	3.17	6.	2.	2.	0.04		

ROUTED TO	R311	77.	3.17	6.	2.	2.	0.04	10.95	3.17
HYDROGRAPH AT	S302	29.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C302	101.	3.17	8.	2.	2.	0.05		
DIVERSION TO	DIV22L	51.	3.17	4.	1.	1.	0.05		
HYDROGRAPH AT	DIV22R	51.	3.17	4.	1.	1.	0.05		
ROUTED TO	R22R	49.	3.17	4.	1.	1.	0.05	10.84	3.17
HYDROGRAPH AT	S304	8.	3.08	1.	0.	0.	0.00		
2 COMBINED AT	C304	56.	3.17	5.	1.	1.	0.06		
DIVERSION TO	DIV23L	42.	3.17	4.	1.	1.	0.06		
HYDROGRAPH AT	DIV23R	14.	3.17	1.	0.	0.	0.06		
ROUTED TO	R23R	12.	3.25	1.	0.	0.	0.06	10.66	3.25
HYDROGRAPH AT	S306	28.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C306	31.	3.08	3.	1.	1.	0.07		
2 COMBINED AT	NULL	1561.	3.83	548.	138.	133.	3.30		
HYDROGRAPH AT	RET23L	42.	3.17	4.	1.	1.	0.00		
ROUTED TO	R23L	40.	3.25	4.	1.	1.	0.00	10.71	3.25
HYDROGRAPH AT	S305	10.	3.08	1.	0.	0.	0.00		
2 COMBINED AT	C305	45.	3.25	4.	1.	1.	0.00		
2 COMBINED AT	NULL	1568.	3.83	552.	139.	134.	3.31		
HYDROGRAPH AT	RET22L	51.	3.17	4.	1.	1.	0.00		
ROUTED TO	R22L	46.	3.17	4.	1.	1.	0.00	11.21	3.17
HYDROGRAPH AT	S303	31.	3.08	2.	1.	1.	0.01		
2 COMBINED AT	C303	72.	3.17	6.	2.	2.	0.01		
HYDROGRAPH AT	S307	42.	3.08	3.	1.	1.	0.02		

Appendix D –HEC-1 - Input/Output
Post-development Conditions
100-Year 6-Hour Storm

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

  1           ID      56th AND LONE MOUNTAIN
  2           ID
  3           ID
  4           ID       HEC-1 FILENAME:    1668D400.HC1
  5           ID       DATE:              JANUARY 23, 2000
  6           ID       CREATED BY:        JOSH LESSARD/IAN SHARP
  7           ID
  8           ID
  9           ID       HEC-1 HYDROLOGY MODEL
 10           ID
 11           ID
              *DIAGRAM
 12           IT       5 28SEP00       0     300
 13           IO       5       0
              *

 14           KK     S30
 15           KM   SUB-BASIN S30
 16           BA     .42
 17           PH                    0.80    1.46    2.36    2.70    2.92    3.35
 18           LS              88      38
 19           UD    .452
              *

 20           KK     R30
 21           KM   ROUTE S30 THRU S32
 22           RS       1    ELEV      10
 23           RC    .055    .035    .055    2250    .018
 24           RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 25           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 26           KK     S32
 27           KM   SUB-BASIN S32
 28           BA    .074
 29           LS              78
 30           UD    .287
              *

 31           KK     C32
 32           KM   COMBINE S30/R30 & S32
 33           HC       2
              *

 34           KK     S40
 35           KM   SUB-BASIN S40
 36           BA    1.60
 37           LS              84      15
 38           UD    .985
              *
```

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

  39          KK     R48
  40          KM   ROUTE R40
  41          RS       2    ELEV      10
  42          RC    .055    .035    .055    8400    .023
  43          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
  44          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  45          KK     S50
  46          KM   SUB-BASIN S50
  47          BA     .53
  48          LS              86      35
  49          UD    .535
              *

  50          KK     C51
  51          KM   COMBINE R48/S40 & S50
  52          HC       2
              *

  53          KK     R51
  54          KM   ROUTE C51 THRU BASIN 54
  55          RS       2    ELEV      10
  56          RC    .055    .035    .055    3050    .015
  57          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
  58          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  59          KK     S54
  60          KM   SUB-BASIN S54
  61          BA    .044
  62          LS              81
  63          UD    .291
              *

  64          KK     C54
  65          KM   COMBINE S54, C51, & C32
  66          HC       3
              *

  67          KK     R54
  68          KM   ROUTE C54 THRU BASIN 56
  69          RS       2    ELEV      10
  70          RC    .055    .035    .055    4150    .016
  71          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
  72          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

  73          KK     S56
  74          KM   SUB-BASIN S56
  75          BA    .171
  76          LS              76
  77          UD    .427
              *
```

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

 78           KK     C56
 79           KM   COMBINE S56 & R54
 80           HC       2
              *

 81           KK     R56
 82           KM   ROUTE C56 THRU BASIN S280
 83           RS       1    ELEV      10
 84           RC    .055    .035    .055    1840    .019
 85           RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 86           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 87           KK    S110
 88           KM   SUB-BASIN S110
 89           BA    .109
 90           LS              83
 91           UD    .345
              *

 92           KK    R110
 93           KM   ROUTE S110 THRU BASIN S280
 94           RS       1    ELEV      10
 95           RC    .055    .035    .055    1840    .019
 96           RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
 97           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 98           KK    S280     SUB
 99           KM   SUB-BASIN S280
100           BA   0.056
101           LS              85
102           UD    0.06
              *

103           KK    C280
104           KM  COMBINE S56/R56, S110/R110, & S280
105           HC       3
              *

106           KK  DIV26L DIVERT
107           DT  DIV26R
108           DI       0     100    1000   10000
109           DQ       0      75     750    7500
              *

110           KK    R26L
111           KM   ROUTE DIV26L THRU BASIN S281
112           RS       1    ELEV      10
113           RC    .055    .035    .055    1340    .019
114           RX    48.5    51.5   101.5     104     144   146.5   196.5   199.5
115           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 116          KK    S281     SUB
 117          KM   SUB-BASIN S281
 118          BA   0.010
 119          LS              85
 120          UD    0.06
              *

 121          KK    C281
 122          KM  COMBINE DIV26L/R26L & S281
 123          HC       2
              *

 124          KK     S60     SUB
 125          KM
 126          BA  1.8100
 127          LS              87      16
 128          UD   0.933
              *

 129          KK   DIV4R  DIVERT
 130          KM
 131          DT   DIV4L
 132          DI       0     294     633    1081    1186    2008
 133          DQ       0     188     372     606     530    1028
              *

 134          KK     S70
 135          KM   SUB-BASIN S70
 136          BA    .029
 137          LS              85      40
 138          UD    .120
              *

 139          KK     C70
 140          KM   COMBINE DIV4R & S70
 141          HC       2
              *

 142          KK     R70
 143          KM   ROUTE C70 THRU BASIN S62
 144          RS       3    ELEV      10
 145          RC    .055    .035    .055    6850    .017
 146          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 147          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 148          KK     S62
 149          KM   SUB-BASIN S62
 150          BA    .193
 151          LS              85
 152          UD    .458
              *
```

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

 153          KK     C62
 154          KM   COMBINE S62 & C70
 155          HC       2
              *

 156          KK     R62
 157          KM   ROUTE C62 THRU BASIN S270
 158          RS       2    ELEV      10
 159          RC    .055    .035    .055    3110    .019
 160          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 161          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 162          KK    S270
 163          KM   SUB-BASIN S270
 164          BA    .067
 165          LS              85
 166          UD    .100
              *

 167          KK    C270
 168          KM   COMBINE C62/R62, S270, & C281
 169          HC       3
              *

 170          KK  DIV27L  DIVERT
 171          KM
 172          DT  DIV27R
 173          DI       0     100    1000   10000
 174          DQ       0      75     750    7500
              *

 175          KK    R27L
 176          KM   ROUTE DIV27L THRU BASIN S271
 177          RS       1    ELEV      10
 178          RC    .055    .035    .055    1505    .013
 179          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 180          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 181          KK    S271
 182          KM   SUB-BASIN S271
 183          BA   .0219
 184          LS              85
 185          UD    .060
              *

 186          KK    C271
 187          KM   COMBINE C270/R270 & S271
 188          HC       2
              *
```

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

 189          KK    R271
 190          KM   ROUTE C271 THRU BASIN S272
 191          RS       1    ELEV      10
 192          RC    .055    .035    .055    1205    .021
 193          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 194          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 195          KK    S272
 196          KM   SUB-BASIN S272
 197          BA    .019
 198          LS            79.6
 199          UD    .060
              *

 200          KK    S260
 201          KM   SUB-BASIN S260
 202          BA    .140
 203          LS              85
 204          UD    .200
              *

 205          KK    R260
 206          KM   ROUTE C260 THRU BASIN S261
 207          RS       2    ELEV      10
 208          RC    .055    .035    .055    2880    .017
 209          RX    48.5    51.5    91.5      94     114   116.5   156.5   159.5
 210          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 211          KK   S261A
 212          KM   SUB-BASIN S261A
 213          BA    .012
 214          LS            84.3
 215          UD   0.052
              *

 216          KK   C261A
 217          KM   COMBINE C271/R271, S272, S260/R260, S261A
 218          HC       4
              *

 219          KK     B11
 220          KM   2 X 8' X 3' BOX CULVERTS
 221          RS       1    STOR      -1
 222          SV       0   0.011   0.045   0.152   0.461   0.929
 223          SE    2090    2091    2092    2093    2094    2095
 224          SQ       0      48     136     240     336     416
              *
```

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

 225          KK   R261A
 226          KM   ROUTE C261A THRU BASIN 261B
 227          RS       1    ELEV      -1
 228          RC   0.055   0.035   0.055     750   0.019
 229          RX     945     967     995     999    1001    1005    1017    1045
 230          RY  2085.3    2085  2083.1    2083    2083  2083.1    2085  2085.4
              *

 231          KK   S261B
 232          KM   SUB-BASIN S261B
 233          BA    .031
 234          LS            84.3
 235          UD    .031
              *

 236          KK    C272
 237          KM   COMBINE C261A/R261A & S261B
 238          HC       2
              *

 239          KK   DIV4L     RET
 240          KM
 241          DR   DIV4L
              *

 242          KK  R1.0S2   ROUTE
 243          KM
 244          RS       1    ELEV      10
 245          RC   0.055   0.035   0.055     620    0.02
 246          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 247          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 248          KK     OS2     SUB
 249          KM
 250          BA  0.0295
 251          LS              79
 252          UD  0.1583
              *

 253          KK   C.OS2     ADD
 254          KM
 255          HC       2
              *

 256          KK   DIV5R  DIVERT
 257          KM
 258          DT   DIV5L
 259          DI       0      11      71     204     665    1556    3038
 260          DQ       0       0      24     128     329     762    1656
              *
```

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

 261          KK  R10S14   ROUTE
 262          KM
 263          RS       1    ELEV      10
 264          RC   0.055   0.035   0.055     700    0.02
 265          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 266          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 267          KK    OS14     SUB
 268          KM
 269          BA  0.0039
 270          LS              79
 271          UD  0.1028
              *

 272          KK      D1     SUB
 273          KM
 274          BA  0.0111
 275          LS              85      35
 276          UD  0.0989
              *

 277          KK    RBD1 RET BAS
 278          KM
 279          RS       1    STOR      -1
 280          SV       0    0.91    1.01    1.11
 281          SE       0     4.5     5.0     5.5
 282          SQ       0      29      42      63
              *

 283          KK  C.OS14     ADD
 284          KM
 285          HC       3
              *

 286          KK   ROS14   ROUTE
 287          KM   ROUTE C.OS14 THRU SUB-BASIN S250
 288          RS       2    ELEV      10
 289          RC   0.055   0.035   0.055    3270   0.021
 290          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 291          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

 292          KK    S250
 293          KM   SUB-BASIN S250
 294          BA   0.083
 295          LS              79
 296          UD    0.11
              *
```

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

297           KK    C250
298           KM   COMBINE C.OS14/ROS14 & S250
299           HC       2
              *

300           KK    R250   ROUTE
301           KM   ROUTE C250 THRU SUB-BASIN S252
302           RS       1    ELEV      10
303           RC   0.055   0.035   0.055    1385   0.014
304           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
305           RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

306           KK    S252     SUB
307           KM   SUB-BASIN S252
308           BA   0.015
309           LS            81.9
310           UD    0.06
              *

311           KK    S251
312           KM   SUB-BASIN S251
313           BA   0.025
314           LS              85
315           UD   0.088
              *

316           KK    R251   ROUTE
317           KM   ROUTE C251 THRU SUB-BASIN S253
318           RS       1    ELEV      10
319           RC   0.055   0.035   0.055    1120   0.013
320           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
321           RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

322           KK    S253     SUB
323           KM   SUB-BASIN S253
324           BA   0.016
325           LS            86.2
326           UD    0.06
              *

327           KK    C253
328           KM   COMBINE C250/R250, S252, S251/R251, & S253
329           HC       4
              *

330           KK    R253   ROUTE
331           KM   ROUTE C253 THRU SUB-BASIN S254
332           RS       3    ELEV      10
333           RC   0.055   0.035   0.055    4360   0.021
334           RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
335           RY      20    12.5    12.5      10      10    12.5    12.5      20
              *
```

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

 336          KK   S254A     SUB
 337          KM   SUB-BASIN S254A
 338          BA   0.037
 339          LS           85.8
 340          UD   0.052
              *

 341          KK   C254A
 342          KM   COMBINE C253/R253, S254A
 343          HC       2
              *

 344          KK      B2
 345          KM   10' X 4' BOX
 346          RS       1    STOR      -1
 347          SV       0   0.007   0.014   0.049   0.206   0.526   0.992   1.664
 348          SE    2090    2091    2092    2093    2094    2095    2096    2097
 349          SQ       0      40      85     155     230     300     370     420
              *

 350          KK   R254A   ROUTE
 351          KM   ROUTE C254A THRU SUB-BASIN S254B
 352          RS       1    ELEV      -1
 353          RC   0.055   0.035   0.055     767   0.019
 354          RX     945     967     995     999    1001    1005    1017    1045
 355          RY  2085.3    2085  2083.1    2083    2083  2083.1    2085  2085.4
              *
              *

 356          KK   S254B     SUB
 357          KM   SUB-BASIN S254B
 358          BA   0.035
 359          LS           85.8
 360          UD   0.068
              *

 361          KK   C254B
 362          KM   COMBINE C254/R254A & S254B
 363          HC       2
              *

 364          KK      B1
 365          KM   10' X 3' BOX
 366          RS       1    STOR      -1
 367          SV       0   0.057   0.278   0.683   1.381   2.427   3.798   5.565
 368          SE    2055    2056    2057    2058    2059    2060    2061    2062
 369          SQ       0      30      85     150     210     260     300     350
              *
```

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

 370          KK   R254B   ROUTE
 371          KM   ROUTE S254B THRU SUB-BASIN S254C
 372          RS       1    ELEV      -1
 373          RC   0.055   0.035   0.055     231   0.023
 374          RX     763     884     993     999    1001    1007    1014    1021
 375          RY  2050.2    2049  2049.2  2049.2  2049.2  2049.2    2050  2050.2
              *
              *

 376          KK   S254C     SUB
 377          KM   SUB-BASIN S254C
 378          BA   0.008
 379          LS            85.8
 380          UD   0.028
              *

 381          KK   C254c
 382          KM   COMBINE C254B/R254B & S254C
 383          HC       2
              *

 384          KK   C254b
 385          KM   COMBINE C254 & C272
 386          HC       2
              *

 387          KK   RET5L  RET
 388          KM
 389          DR   DIV5L
              *

 390          KK  R1.OS3   ROUTE
 391          KM
 392          RS       1    ELEV      10
 393          RC   0.055   0.035   0.055     570    0.02
 394          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 395          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 396          KK     OS3     SUB
 397          KM
 398          BA  0.0205
 399          LS              79
 400          UD  0.1250
              *

 401          KK   C.OS3     ADD
 402          KM
 403          HC       2
              *
```

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

 404          KK  DIV11R  DIVERT
 405          KM
 406          DT  DIV11L
 407          DI       0     100    1000   10000
 408          DQ       0      50     500    5000
              *

 409          KK  R1.OS5   ROUTE
 410          KM
 411          RS       1    ELEV      10
 412          RC   0.055   0.035   0.055     600    0.02
 413          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 414          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 415          KK     OS5     SUB
 416          KM
 417          BA  0.0043
 418          LS              79
 419          UD  0.0828
              *

 420          KK      F1     SUB
 421          KM
 422          BA  0.0020
 423          LS              85      35
 424          UD  0.0694
              *

 425          KK    RBF2 RET BAS
 426          KM
 427          RS       1    STOR      -1
 428          SV       0    0.21    0.23    0.26
 429          SE       0       3     3.5     4.0
 430          SQ       0      21      44      86
              *

 431          KK      D2     SUB
 432          KM
 433          BA  0.0077
 434          LS              85      35
 435          UD  0.0961
              *

 436          KK    RBD2 RET BAS
 437          KM
 438          RS       1    STOR      -1
 439          SV       0    0.67    0.74    0.82
 440          SE       0     4.5     5.0     5.5
 441          SQ       0      29      42      63
              *
```

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

 442          KK  R2.OS5   ROUTE
 443          KM
 444          RS       1    ELEV      10
 445          RC   0.055   0.035   0.055     200    0.02
 446          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 447          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 448          KK   C.OS5     ADD
 449          HC       4
              *

 450          KK    ROS5   ROUTE
 451          KM   ROUTE C.OS5 THRU S240
 452          RS       2    ELEV      10
 453          RC   0.055   0.035   0.055    3340   0.021
 454          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 455          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 456          KK    S240     SUB
 457          KM   SUB-BASIN S240
 458          BA   0.034
 459          LS             78
 460          UD    0.11
              *

 461          KK    C240     ADD
 462          KM   COMBINE C.OS5/ROS5 & S240
 463          HC       2
              *

 464          KK    R240   ROUTE
 465          KM   ROUTE C240 THRU S243
 466          RS       1    ELEV      10
 467          RC   0.055   0.035   0.055     765   0.020
 468          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 469          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 470          KK    S243     SUB
 471          KM   SUB-BASIN S243
 472          BA   0.013
 473          LS           87.2
 474          UD    0.06
              *

 475          KK    C243     ADD
 476          KM   COMBINE C240/R240 & S243
 477          HC       2
              *
```

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

 478          KK    S241     SUB
 479          KM   SUB-BASIN S241
 480          BA   0.025
 481          LS              80
 482          UD   0.078
              *

 483          KK    R241   ROUTE
 484          KM   ROUTE C241 THRU S244
 485          RS       1    ELEV      10
 486          RC   0.055   0.035   0.055     980   0.020
 487          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 488          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 489          KK    S244     SUB
 490          KM   SUB-BASIN S244
 491          BA   0.015
 492          LS            84.6
 493          UD    0.06
              *

 494          KK    C244
 495          KM   COMBINE C243, S241/C241, & S244
 496          HC       3
              *

 497          KK    R244   ROUTE
 498          KM   ROUTE C244 THRU S245
 499          RS       1    ELEV      10
 500          RC   0.055   0.035   0.055     270   0.019
 501          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 502          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 503          KK    S245     SUB
 504          KM   SUB-BASIN S245
 505          BA  0.0088
 506          LS            85.2
 507          UD    0.06
              *

 508          KK    C245
 509          KM   COMBINE C244/R244 & S245
 510          HC       2
              *

 511          KK  DIV25L  DIVERT
 512          KM
 513          DT  DIV25R
 514          DI       0     100    1000   10000
 515          DQ       0      50     500    5000
              *
```

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

516         KK    R25L   ROUTE
517         KM   ROUTE DIV25L THRU S246
518         RS       3    ELEV      10
519         RC   0.055   0.035   0.055    4480   0.019
520         RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
521         RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
            *

522         KK   S246A     SUB
523         KM   SUB-BASIN S246A
524         BA   0.039
525         LS            83.2
526         UD    0.09
            *

527         KK   C246A
528         KM   COMBINE DIV25L/R25L & S246A
529         HC       2
            *

530         KK      B5
531         KM   1 X 36" CMP
532         RS       1    STOR      -1
533         SV       0   0.150   0.612   1.352   2.356   3.704   5.414   7.542
534         SE    2063    2064    2065    2066    2067    2068    2069    2070
535         SQ       0       9    18.5      35      50      60      70      80
            *

536         KK   R246A
537         KM   ROUTE C246A THRU BASIN S246B
538         RS       1    ELEV      -1
539         RC   0.055   0.035   0.055    1829   0.020
540         RX     913     933     995     999    1001    1007    1058    1089
541         RY  2056.8    2056    2055  2054.5  2054.5    2055    2056  2057.5
            *

542         KK   S246B     SUB
543         KM   SUB-BASIN S246B
544         BA   0.022
545         LS            83.2
546         UD   0.066
            *

547         KK    C246B
548         KM   COMBINE C246A/R246A & S246B
549         HC       2
            *

550         KK    NULL
551         HC       2
            *
```

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

552           KK  RET25R     RET
553           KM
554           DR  DIV25R
              *

555           KK    R25R   ROUTE
556           KM   ROUTE DIV25R THRU S247
557           RS       3    ELEV      10
558           RC   0.055   0.035   0.055    4490   0.019
559           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
560           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

561           KK   S247A     SUB
562           KM   SUB-BASIN S247A
563           BA   0.033
564           LS            84.8
565           UD   0.074
              *

566           KK   C247A
567           KM   COMBINE DIV25R/R25R & S247A
568           HC       2
              *

569           KK     B12
570           KM   1 X 30" CMP
571           RS       1    STOR      -1
572           SV       0   0.065   0.337   0.858   1.650   2.754   4.199   5.971   8.055
573           SE    2073    2074    2075    2076    2077    2078    2079    2080    2081
574           SQ       0       8      16      28      38      45      52      58      60
              *

575           KK   R247A
576           KM   ROUTE C247A THRU SUB-BASIN S247B
577           RS       2    ELEV      -1
578           RC   0.055   0.035   0.055    2479   0.020
579           RX     906     943     990     999    1001    1008    1042    1085
580           RY  2058.1    2057    2057  2056.5  2056.5    2057    2057  2057.2
              *

581           KK   S247B     SUB
582           KM   SUB-BASIN S247
583           BA   0.046
584           LS            84.8
585           UD   0.089
              *
              *
```

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

586           KK   C247B
587           KM   COMBINE C247A/R247A & S247B
588           HC       2
              *

589           KK    NULL
590           HC       2
              *

591           KK    S242     SUB
592           KM   SUB-BASIN S242
593           BA   0.027
594           LS             80
595           UD   0.077
              *

596           KK    R242   ROUTE
597           KM   ROUTE S242 THRU S248
598           RS       4    ELEV      10
599           RC   0.055   0.035   0.055    5815   0.018
600           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
601           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

602           KK   S248A     SUB
603           KM   SUB-BASIN S248
604           BA   0.034
605           LS           83.6
606           UD   0.063
              *

607           KK   C248A
608           KM   COMBINE S242/R242, & S248A
609           HC       2
              *
              *

610           KK      B4  REVISED BASIN
611           KM   1 X 30" CMP
612           RS       1    STOR      -1
613           SV       0   0.007   0.049   0.184   0.432   0.802   1.318   2.009
614           SE    2106    2107    2108    2109    2110    2111    2112    2113
615           SQ       0       8      16      28      38      45      52      58
              *

616           KK   R248A
617           KM   ROUTE C248A THRU SUB-BASIN 248B
618           RS       1    ELEV      -1
619           RC   0.055   0.035   0.055    1000   0.020
620           RX     927     956     997     999    1001    1003    1034    1077
621           RY    2099    2098    2096  2095.5  2095.5    2096    2099  2099.3
              *
```

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

 622          KK   S248B     SUB
 623          KM   SUB-BASIN S248
 624          BA   0.022
 625          LS           84.8
 626          UD   0.033
              *

 627          KK   C248B
 628          KM   COMBINE C248A/R248A S248B
 629          HC       2
              *

 630          KK      B3
 631          KM   1 X 24" CMP
 632          RS       1    STOR      -1
 633          SV       0    0.86   0.306   0.775   1.536   2.518   3.803   5.413
 634          SE    2084    2085    2086    2087    2088    2089    2090    2091
 635          SQ       0       4      13      21      26      30      35      38
              *

 636          KK   R248B
 637          KM   ROUTE S248B THRU SUB-BASIN S248C
 638          RS       2    ELEV      -1
 639          RC   0.055   0.035   0.055    3000   0.021
 640          RX     907     953     996     999    1001    1008    1039    1071
 641          RY  2071.5    2070    2066  2065.5  2065.5    2066    2068  2069.5
              *

 642          KK   S248C     SUB
 643          KM   SUB-BASIN S248C
 644          BA   0.034
 645          LS           84.8
 646          UD   0.094
              *

 647          KK   C248C
 648          KM   COMBINE C248B/R248B & S248C
 649          HC       2
              *

 650          KK    NULL
 651          HC       2
              *

 652          KK  RET11L     RET
 653          KM
 654          DR  DIV11L
              *
```

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

 622          KK   S248B     SUB
 623          KM   SUB-BASIN S248
 624          BA   0.022
 625          LS           84.8
 626          UD   0.033
              *

 627          KK   C248B
 628          KM   COMBINE C248A/R248A S248B
 629          HC       2
              *

 630          KK      B3
 631          KM   1 X 24" CMP
 632          RS       1    STOR      -1
 633          SV       0    0.86   0.306   0.775   1.536   2.518   3.803   5.413
 634          SE    2084    2085    2086    2087    2088    2089    2090    2091
 635          SQ       0       4      13      21      26      30      35      38
              *

 636          KK   R248B
 637          KM   ROUTE S248B THRU SUB-BASIN S248C
 638          RS       2    ELEV      -1
 639          RC   0.055   0.035   0.055    3000   0.021
 640          RX     907     953     996     999    1001    1008    1039    1071
 641          RY  2071.5    2070    2066  2065.5  2065.5    2066    2068  2069.5
              *

 642          KK   S248C     SUB
 643          KM   SUB-BASIN S248C
 644          BA   0.034
 645          LS           84.8
 646          UD   0.094
              *

 647          KK   C248C
 648          KM   COMBINE C248B/R248B & S248C
 649          HC       2
              *

 650          KK    NULL
 651          HC       2
              *

 652          KK  RET11L     RET
 653          KM
 654          DR  DIV11L
              *
```

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

 655          KK  R1.OS6   ROUTE
 656          KM
 657          RS       1    ELEV      10
 658          RC   0.055   0.035   0.055     300    0.02
 659          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 660          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 661          KK     OS6     SUB
 662          KM
 663          BA  0.0013
 664          LS              79
 665          UD  0.0650
              *

 666          KK   C.OS6     ADD
 667          KM
 668          HC       2
              *

 669          KK  R1.OS7   ROUTE
 670          KM
 671          RS       1    ELEV      10
 672          RC   0.055   0.035   0.055     420    0.02
 673          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 674          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 675          KK     OS7     SUB
 676          KM
 677          BA  0.0044
 678          LS              79
 679          UD  0.0767
              *

 680          KK   C.OS7     ADD
 681          KM
 682          HC       2
              *

 683          KK    ROS7   ROUTE
 684          KM   ROUTE C.OS7 THRU S230
 685          RS       2    ELEV      10
 686          RC   0.055   0.035   0.055    3680   0.018
 687          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 688          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 689          KK    S230     SUB
 690          KM   SUB-BASIN S230
 691          BA   0.075
 692          LS              78
 693          UD    0.12
              *
```

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

 694          KK    C230     ADD
 695          KM   COMBINE C.OS7/ROS7 & S230
 696          HC       2
              *

 697          KK    R230   ROUTE
 698          KM   ROUTE C230 THRU S231
 699          RS       1    ELEV      10
 700          RC   0.055   0.035   0.055     465   0.022
 701          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 702          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 703          KK    S231     SUB
 704          KM   SUB-BASIN S231
 705          BA  0.0056
 706          LS            87.3
 707          UD    0.06
              *

 708          KK    C231
 709          KM   COMBINE C230/R230 & S231
 710          HC       2
              *

 711          KK     S90     SUB
 712          KM
 713          BA   0.063
 714          LS              86
 715          UD   0.152
              *

 716          KK  R10S11   ROUTE
 717          KM
 718          RS       1    ELEV      10
 719          RC   0.055   0.035   0.055     300    0.02
 720          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 721          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 722          KK    OS11     SUB
 723          KM
 724          BA  0.0041
 725          LS              79
 726          UD  0.0967
              *

 727          KK  C.OS11     ADD
 728          KM
 729          HC       2
              *
```

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

 730          KK  R1.OS8   ROUTE
 731          KM
 732          RS       1    ELEV      10
 733          RC   0.055   0.035   0.055     710    0.02
 734          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 735          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 736          KK     OS8     SUB
 737          KM
 738          BA  0.0139
 739          LS              79
 740          UD  0.1167
              *

 741          KK   C.OS8     ADD
 742          KM
 743          HC       2
              *

 744          KK  R1.OS9   ROUTE
 745          KM
 746          RS       2    ELEV      10
 747          RC   0.055   0.035   0.055    2070    0.02
 748          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 749          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 750          KK     OS9     SUB
 751          KM
 752          BA  0.0293
 753          LS              79
 754          UD  0.1778
              *

 755          KK  C1.OS9     ADD
 756          HC       2
              *

 757          KK      H2     SUB
 758          KM
 759          BA  0.0105
 760          LS              85      35
 761          UD  0.0889
              *

 762          KK    RBH2 RET BAS
 763          KM
 764          RS       1    STOR      -1
 765          SV       0     1.2    1.35     1.5
 766          SE       0     4.0     4.5     5.0
 767          SQ       0      26      82     181
              *
```

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

 768          KK  R2.OS9   ROUTE
 769          KM
 770          RS       2    ELEV      10
 771          RC   0.055   0.035   0.055    1390    0.02
 772          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 773          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 774          KK      E3     SUB
 775          KM
 776          BA  0.0099
 777          LS              85      35
 778          UD  0.1228
              *

 779          KK    RBE1 RET BAS
 780          KM        40 FOOT WEIR
 781          RS       1    STOR      -1
 782          SV       0    0.75   0.825     0.9
 783          SE       0       5     5.5     6.0
 784          SQ       0      31      75     155
              *

 785          KK  R3.OS9   ROUTE
 786          KM
 787          RS       1    ELEV      10
 788          RC   0.055   0.035   0.055    1120    0.02
 789          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 790          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 791          KK     S80     SUB
 792          KM
 793          BA  0.0580
 794          LS              85
 795          UD   0.166
              *

 796          KK  R1.OS4   ROUTE
 797          KM
 798          RS       1    ELEV      10
 799          RC   0.055   0.035   0.055     800    0.02
 800          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 801          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 802          KK     OS4     SUB
 803          KM
 804          BA  0.0075
 805          LS              79
 806          UD  0.0972
              *
```

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

 807          KK   C.OS4     ADD
 808          KM
 809          HC       2
              *

 810          KK      I1     SUB
 811          KM
 812          BA  0.0175
 813          LS              79
 814          UD  0.1078
              *

 815          KK    C.I1     ADD
 816          KM
 817          HC       2
              *

 818          KK    RBI2 RET BAS
 819          KM                RETENTION BASIN IS DRAINED BY 5 - 36 inch CORRUGATED METAL PIPES
 820          RS       1    STOR      -1
 821          SV       0    0.74   1.115
 822          SE       0       2       3
 823          SQ       0      95     175
              *

 824          KK    RBI3 RET BAS
 825          KM                RETENTION BASIN IS DRAINED BY 4 - 36 inch CORRUGATED METAL PIPES
 826          RS       1    STOR      -1
 827          SV       0    0.74   1.115
 828          SE       0       2       3
 829          SQ       0      76     140
              *

 830          KK  R10S10   ROUTE
 831          KM
 832          RS       2    ELEV      10
 833          RC   0.055   0.035   0.055    1600    0.02
 834          RX    48.5    51.5    91.5    94.0   106.0   108.5   148.5   151.5
 835          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 836          KK    OS10     SUB
 837          KM
 838          BA  0.0170
 839          LS              79
 840          UD  0.1445
              *

 841          KK      E1     SUB
 842          KM
 843          BA  0.0185
 844          LS              85      35
 845          UD  0.1111
              *
```

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

 846          KK  R2OS10   ROUTE
 847          KM
 848          RS       1    ELEV      10
 849          RC   0.055   0.035   0.055    1000    0.02
 850          RX    48.5    51.5    91.5    94.0   106.0   108.5   148.5   151.5
 851          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 852          KK  C.OS10     ADD
 853          KM
 854          HC       3
              *

 855          KK    RBE2 RET BAS
 856          KM
 857          RS       1    STOR      -1
 858          SV       0   0.336   0.504   0.672    0.84
 859          SE       0       2       3       4     5.0
 860          SQ       0      57     105     147     180
              *

 861          KK    RBE3 RET BAS
 862          KM
 863          RS       1    STOR      -1
 864          SV       0    0.45   0.675    0.90
 865          SE       0       2       3     4.0
 866          SQ       0      57     105     147
              *

 867          KK      F2     SUB
 868          KM
 869          BA  0.0091
 870          LS               85      35
 871          UD  0.1067
              *

 872          KK    C.F1     ADD
 873          KM
 874          HC       2
              *

 875          KK    RBF1 RET BAS
 876          KM                RETENTION BASIN IS DRAINED BY 4 - 36 INCH C.M. PIPES
 877          RS       1    STOR      -1
 878          SV       0    0.59    0.89    1.18
 879          SE       0       2       3     4.0
 880          SQ       0      76     140     196
              *
```

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

 881          KK      E2     SUB
 882          KM
 883          BA  0.0165
 884          LS              85      35
 885          UD  0.1106
              *

 886          KK    C.E2     ADD
 887          KM
 888          HC       2
              *

 889          KK    RBE4 RET BAS
 890          KM
 891          RS       1    STOR      -1
 892          SV       0   0.745    1.12    1.49
 893          SE       0       2       3     4.0
 894          SQ       0      57     105     147
              *

 895          KK  R4.OS9   ROUTE
 896          KM
 897          RS       1    ELEV      10
 898          RC   0.055   0.035   0.055     200    0.02
 899          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 900          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 901          KK     S94     SUB
 902          KM
 903          BA   0.132
 904          LS              86
 905          UD   0.186
              *

 906          KK    S100     SUB
 907          KM
 908          BA   0.148
 909          LS              86
 910          UD   0.196
              *

 911          KK   CS100     ADD
 912          KM
 913          HC       2
              *

 914          KK  R10S12   ROUTE
 915          KM
 916          RS       1    ELEV      10
 917          RC   0.055   0.035   0.055     900    0.02
 918          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 919          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

920           KK    OS12     SUB
921           KM
922           BA  0.0107
923           LS              79
924           UD  0.1056
              *

925           KK  C.OS12     ADD
926           KM
927           HC       2
              *

928           KK  R5.OS9   ROUTE
929           KM
930           RS       2    ELEV      10
931           RC   0.055   0.035   0.055    1410    0.02
932           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
933           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

934           KK  C2.OS9     ADD
935           KM
936           HC       5
              *

937           KK  R10S13   ROUTE
938           KM
939           RS       1    ELEV      10
940           RC   0.055   0.035   0.055     200    0.02
941           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
942           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

943           KK      F3     SUB
944           KM
945           BA  0.0031
946           LS              85      35
947           UD  0.0722
              *

948           KK    RBF3 RET BAS
949           KM
950           RS       1    STOR      -1
951           SV       0    0.34    0.41    0.48
952           SE       0     4.0     4.5     5.0
953           SQ       0      26      82     181
              *

954           KK  R20S13   ROUTE
955           KM
956           RS       1    ELEV      10
957           RC   0.055   0.035   0.055     150    0.02
958           RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
959           RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 960          KK  C.OS13     ADD
 961          KM
 962          HC       2
              *

 963          KK   ROS13   ROUTE
 964          KM   ROUTE C.OS13 THRU SUB-BASIN S220
 965          RS       2    ELEV      10
 966          RC   0.055   0.035   0.055    3030   0.018
 967          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 968          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 969          KK    S220
 970          KM   SUB-BASIN S220
 971          BA   0.079
 972          LS              85
 973          UD    0.10
              *

 974          KK    C220
 975          KM   COMBINE C.OS13/ROS13 & S220
 976          HC       2
              *

 977          KK    R220   ROUTE
 978          KM   ROUTE C220 THRU SUB-BASIN S232
 979          RS       1    ELEV      10
 980          RC   0.055   0.035   0.055     410   0.025
 981          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
 982          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *

 983          KK    S232
 984          KM   SUB-BASIN S232
 985          BA  0.0030
 986          LS              86
 987          UD    0.06
              *

 988          KK    C232
 989          KM   COMBINE C231, C220/R220, & S232
 990          HC       3
              *

 991          KK    R232   ROUTE
 992          KM   ROUTE C232 THRU SUB-BASIN S233
 993          RS       4    ELEV      10
 994          RC   0.055   0.035   0.055    5295   0.018
 995          RX    48.5    51.5    91.5      94     108   110.5   150.5   153.5
 996          RY    15.5    12.5    12.5      10      10    12.5    12.5    15.5
              *
```

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

 997          KK   S233A
 998          KM   SUB-BASIN S233A
 999          BA   0.067
1000          LS            86
1001          UD   0.112
              *
              *

1002          KK   C233A
1003          KM   COMBINE  C232/R232, & S233A
1004          HC       2
              *

1005          KK      B6
1006          KM   2 X 10' X 4' BOX
1007          RS       1    STOR      -1
1008          SV       0   0.055   0.224   0.602   1.420   2.801   4.630   6.829
1009          SE    2059    2060    2061    2062    2063    2064    2065    2066
1010          SQ       0      80     170     310     460     600     740     840
              *

1011          KK   R233A
1012          KM   ROUTE C233A THRU SUB-BASIN S233B
1013          RS       1    ELEV      -1
1014          RC   0.055   0.035   0.055    1700   0.020
1015          RX     955     994     995     999    1001    1012    1041    1058
1016          RY  2045.1    2044  2043.7    2043    2043  2043.7    2044  2044.7
              *

1017          KK   S233B     SUB
1018          KM   SUB-BASIN S233B
1019          BA   0.053
1020          LS           84.8
1021          UD   0.061
              *

1022          KK   C233B
1023          KM   COMBINE C233A/R233A & S233B
1024          HC       2
              *

1025          KK    NULL
1026          HC       2
              *

1027          KK    S255     SUB
1028          KM   SUB-BASIN S255
1029          BA   0.034
1030          LS            88.6
1031          UD   0.097
              *
```

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

1032          KK    S256     SUB
1033          KM   SUB-BASIN S256
1034          BA   0.025
1035          LS            88.4
1036          UD   0.081
              *

1037          KK      G1     SUB
1038          KM
1039          BA  0.0467
1040          LS              85      35
1041          UD  0.1928
              *

1042          KK    RBG1 RET BAS
1043          KM
1044          RS       1    STOR      -1
1045          SV       0     5.3    5.78    6.26
1046          SE       0     3.0     3.5     4.0
1047          SQ       0      21      76     176
              *
              *

1048          KK      H1     SUB
1049          KM
1050          BA  0.0125
1051          LS              85      35
1052          UD  0.1011
              *

1053          KK    RBH1 RET BAS
1054          KM
1055          RS       1    STOR      -1
1056          SV       0    1.28   1.465    1.65
1057          SE       0     3.5     4.0     4.5
1058          SQ       0   0.001    0.01     0.1
              *

1059          KK    S200
1060          KM   SUB-BASIN S200
1061          BA    0.77
1062          LS              85
1063          UD    0.70
              *

1064          KK    R200
1065          KM   ROUTE S200 THRU SUB-BASIN S201
1066          RS       9    ELEV      10
1067          RC    .055    .035    .055   13650   0.019
1068          RX    48.5    51.5   101.5     104     164   166.5   216.5   219.5
1069          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *
```

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

1107          KK    C203
1108          KM   COMBINE DIV20R/R20R & S203
1109          HC       2
              *

1110          KK  DIV21R DIVERT
1111          DT  DIV21L
1112          DI       0     100    1000   10000
1113          DQ       0      75     750    7500
              *

1114          KK    R21R
1115          KM   ROUTE DIV21R THRU SUB-BASIN S210
1116          RS       1    ELEV      10
1117          RC    .055    .035    .055    2190   0.017
1118          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1119          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1120          KK    S210
1121          KM   SUB-BASIN S210
1122          BA   0.052
1123          LS             79
1124          UD    0.07
              *

1125          KK    C210
1126          KM   COMBINE DIV21R/R21R & S210
1127          HC       2
              *

1128          KK  DIV24L DIVERT
1129          DT  DIV24R
1130          DI       0     100    1000   10000
1131          DQ       0      10     100    1000
              *

1132          KK    R210
1133          KM   ROUTE C210 THRU SUB-BASIN S211
1134          RS       4    ELEV      10
1135          RC    .055    .035    .055    6150   0.018
1136          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1137          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1138          KK   S211A
1139          KM   SUB-BASIN S211A
1140          BA   0.093
1141          LS           85.3
1142          UD   0.116
              *
              *
```

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

1143          KK   C211A
1144          KM   COMBINE C210/R210 & S211A
1145          HC       2
              *

1146          KK      B8
1147          KM   10' X 3' BOX
1148          RS       1    STOR      -1
1149          SV       0   0.043   0.132   0.226   0.326   0.678   1.583   2.974
1150          SE    2058    2059    2060    2061    2062    2063    2064    2065
1151          SQ       0      30      85     150     210     260     300     350
              *

1152          KK   R211A
1153          KM   ROUTE C211A THRU SUB-BASIN S211B
1154          RS       2    ELEV      -1
1155          RC   0.055   0.035   0.055    2700   0.021
1156          RX     955     981     993     999    1001    1007    1050    1033
1157          RY  2049.9    2048  2046.3    2046    2046  2046.3    2048  2050.6
              *

1158          KK   S211B     SUB
1159          KM   SUB-BASIN S211B
1160          BA   0.057
1161          LS            84.8
1162          UD   0.076
              *

1163          KK   C211B
1164          KM   COMBINE C211A/R211A, & S211B
1165          HC       2
              *

1166          KK    NULL
1167          HC       2
              *

1168          KK  RET24R RETURN
1169          DR  DIV24R
              *

1170          KK    R24R
1171          KM   ROUTE DIV24R THRU SUB-BASIN S212
1172          RS       4    ELEV      10
1173          RC    .055    .035    .055    5490   0.020
1174          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1175          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *
```

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

1176          KK   S212A
1177          KM   SUB-BASIN S212A
1178          BA   0.011
1179          LS           82.4
1180          UD   0.039
              *
              *

1181          KK   C212A
1182          KM   COMBINE DIV24R/R24R, & S212A
1183          HC       2
              *

1184          KK      B7
1185          KM   1 X 24" CMP
1186          RS       1    STOR      -1
1187          SV       0   0.040   0.170   0.431   1.015   2.019   3.328   4.880
1188          SE    2104    2105    2106    2107    2108    2109    2110    2111
1189          SQ       0       4      13      21      26      30      35      38
              *

1190          KK   R212A
1191          KM   ROUTE C212A THRU SUB-BASIN S212B
1192          RS       3    ELEV      -1
1193          RC   0.055   0.035   0.055    4530   0.019
1194          RX     868     956     997     999    1001    1008    1023    1050
1195          RY    2084    2083    2080    2080    2080    2080    2081  2082.5
              *

1196          KK   S212B     SUB
1197          KM   SUB-BASIN S211B
1198          BA   0.073
1199          LS           84.8
1200          UD   0.143
              *

1201          KK   C212B
1202          KM   COMBINE C212A/R212A & S212B
1203          HC       2
              *

1204          KK    NULL
1205          HC       2
              *

1206          KK  RET21L RETURN
1207          DR  DIV21L
              *
```

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

1208          KK    R21L
1209          KM   ROUTE DIV21L THRU SUB-BASIN S290
1210          RS       2    ELEV      10
1211          RC    .055    .035    .055    2475   0.017
1212          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1213          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1214          KK    S290
1215          KM   SUB-BASIN S290
1216          BA   0.072
1217          LS             77
1218          UD    0.08
              *

1219          KK    C290
1220          KM   COMBINE DIV21L/R21L & S290
1221          HC       2
              *

1222          KK    R290
1223          KM   ROUTE C290 THRU SUB-BASIN S291
1224          RS       1    ELEV      10
1225          RC    .055    .035    .055    2135   0.021
1226          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1227          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1228          KK   S291A
1229          KM   SUB-BASIN S291A
1230          BA   0.038
1231          LS           85.1
1232          UD    0.05
              *
              *

1233          KK   C291A
1234          KM   COMBINE C290/R290 & S291A
1235          HC       2
              *

1236          KK     B10
1237          KM   3 X 10' X 5' BOXES
1238          RS       1    STOR      -1
1239          SV       0   0.100   0.399   0.920   1.639   2.511   3.532
1240          SE    2089    2090    2091    2092    2093    2094    2095
1241          SQ       0     120     249     480     720     960    1230
              *
```

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

1242          KK   R291A
1243          KM   ROUTE S291A THRU SUB-BASIN S291B
1244          RS       1    ELEV      -1
1245          RC   0.055   0.035   0.055     750   0.021
1246          RX     954     969     998     999    1001    1007    1175    1224
1247          RY  2089.8    2090  2089.8  2089.8  2089.8  2089.8    2098  2090.3
              *

1248          KK   S291B     SUB
1249          KM   SUB-BASIN S291B
1250          BA   0.017
1251          LS            84.8
1252          UD   0.034
              *

1253          KK   C291A B
1254          KM   COMBINE C291A/R291A & S291B
1255          HC       2
              *

1256          KK    NULL
1257          HC       2
              *
              *

1258          KK    S300
1259          KM   SUB-BASIN S300
1260          BA  0.0078
1261          LS              77
1262          UD    0.06
              *

1263          KK    R300
1264          KM   ROUTE S300 THRU SUB-BASIN S301
1265          RS       1    ELEV      10
1266          RC    .055    .035    .055    1355   0.018
1267          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1268          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1269          KK    S301
1270          KM   SUB-BASIN S301
1271          BA   0.012
1272          LS            83.4
1273          UD    0.06
              *
              *

1274          KK    C301
1275          KM   COMBINE S300/R300 & S301
1276          HC       2
              *
```

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

1277          KK    S310
1278          KM   SUB-BASIN S310
1279          BA   0.011
1280          LS              77
1281          UD    0.06
              *

1282          KK    R310
1283          KM   ROUTE S310 THRU SUB-BASIN S311
1284          RS       1    ELEV      10
1285          RC    .055    .035    .055    1470   0.020
1286          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1287          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1288          KK    S311
1289          KM   SUB-BASIN S311
1290          BA   0.012
1291          LS            79.7
1292          UD    0.06
              *

1293          KK    C311
1294          KM   COMBINE C301, S310/R310, & S311
1295          HC       3
              *

1296          KK      B9
1297          KM   1 X 24" CMP
1298          RS       1    STOR      -1
1299          SV       0   0.035   0.113   0.280   0.700   1.418   2.414   3.762   5.558
1300          SE    2088    2089    2090    2091    2092    2093    2094    2095    2096
1301          SQ       0       4      13      21      26      30      35      38      42
              *

1302          KK    R311
1303          KM   ROUTE C311 THRU SUB-BASIN S302
1304          RS       1    ELEV      10
1305          RC    .055    .035    .055     765   0.026
1306          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1307          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1308          KK    S302
1309          KM   SUB-BASIN S302
1310          BA   0.012
1311          LS              82
1312          UD    0.06
              *
```

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

1313          KK    C302
1314          KM   COMBINE  C311/R311 & S302
1315          HC       2
              *

1316          KK  DIV22R DIVERT
1317          DT  DIV22L
1318          DI       0     100    1000   10000
1319          DQ       0      50     500    5000
              *

1320          KK    R22R
1321          KM   ROUTE DIV22R THRU SUB-BASIN S304
1322          RS       1    ELEV      10
1323          RC    .055    .035    .055     650   0.015
1324          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1325          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1326          KK    S304
1327          KM   SUB-BASIN S304
1328          BA   .0040
1329          LS             84
1330          UD    0.06
              *

1331          KK    C304
1332          KM   COMBINE  DIV22R/R22R & S304
1333          HC       2
              *

1334          KK  DIV23R DIVERT
1335          DT  DIV23L
1336          DI       0     100    1000   10000
1337          DQ       0      75     750    7500
              *
              *

1338          KK    R23R
1339          KM   ROUTE DIV23R THRU SUB-BASIN S306
1340          RS       1    ELEV      10
1341          RC    .055    .035    .055    1110   0.018
1342          RX    52.5    55.5    95.5      98     102   104.5   144.5   147.5
1343          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1344          KK    S306
1345          KM   SUB-BASIN S306
1346          BA   .0091
1347          LS           80.9
1348          UD    0.06
              *
```

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

1349          KK    C306
1350          KM   COMBINE  DIV23R/R23R & S306
1351          HC       2
              *

1352          KK    NULL
1353          HC       2
              *

1354          KK  RET23L RETURN
1355          DR  DIV23L
              *

1356          KK    R23L
1357          KM   ROUTE DIV23L THRU SUB-BASIN S305
1358          RS       1    ELEV      10
1359          RC    .055    .035    .055     580   0.017
1360          RX    48.5    51.5    91.5      94     106   108.5   148.5   151.5
1361          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *

1362          KK    S305
1363          KM   SUB-BASIN S305
1364          BA   .0039
1365          LS             79
1366          UD    0.06
              *

1367          KK    C305
1368          KM   COMBINE  DIV23L/R23L & S305
1369          HC       2
              *

1370          KK    NULL
1371          HC       2
              *

1372          KK  RET22L RETURN
1373          DR  DIV22L
              *

1374          KK    R22L
1375          KM   ROUTE DIV22L THRU SUB-BASIN S303
1376          RS       1    ELEV      10
1377          RC    .055    .035    .055     910   0.016
1378          RX    51.5    54.5    94.5      97     103   105.5   145.5   148.5
1379          RY      20    12.5    12.5      10      10    12.5    12.5      20
              *
```

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

1380          KK    S303
1381          KM   SUB-BASIN S303
1382          BA    .013
1383          LS            80.6
1384          UD    0.06
              *

1385          KK    C303
1386          KM   COMBINE  DIV22L/R22L & S303
1387          HC       2
              *

1388          KK    S307
1389          KM   SUB-BASIN S307
1390          BA    .016
1391          LS            89.1
1392          UD    0.06
              *
              *
              *
1393          ZZ
```

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	S30	651.	3.50	116.	29.	28.	0.42		
ROUTED TO	R30	621.	3.58	116.	29.	28.	0.42	12.69	3.58
HYDROGRAPH AT	S32	82.	3.33	11.	3.	3.	0.07		
2 COMBINED AT	C32	680.	3.58	127.	32.	31.	0.49		
HYDROGRAPH AT	S40	1137.	4.08	345.	87.	84.	1.60		
ROUTED TO	R48	1079.	4.42	344.	87.	84.	1.60	13.57	4.42
HYDROGRAPH AT	S50	693.	3.58	138.	35.	34.	0.53		
2 COMBINED AT	C51	1315.	4.25	479.	122.	118.	2.13		
ROUTED TO	R51	1306.	4.33	479.	122.	118.	2.13	13.67	4.33
HYDROGRAPH AT	S54	57.	3.33	8.	2.	2.	0.04		
3 COMBINED AT	C54	1696.	3.75	612.	156.	150.	2.67		
ROUTED TO	R54	1651.	3.92	612.	156.	150.	2.67	12.65	3.92
HYDROGRAPH AT	S56	135.	3.50	23.	6.	6.	0.17		
2 COMBINED AT	C56	1742.	3.83	635.	162.	156.	2.84		
ROUTED TO	R56	1735.	3.92	634.	162.	156.	2.84	12.60	3.92
HYDROGRAPH AT	S110	141.	3.42	20.	5.	5.	0.11		
ROUTED TO	R110	131.	3.50	20.	5.	5.	0.11	10.55	3.50
HYDROGRAPH AT	S280	169.	3.08	11.	3.	3.	0.06		
3 COMBINED AT	C280	1816.	3.83	666.	170.	163.	3.00		
DIVERSION TO	DIV26R	1362.	3.83	500.	127.	123.	3.00		
HYDROGRAPH AT	DIV26L	454.	3.83	167.	42.	41.	3.00		
ROUTED TO	R26L	454.	3.92	166.	42.	41.	3.00	11.49	3.92
HYDROGRAPH AT	S281	30.	3.08	2.	1.	0.	0.01		
2 COMBINED AT	C281	456.	3.92	169.	43.	41.	3.01		
HYDROGRAPH AT	S60	1489.	4.00	432.	109.	105.	1.81		
DIVERSION TO	DIV4L	714.	4.00	233.	59.	57.	1.81		
HYDROGRAPH AT	DIV4R	775.	4.00	198.	50.	48.	1.81		

HYDROGRAPH AT	S70	86.	3.17	8.	2.	2.	0.03		
2 COMBINED AT	C70	781.	4.00	206.	52.	50.	1.84		
ROUTED TO	R70	750.	4.33	205.	52.	50.	1.84	12.93	4.33
HYDROGRAPH AT	S62	226.	3.58	39.	10.	9.	0.19		
2 COMBINED AT	C62	809.	4.33	244.	62.	59.	2.03		
ROUTED TO	R62	802.	4.42	244.	62.	59.	2.03	12.94	4.42
HYDROGRAPH AT	S270	175.	3.17	14.	3.	3.	0.07		
3 COMBINED AT	C270	1205.	4.42	426.	108.	104.	5.11		
DIVERSION TO	DIV27R	904.	4.42	320.	81.	78.	5.11		
HYDROGRAPH AT	DIV27L	301.	4.42	107.	27.	26.	5.11		
ROUTED TO	R27L	301.	4.42	107.	27.	26.	5.11	11.98	4.42
HYDROGRAPH AT	S271	66.	3.08	4.	1.	1.	0.02		
2 COMBINED AT	C271	303.	4.42	111.	28.	27.	5.13		
ROUTED TO	R271	303.	4.50	111.	28.	27.	5.13	11.72	4.50
HYDROGRAPH AT	S272	45.	3.08	3.	1.	1.	0.02		
HYDROGRAPH AT	S260	270.	3.25	28.	7.	7.	0.14		
ROUTED TO	R260	257.	3.33	28.	7.	7.	0.14	11.66	3.33
HYDROGRAPH AT	S261A	38.	3.08	2.	1.	1.	0.01		
4 COMBINED AT	C261A	391.	3.33	145.	37.	35.	5.31		
ROUTED TO	B11	379.	3.42	145.	37.	35.	5.31	2094.53	3.42
ROUTED TO	R261A	374.	3.50	145.	37.	35.	5.31	2085.24	3.50
HYDROGRAPH AT	S261B	107.	3.08	6.	2.	1.	0.03		
2 COMBINED AT	C272	387.	3.50	151.	38.	37.	5.34		
HYDROGRAPH AT	DIV4L	714.	4.00	233.	59.	57.	0.00		
ROUTED TO	R1.0S2	715.	4.08	233.	59.	57.	0.00	13.21	4.08
HYDROGRAPH AT	0S2	48.	3.25	5.	1.	1.	0.03		
2 COMBINED AT	C.0S2	719.	4.08	238.	60.	58.	0.03		
DIVERSION TO	DIV5L	355.	4.08	122.	30.	29.	0.03		
HYDROGRAPH AT	DIV5R	364.	4.08	116.	30.	29.	0.03		
ROUTED TO	R10S14	363.	4.08	116.	30.	29.	0.03	12.56	4.08

HYDROGRAPH AT	OS14	8.	3.17	1.	0.	0.	0.00		
HYDROGRAPH AT	D1	34.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBD1	16.	3.33	3.	1.	1.	0.01	2.46	3.33
3 COMBINED AT	C.OS14	369.	4.08	120.	31.	30.	0.04		
ROUTED TO	ROS14	362.	4.25	120.	31.	30.	0.04	12.52	4.25
HYDROGRAPH AT	S250	161.	3.17	13.	3.	3.	0.08		
2 COMBINED AT	C250	372.	4.25	133.	34.	33.	0.13		
ROUTED TO	R250	368.	4.25	132.	34.	33.	0.13	12.74	4.25
HYDROGRAPH AT	S252	39.	3.08	3.	1.	1.	0.01		
HYDROGRAPH AT	S251	66.	3.17	5.	1.	1.	0.03		
ROUTED TO	R251	58.	3.17	5.	1.	1.	0.03	11.00	3.17
HYDROGRAPH AT	S253	51.	3.08	3.	1.	1.	0.02		
4 COMBINED AT	C253	376.	4.25	144.	37.	35.	0.18		
ROUTED TO	R253	371.	4.42	144.	37.	35.	0.18	12.36	4.42
HYDROGRAPH AT	S254A	125.	3.08	8.	2.	2.	0.04		
2 COMBINED AT	C254A	375.	4.42	151.	39.	37.	0.22		
ROUTED TO	B2	371.	4.50	151.	39.	37.	0.22	2096.03	4.50
ROUTED TO	R254A	371.	4.58	151.	39.	37.	0.22	2085.23	4.58
HYDROGRAPH AT	S254B	101.	3.08	7.	2.	2.	0.04		
2 COMBINED AT	C254B	374.	4.58	159.	40.	39.	0.26		
ROUTED TO	B1	348.	4.83	159.	40.	39.	0.26	2061.97	4.83
ROUTED TO	R254B	348.	4.83	159.	40.	39.	0.26	2049.80	4.83
HYDROGRAPH AT	S254C	29.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C254c	349.	4.83	160.	41.	39.	0.26		
2 COMBINED AT	C254b	675.	3.50	311.	79.	76.	5.60		
HYDROGRAPH AT	RET5L	355.	4.08	122.	30.	29.	0.00		
ROUTED TO	R1.OS3	355.	4.08	122.	30.	29.	0.00	12.55	4.08
HYDROGRAPH AT	OS3	37.	3.17	3.	1.	1.	0.02		
2 COMBINED AT	C.OS3	358.	4.08	125.	31.	30.	0.02		
DIVERSION TO	DIV11L	179.	4.08	63.	16.	15.	0.02		

2 COMBINED AT	C246B	76.	5.08	52.	13.	13.	0.19		
2 COMBINED AT	NULL	743.	4.67	363.	92.	89.	5.79		
HYDROGRAPH AT	RET25R	112.	3.17	41.	10.	10.	0.00		
ROUTED TO	R25R	98.	3.42	41.	10.	10.	0.00	11.22	3.42
HYDROGRAPH AT	S247A	86.	3.08	7.	2.	2.	0.03		
2 COMBINED AT	C247A	129.	3.33	48.	12.	12.	0.03		
ROUTED TO	B12	60.	5.33	47.	12.	12.	0.03	2080.92	5.33
ROUTED TO	R247A	60.	5.58	47.	12.	12.	0.03	2057.21	5.42
HYDROGRAPH AT	S247B	121.	3.17	9.	2.	2.	0.05		
2 COMBINED AT	C247B	131.	3.17	55.	14.	14.	0.08		
2 COMBINED AT	NULL	805.	4.67	418.	106.	103.	5.87		
HYDROGRAPH AT	S242	58.	3.17	4.	1.	1.	0.03		
ROUTED TO	R242	36.	3.42	4.	1.	1.	0.03	10.67	3.42
HYDROGRAPH AT	S248A	94.	3.08	7.	2.	2.	0.03		
2 COMBINED AT	C248A	95.	3.08	11.	3.	3.	0.06		
ROUTED TO	B4	48.	3.50	11.	3.	3.	0.06	2111.41	3.50
ROUTED TO	R248A	48.	3.58	11.	3.	3.	0.06	2096.66	3.58
HYDROGRAPH AT	S248B	77.	3.08	4.	1.	1.	0.02		
2 COMBINED AT	C248B	100.	3.08	15.	4.	4.	0.08		
ROUTED TO	B3	32.	4.17	15.	4.	4.	0.08	2089.48	4.17
ROUTED TO	R248B	32.	4.33	15.	4.	4.	0.08	2066.28	4.33
HYDROGRAPH AT	S248C	89.	3.17	7.	2.	2.	0.03		
2 COMBINED AT	C248C	94.	3.17	21.	6.	5.	0.12		
2 COMBINED AT	NULL	840.	4.67	439.	112.	108.	5.99		
HYDROGRAPH AT	RET11L	179.	4.08	63.	16.	15.	0.00		
ROUTED TO	R1.OS6	179.	4.08	63.	16.	15.	0.00	11.73	4.08
HYDROGRAPH AT	OS6	3.	3.08	0.	0.	0.	0.00		
2 COMBINED AT	C.OS6	179.	4.08	63.	16.	15.	0.00		
ROUTED TO	R1.OS7	179.	4.08	63.	16.	15.	0.00	11.73	4.08
HYDROGRAPH AT	OS7	9.	3.17	1.	0.	0.	0.00		

2 COMBINED AT	C.OS7	179.	4.08	63.	16.	15.	0.01		
ROUTED TO	ROS7	178.	4.17	63.	16.	15.	0.01	11.77	4.17
HYDROGRAPH AT	S230	132.	3.17	11.	3.	3.	0.08		
2 COMBINED AT	C230	187.	4.17	75.	19.	18.	0.08		
ROUTED TO	R230	187.	4.17	75.	19.	18.	0.08	11.72	4.17
HYDROGRAPH AT	S231	19.	3.08	1.	0.	0.	0.01		
2 COMBINED AT	C231	188.	4.17	76.	19.	18.	0.09		
HYDROGRAPH AT	S90	139.	3.17	13.	3.	3.	0.06		
ROUTED TO	R10S11	142.	3.25	13.	3.	3.	0.06	11.50	3.25
HYDROGRAPH AT	OS11	8.	3.17	1.	0.	0.	0.00		
2 COMBINED AT	C.OS11	148.	3.25	14.	3.	3.	0.07		
ROUTED TO	R1.OS8	152.	3.25	14.	3.	3.	0.07	11.56	3.25
HYDROGRAPH AT	OS8	26.	3.17	2.	1.	1.	0.01		
2 COMBINED AT	C.OS8	174.	3.25	16.	4.	4.	0.08		
ROUTED TO	R1.OS9	162.	3.33	16.	4.	4.	0.08	11.62	3.33
HYDROGRAPH AT	OS9	46.	3.25	5.	1.	1.	0.03		
2 COMBINED AT	C1.OS9	205.	3.25	21.	5.	5.	0.11		
HYDROGRAPH AT	H2	32.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBH2	12.	3.33	3.	1.	1.	0.01	1.87	3.33
ROUTED TO	R2.OS9	12.	3.42	3.	1.	1.	0.01	10.33	3.42
HYDROGRAPH AT	E3	28.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBE1	16.	3.33	3.	1.	1.	0.01	2.54	3.33
ROUTED TO	R3.OS9	15.	3.42	3.	1.	1.	0.01	10.38	3.42
HYDROGRAPH AT	S80	121.	3.25	12.	3.	3.	0.06		
ROUTED TO	R1.OS4	123.	3.25	12.	3.	3.	0.06	11.38	3.25
HYDROGRAPH AT	OS4	15.	3.17	1.	0.	0.	0.01		
2 COMBINED AT	C.OS4	134.	3.25	13.	3.	3.	0.07		
HYDROGRAPH AT	I1	34.	3.17	3.	1.	1.	0.02		
2 COMBINED AT	C.I1	161.	3.25	16.	4.	4.	0.08		
ROUTED TO	RBI2	144.	3.33	16.	4.	4.	0.08	2.62	3.33

ROUTED TO	RBI3	129.	3.42	16.	4.	4.	0.08	2.83	3.42
ROUTED TO	R10S10	130.	3.42	16.	4.	4.	0.08	11.42	3.42
HYDROGRAPH AT	OS10	28.	3.25	3.	1.	1.	0.02		
HYDROGRAPH AT	E1	55.	3.17	5.	1.	1.	0.02		
ROUTED TO	R20S10	49.	3.17	5.	1.	1.	0.02	10.79	3.17
3 COMBINED AT	C.OS10	167.	3.42	23.	6.	6.	0.12		
ROUTED TO	RBE2	158.	3.50	23.	6.	6.	0.12	4.34	3.50
ROUTED TO	RBE3	154.	3.50	23.	6.	6.	0.12	4.17	3.50
HYDROGRAPH AT	F2	27.	3.17	2.	1.	1.	0.01		
2 COMBINED AT	C.F1	160.	3.50	25.	6.	6.	0.13		
ROUTED TO	RBF1	156.	3.58	25.	6.	6.	0.13	3.28	3.58
HYDROGRAPH AT	E2	49.	3.17	4.	1.	1.	0.02		
2 COMBINED AT	C.E2	164.	3.58	29.	7.	7.	0.14		
ROUTED TO	RBE4	156.	3.67	29.	7.	7.	0.14	4.20	3.67
ROUTED TO	R4.OS9	156.	3.67	29.	7.	7.	0.14	11.58	3.67
HYDROGRAPH AT	S94	276.	3.25	28.	7.	7.	0.13		
HYDROGRAPH AT	S100	301.	3.25	31.	8.	8.	0.15		
2 COMBINED AT	CS100	577.	3.25	59.	15.	14.	0.28		
ROUTED TO	R10S12	544.	3.33	59.	15.	14.	0.28	12.95	3.33
HYDROGRAPH AT	OS12	21.	3.17	2.	0.	0.	0.01		
2 COMBINED AT	C.OS12	555.	3.33	61.	15.	15.	0.29		
ROUTED TO	R5.OS9	527.	3.42	61.	15.	15.	0.29	12.92	3.42
5 COMBINED AT	C2.OS9	837.	3.33	116.	29.	28.	0.57		
ROUTED TO	R10S13	832.	3.42	116.	29.	28.	0.57	13.36	3.42
HYDROGRAPH AT	F3	10.	3.08	1.	0.	0.	0.00		
ROUTED TO	RBF3	7.	3.25	1.	0.	0.	0.00	1.05	3.25
ROUTED TO	R20S13	7.	3.25	1.	0.	0.	0.00	10.22	3.25
2 COMBINED AT	C.OS13	837.	3.42	117.	29.	28.	0.57		
ROUTED TO	ROS13	790.	3.50	117.	29.	28.	0.57	13.36	3.50
HYDROGRAPH AT	S220	206.	3.17	16.	4.	4.	0.08		

2 COMBINED AT	C220	837.	3.50	133.	33.	32.	0.65		
ROUTED TO	R220	837.	3.50	133.	33.	32.	0.65	13.25	3.50
HYDROGRAPH AT	S232	9.	3.08	1.	0.	0.	0.00		
3 COMBINED AT	C232	984.	3.50	209.	52.	51.	0.74		
ROUTED TO	R232	915.	3.75	209.	52.	51.	0.74	13.41	3.75
HYDROGRAPH AT	S233A	176.	3.17	14.	4.	3.	0.07		
2 COMBINED AT	C233A	933.	3.75	223.	56.	54.	0.80		
ROUTED TO	B6	832.	3.92	223.	56.	54.	0.80	2065.92	3.92
ROUTED TO	R233A	824.	3.92	223.	56.	54.	0.80	2045.55	3.92
HYDROGRAPH AT	S233B	157.	3.08	11.	3.	3.	0.05		
2 COMBINED AT	C233B	833.	3.92	234.	59.	57.	0.86		
2 COMBINED AT	NULL	1618.	3.92	673.	171.	164.	6.84		
HYDROGRAPH AT	S255	102.	3.17	8.	2.	2.	0.03		
HYDROGRAPH AT	S256	74.	3.17	6.	1.	1.	0.03		
HYDROGRAPH AT	G1	109.	3.25	12.	3.	3.	0.05		
ROUTED TO	RBG1	16.	3.83	10.	3.	3.	0.05	2.23	3.83
HYDROGRAPH AT	H1	38.	3.17	3.	1.	1.	0.01		
ROUTED TO	RBH1	0.	6.17	0.	0.	0.	0.01	4.34	6.25
HYDROGRAPH AT	S200	673.	3.83	156.	39.	38.	0.77		
ROUTED TO	R200	652.	4.17	156.	39.	38.	0.77	11.44	4.17
HYDROGRAPH AT	S201	1512.	3.58	263.	66.	63.	1.25		
2 COMBINED AT	C201	1525.	3.58	418.	105.	101.	2.02		
ROUTED TO	R201	1509.	3.67	418.	105.	101.	2.02	12.42	3.67
HYDROGRAPH AT	S202	801.	3.17	76.	19.	18.	0.36		
2 COMBINED AT	C202	1685.	3.58	493.	124.	119.	2.38		
DIVERSION TO	DIV20L	300.	3.58	82.	20.	20.	2.38		
HYDROGRAPH AT	DIV20R	1385.	3.58	411.	103.	99.	2.38		
ROUTED TO	R20R	1353.	3.83	411.	103.	99.	2.38	12.31	3.83
HYDROGRAPH AT	S203	642.	3.33	77.	19.	18.	0.43		
2 COMBINED AT	C203	1573.	3.67	487.	122.	118.	2.81		

DIVERSION TO	DIV21L	1180.	3.67	365.	92.	88.	2.81		
HYDROGRAPH AT	DIV21R	393.	3.67	122.	31.	29.	2.81		
ROUTED TO	R21R	383.	3.83	122.	31.	29.	2.81	13.10	3.83
HYDROGRAPH AT	S210	105.	3.08	8.	2.	2.	0.05		
2 COMBINED AT	C210	391.	3.83	129.	33.	31.	2.86		
DIVERSION TO	DIV24R	39.	3.83	13.	3.	3.	2.86		
HYDROGRAPH AT	DIV24L	352.	3.83	117.	29.	28.	2.86		
ROUTED TO	R210	334.	4.25	116.	29.	28.	2.86	12.96	4.25
HYDROGRAPH AT	S211A	234.	3.17	19.	5.	5.	0.09		
2 COMBINED AT	C211A	347.	4.17	134.	34.	33.	2.96		
ROUTED TO	B8	326.	4.50	134.	34.	33.	2.96	2064.52	4.50
ROUTED TO	R211A	325.	4.58	134.	34.	33.	2.96	2047.79	4.58
HYDROGRAPH AT	S211B	148.	3.17	11.	3.	3.	0.06		
2 COMBINED AT	C211B	332.	4.58	145.	37.	36.	3.01		
2 COMBINED AT	NULL	332.	4.58	145.	37.	36.	3.02		
HYDROGRAPH AT	RET24R	39.	3.83	13.	3.	3.	0.00		
ROUTED TO	R24R	38.	4.00	13.	3.	3.	0.00	10.66	4.00
HYDROGRAPH AT	S212A	35.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C212A	40.	4.00	15.	4.	4.	0.01		
ROUTED TO	B7	27.	4.83	15.	4.	4.	0.01	2108.27	4.83
ROUTED TO	R212A	27.	5.17	15.	4.	4.	0.01	2080.50	5.17
HYDROGRAPH AT	S212B	160.	3.17	15.	4.	4.	0.07		
2 COMBINED AT	C212B	161.	3.17	29.	7.	7.	0.08		
2 COMBINED AT	NULL	416.	3.25	174.	44.	43.	3.11		
HYDROGRAPH AT	RET21L	1180.	3.67	365.	92.	88.	0.00		
ROUTED TO	R21L	1177.	3.75	365.	92.	88.	0.00	13.86	3.75
HYDROGRAPH AT	S290	133.	3.17	10.	3.	2.	0.07		
2 COMBINED AT	C290	1190.	3.75	375.	94.	91.	0.07		
ROUTED TO	R290	1185.	3.83	374.	94.	91.	0.07	13.74	3.83
HYDROGRAPH AT	S291A	127.	3.08	8.	2.	2.	0.04		

2 COMBINED AT	C291A	1192.	3.75	382.	96.	93.	0.11		
ROUTED TO	B10	1191.	3.83	382.	96.	93.	0.11	2094.85	3.83
ROUTED TO	R291A	1188.	3.83	381.	96.	93.	0.11	2092.14	3.83
HYDROGRAPH AT	S291B	60.	3.08	3.	1.	1.	0.02		
2 COMBINED AT	C291~~A~~B	1191.	3.83	385.	97.	94.	0.13		
2 COMBINED AT	NULL	1485.	3.92	559.	142.	136.	3.24		
HYDROGRAPH AT	S300	16.	3.08	1.	0.	0.	0.01		
ROUTED TO	R300	11.	3.17	1.	0.	0.	0.01	10.50	3.17
HYDROGRAPH AT	S301	34.	3.08	2.	1.	1.	0.01		
2 COMBINED AT	C301	40.	3.08	3.	1.	1.	0.02		
HYDROGRAPH AT	S310	22.	3.08	2.	0.	0.	0.01		
ROUTED TO	R310	16.	3.17	2.	0.	0.	0.01	10.33	3.17
HYDROGRAPH AT	S311	28.	3.08	2.	0.	0.	0.01		
3 COMBINED AT	C311	78.	3.17	7.	2.	2.	0.04		
ROUTED TO	B9	29.	3.42	7.	2.	2.	0.04	2092.67	3.42
ROUTED TO	R311	29.	3.42	7.	2.	2.	0.04	10.53	3.42
HYDROGRAPH AT	S302	32.	3.08	2.	1.	1.	0.01		
2 COMBINED AT	C302	49.	3.17	9.	2.	2.	0.05		
DIVERSION TO	DIV22L	25.	3.17	5.	1.	1.	0.05		
HYDROGRAPH AT	DIV22R	25.	3.17	5.	1.	1.	0.05		
ROUTED TO	R22R	24.	3.17	5.	1.	1.	0.05	10.55	3.17
HYDROGRAPH AT	S304	12.	3.08	1.	0.	0.	0.00		
2 COMBINED AT	C304	33.	3.17	5.	1.	1.	0.06		
DIVERSION TO	DIV23L	25.	3.17	4.	1.	1.	0.06		
HYDROGRAPH AT	DIV23R	8.	3.17	1.	0.	0.	0.06		
ROUTED TO	R23R	7.	3.25	1.	0.	0.	0.06	10.47	3.25
HYDROGRAPH AT	S306	23.	3.08	2.	0.	0.	0.01		
2 COMBINED AT	C306	26.	3.08	3.	1.	1.	0.07		
2 COMBINED AT	NULL	1490.	3.92	562.	142.	137.	3.30		
HYDROGRAPH AT	RET23L	25.	3.17	4.	1.	1.	0.00		

ROUTED TO	R23L	23.	3.25	4.	1.	1.	0.00	10.53	3.25
HYDROGRAPH AT	S305	9.	3.08	1.	0.	0.	0.00		
2 COMBINED AT	C305	29.	3.17	5.	1.	1.	0.00		
2 COMBINED AT	NULL	1502.	3.92	566.	143.	138.	3.31		
HYDROGRAPH AT	RET22L	25.	3.17	5.	1.	1.	0.00		
ROUTED TO	R22L	24.	3.17	5.	1.	1.	0.00	10.82	3.17
HYDROGRAPH AT	S303	32.	3.08	2.	1.	1.	0.01		
2 COMBINED AT	C303	51.	3.17	7.	2.	2.	0.01		
HYDROGRAPH AT	S307	57.	3.08	4.	1.	1.	0.02		

*** NORMAL END OF HEC-1 ***

Appendix E – HEC-RAS Pre-development

West A

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	3200	1693.00	2121.70	2126.05	2126.07	2127.99	0.016203	12.60	160.90	42.00	1.06
Reach-1	3100	1693.00	2119.30	2123.26	2123.96	2125.74	0.031027	16.38	200.85	196.94	1.45
Reach-1	3000	1693.00	2117.70	2120.43	2120.91	2121.89	0.038589	14.27	217.59	203.76	1.52
Reach-1	2800	1698.00	2113.80	2116.94	2116.94	2118.24	0.025495	12.71	213.02	131.27	1.26
Reach-1	2600	1698.00	2110.40	2114.18	2114.25	2114.80	0.011648	9.73	362.45	306.80	0.88
Reach-1	2400	1698.00	2106.40	2109.69	2110.10	2111.00	0.027735	13.68	264.57	273.80	1.33
Reach-1	2200	1698.00	2103.10	2105.47	2105.44	2106.00	0.018121	8.88	313.06	247.33	1.02
Reach-1	2000	1698.00	2099.70	2102.09	2102.05	2102.60	0.017144	8.69	321.36	255.23	0.99
Reach-1	1800	1698.00	2096.70	2098.84		2099.37	0.014773	7.49	295.09	175.00	0.90
Reach-1	1600	1698.00	2093.60	2095.10	2095.10	2095.76	0.024567	7.63	265.37	200.99	1.10
Reach-1	1400	1698.00	2089.80	2091.08		2091.49	0.018636	5.96	329.50	270.00	0.93
Reach-1	1200	1698.00	2085.40	2087.73	2087.73	2088.36	0.019636	9.15	284.13	206.00	1.06
Reach-1	1000	1698.00	2081.00	2084.02	2083.86	2084.63	0.012880	8.81	292.25	161.00	0.89
Reach-1	855	1698.00	2078.80	2081.21	2081.14	2082.14	0.020121	9.47	223.23	107.00	1.08
Reach-1	655	1698.00	2074.60	2078.07	2078.07	2078.94	0.014199	10.14	254.60	128.00	0.96

Wash A - Low

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	3200	1190.00	2121.70	2125.24	2125.26	2126.78	0.016748	11.17	126.88	42.00	1.05
Reach-1	3100	1190.00	2119.30	2123.11	2123.64	2124.86	0.021495	13.28	171.16	192.88	1.20
Reach-1	3000	1190.00	2117.70	2120.03	2120.59	2121.69	0.048750	14.40	144.64	155.58	1.66
Reach-1	2800	1194.00	2113.80	2116.85	2116.85	2117.58	0.014688	9.46	201.61	128.90	0.96
Reach-1	2600	1194.00	2110.40	2113.75	2113.99	2114.57	0.015798	10.45	239.73	256.24	1.01
Reach-1	2400	1194.00	2106.40	2109.05	2109.36	2110.06	0.027616	11.83	205.44	246.89	1.28
Reach-1	2200	1194.00	2103.10	2105.22	2105.21	2105.65	0.017328	8.08	253.27	242.44	0.98
Reach-1	2000	1194.00	2099.70	2101.81	2101.81	2102.25	0.017830	8.17	252.18	247.24	0.99
Reach-1	1800	1194.00	2096.70	2098.50		2098.92	0.015097	6.76	236.30	175.00	0.89
Reach-1	1600	1194.00	2093.60	2094.84	2094.82	2095.35	0.023526	6.59	214.26	197.02	1.04
Reach-1	1400	1194.00	2089.80	2090.84		2091.16	0.018909	5.23	265.17	270.00	0.91
Reach-1	1200	1194.00	2085.40	2087.46	2087.46	2087.97	0.019615	8.42	227.62	205.24	1.03
Reach-1	1000	1194.00	2081.00	2083.62	2083.55	2084.15	0.013778	8.29	228.49	161.00	0.90
Reach-1	855	1194.00	2078.80	2080.77	2080.74	2081.52	0.021410	8.54	176.21	107.00	1.07
Reach-1	655	1194.00	2074.60	2077.72	2077.72	2078.39	0.012700	8.94	209.82	128.00	0.89

WOSH B

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	10900	890.00	2129.60	2132.03	2132.03	2132.62	0.021608	9.87	152.26	119.00	1.12
Reach-1	10800	890.00	2128.00	2130.69		2130.99	0.009851	7.13	211.19	148.84	0.77
Reach-1	10700	890.00	2126.50	2129.13	2129.10	2129.74	0.015710	8.88	161.66	119.76	0.96
Reach-1	10600	890.00	2125.00	2127.69	2127.69	2128.20	0.014703	8.72	184.32	158.09	0.94
Reach-1	10400	859.00	2122.70	2124.22		2124.58	0.014280	5.47	192.54	192.00	0.82
Reach-1	10200	859.00	2119.90	2121.53		2121.79	0.011946	5.63	220.26	211.61	0.78
Reach-1	10000	859.00	2116.20	2118.37	2118.37	2118.83	0.018588	8.49	176.30	169.91	1.02
Reach-1	9800	859.00	2112.60	2115.09		2115.48	0.013419	7.91	186.59	151.00	0.88
Reach-1	9600	859.00	2109.20	2111.61	2111.61	2112.14	0.020822	9.63	156.09	130.00	1.09
Reach-1	9400	859.00	2106.20	2108.13		2108.42	0.014234	6.88	207.61	200.00	0.87
Reach-1	9200	859.00	2102.90	2104.65	2104.53	2105.03	0.020533	7.72	176.84	174.12	1.03
Reach-1	9000	859.00	2100.00	2101.71		2101.97	0.011559	5.71	219.10	199.04	0.77
Reach-1	8800	859.00	2096.60	2098.30	2098.30	2098.84	0.021864	7.84	155.32	139.00	1.06
Reach-1	8600	859.00	2093.50	2094.67		2094.81	0.005463	3.04	296.92	246.99	0.50
Reach-1	8400	859.00	2090.70	2092.89	2092.59	2093.26	0.011350	6.67	186.57	131.89	0.79
Reach-1	7800	859.00	2080.20	2084.48	2084.48	2085.89	0.012616	11.00	103.37	38.21	0.94
Reach-1	7600	859.00	2074.60	2081.73	2081.73	2082.69	0.007941	12.26	149.24	65.12	0.81
Reach-1	7400	859.00	2071.60	2075.35		2075.88	0.009594	8.79	169.05	93.48	0.80
Reach-1	7200	859.00	2068.50	2073.35	2073.35	2074.02	0.008818	10.00	179.65	117.06	0.80
Reach-1	7000	859.00	2066.20	2069.99	2069.99	2070.82	0.010054	9.06	145.57	80.91	0.82
Reach-1	6800	859.00	2062.20	2066.72	2066.72	2067.60	0.010052	10.18	142.17	71.49	0.84
Reach-1	6600	859.00	2058.50	2063.29	2063.29	2064.13	0.008396	9.67	151.93	81.33	0.78
Reach-1	6400	859.00	2055.40	2058.64		2059.33	0.009501	7.92	139.35	60.66	0.78
Reach-1	6200	859.00	2052.60	2056.07	2056.07	2057.09	0.012832	9.64	130.11	77.10	0.91
Reach-1	6000	859.00	2048.80	2052.82	2052.82	2054.15	0.011941	10.27	109.96	49.15	0.90
Reach-1	5800	859.00	2046.30	2050.03	2050.03	2051.02	0.011739	9.68	129.79	67.48	0.88
Reach-1	5600	859.00	2043.90	2046.51		2047.27	0.014923	8.60	126.41	60.94	0.94
Reach-1	5400	859.00	2040.80	2043.80	2043.80	2044.36	0.013603	9.02	181.07	165.68	0.92
Reach-1	5200	859.00	2037.90	2040.70	2040.70	2041.24	0.013860	8.63	172.13	141.17	0.91
Reach-1	5000	859.00	2033.40	2035.99	2035.99	2037.09	0.019577	9.81	108.24	53.47	1.07
Reach-1	4800	859.00	2030.30	2033.54	2033.54	2034.05	0.009487	7.93	197.41	161.14	0.78
Reach-1	4600	859.00	2026.40	2029.86	2029.86	2030.55	0.011931	9.28	158.49	103.46	0.88
Reach-1	4400	859.00	2022.70	2025.90	2025.90	2027.15	0.016579	10.38	102.24	40.80	1.02
Reach-1	4200	859.00	2019.20	2022.28	2022.28	2023.39	0.014712	9.54	112.39	50.95	0.96
Reach-1	4000	859.00	2016.50	2017.95	2017.95	2018.68	0.022390	7.13	129.78	92.13	1.04

WOSH B-LOW

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	10900	391.00	2129.60	2131.48	2131.44	2131.85	0.019873	7.97	88.99	104.80	1.03
Reach-1	10800	391.00	2128.00	2129.97		2130.21	0.013374	6.74	108.71	128.03	0.85
Reach-1	10700	391.00	2126.50	2128.54		2128.90	0.012752	6.74	96.19	99.34	0.83
Reach-1	10600	391.00	2125.00	2127.05	2126.97	2127.49	0.015636	7.49	92.65	111.27	0.92
Reach-1	10400	355.00	2122.70	2123.95		2124.16	0.017421	5.70	106.44	169.16	0.90
Reach-1	10200	355.00	2119.90	2120.89		2121.07	0.012895	4.20	108.45	141.94	0.74
Reach-1	10000	355.00	2116.20	2117.91		2118.20	0.015892	6.69	100.61	151.20	0.90
Reach-1	9800	355.00	2112.60	2114.38	2114.37	2114.73	0.018930	7.50	87.05	114.30	0.99
Reach-1	9600	355.00	2109.20	2111.19	2111.14	2111.44	0.014144	6.98	101.31	130.00	0.87
Reach-1	9400	355.00	2106.20	2107.45	2107.45	2107.74	0.027059	7.09	87.83	147.33	1.12
Reach-1	9200	355.00	2102.90	2104.31	2104.03	2104.45	0.009851	4.63	122.27	150.05	0.69
Reach-1	9000	355.00	2100.00	2100.80	2100.80	2101.15	0.032259	5.75	76.22	112.42	1.13
Reach-1	8800	355.00	2096.60	2098.10	2097.79	2098.24	0.006973	4.07	127.39	139.00	0.59
Reach-1	8600	355.00	2093.50	2095.33	2095.33	2095.97	0.020224	7.91	59.67	45.00	1.03
Reach-1	8400	355.00	2090.70	2092.13	2091.97	2092.38	0.013454	5.47	94.92	107.55	0.81
Reach-1	7800	355.00	2080.20	2082.86	2082.86	2083.83	0.014714	8.65	50.20	27.40	0.93
Reach-1	7600	355.00	2074.60	2078.51	2078.89	2080.22	0.021847	13.63	40.12	18.05	1.21
Reach-1	7400	355.00	2071.60	2074.03	2074.46	2075.15	0.028670	11.36	53.76	62.54	1.28
Reach-1	7200	355.00	2068.50	2071.63	2071.63	2072.45	0.013590	9.27	59.07	38.33	0.92
Reach-1	7000	355.00	2066.20	2068.58	2068.75	2069.50	0.016290	8.46	54.86	43.30	0.97
Reach-1	6800	355.00	2062.20	2065.18	2065.42	2066.25	0.016255	9.81	53.45	38.00	1.00
Reach-1	6600	355.00	2058.50	2061.02	2061.33	2062.37	0.024052	10.66	43.21	26.11	1.18
Reach-1	6400	355.00	2055.40	2057.47	2057.06	2057.84	0.008610	5.60	77.59	47.82	0.69
Reach-1	6200	355.00	2052.60	2054.60	2054.60	2055.39	0.017884	7.89	53.80	35.63	0.98
Reach-1	6000	355.00	2048.80	2051.27	2051.01	2052.00	0.011631	7.32	55.48	27.85	0.82
Reach-1	5800	355.00	2046.30	2048.61	2048.61	2049.38	0.014794	7.90	57.06	38.05	0.92
Reach-1	5600	355.00	2043.90	2045.57	2045.24	2045.94	0.011540	5.63	75.02	51.19	0.77
Reach-1	5400	355.00	2040.80	2042.80	2042.73	2043.29	0.015189	7.27	72.71	64.85	0.91
Reach-1	5200	355.00	2037.90	2039.42	2039.42	2039.90	0.024047	7.61	67.30	68.26	1.09
Reach-1	5000	355.00	2033.40	2035.16	2035.07	2035.69	0.015594	6.77	65.46	49.52	0.90
Reach-1	4800	355.00	2030.30	2032.59	2032.59	2033.09	0.011031	6.78	79.17	92.25	0.79
Reach-1	4600	355.00	2026.40	2027.99	2028.30	2029.15	0.042183	10.38	43.91	37.77	1.45
Reach-1	4400	355.00	2022.70	2024.62	2024.58	2025.37	0.018650	7.84	53.54	33.91	1.00
Reach-1	4200	355.00	2019.20	2021.17	2020.96	2021.91	0.016293	7.45	58.27	47.75	0.94
Reach-1	4000	355.00	2016.50	2017.23	2017.23	2017.67	0.027208	4.97	67.97	79.14	1.02

WOSA C

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	18100	837.00	2132.20	2134.76	2134.81	2135.49	0.014336	8.32	140.48	98.00	0.92
Reach-1	18000	837.00	2130.10	2132.52	2132.73	2133.59	0.025735	10.74	109.49	71.50	1.22
Reach-1	17900	837.00	2127.80	2130.20	2130.37	2131.09	0.022656	10.03	123.58	91.00	1.14
Reach-1	17800	837.00	2126.20	2128.27	2128.14	2128.87	0.017268	7.92	138.88	87.00	0.97
Reach-1	17600	837.00	2122.50	2124.97	2124.97	2125.71	0.014775	8.24	147.30	120.93	0.92
Reach-1	17400	837.00	2118.90	2121.56	2121.76	2122.32	0.019887	10.06	158.53	165.88	1.09
Reach-1	17200	1115.00	2115.50	2118.52	2118.30	2119.03	0.011696	8.39	209.04	122.81	0.85
Reach-1	17000	1115.00	2112.40	2115.94		2116.67	0.011609	9.29	190.14	105.00	0.87
Reach-1	16800	1115.00	2109.40	2112.61	2112.61	2113.74	0.018387	10.96	137.56	58.00	1.08
Reach-1	16600	1115.00	2105.90	2108.99	2108.95	2109.76	0.013852	9.28	175.29	93.00	0.93
Reach-1	16400	1115.00	2102.80	2105.97	2105.97	2106.82	0.015623	10.02	165.23	86.00	0.99
Reach-1	16200	1115.00	2099.50	2102.12	2101.58	2102.42	0.007315	6.03	259.57	141.00	0.66
Reach-1	16000	1115.00	2095.90	2099.14	2099.14	2100.20	0.017245	10.67	146.57	69.36	1.05
Reach-1	15800	1115.00	2092.60	2095.57	2095.79	2096.58	0.018876	10.55	165.89	112.99	1.08
Reach-1	15600	1115.00	2089.40	2092.25	2092.55	2093.34	0.030772	13.10	150.66	113.48	1.37
Reach-1	15400	1115.00	2086.20	2089.08	2089.08	2089.75	0.015623	9.40	189.93	125.00	0.98
Reach-1	15200	1115.00	2082.80	2085.32	2085.30	2086.05	0.017157	9.00	178.81	123.39	1.00
Reach-1	15000	1115.00	2078.70	2082.26	2082.26	2083.05	0.013291	9.98	178.20	94.00	0.93
Reach-1	14800	1115.00	2075.50	2078.20	2078.52	2079.32	0.027369	11.91	147.20	100.70	1.28
Reach-1	14600	1115.00	2071.80	2075.28	2075.44	2076.12	0.014869	10.40	194.42	142.26	0.98
Reach-1	14400	1115.00	2067.80	2071.59	2071.91	2072.73	0.019719	12.67	169.62	122.62	1.15
Reach-1	14200	1115.00	2064.60	2067.69	2067.86	2068.41	0.022711	11.88	208.67	214.36	1.19
Reach-1	14000	1115.00	2061.50	2063.75	2063.77	2064.27	0.018820	8.74	216.09	208.96	1.03
Reach-1	13800	1115.00	2057.80	2060.29	2060.11	2060.70	0.012398	7.59	231.05	161.00	0.85
Reach-1	13600	1115.00	2054.10	2056.94	2056.94	2057.76	0.017107	9.74	166.37	93.00	1.02
Reach-1	13400	1115.00	2050.30	2052.77	2052.95	2053.51	0.027140	11.17	190.52	195.98	1.25
Reach-1	13200	1115.00	2046.70	2049.40	2049.40	2050.03	0.014688	8.73	200.56	136.00	0.94
Reach-1	13000	1115.00	2043.70	2046.08	2045.79	2046.52	0.011403	7.08	221.37	138.00	0.81
Reach-1	12800	1115.00	2041.70	2043.02	2042.98	2043.54	0.020814	6.45	200.36	168.00	0.99
Reach-1	12600	1115.00	2037.30	2039.02	2038.91	2039.43	0.020010	7.55	221.11	199.20	1.01
Reach-1	12400	1115.00	2031.80	2034.77	2034.77	2035.42	0.019040	10.59	189.61	141.26	1.08
Reach-1	12200	1115.00	2028.80	2031.18	2031.06	2031.60	0.014186	7.88	233.00	186.74	0.90
Reach-1	12000	1115.00	2025.40	2027.69	2027.69	2028.34	0.018715	8.83	186.42	133.00	1.03

WOSH-D

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	25200	850.00	2147.50	2150.04	2149.92	2150.46	0.016084	8.76	174.07	143.71	0.97
Reach-1	25100	850.00	2145.10	2148.38	2148.38	2149.01	0.012967	9.34	158.83	106.73	0.91
Reach-1	25000	850.00	2143.40	2146.12	2146.41	2147.11	0.029015	12.33	143.12	162.55	1.32
Reach-1	24900	850.00	2141.80	2144.03	2144.00	2144.53	0.016427	8.13	168.36	149.10	0.96
Reach-1	24700	853.00	2138.30	2140.26	2140.26	2140.75	0.021953	8.63	171.61	181.81	1.09
Reach-1	24500	853.00	2134.60	2135.96	2135.23	2136.06	0.003396	2.66	345.57	247.06	0.40
Reach-1	24300	853.00	2131.20	2133.93	2133.78	2134.73	0.016139	9.23	123.89	60.74	0.98
Reach-1	24100	853.00	2127.70	2130.52	2130.52	2131.35	0.017834	9.91	129.53	81.19	1.04
Reach-1	23900	853.00	2124.10	2126.15	2126.30	2127.06	0.026259	9.72	121.15	88.00	1.20
Reach-1	23700	853.00	2119.50	2122.84	2122.88	2123.50	0.012510	9.28	157.81	106.00	0.90
Reach-1	23500	853.00	2115.60	2118.12	2118.55	2119.44	0.036640	13.15	107.73	88.01	1.46
Reach-1	23300	853.00	2112.60	2115.41	2115.41	2116.06	0.017252	9.71	143.29	95.00	1.02
Reach-1	23100	853.00	2109.80	2111.90	2111.58	2112.23	0.011086	6.41	192.71	141.41	0.78
Reach-1	22900	853.00	2106.30	2108.90	2108.90	2109.51	0.016948	9.14	156.35	123.35	1.00
Reach-1	22700	853.00	2102.60	2104.78	2104.52	2105.09	0.012226	6.91	203.01	172.24	0.82
Reach-1	22500	853.00	2098.60	2101.87		2102.69	0.011263	8.69	141.20	81.37	0.85
Reach-1	22300	853.00	2095.40	2099.03	2099.03	2100.12	0.014463	10.54	113.91	49.10	0.98
Reach-1	22100	853.00	2092.50	2095.50	2095.89	2096.77	0.019464	10.78	122.24	96.55	1.10
Reach-1	21900	853.00	2088.70	2091.84	2092.15	2092.92	0.018821	10.93	132.74	107.00	1.09
Reach-1	21700	853.00	2085.60	2088.84	2089.04	2089.94	0.018292	11.00	117.04	64.00	1.08
Reach-1	21500	853.00	2083.10	2086.06	2086.11	2086.74	0.014984	9.36	148.94	100.00	0.96
Reach-1	21300	853.00	2079.50	2082.14	2082.32	2083.03	0.023078	10.77	128.37	94.00	1.17
Reach-1	21100	853.00	2075.60	2078.54	2078.57	2079.27	0.015252	9.42	140.34	85.00	0.97
Reach-1	20900	853.00	2072.50	2075.00	2074.98	2075.73	0.017019	8.94	133.68	79.00	1.00
Reach-1	20700	853.00	2069.60	2071.07	2071.07	2071.64	0.024499	7.51	145.78	126.00	1.09
Reach-1	20500	853.00	2065.50	2067.94	2067.52	2068.12	0.005913	5.17	263.99	191.00	0.58
Reach-1	20300	853.00	2062.20	2064.50	2063.92	2065.57	0.039724	12.89	136.74	191.74	1.50
Reach-1	20100	853.00	2059.20	2061.33		2061.65	0.010711	6.37	197.11	142.00	0.77
Reach-1	19900	853.00	2056.10	2058.41	2058.35	2059.02	0.016041	8.22	146.03	95.00	0.95
Reach-1	19700	853.00	2052.60	2054.57	2054.56	2055.26	0.022290	8.71	133.00	93.00	1.09
Reach-1	19500	853.00	2049.20	2049.67	2049.67	2050.10	0.029480	3.88	164.20	193.99	0.99
Reach-1	19300	853.00	2044.60	2045.95	2045.95	2047.11	0.061156	11.21	108.79	130.21	1.70

WOSLAD - LOW

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	25200	372.00	2147.50	2149.35	2149.42	2149.78	0.024528	8.77	83.13	115.96	1.14
Reach-1	25100	372.00	2145.10	2147.66	2147.70	2148.17	0.012619	7.82	85.56	89.69	0.86
Reach-1	25000	372.00	2143.40	2145.63	2145.91	2146.44	0.023982	9.83	74.86	111.04	1.16
Reach-1	24900	372.00	2141.80	2143.28	2143.38	2143.79	0.027333	7.97	74.47	99.54	1.16
Reach-1	24700	424.00	2138.30	2139.91	2139.88	2140.19	0.014925	6.24	114.46	150.04	0.87
Reach-1	24500	424.00	2134.60	2136.46	2136.38	2136.93	0.017699	7.47	83.76	75.34	0.97
Reach-1	24300	424.00	2131.20	2133.20		2133.68	0.015367	7.30	80.21	57.79	0.91
Reach-1	24100	424.00	2127.70	2129.81	2129.81	2130.38	0.017857	8.18	78.59	64.96	0.99
Reach-1	23900	424.00	2124.10	2125.67	2125.78	2126.26	0.024098	7.81	79.13	88.00	1.10
Reach-1	23700	424.00	2119.50	2122.10	2122.17	2122.69	0.013786	8.24	87.84	82.28	0.90
Reach-1	23500	424.00	2115.60	2117.92	2117.72	2118.34	0.012239	7.20	92.17	73.58	0.83
Reach-1	23300	424.00	2112.60	2114.63	2114.63	2115.19	0.020908	8.60	77.55	69.67	1.06
Reach-1	23100	424.00	2109.80	2111.31	2111.10	2111.55	0.011782	5.32	116.19	121.00	0.76
Reach-1	22900	424.00	2106.30	2108.32	2108.32	2108.78	0.016411	7.60	92.44	96.62	0.94
Reach-1	22700	424.00	2102.60	2104.19	2104.09	2104.46	0.016045	6.40	111.13	137.88	0.90
Reach-1	22500	424.00	2098.60	2100.87		2101.54	0.013182	7.38	73.12	49.81	0.86
Reach-1	22300	424.00	2095.40	2098.14	2098.14	2098.87	0.013454	8.43	71.81	45.54	0.90
Reach-1	22100	424.00	2092.50	2094.83	2095.11	2095.80	0.017665	8.67	67.03	66.17	1.00
Reach-1	21900	424.00	2088.70	2091.20	2091.49	2092.14	0.018348	9.28	72.40	75.04	1.03
Reach-1	21700	424.00	2085.60	2088.25	2088.35	2088.93	0.013868	8.38	79.41	64.00	0.91
Reach-1	21500	424.00	2083.10	2085.51	2085.61	2086.04	0.014122	7.93	94.23	100.00	0.90
Reach-1	21300	424.00	2079.50	2081.49	2081.69	2082.26	0.026264	9.53	73.39	80.91	1.19
Reach-1	21100	424.00	2075.60	2077.95	2078.01	2078.47	0.014012	7.77	90.10	85.00	0.89
Reach-1	20900	424.00	2072.50	2074.59	2074.42	2074.92	0.010244	6.14	100.64	79.00	0.75
Reach-1	20700	424.00	2069.60	2071.33	2071.33	2072.07	0.020593	7.69	64.34	43.00	1.03
Reach-1	20500	424.00	2065.50	2067.24	2067.40	2068.08	0.031013	9.48	62.24	53.00	1.26
Reach-1	20300	424.00	2062.20	2064.56	2064.46	2065.00	0.012355	7.32	90.68	71.00	0.84
Reach-1	20100	424.00	2059.20	2061.31	2061.31	2061.96	0.018984	8.43	71.85	52.00	1.02
Reach-1	19900	424.00	2056.10	2057.83	2057.86	2058.28	0.017473	7.07	90.67	95.00	0.95
Reach-1	19700	424.00	2052.60	2054.37	2054.07	2054.60	0.008946	5.14	114.36	93.00	0.68
Reach-1	19500	424.00	2049.20	2051.24	2051.24	2052.02	0.019070	8.24	64.03	40.00	1.02
Reach-1	19300	424.00	2044.60	2046.32	2046.64	2047.35	0.029096	9.08	62.60	72.06	1.22

WASH B

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	32500	466.00	2108.80	2110.52	2110.54	2110.84	0.023545	8.18	114.62	169.96	1.10
Reach-1	32000	466.00	2100.20	2102.13	2102.16	2102.51	0.012702	6.49	121.09	151.59	0.82
Reach-1	31500	466.00	2091.60	2093.90	2094.28	2094.79	0.019341	9.00	74.24	80.12	1.05
Reach-1	31000	466.00	2082.30	2083.97	2083.97	2084.77	0.027391	8.65	69.73	58.73	1.18
Reach-1	30500	466.00	2072.60	2073.83	2073.73	2074.06	0.016851	5.53	130.64	188.09	0.88
Reach-1	30000	466.00	2063.80	2064.98	2064.90	2065.18	0.018883	5.68	133.68	205.70	0.92
Reach-1	29500	466.00	2054.30	2056.49	2056.49	2056.83	0.014203	7.47	123.25	150.15	0.89
Reach-1	29000	466.00	2046.00	2047.72	2047.69	2048.07	0.014701	6.47	114.66	129.86	0.87
Reach-1	28500	466.00	2037.20	2038.92	2038.92	2039.53	0.019099	7.37	80.01	63.81	0.99
Reach-1	28050	466.00	2029.50	2031.13	2031.18	2031.54	0.016775	6.67	110.34	154.81	0.92

Wash B

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	40000	635.00	2136.70	2138.37	2138.21	2138.65	0.015860	6.59	155.34	163.47	0.90
Reach-1	39500	635.00	2127.50	2129.41	2129.36	2129.75	0.019693	8.02	145.09	165.00	1.02
Reach-1	39000	635.00	2118.60	2120.29		2120.63	0.017017	6.86	147.96	163.00	0.93
Reach-1	38897	635.00	2116.70	2118.54	2118.47	2118.93	0.016086	7.07	139.35	136.00	0.92
Reach-1	38500	468.00	2110.30	2111.68	2111.68	2112.06	0.019533	6.44	106.98	133.69	0.97
Reach-1	38000	468.00	2101.70	2103.06	2102.97	2103.33	0.015581	5.69	124.99	162.00	0.86
Reach-1	37500	468.00	2092.80	2093.97	2093.86	2094.30	0.020147	5.84	102.17	107.73	0.95
Reach-1	37000	468.00	2083.40	2084.19	2084.11	2084.38	0.019165	4.40	136.94	217.00	0.87
Reach-1	36000	468.00	2064.30	2066.22	2066.22	2066.68	0.015681	7.18	99.45	106.40	0.91
Reach-1	35500	468.00	2056.40	2057.81	2057.67	2058.04	0.013675	5.47	131.36	155.84	0.81
Reach-1	35000	468.00	2046.90	2047.94	2047.92	2048.28	0.030330	6.65	103.51	153.58	1.15
Reach-1	34500	468.00	2037.50	2039.07	2038.85	2039.28	0.011893	5.48	132.64	141.92	0.77
Reach-1	34000	468.00	2029.20	2030.58	2030.58	2030.98	0.025266	7.32	97.04	116.11	1.10

Appendix F – HEC-RAS Post-development

WASH A PROPOSED

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	3200	1693.00	2121.70	2126.05	2126.07	2127.99	0.016203	12.60	160.90	42.00	1.06
Reach-1	3100	1693.00	2119.30	2123.26	2123.96	2125.74	0.031027	16.38	200.85	196.94	1.45
Reach-1	3000	1693.00	2117.70	2120.43	2120.91	2121.89	0.038589	14.27	217.59	203.76	1.52
Reach-1	2800	1698.00	2113.80	2116.94	2116.94	2118.24	0.025495	12.71	213.02	131.27	1.26
Reach-1	2600	1698.00	2110.40	2116.60	2114.32	2116.63	0.000324	2.26	1220.68	353.00	0.16
Reach-1	2400	1698.00	2106.40	2109.20	2108.95	2115.74	0.123125	25.93	142.34	256.34	2.73
Reach-1	2200	1698.00	2103.10	2105.87	2105.87	2106.52	0.016923	9.53	292.84	215.56	1.01
Reach-1	2000	1698.00	2099.70	2102.12	2102.10	2102.68	0.018118	9.00	307.43	238.89	1.02
Reach-1	1800	1698.00	2096.70	2098.84		2099.37	0.014718	7.48	295.43	175.00	0.90
Reach-1	1600	1698.00	2093.60	2095.10	2095.10	2095.76	0.024766	7.65	264.68	200.94	1.10
Reach-1	1400	1698.00	2089.80	2091.10	2090.92	2091.50	0.017442	5.84	336.16	270.00	0.90
Reach-1	1200	1698.00	2085.40	2087.78	2087.78	2088.46	0.019679	9.29	272.82	186.00	1.06
Reach-1	1000	1698.00	2081.00	2084.02	2083.86	2084.63	0.012880	8.81	292.25	161.00	0.89
Reach-1	855	1698.00	2078.80	2081.21	2081.14	2082.14	0.020121	9.47	223.23	107.00	1.08
Reach-1	655	1698.00	2074.60	2078.07	2078.07	2078.94	0.014199	10.14	254.60	128.00	0.96

WASH B - PROPOSED

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	10900	890.00	2129.60	2131.99	2132.03	2132.62	0.023808	10.25	147.68	118.78	1.17
Reach-1	10800	890.00	2128.00	2130.69	2130.36	2130.99	0.009851	7.13	211.19	148.84	0.77
Reach-1	10700	890.00	2126.50	2129.13	2129.10	2129.74	0.015710	8.88	161.66	119.76	0.96
Reach-1	10600	890.00	2125.00	2127.69	2127.69	2128.20	0.014703	8.72	184.32	158.09	0.94
Reach-1	10400	859.00	2122.70	2124.34	2123.97	2124.62	0.010289	4.91	215.51	192.00	0.71
Reach-1	10200	859.00	2119.90	2121.66		2122.08	0.014330	6.47	178.18	151.90	0.86
Reach-1	10000	859.00	2116.20	2118.37	2118.37	2118.83	0.018588	8.49	176.30	169.91	1.02
Reach-1	9800	859.00	2112.60	2115.18	2114.97	2115.53	0.010866	7.29	195.16	141.00	0.80
Reach-1	9600	859.00	2109.20	2111.81	2111.81	2112.56	0.020840	10.17	129.32	80.00	1.11
Reach-1	9400	859.00	2106.20	2108.23	2108.12	2108.64	0.016145	7.57	175.23	145.00	0.94
Reach-1	9200	859.00	2102.90	2104.61	2104.51	2105.05	0.020448	7.60	165.05	144.81	1.02
Reach-1	9000	859.00	2100.00	2101.70		2101.96	0.011651	5.70	214.79	188.32	0.77
Reach-1	8800	859.00	2096.60	2098.30	2098.30	2098.84	0.021864	7.84	155.32	139.00	1.06
Reach-1	8600	859.00	2093.50	2094.76	2094.19	2094.88	0.004314	2.85	320.99	248.45	0.45
Reach-1	8400	859.00	2090.70	2092.76	2092.60	2093.32	0.016515	7.72	147.97	96.57	0.95
Reach-1	8000	859.00	2082.30	2085.45	2085.45	2086.31	0.015524	9.95	133.86	81.89	0.99
Reach-1	7800	859.00	2077.00	2080.92	2081.41	2082.45	0.023683	13.73	117.45	94.50	1.24
Reach-1	7600	859.00	2074.00	2077.85	2078.04	2078.63	0.013986	10.03	167.20	146.21	0.94
Reach-1	7400	859.00	2070.00	2073.66	2074.12	2075.03	0.022883	13.18	132.09	122.53	1.22
Reach-1	7200	859.00	2067.80	2070.50	2070.50	2071.24	0.017785	9.61	135.66	84.00	1.03
Reach-1	7000	859.00	2062.00	2068.91	2065.25	2068.92	0.000114	1.44	996.32	266.00	0.10
Reach-1	6800	859.00	2063.00	2066.96	2066.96	2068.67	0.024148	14.45	88.46	35.68	1.28
Reach-1	6600	859.00	2058.50	2062.74	2063.29	2064.49	0.018465	13.21	110.14	71.03	1.13
Reach-1	6400	859.00	2055.40	2058.64	2058.06	2059.33	0.009501	7.92	139.35	60.66	0.78
Reach-1	6200	859.00	2052.60	2056.07	2056.07	2057.09	0.012832	9.64	130.11	77.10	0.91
Reach-1	6000	859.00	2048.80	2052.54	2052.86	2054.17	0.015923	11.29	96.63	42.62	1.03
Reach-1	5800	859.00	2046.30	2049.90	2050.01	2051.05	0.013983	10.32	121.33	66.57	0.96
Reach-1	5600	859.00	2043.90	2046.51	2046.22	2047.27	0.014923	8.60	126.41	60.94	0.94
Reach-1	5400	859.00	2040.80	2043.80	2043.80	2044.36	0.013603	9.02	181.07	165.68	0.92
Reach-1	5200	859.00	2037.90	2040.51	2040.70	2041.29	0.021733	10.32	146.66	133.95	1.13
Reach-1	5000	859.00	2033.40	2035.98	2035.99	2037.09	0.020089	9.89	107.33	53.39	1.09
Reach-1	4800	859.00	2030.30	2033.46	2033.54	2034.05	0.011083	8.43	184.82	157.20	0.84
Reach-1	4600	859.00	2026.40	2029.29	2029.86	2030.68	0.026752	12.34	104.12	78.99	1.28
Reach-1	4400	859.00	2022.70	2025.90	2025.90	2027.15	0.016579	10.38	102.24	40.80	1.02
Reach-1	4200	859.00	2019.20	2022.02	2022.28	2023.44	0.020862	10.71	99.47	49.15	1.12
Reach-1	4000	859.00	2016.50	2017.91	2017.95	2018.68	0.024581	7.32	125.78	91.35	1.09

WASAC-PROPOSED

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	18100	837.00	2132.20	2134.76	2134.81	2135.49	0.014336	8.32	140.48	98.00	0.92
Reach-1	18000	837.00	2130.10	2132.52	2132.73	2133.59	0.025735	10.74	109.49	71.50	1.22
Reach-1	17900	837.00	2127.80	2130.20	2130.37	2131.09	0.022656	10.03	123.58	91.00	1.14
Reach-1	17800	837.00	2126.20	2128.27	2128.14	2128.87	0.017268	7.92	138.88	87.00	0.97
Reach-1	17600	837.00	2122.50	2124.97	2124.97	2125.71	0.014775	8.24	147.30	120.93	0.92
Reach-1	17400	837.00	2118.90	2121.56	2121.76	2122.32	0.019887	10.06	158.53	165.88	1.09
Reach-1	17200	1115.00	2115.50	2118.53	2118.30	2119.04	0.011341	8.29	211.23	123.01	0.84
Reach-1	17000	1115.00	2112.40	2115.92		2116.68	0.011781	9.33	179.36	88.00	0.88
Reach-1	16800	1115.00	2109.40	2112.61	2112.61	2113.74	0.018387	10.96	137.56	58.00	1.08
Reach-1	16600	1115.00	2105.90	2108.99	2108.95	2109.76	0.013852	9.28	175.29	93.00	0.93
Reach-1	16400	1115.00	2102.80	2105.97	2105.97	2106.82	0.015623	10.02	165.23	86.00	0.99
Reach-1	16200	1115.00	2099.50	2102.12	2101.58	2102.42	0.007315	6.03	259.57	141.00	0.66
Reach-1	16000	1115.00	2096.90	2099.14	2099.14	2100.20	0.017245	10.67	146.57	69.36	1.05
Reach-1	15800	1115.00	2092.60	2095.57	2095.78	2096.63	0.018878	10.54	155.57	94.00	1.08
Reach-1	15600	1115.00	2089.40	2092.29	2092.55	2093.31	0.028566	12.73	154.81	114.72	1.32
Reach-1	15400	1115.00	2086.20	2089.08	2089.08	2089.75	0.015623	9.40	189.93	125.00	0.98
Reach-1	15200	1115.00	2082.80	2085.19	2085.39	2086.07	0.022021	9.85	163.70	119.48	1.12
Reach-1	15000	1115.00	2078.70	2082.26	2082.26	2083.05	0.013291	9.98	178.20	94.00	0.93
Reach-1	14800	1115.00	2075.50	2078.20	2078.52	2079.32	0.027369	11.91	147.20	100.70	1.28
Reach-1	14600	1115.00	2071.80	2075.28	2075.44	2076.12	0.014869	10.40	194.42	142.26	0.98
Reach-1	14400	1115.00	2067.80	2071.59	2071.91	2072.73	0.019719	12.67	169.62	122.62	1.15
Reach-1	14200	1115.00	2064.60	2067.69	2067.86	2068.41	0.022711	11.88	208.67	214.36	1.19
Reach-1	14000	1115.00	2061.50	2063.77	2063.77	2064.29	0.018294	8.67	212.70	190.00	1.01
Reach-1	13800	1115.00	2057.80	2060.39	2060.27	2060.95	0.014802	8.52	198.53	126.00	0.93
Reach-1	13600	1115.00	2054.10	2056.94	2056.94	2057.76	0.017107	9.74	166.37	93.00	1.02
Reach-1	13400	1115.00	2050.30	2053.02	2053.14	2053.88	0.022183	10.77	166.21	115.00	1.15
Reach-1	13200	1115.00	2046.70	2049.35	2049.40	2050.03	0.016449	9.12	193.28	136.00	0.99
Reach-1	13000	1115.00	2043.70	2046.10	2045.81	2046.65	0.012266	7.37	194.11	103.00	0.84
Reach-1	12800	1115.00	2041.70	2043.02	2042.98	2043.54	0.020814	6.45	200.36	168.00	0.99
Reach-1	12600	1115.00	2037.30	2039.02	2038.91	2039.43	0.020010	7.55	221.11	199.20	1.01
Reach-1	12400	1115.00	2031.80	2034.77	2034.77	2035.42	0.019040	10.59	189.61	141.26	1.08
Reach-1	12200	1115.00	2028.80	2031.18	2031.06	2031.60	0.014186	7.88	233.00	186.74	0.90
Reach-1	12000	1115.00	2025.40	2027.69	2027.69	2028.34	0.018715	8.83	186.42	133.00	1.03

WASH 5-PROPOSED

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Reach-1	26200	850.00	2147.50	2150.04	2149.92	2150.46	0.016084	8.76	174.07	143.71	0.97
Reach-1	26100	850.00	2145.10	2148.38	2148.38	2149.01	0.012967	9.34	158.83	106.73	0.91
Reach-1	26000	850.00	2143.40	2146.12	2146.41	2147.11	0.029015	12.33	143.12	162.55	1.32
Reach-1	24900	850.00	2141.80	2144.02	2144.00	2144.53	0.016876	8.22	166.69	148.54	0.97
Reach-1	24700	853.00	2138.30	2140.33	2140.33	2140.86	0.019947	8.41	157.96	136.00	1.04
Reach-1	24500	853.00	2134.60	2136.83	2136.41	2137.20	0.009616	6.23	186.27	119.54	0.73
Reach-1	24300	853.00	2131.20	2133.93	2133.78	2134.73	0.016139	9.23	123.89	60.74	0.98
Reach-1	24100	853.00	2127.70	2130.52	2130.52	2131.35	0.017834	9.91	129.53	81.19	1.04
Reach-1	23900	853.00	2124.10	2126.15	2126.30	2127.06	0.026259	9.72	121.15	88.00	1.20
Reach-1	23700	853.00	2119.50	2122.84	2122.88	2123.50	0.012510	9.28	157.81	106.00	0.90
Reach-1	23500	853.00	2115.60	2118.12	2118.55	2119.44	0.036640	13.15	107.73	88.01	1.46
Reach-1	23300	853.00	2112.60	2115.41	2115.41	2116.06	0.017252	9.71	143.29	95.00	1.02
Reach-1	23100	853.00	2109.80	2111.87	2111.57	2112.25	0.011673	6.51	177.05	117.00	0.80
Reach-1	22900	853.00	2106.30	2108.88	2108.88	2109.50	0.016351	8.94	151.28	108.85	0.98
Reach-1	22700	853.00	2102.60	2104.78	2104.52	2105.09	0.012226	6.91	203.01	172.24	0.82
Reach-1	22500	853.00	2098.60	2101.87		2102.69	0.011263	8.69	141.20	81.37	0.85
Reach-1	22300	853.00	2095.40	2099.03	2099.03	2100.12	0.014463	10.54	113.91	49.10	0.98
Reach-1	22100	853.00	2092.50	2095.50	2095.89	2096.77	0.019464	10.78	122.24	96.55	1.10
Reach-1	21900	853.00	2088.70	2091.84	2092.15	2092.92	0.018821	10.93	132.74	107.00	1.09
Reach-1	21700	853.00	2085.60	2088.84	2089.04	2089.94	0.018292	11.00	117.04	64.00	1.08
Reach-1	21500	853.00	2083.10	2086.06	2086.11	2086.74	0.014984	9.36	148.94	100.00	0.96
Reach-1	21300	853.00	2079.50	2082.14	2082.32	2083.03	0.023078	10.77	128.37	94.00	1.17
Reach-1	21100	853.00	2075.60	2078.54	2078.57	2079.27	0.015252	9.42	140.34	85.00	0.97
Reach-1	20900	853.00	2072.50	2075.00	2074.98	2075.73	0.017019	8.94	133.68	79.00	1.00
Reach-1	20700	853.00	2069.60	2071.07	2071.07	2071.64	0.024499	7.51	145.78	126.00	1.09
Reach-1	20500	853.00	2065.50	2067.94	2067.52	2068.12	0.005913	5.17	263.99	191.00	0.58
Reach-1	20300	853.00	2062.20	2064.50	2063.92	2065.57	0.039724	12.89	136.74	191.74	1.50
Reach-1	20100	853.00	2059.20	2061.33		2061.65	0.010711	6.37	197.11	142.00	0.77
Reach-1	19900	853.00	2056.10	2058.41	2058.35	2059.02	0.016041	8.22	146.03	95.00	0.95
Reach-1	19700	853.00	2052.60	2054.57	2054.56	2055.26	0.022290	8.71	133.00	93.00	1.09
Reach-1	19500	853.00	2049.20	2049.67	2049.67	2050.10	0.029480	3.88	164.29	193.99	0.99
Reach-1	19300	853.00	2044.60	2045.95	2045.95	2047.11	0.061156	11.21	108.79	130.21	1.70

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

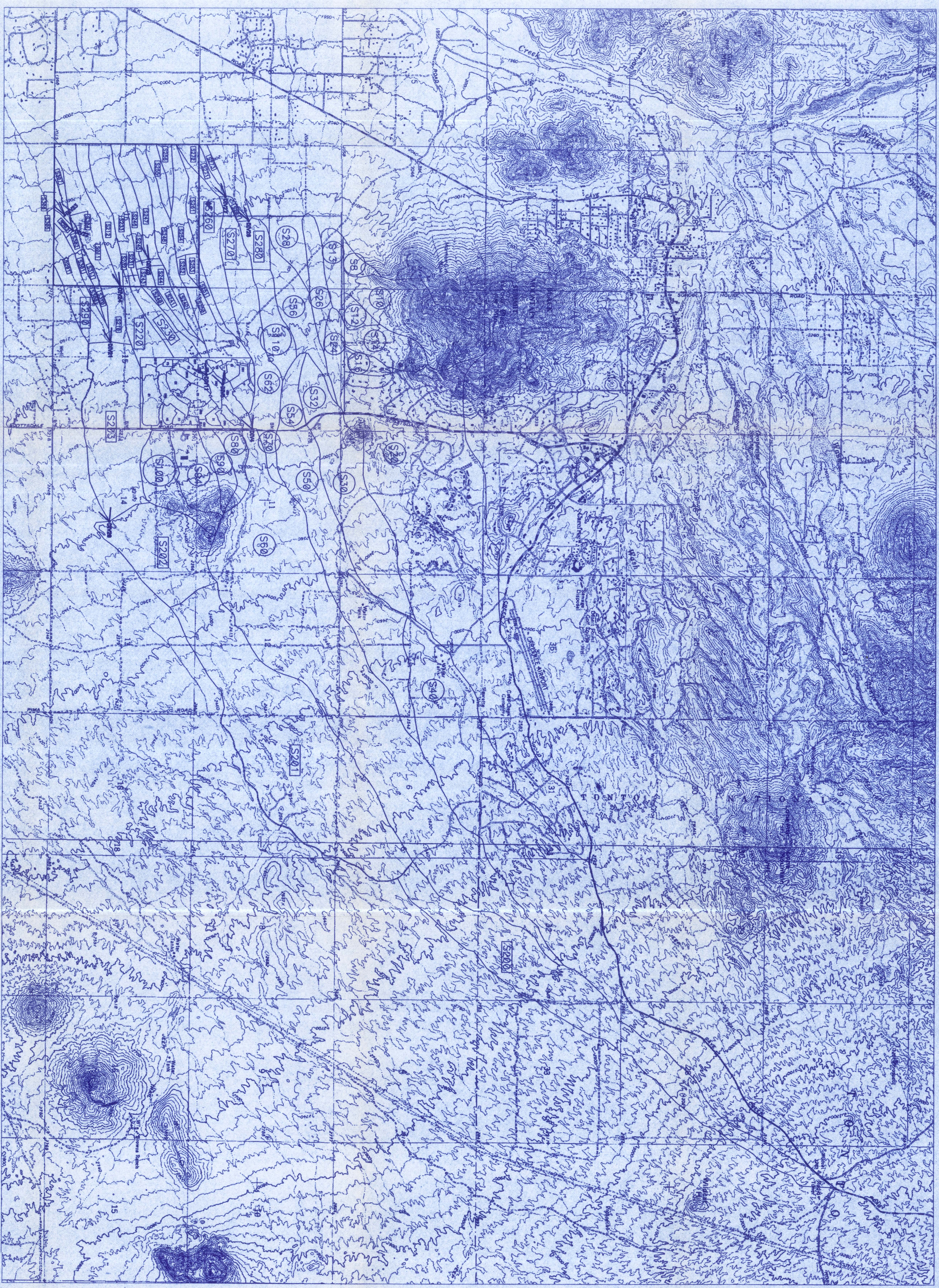
Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	32500	466.00	2108.80	2110.52	2110.54	2110.84	0.023545	8.18	114.62	169.96	1.10
Reach-1	32000	466.00	2100.20	2102.13	2102.16	2102.51	0.012702	6.49	121.09	151.59	0.82
Reach-1	31500	466.00	2091.60	2093.90	2094.28	2094.79	0.019341	9.00	74.24	80.12	1.05
Reach-1	31000	466.00	2082.30	2083.97	2083.97	2084.77	0.027391	8.65	69.73	58.73	1.18
Reach-1	30500	466.00	2072.60	2073.83	2073.73	2074.06	0.016851	5.53	130.64	188.09	0.88
Reach-1	30000	466.00	2063.80	2064.98	2064.90	2065.18	0.018883	5.68	133.68	205.70	0.92
Reach-1	29500	466.00	2054.30	2056.49	2056.49	2056.83	0.014203	7.47	123.25	150.15	0.89
Reach-1	29000	466.00	2046.00	2047.72	2047.69	2048.07	0.014701	6.47	114.66	129.86	0.87
Reach-1	28500	466.00	2037.20	2038.92	2038.92	2039.53	0.019099	7.37	80.01	63.81	0.99
Reach-1	28050	466.00	2029.50	2031.13	2031.18	2031.54	0.016775	6.67	110.34	154.81	0.92

WASH E - PROPOSED

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1

Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	40000	635.00	2136.70	2138.37	2138.21	2138.65	0.015860	6.59	155.34	163.47	0.90
Reach-1	39500	635.00	2127.50	2129.41	2129.36	2129.75	0.019693	8.02	145.09	165.00	1.02
Reach-1	39000	635.00	2118.60	2120.29		2120.63	0.017017	6.86	147.96	163.00	0.93
Reach-1	38897	635.00	2116.70	2118.54	2118.47	2118.93	0.016086	7.07	139.35	136.00	0.92
Reach-1	38500	468.00	2110.30	2111.68	2111.68	2112.06	0.019533	6.44	106.98	133.69	0.97
Reach-1	38000	468.00	2101.70	2103.06	2102.97	2103.33	0.015581	5.69	124.99	162.00	0.86
Reach-1	37500	468.00	2092.80	2093.97	2093.86	2094.30	0.020147	5.84	102.17	107.73	0.95
Reach-1	37000	468.00	2083.40	2084.19	2084.11	2084.38	0.019165	4.40	136.94	217.00	0.87
Reach-1	36000	468.00	2064.30	2066.22	2066.22	2066.68	0.015681	7.18	99.45	106.40	0.91
Reach-1	35500	468.00	2056.40	2057.81	2057.67	2058.04	0.013675	5.47	131.36	155.84	0.81
Reach-1	35000	468.00	2046.90	2047.94	2047.92	2048.28	0.030330	6.65	103.51	153.58	1.15
Reach-1	34500	468.00	2037.50	2039.07	2038.85	2039.28	0.011893	5.48	132.64	141.92	0.77
Reach-1	34000	468.00	2029.20	2030.58	2030.58	2030.98	0.025266	7.32	97.04	116.11	1.10

WASH F - PROPOSED



SCALE: 1"=2000'

0' 2000' 4000' 6000'

NORTH

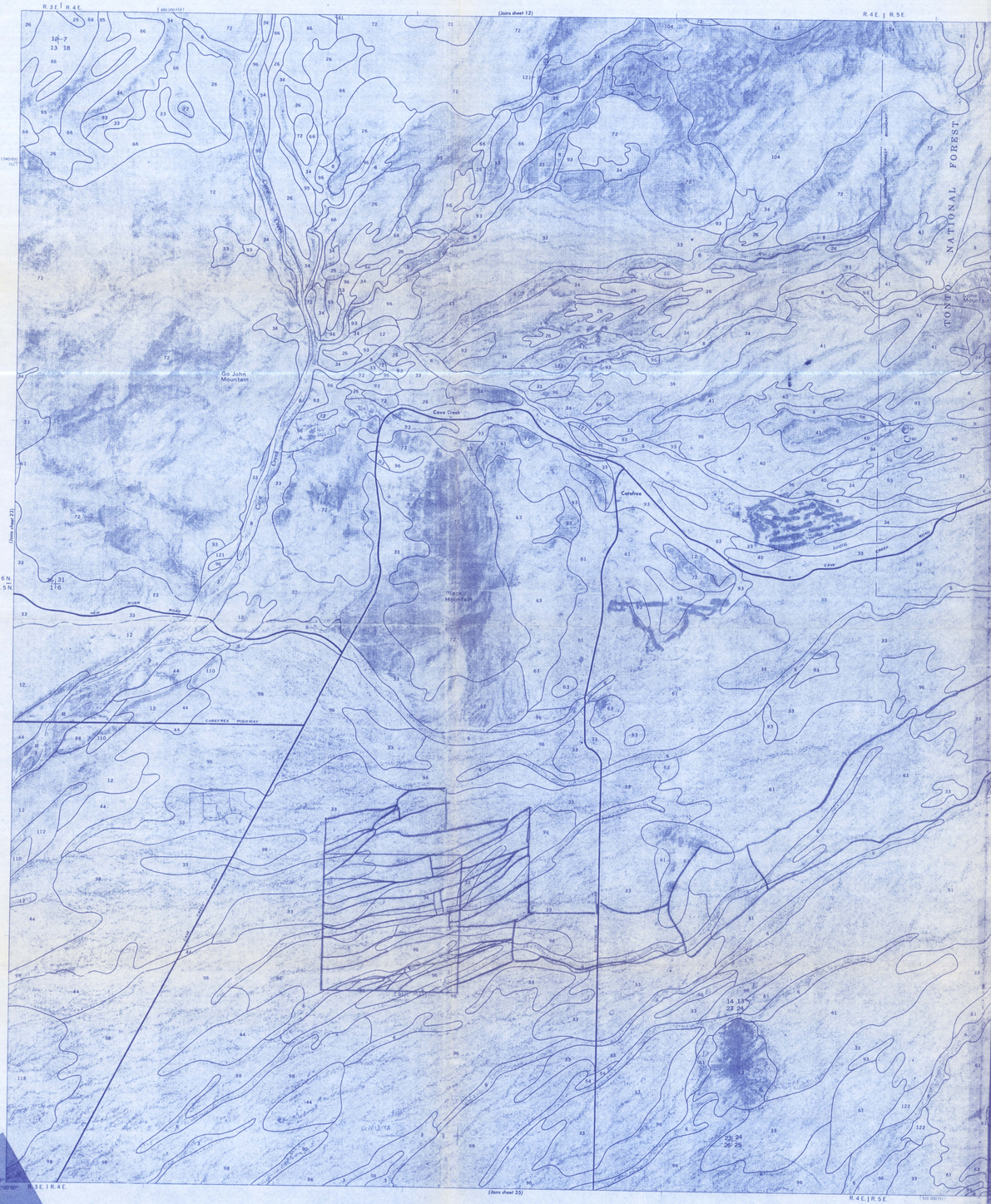
56th STREET AND LONE MOUNTAIN ROAD

PLATE 4-PREDEVELOPMENT DRAINAGE SUB-BASIN MAP

ERIE & ASSOCIATES, INC.
3120 N. 24th ST.
PHOENIX, ARIZONA 85016
(602) 954-6399

Registered Professional Engineer (Civil)
CERTIFICATE NO.
10274
LEONARD J.
ERIE, II
Date Signed ....
ARIZONA, U.S.A.

JOB NO. 1669.01
DATE: 01/29/01
SCALE: 1"=2000'
DRAWN: J.A.L.
DESIGN: L.J.E.
CHECKED: L.J.E.
SHEET NO.
1 OF 1

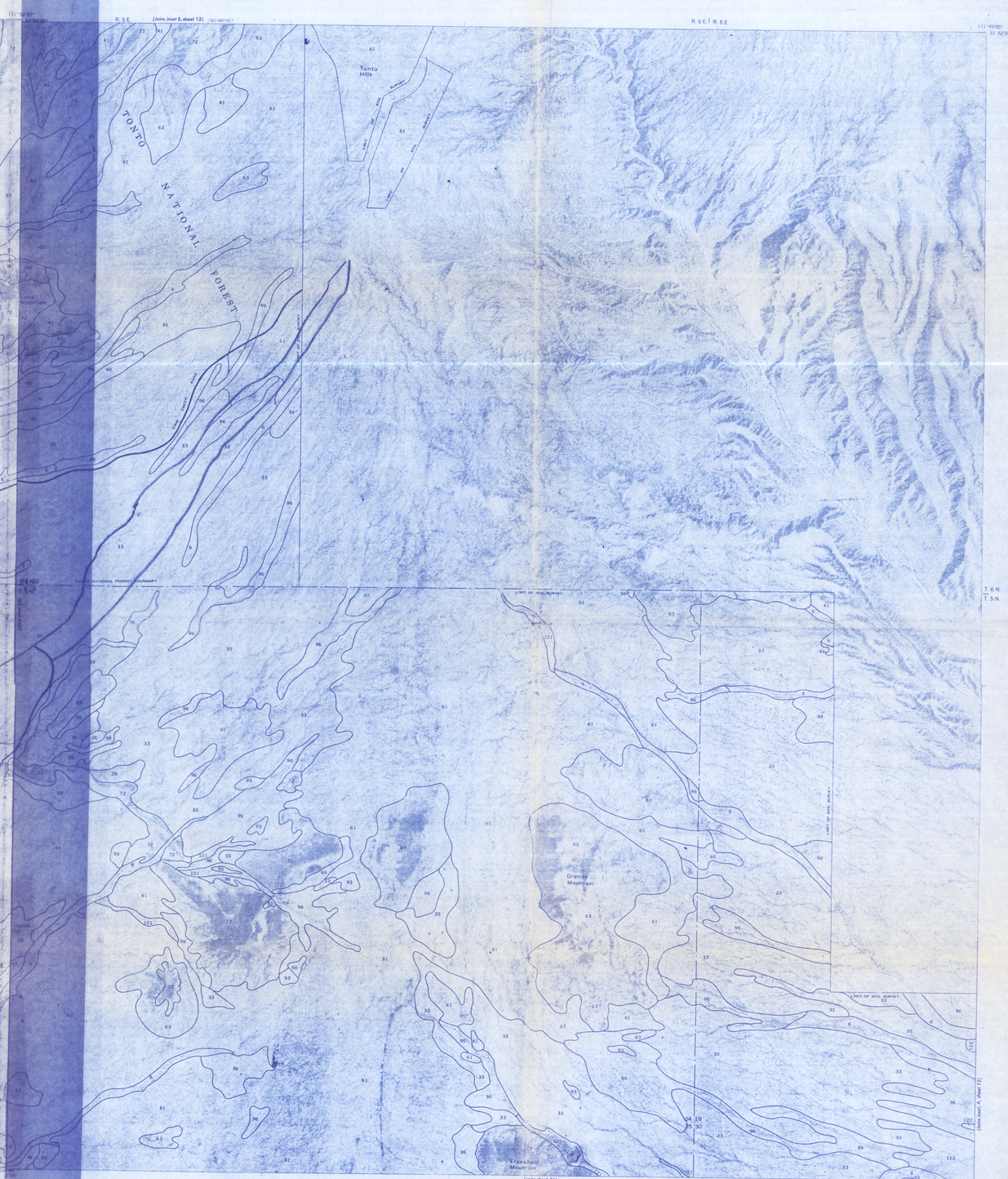


This soil survey was compiled in 1978 by the U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies.

Scale 1:24 000

AGUILA — CAREFREE AREA PARTS OF MARICOPA AND PINAL COUNTIES, ARIZONA NO. 24

Orthophotobase compiled from 1972 and 1973 aerial photography by the U.S. Department of The Interior, Geological Survey. Planimetric detail obtained from 7½ minute series maps. 10,000-foot grid based on state coordinate system.



This soil survey was compiled in 1978 by the U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies.

Scale 1:24 000

AGUILA — CAREFREE AREA, PARTS OF MARICOPA AND PINAL COUNTIES, ARIZONA NO. 25

Orthophotobase compiled from 1972 and 1973 aerial photography by the U.S. Department of The Interior, Geological Survey. Planimetric detail obtained from 7½ minute series maps. 10,000-foot grid based on state coordinate system.

PLATE 5
SOILS MAP/
SUBBASINS