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                                    $   $  $   $  $$$$    $$$   $$$$$
                                    $   $  $   $  $   $  $   $  $
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                                    $$$$$    $    $   $  $ $ $      $
                                    $   $    $    $   $  $$  $      $
                                    $   $    $    $   $  $   $  $   $
                                    $   $    $    $$$$    $$$    $$$

                         DEST=HYD05  USER=OP  QUEUE=LPT  DEVICE=@LPB
                  SEQ=17451  QPRI=127  CPL=132  LPP=66  COPIES=1  PAGES=65535
                       QUEUED BY A SUPERUSER, /DELETE, /FOLDLONGLINES

                           CREATED:  06-AUG-91  14:40:04
                          ENQUEUED:  06-AUG-91  14:40:06
                          PRINTING:  06-AUG-91  14:44:56

                          PATH=:NET:MVNET:HYD05_MVNET81

              $   $  $   $  $$$$    $$$   $$$$$         $   $  $   $  $   $  $$$$$  $$$$$   $$$     $
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                          AOS/VS II  RELEASE 2.02.00.124

                           AOS/VS II RELEASE 2.02.00.00
                       AOS/VS II XLPT-32 REVISION 2.02.00.06
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```
ECHO OFF
TM START
CLS
ECHO    ***********************************************************************
ECHO    *                                                                     *
ECHO    *                                                                     *
ECHO    *          *************900 - ORDINATE VERSION************            *
ECHO    *                                                                     *
ECHO    *                                                                     *
ECHO    *                                                                     *
ECHO    *          THIS BATCH FILE WILL RUN ALL THE FILES NORTH OF THE        *
ECHO    *          SOUTHERN PACIFIC RAILROAD BETWEEN THE RWCD CANAL AND       *
ECHO    *          ARIZONA AVE AND THE FILES SOUTH OF THE RAILROAD ALONG      *
ECHO    *          THE EASTERN AND CONSOLIDATED CANALS AND ALONG THE          *
ECHO    *          SOUTHERN PACIFIC RAILROAD SPUR TO THE COUNTY LINE          *
ECHO    *          (HUNT HIGHWAY)                                             *
ECHO    *                                                                     *
ECHO    *           THIS EATCH FILE WILL RUN THE UPDATED GILBERT-CHANDLER     *
ECHO    *           FILES   T.W.H. 4/13/89                                    *
ECHO    *                                                                     *
ECHO    *                                                                     *
ECHO    *                                                                     *
ECHO    ***********************************************************************
PAUSE
CLS
ECHO    DO YOU WISH TO RUN ALL THE FILES? (YES OR NO)
ASK "                    ENTER CHOICE:    ",YN
IF ERRORLEVEL 2 GOTO END
CLS


TM
TYPE IN01R
HEC1-900/R19600<IN01R    fsn1      ↑PT19e (22)   ↑PT19i (22)
TM
BEEP/F500/D2
TYPE IN02R
HEC1-900/R19600<IN02R    fsn4      ↓PT19i (22), ↑PT15f (50), ↑PT15g (46)
TM
BEEP/F500/D2
TYPE IN03R
HEC1-900/R19600<IN03R    fsn3      ↓PT15g (46)   ↑PT1d (47)
TM
BEEP/F500/D2
TYPE IN04R
HEC1-900/R19600<IN04R    fsn2      ↓PT1d (47)   ↑PT8g (37)   ↑PT8h (37)
TM
BEEP/F500/D2
TYPE IN05R
HEC1-900/R19600<IN05R    fsso3     ↓PT19e (22)   ↑PTGu3 (21)   ↑PTGu4 (10)   ↑PTBa3 (10)   ↑PT8f (21)
TM
BEEP/F500/D2
TYPE IN06R
HEC1-900/R19600<IN06R    fsso4     ↓PT8e (15)   ↓PTGu3 (21)   ↑PTel3 (15)   PTEL4 (11)
TM
BEEP/F500/D2
TYPE IN07R
```

HEC1-900/R19600<IN07R
TM
BEEP/F500/D2
TYPE IN08R

fss09 ↓ PT8e (15) ↑ PT13e (17) ↓ PTEL3 (15) ↑ PTWr3 (17) ↑ PTWr4 (16)

HEC1-900/R19600<IN08R
TM
BEEP/F500/D2
TYPE IN09R

fss10 ↓ PT13e (17) ↑ PT5b (19)

HEC1-900/R19600<IN09R
TM
BEEP/F500/D2
TYPE IN10R

fss12 ↓ PT5b (19) ↑ PT5e (18) ↑ PT5f (18) ↓ PTWr3 (17) ↓ PTRR1c (18)
~~↑ PTWr3 (20)~~ ↑ PTRR2 (20)

HEC1-900/R19600<IN10R
TM
BEEP/F500/D2
TYPE IN11AR

fss02 ↓ PTGU4 (10) ↓ PTFW1 (10) ↓ PTBA3 (10) ↑ PT10D (12) ↑ PT8D (13)
↓ Pt15f (50) ↑ Ptfw3 (13) ↑ Ptgu3 (12) ↑ Ptba5 (13) ↑ Ptgu4 (12)

HEC1-900/R19600<IN11AR
TM
BEEP/F500/D2
TYPE IN11BR

fss05a ↑ Pt9 (27)

HEC1-900/R19600<IN11BR
TM
BEEP/F500/D2
TYPE IN12R

fss05B ↓ Ptel4 (11) ↓ Pt9 (27) ↑ (Pt9d, 26)

HEC1-900/R19600<IN12R
TM
BEEP/F500/D2
TYPE IN13R

fss08 ↓ Ptwr4 (16) ↓ Pt9d (26) ↑ Pt 11 (27)

HEC1-900/R19600<IN13R
TM
BEEP/F500/D2
TYPE IN14R

fss11 ↓ Ptwr3 (20) ↓ Ptrr2 (20) ↓ Pt 11 (27) ↓ Ptgu3 (12) ↑ Ptel3 (29)
↑ ELtorr (28)

HEC1-900/R19600<IN14R
TM
BEEP/F500/D2
TYPE IN15R

fss07 ↓ PtEl3 (29) ↑ Pt4g (52) ↑ Pt4h (52) ↑ Pt3b (52)

HEC1-900/R19600<IN15R
TM
BEEP/F500/D2
TYPE IN16R

fss06 ↓ Pt4h (52) ↓ Ptgu4 (12) ↑ Pt30d (30) ↑ Pt30h (30)

HEC1-900/R19600<IN16R
TM
BEEP/F500/D2
TYPE IN17R

fss01 ↓ Ptba5 (13) ↓ Ptfw3 (13) ↓ Pt8d (13) ↓ Pt30d (30) ↓ Pt8g (37)
↑ Pt17e (50) ↑ Pt17g (50)

HEC1-900/R19600<IN17R
TM
BEEP/F500/D2
TYPE IN18R

fss13 ↓ Pt5f (18) ↓ Pt5e (18) ↑ Pt7e (51) (overflow) ↑ Pt7f (51) (culvert) ↓ PtRR1c (18)
↑ GaToCB (51) ↑ Ra4 (51) ↑ Ga4 (51)

HEC1-900/R19600<IN18R
TM

fss22 ↓ Pt7f (51) ↓ Pt7e (51) ↑ Pt8g (39) ↑ Pt8h (39)

BEEP/F500/D2
TYPE IN19R

HEC1-900/R19600<IN19R fss 23 ↓ Pt8g (39) ↓ GaTOCB (51) ↓ Pt8h (39) ↑ Gr3 (40) ↑ Pc4 (39)
TM
BEEP/F500/D2
TYPE IN20R ↑ Gr4 (40) ↑ Bi7 (40) ↑ Bi8 (40) ↑ Pt9c (40)

HEC1-900/R19600<IN20R fss 28 ↓ Pt9e (40) ↑ Pt8c (41) ↓ Gr3 (40) ↑ Fi3 (41) ↑ Fi4 (41)
TM
BEEP/F500/D2
TYPE IN21R

HEC1-900/R19600<IN21R fss 29 ↓ Pt8e (41) ↓ Fi3 (41) ↑ Oc3 (42) ↑ Oc4 (42) ↑ Oc5 (42)
TM
BEEP/F500/D2
TYPE IN22R

HEC1-900/R19600<IN22R fss 30 ↓ Oc3 (42) ↑ CH3 (43) ↑ CH4 (43)
TM
BEEP/F500/D2
TYPE IN23R

HEC1-900/R19600<IN23R fss 34 ↓ CH3 (43) ↑ Ri5 (44) ↑ Ri6 (44)
TM
BEEP/F500/D2
TYPE IN24R

HEC1-900/R19600<IN24R fss 35-37 ↑ Pt2c (45) ↑ Pt1c (45)
TM
BEEP/F500/D2
TYPE IN25R

HEC1-900/R19600<IN25R fss 14 ↓ Ra4 (51) ↓ ELTO RR (28) ↑ Ra3 (53) ↑ RR3 (53) ↑ Kn4 (53) ↑ Ra4 (53)
TM
BEEP/F500/D2
TYPE IN26R

HEC1-900/R19600<IN26R fss 21 ↓ Ga4 (51) ↑ Pt8d (58)
TM
BEEP/F500/D2
TYPE IN27R

HEC1-900/R19600<IN27R fss 24 ↓ Fi4 (41) ↓ Gr4 (40) ↓ Bi7 (40) ↓ Bi8 (40) ↓ Pt8d (58) ↓ Pc4 (39)
TM
BEEP/F500/D2
TYPE IN28R ↑ Pt11d (54) (siphon) ↑ Pt15c (54) (siphon) ↓ Ra3 (53) ↑ Gr3 (54) ↑ CB4 (54) ↑ Gr4 (54)

HEC1-900/R19600<IN28R fss 27 ↓ Oc4 (42) ↓ Oc5 (42) ↓ Gr3 (54) ↑ Tr2 (55) ↑ Pt Mc4 (55)
TM
BEEP/F500/D2
TYPE IN29R ↑ TrTOOc (55)

HEC1-900/R19600<IN29R fss 31 ↓ CH4 (43) ↑ Pt4d (56)
TM
BEEP/F500/D2
TYPE IN30R

HEC1-900/R19600<IN30R fss 33 ↓ Ri5 (44) ↓ Pt4d (56) ↓ Tr TO Oc (55) ↑ Ri TO RR (57) ↑ SP4 (57) ↑ Ri4 (57) ↑ Oc3 (57)
TM
BEEP/F500/D2
TYPE IN31R

IN30AR fss 15A ↓ Kn4 (53) ↑ Pt5 (98) ↓ Ra4 (53)

HEC1-900/R19600<IN31R
TM
BEEP/F500/D2
TYPE IN32R

Fss 15 ↓ RR3 (53) ↓ Pt 3b (52) ↓ Pt 5 (98) ↓ Pt 4g (52) ↑ Pt 16h (61) ↑ Pt 16i (61)

HEC1-900/R19600<IN32R
TM
BEEP/F500/D2
TYPE IN33R

Fss 16 ↓ Pt 30h (30) ↓ Pt 16i (61) ↓ Pt 17g (50) ↑ Pt 5f (62) ↑ Pt 5g (62)

HEC1-900/R19600<IN33R
TM
BEEP/F500/D2
TYPE IN34R

Fss 19 ↑ Pt 1d (59)

HEC1-900/R19600<IN34R
TM
BEEP/F500/D2
TYPE IN35R

Fss 18 ↓ Pt 1d (59) ↑ Pt 1c (60)

HEC1-900/R19600<IN35R
TM
BEEP/F500/D2
TYPE IN36R

Fss 20 ↑ Pt 12b (63) ↓ Ra 4 (53) ↑ Pt 21d (63)

HEC1-900/R19600<IN36R
TM
BEEP/F500/D2
TYPE IN37R

Fss 26 ↓ Tr 2 (55) ↓ Pt Mc 4 (55) ↓ SP 4 (57) ↑ Pt 4a (65) ↓ Oc 3 (57) {↑ Pt 4a (65) apparently not used!}
↑ Pt 3c (65) ↑ Pt 1e (65) ↑ Pt 4c (65)

HEC1-900/R19600<IN37R
TM
BEEP/F500/D2
TYPE IN38R

Fss 25 ↓ Pt 15c (54) ↑ Pt 11b (64) ↓ Gr 4 (54) ↓ Pt 1e (65) ↑ Pt 4d (64)

HEC1-900/R19600<IN38R
TM
BEEP/F500/D2
TYPE IN39R

Fss 20a ↓ Pt 21d (63) ↓ Pt 11d (54) ↓ CB 4 (54) ↓ Pt 4d (64) ↑ Pt 2d (64)

HEC1-900/R19600<IN39R
TM
BEEP/F500/D2
TYPE IN40R

Fss 32 ↓ Ri 4 (57) ↓ Pt 4c (65) ↑ Pt 2b (66)

HEC1-900/R19600<IN40R
TM
BEEP/F500/D2
TYPE IN41R

Fss 36 ↓ Pt 2c (45) ↓ Pt 1c (45) ↓ Ri 6 (44) ↑ Pt 7b (67)

HEC1-900/R19600<IN41R
TM
BEEP/F500/D2
TYPE IN42R

Fss 17a ↓ Pt 17e (50) ↓ Pt 8h (37) ↑ Pt 52g (68)

HEC1-900/R19600<IN42R
TM
BEEP/F500/D2
TYPE IN43R

Fss 17b ↓ Pt 5g (62) ↓ Pt 52g (68) ↑ Pt 32c (69)

HEC1-900/R19600<IN43R
TM

Fss 17c ↓ Pt 5f (62) ↓ Pt 32c (69) ↓ Pt 16h (61) ↑ Pt 13h (71)

```
:END
ECHO OFF
BEEP/F1500/D1/R10
CLS
TM STOP
ECHO OFF
TYPE FINISHED.IN
```

FLOOD CONTROL DISTRICT
of
Maricopa County

2801 West Durango Street • Phoenix, Arizona 85009
Telephone (602) 506-1501
Fax (602) 506-4601

D. E. Sagramoso, P.E., Chief Engineer and General Manager

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Chief, Risk Studies Division
Federal Insurance Administration
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Washington, D. C. 20472

Attn: Cynthia Croxdale

Re: CLOMR Request for Gilbert Detention Basin
Flood Map Panels 2655, 2660 and 2680.
Town of Gilbert and unincorporated Maricopa County, Arizona.
District Reference Number FCD 90-71

Dear Mr. Locke:

The Flood Control District of Maricopa County requests a CLOMR for a portion of the A Zone ponding area along the Southern Pacific Railroad Spur and the Eastern Canal in unincorporated areas and the East Branch of the Consolidated Canal and Southern Pacific Railroad within the Town of Gilbert, Arizona.

This request is based upon the proposed Town of Gilbert Cross Road Park Detention Basin to be constructed as described in the attached hydrology and floodplain delineation report prepared by Franzoy-Corey Engineering Company.

We have attached a copy of the letter to you from Jim Morris, State NFIP Coordinator, dated April 15, 1991, as documentation of coordination with the State.

The following information is submitted in support of the CLOMR:

1. Application for Conditional Letter of Map Revision from the District and from the Town of Gilbert.
2. * Hydrology and Floodplain Delineation Report.
3. Construction Specifications with addendums 1 and 2.
4. Final Design Computations.
5. * HEC-1 and HEC-2 Diskette and printout.
6. * One set of the Floodplain Delineation Maps.
7. Revised FIRM map panels 2655, 2660 and 2680.

WITH THE BLOCK WALL LABELED AND ELLIOT RD

* NEEDS TO PROVIDE US WITH REVISED COPIES FOR SUBMITTAL TO FEMA.

January 8, 1992

Mr. Tim Murphy
Maricopa County Flood Control District
2801 West Durango Street
Phoenix, Arizona 85009

re: Contract FCD 90-71
Gilbert Detention Basin CLOMR

Dear Mr. Murphy;

This is in regards to recommended revisions to the project HEC-1 model affecting the ponding elevation at the Consolidated Canal and the Southern Pacific Railroad (SPRR). On 25 October 1991, Mr. Lonnie Frost of the Town of Gilbert requested that I review the ponding elevation of 1244.3 at this site, considering that no discharge is shown down Elliot Road which has a crest elevation of 1243.3. This is obviously inconsistent.

In review of the model, errors in the model configuration were discovered at two locations. In subarea 2 concentration point 10 (file FSS02) and in subarea 11, concentration point 6 (file FSS11). These have been corrected in the revised documentation submitted herein. These changes resulted in very minor revisions to the study results except in the vicinity of the intersection of the SPRR and the Consolidated Canal where the designated flood prone areas have been significantly reduced.

The HEC-1 model does not contain specific options to model the submergence of outflow from a reservoir routing nor combining of two storage volumes based upon water elevations in either basin. However, with input from District staff, various combinations of available HEC-1 routines were tested and a model configuration was selected at each site which reasonably simulates field conditions for the study storm event. We have discussed these revisions in detail with the District staff and feel that the revisions recommended herein provide the best simulation of the field conditions at these sites for the storm event simulated.

The site in subarea 2 is located at the intersection of Guadalupe Road and the Consolidated Canal (see project drawings sheet 12 of 24). At this location ponding will occur on either side of Guadalupe Road. The ponding to the north of the road is created by the canal and road embankments. The ponding to the south of the road is created by a block wall along the north side of Freestone Park with Lindsay Road and the canal forming hydraulic barriers to the west. With the storm event modeled for this study, the area to the south of the road will pond water to an

elevation exceeding the road elevation and both areas will function as one reservoir. The reservoir volume data used in the model reflects the combined areas. The ponded water will spill into the canal at an elevation of 1245.2 and into the Freestone Park at about elevation 1247. Therefore, all flows out of the area will be into the canal. The model incorrectly contained a diversion routine which was used prior to combining the storage in the two areas. This has been revised to divert all of the outflows into the canal.

The site in subarea 11 is located at the intersection of the SPRR and the Consolidated Canal (see project drawings sheet 12 of 24). The outflow rating for the reservoir storage routine at concentration point 6 did not accurately reflect the field conditions with the addition of the Cross Roads Park Basin, and has been revised. As previously submitted, the resulting modeled water surface required combining the storage in the Freestone Park Basin with the storage volume at the intersection of the SPRR and canal. However, with the Cross Roads Park Basin included and the outflow rating modified, the storage in the two areas will not be hydraulically connected. When the ponding at the SPRR-canal site exceeds elevation 1243.2, this basin and the Freestone Park basin are hydraulically interconnected and below this elevation they function separately. The model was revised to limit inflows to the Freestone basin to a maximum of the basin volume with any remaining flows diverted to the site at the SPRR and canal. At the SPRR and canal site, the storage volumes above elevation 1243.2 include the volumes in the Freestone basin.

The outflow from the SPRR-canal site discharges into the canal as the SPRR embankment is higher than the canal bank. The canal flows toward the southwest exiting the site through a bridge under the SPRR. A block wall along the west side of the canal, north of the SPRR, retains flows from overtopping the canal and spilling to the west. When the canal bridge capacity is exceeded, the canal fills and above elevation 1242.3 becomes hydraulically connected with the upstream ponding. When the combined ponding elevation reaches elevation 1243.3, flows will spill to the west down Elliot Road. This site is now modeled using the rating of the east canal bank as the outflow from the SPRR-canal site with the storage above elevation 1242.3 included in a second reservoir storage routing which simulates the canal flow. The canal rating at the bridge is used as the outflow from the canal reservoir routing to elevation 1243.3. Above elevation 1243.3 the rating for flow down Elliot Road is included with the canal rating.

I have included two copies of the project data files on diskette, two revised printouts of the HEC-1 output files, five copies of the revised report and drawings, an one copy of relevant calculation sheets.

If you should need further information or need to discuss this further, please let me know.

Sincerely;
SFC Engineering Company

Russell L. Miracle, P.E.

cc/ w/enc. Mr. Lonnie Frost, Town of Gilbert, 459 No. Gilbert Road, Gilbert, Arizona 85234

INTEROFFICE MEMORANDUM

December 26, 1991

To: Tom Hieb, Watershed Management

From: Ted Lehman, Watershed Management
Jorge Garre, Watershed Management

Re: Review of Franzoy-Corey revision of modelling of the ponding area behind the Consolidated Canal near Elliot Road and the Rittenhouse RR

Tom,

Jorge and I have examined the new attempt at modelling of the ponding area between the Freestone Detention Basin and the Rittenhouse RR behind the Consolidated Canal. Although this most recent work is much better than the previous submittal, I still believe it could be improved. We have the following comments and questions regarding this submittal:

==========

1. Why was subbasin L of Sub Area 5 moved into Sub Area 2? Was it because of the block wall between Guadalupe Road and the Freestone Detention Basin? The model says/shows this water flowing north crossing Guadalupe Road. The flow is then combined with the runoff from the Sub Area 2 north of Guadalupe Rd. afterwhich the combined water is routed for flow over the canal and over Guadalupe Rd.. The arrangement seems curious. Finally, the hydrograph of flow over Guadalupe Road is not retrieved in the downstream files for inflow to the Freestone Detention Basin. Is there a reason for this exclusion? Or was it simply overlooked? Although the cross-sections on the floodplain maps show slope toward the Freestone basin, the water surface appears dammed behind the block wall.

Yes

2. Aside from the water left out above in #1, the model inflow to the Freestone Detention Basin appears to contain flows which should not be routed through the basin. If you examine the combined hydrographs from which the 202.68 ac-ft are diverted for the detention basin volume, you find that all of the local runoff from Sub Area 8 is included. Can/does/should this runoff be included in the Freestone basin? I think not...but maybe I'm wrong.

3. Why was the Freestone Detention Basin modelled as a simple 'front end' diversion? Although a reservoir routing for it is included in the model, the only water routed "through" it is the 202.68 ac-ft diverted off the

front end. Another concern with this reservoir routing and that of the ponding area just downstream is the comparability of the actual elevation-storage relationship with that of the HEC-1 conically computed values from the area-elevation values given in the input.

4. The modelling of this entire portion of the system is very difficult to follow in the input. Several of the combined hydrographs which flow into the Freestone Basin and the ponding area to the south come from other files which come from other files. Also the modelling of the Freestone Basin is awkward to follow through the input. This complexity is partially unnecessary and further complicated by the spurious comment cards (e.g. which hydrographs are actually being combined or diverted or retrieved etc.).

check comment cards

5. The level of topographic information and its presentation in the maps and/or model are not appropriate to the level of hydrologic analysis. The amount of relief and the locations of low points are so critical to the actual workings of this system, yet we know only a very limited portion of this information. Some additional and/or more specific profiles should be provided and discussed somewhere as to how it is that they control the behavior of the water in this area. This would include reference to the controlling relief at the canal and Elliot Road, the location and extent of these hydraulically important block walls, and the canal itself.

check for these calculations

6. The area values in the canal + ponding area reservoir routing are curious how are they explained? How does this affect the storage calucations?

==========

Well, once again, have fun. Enjoy. Hope you had a nice Christmas vacation! Welcome back!!

Ted Lehman

INTEROFFICE MEMORANDUM

January 13, 1992

To: Tom Hieb, Watershed Management Branch

From: Ted Lehman, Watershed Management Branch

Re: Review of most recent (1/10/92) submittal by SFC for the Gilbert-Chandler CLOMR

Tom,

I have examined the most recent submittal of the modelling of the ponding area behind the Consolidated Canal and the SPRR. I believe that the consultant has addressed all of our comments from the December submittal (see INTEROFFICE MEMORANDUM dated 12/26/91). However, a couple of additional points appear to require some attention.

==========

1. The outflow from the ponding area which includes the canal and the area behind the canal (KK PT6f) appears to erroneously route flows from Elliot Road to the SPRR bridge. Overflow from the ponding area is combined with canal flows which are routed only from Guadalupe Road to Elliot Road. Perhaps some length could be added to this routing reach and the ELTORR could be eliminated.

2. The rating curve which gives discharge down the canal (i.e. the SQ values in the PT6f KK block) assume a free surface condition for flow in the canal. However, above 1241.35 ft flows in the canal encounter the SPRR bridge. The discharge at this elevation in the canal is calculated at approximately 1025 cfs. However, as the stage in the canal increases interference from the brigde is not accounted for in the continuing rating curve. It would seem logical to assume that the bridge would inhibit continuing flows to something less than a free surface condition. If this reduction in discharge down the canal is significant it could contribute to increased ponding upstream. Increases above 1243.3 ft would lead to discharge down Elliot Road to the west.

==========

If you have questions regarding these comments, please let me know.

Franzoy•Corey

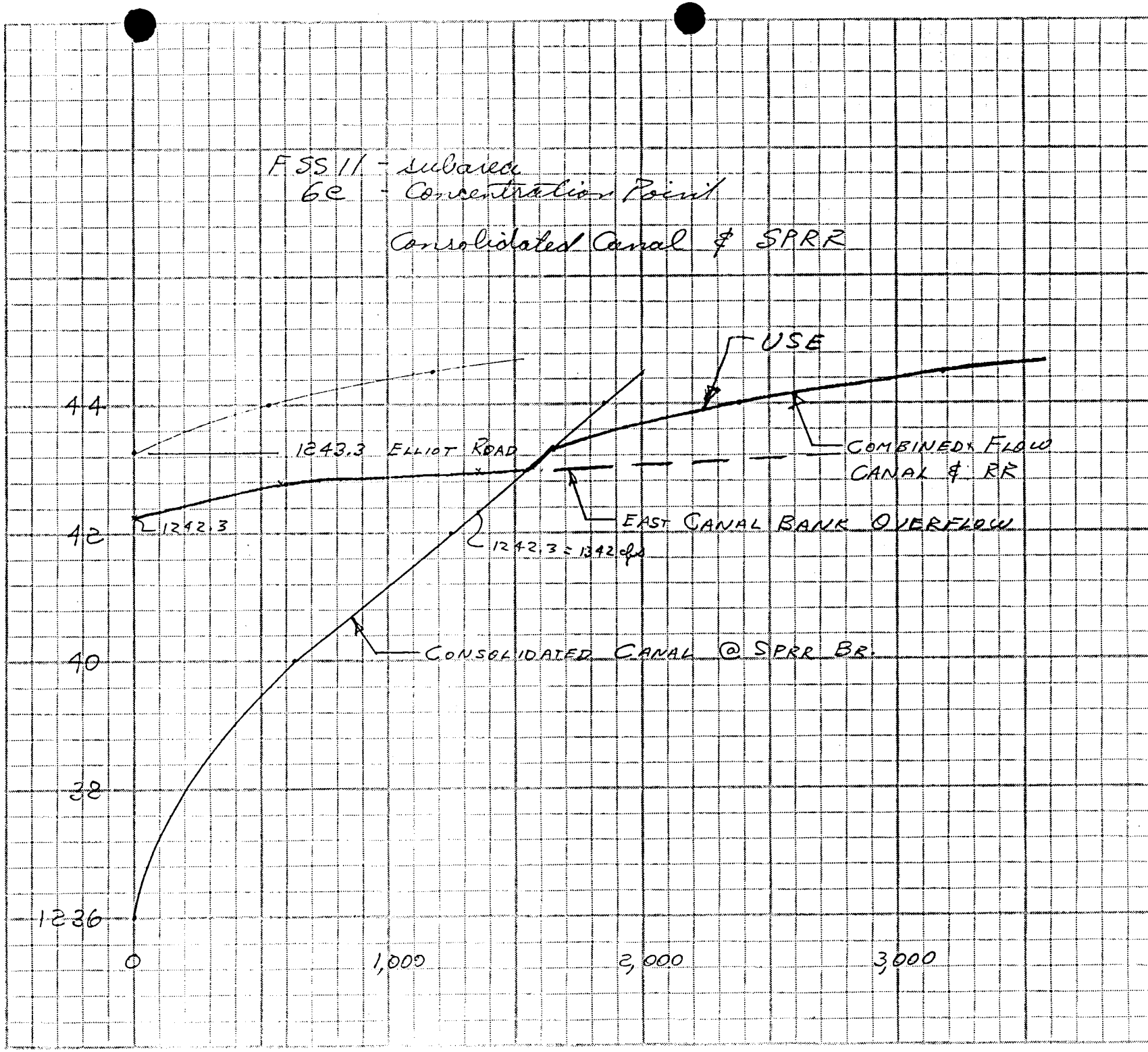
SUBJECT Ponding Outflow

COMPUTED RMM CHECKED

PROJECT Gilbert Det. Basin

FILE NO. 35903.00

DATE 10/9/ PAGE ___ OF ___ PAGES



Franzoy•Corey

SUBJECT Pond outflow
Consolidated Canal & SPRR

PROJECT Gilbert Det. Basin

FILE NO. 35903.00

COMPUTED RW CHECKED

DATE 10/91 PAGE ___ OF ___ PAGES

subarea - FSS 11
concentration point - 6e

(SE) ELEV	Q CANAL BANK	Q CANAL	Q ELLIOTT RD	use SQ	SA
1242.0	0	1250		0	26.7
1242.3	0			0	36.1
42.5	59			59	54.7
42.8	581			581	82.6
43.0	1348			1,348	98.0
43.05	1550	1573		1,550	102.5
43.3	3288	1650	0	1,650	120.2
44.0		1,850	533	2,383	167
44.5		2,000	1,189	3,189	197

Franzoy•Corey

SUBJECT Pond Routing Data
PROJECT Gilbert - Chandler
FILE NO. 35903.00
COMPUTED RAM CHECKED
DATE 10/91 PAGE ___ OF ___ PAGES

Consolidated Canal at SPRR (Nr. Elliot Rd)

Combine Canal routing with ponding at this site.

SE	SQ	SA	SQ_{RR}	$SQ_{ELLIOT\ Rd}$
1220.0	0	0		
22.0	0	0.5		
24.0	0	2.6		
26.0	0	4.4		
28.0	0	6.9		
30.0	0	9.0		
36.0	0	12.0	0	
40.0	628	14.5	~~0 628~~	
42.0	1250	26.7	~~0 1250~~	
43.3	1650	120.2	1650	0.
44.0	2383	167	1850	533
44.5	3189	197	2000	1189

~~with these flows the computed pond ele is 12~~

w/o pond elev is 1243.4 & 68 cfs down elliot Rd

1242.3 = 1342

Franzoy•Corey ENGINEERS & ARCHITECTS

SUBJECT Combine Pond at Cons. Canal & Freestone Basin
PROJECT MCFCD-FIS
FILE NO. 35901.00
COMPUTED MDH CHECKED YR
DATE 9/6/84 PAGE 1 OF 1 PAGES

SUBAREA 5 & 11 COMBINING PONDED WATER SITE INCLUDING FREESTONE BASIN

Subarea 11 SA_{RR}	Subarea 5 SA_F	SA_{TOT}	$SE_{FREE.}$	SE_{RR}	SE	SQ_{RR}	SQ_F	SQ_{TOT}
	.02	.02	1220					
	.55	.55	22					
	2.65	2.65	24					
	4.4	4.4	26					
	6.91	6.91	28					
	9.04	9.04	30					
	12.02	12.02	36					
Ø	14.49	14.49	40	40				
10.5	16.2	26.7		42				
19.7	16.4	36.1		42.3		Ø		
28.9	16.5	45.4		42.4		10.4		
38.1	16.6	54.7		42.5		58.8		
47.3	16.7	64.0		42.6		162		
56.6	16.8	73.4		42.7		333		
65.8	16.8	82.6		42.8		581		
75.0	16.9	91.9		42.9		916.7		
82.0	16.99	98.99	43	43.0		1348.0		
89.0	17	106		43.1		1882		
96.0	17.1	113.1		43.2		2526		
103.0	17.2	120.2		43.3		3285		
110.0	17.3	127.3		43.4		4174		

revised

STAGE

PT 6 FSS11.IN7

5 of 11

Franzoy•Corey ENGINEERS & ARCHITECTS

SUBJECT Ponding Outflow Consolidated Can. & SPRR
PROJECT Gilbert-Chandler FIS
FILE NO. 35901.cw
COMPUTED MDH CHECKED YR
DATE 9/89 PAGE 1 OF 1 PAGES

Outflow From Ponding Site
SPRR & Consolidated Canal
PT 6 SA 11

(dc) (Ft) Depth of Flow	(CFS) Outflow	(AC) Area	(Ft) Elevation
∅	∅	148.1	1243.3
0.25	106 ✓	153.5	1243.55
0.50	300	161.6	1243.80
0.75	533	167 ✓	1244.05 ✓
1.00	851	185 ✓	1244.30 ✓
1.25	1189 ✓	197 ✓	1244.55
1.50	1563	215 ✓	1244.80
1.75	1970	226 ✓	1245.05
2.00	2407 ✓	244 ✓	1245.30 ✓

Newly planimetered to include more area

Block Fences on each side of Elliot road force outflow down Elliot Rd. only. The flow is assumed to be critical so the equation below was used to determine outflow rating curve

$$\left(d_c = \sqrt[3]{\frac{Q^2}{g b^2}} \right)$$

$Q = \sqrt{d_c^3 g b^2}$ (rectangular channel) $b = 150'$

where Q = outflow in cfs
d_c = critical depth in ft.

Franzoy•Corey

SUBJECT GILBERT-CHANDLER
PROJECT 35903.00
FILE NO.
COMPUTED RM CHECKED
DATE 10/91 PAGE ___ OF ___ PAGES

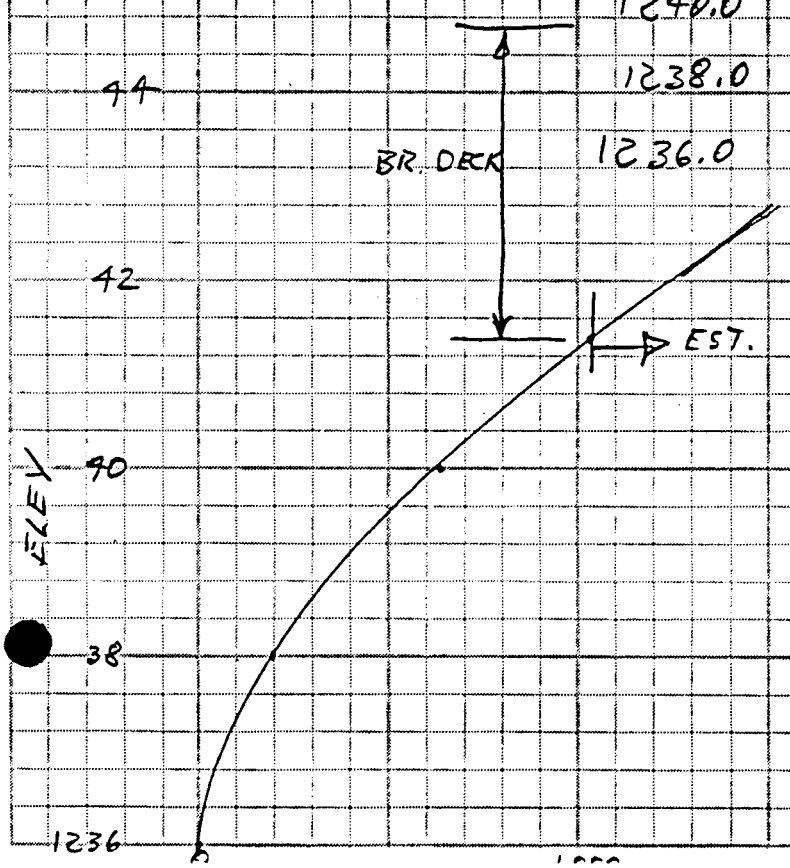
CONSOLIDATED CANAL BRIDGE @ SPRR
(NR. ELLIOT Rd)

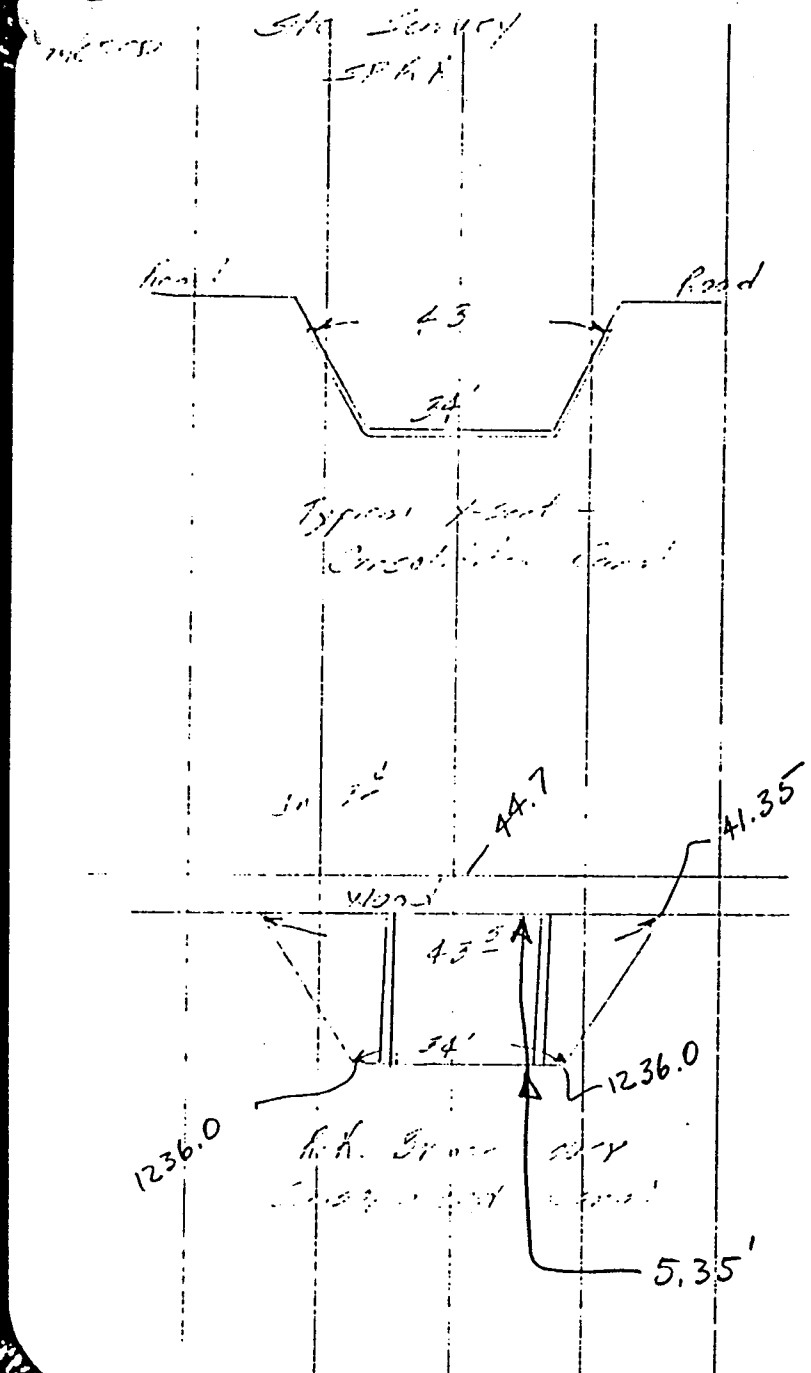
invert elev.	STA	S_o	
1238.48	342+00	0.00034	South of Guatalupe
1236.09	389+26	0.000506	No of Elliot Rd
1236.05	405+80	0.000024	No of SPRR
1234.58	455+35	0.000297	So of Warner

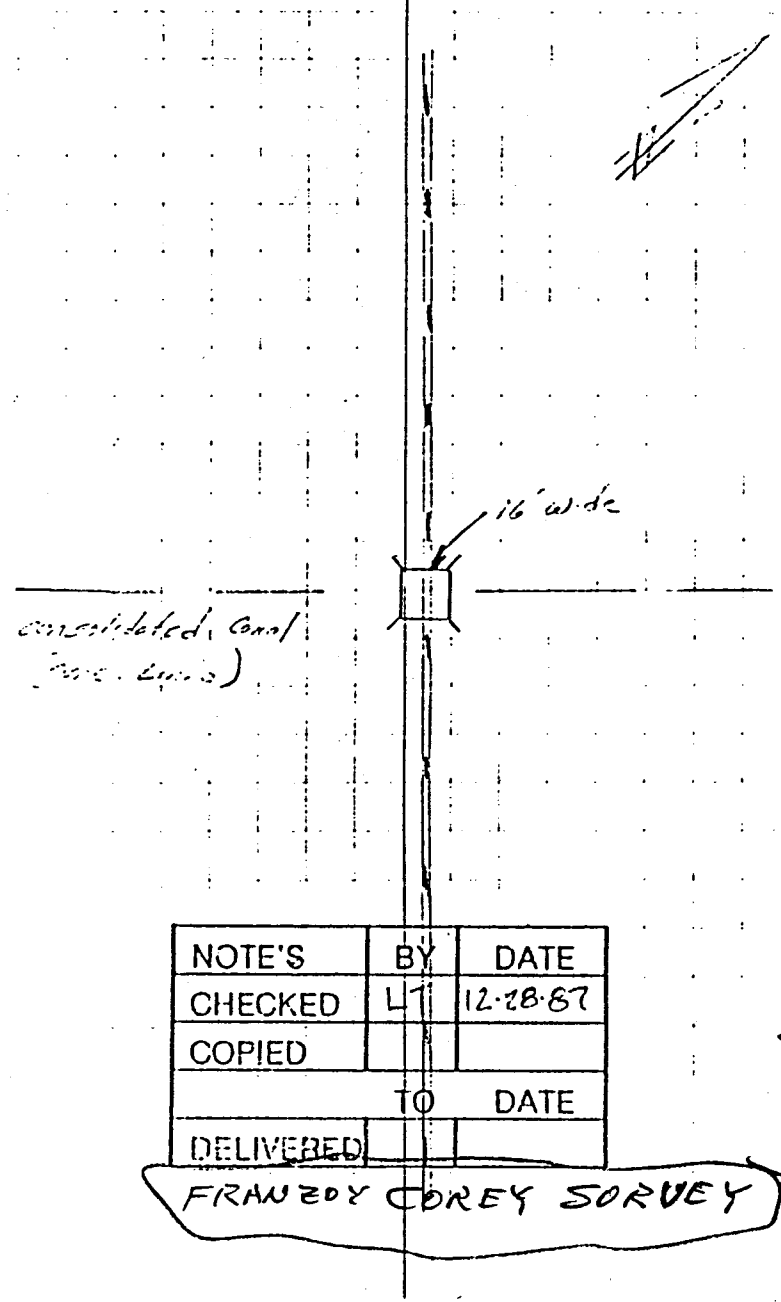
n = 0.014
SS = use 1:1
b = 32'
S_o = 0.00034

ELEV	d	Q	A
1241.35	5.35	1025	200
1240.0	4.0	628	144
1238.0	2.0	197	68
1236.0	~~0.0~~	0	

Elliot Rd overflow begins







NOTE'S	BY	DATE
CHECKED	LT	12-28-87
COPIED		
	TO	DATE
DELIVERED		

FRANZOY COREY SURVEY

11 of 2

S.A. Survey
SPRR (See Pg 10)

12/22/87

8/12

TBM HC-22 S 61 50.00 1241.39 ½" T.B. – 40' E. of Corso [illegible] Canal & 100' S. of SPRR (See Bk 805 Pg 148)

50 S. of R.R.

S. Edge Bridge

N. Edge Bridge

50 No. of R.R.

NOTE'S	BY	DATE
CHECKED	LT	12-28-87
COPIED		
DELIVERED	TO	DATE

42.7 ✓ 7.5 Z4 Top Bank

41.41 ✓ 8.59 W. TCD

36.15 ✓ 13.85 Inv. C.D.

41.45 ✓ 8.55 E. TCD

43.35 ✓ 6.65 Z4 Top Bank

44.69 ✓ 5.31 ℄ R.R.

36.01 ✓ 13.99 Inv. C.D.

41.35 ✓ 8.65 Top Bridge opening

36.11 ✓ 13.89 Inv. C.D.

41.25 ✓ 8.75 Top Bridge opening

44.05 ✓ 5.95 Z4 Top Bank

42.10 ✓ 7.90 W. TCD

36.80 ✓ 13.20 Inv. C.D.

42.03 ✓ 7.97 E. TCD

43.65 ✓ 6.35 Z4 Top Bank

TBM HC-22 3.61 41.39 ✓ (41.39) ½" R.B. – Loop Return

FRANZOY COREY SURVEY

11 of 8

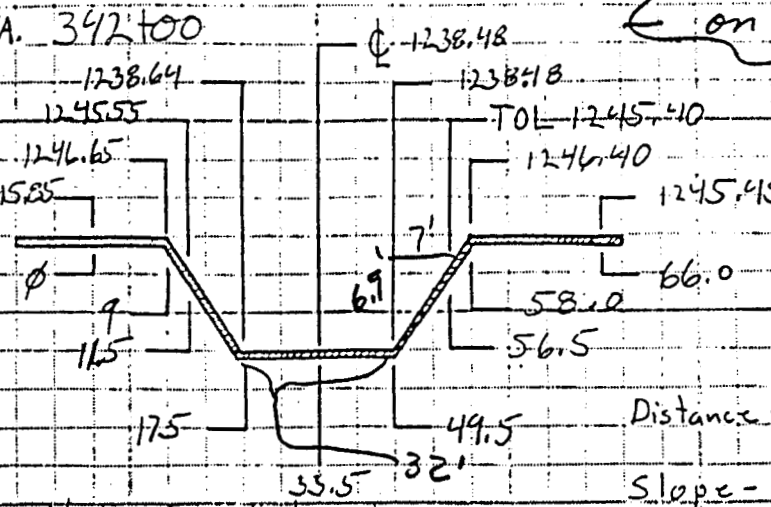
Franzoy • Corey ENGINEERS & ARCHITECTS

SUBJECT Consolidated Canal X-Sections (SEE Notes) PROJECT [illegible]
FILE NO. [illegible]
COMPUTED [illegible] CHECKED ____ DATE [illegible] PAGE 1 OF ____ PAGES

South of Guadalupe Rd

FROM SRP survey on another datum

STA. 342+00



B = 32'
d = 7.9'
z = 1.1

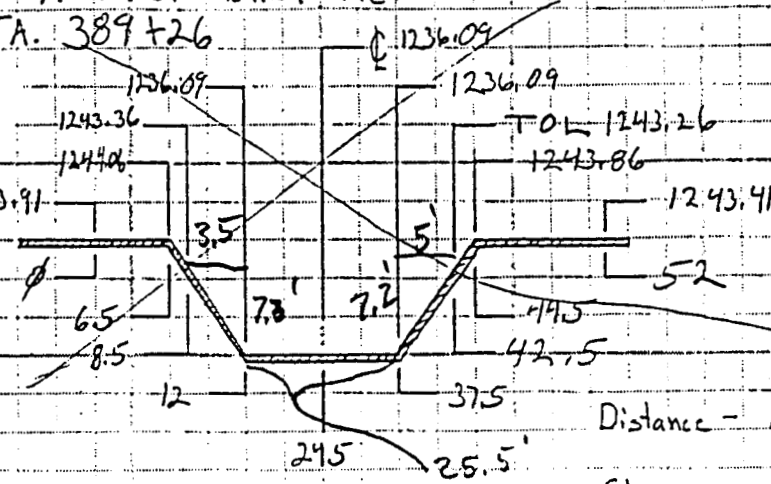
SEE File FSS11.IN

Distance - 4726
Slope - 0.00005

Distance from Guadalupe to Elliot

North of Elliot Rd

STA. 389+26



B = 25.5
d = 7.8
z = 1

333+42 - 390+75 = 5733'

@ a structure don't use

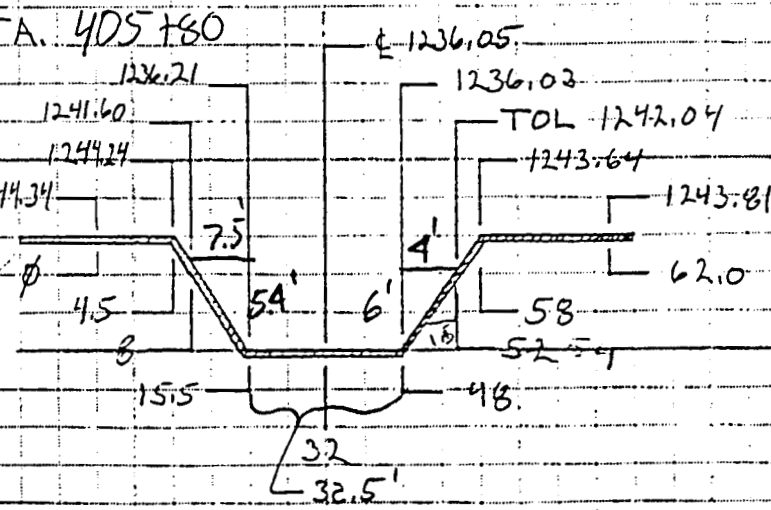
Distance - 1654
Slope - 0.00005

Distance Elliot to RR

North of SPRR

405+49 - 390+42

STA. 405+80



B = 32.5
d = 7.6
z = 1.3

1507'

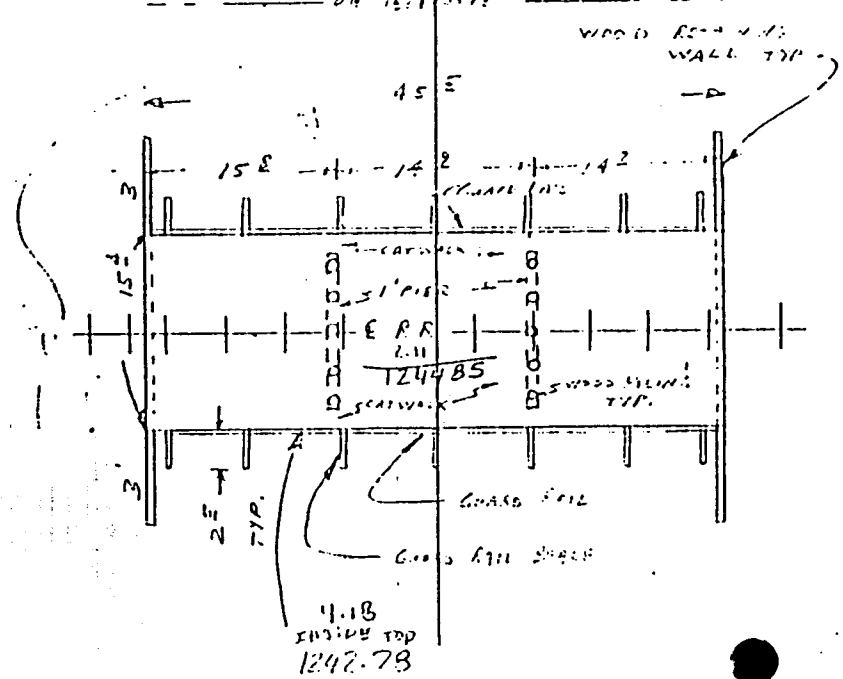
408+00	REBAR 1242.15	X-Sec	FROM SRPS SURVEY	
405+80	X-Sec			ALL SHOTS OFF OF REBAR 1242.15
405+68.5	℄ OVERHEAD TELEPHONE LINES			
405+49.3	℄ RAIL ROAD TRESSLE BRIDGE			

1244.34 - 58 ℄ RD
1244.24 - 53.5 BK
1241.60 - 50 TOP LIN
1240.01 - 47.5 HW
1236.21 - 42.5 TOE
1236.05 - 26.5 ℄

1241.48 - 51 ℄ RD
1241.91 - 44 BK
1241.46 - 42.5 TOP LIN
1239.96 - 40.5 HW
1236.21 - 36.5 TOE
1236.04 - 22.5 ℄

1236.03 - 10 TOE
1240.01 - 6 HW
1242.04 - 4 TOP LIN
1243.64 - 0 BK
1243.81 - 4 ℄ RD

1236.01 - 7.5 TOE
1239.90 - 3.5 HW
1241.29 - 2 TOP LIN
1242.33 - 0 BK
1241.94 - 8 ℄ RD



Franzoy•Corey

ENGINEERS & ARCHITECTS

SUBJECT Ponding & Outflow

COMPUTED MDH CHECKED

PROJECT FCD-MC

FILE NO. 35501.00

DATE 9/19/88 PAGE ___ OF ___ PAGES

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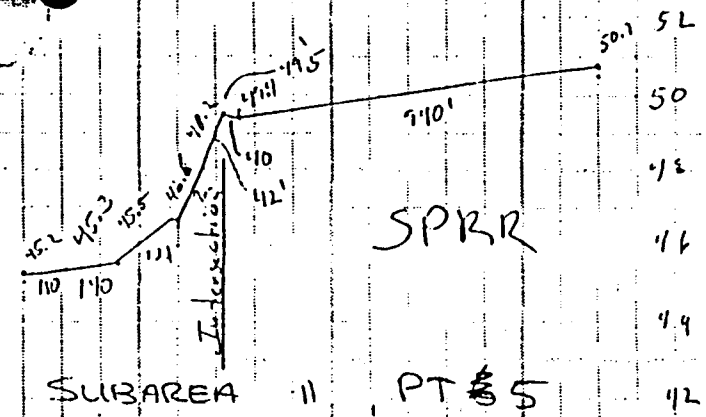
Lindsay

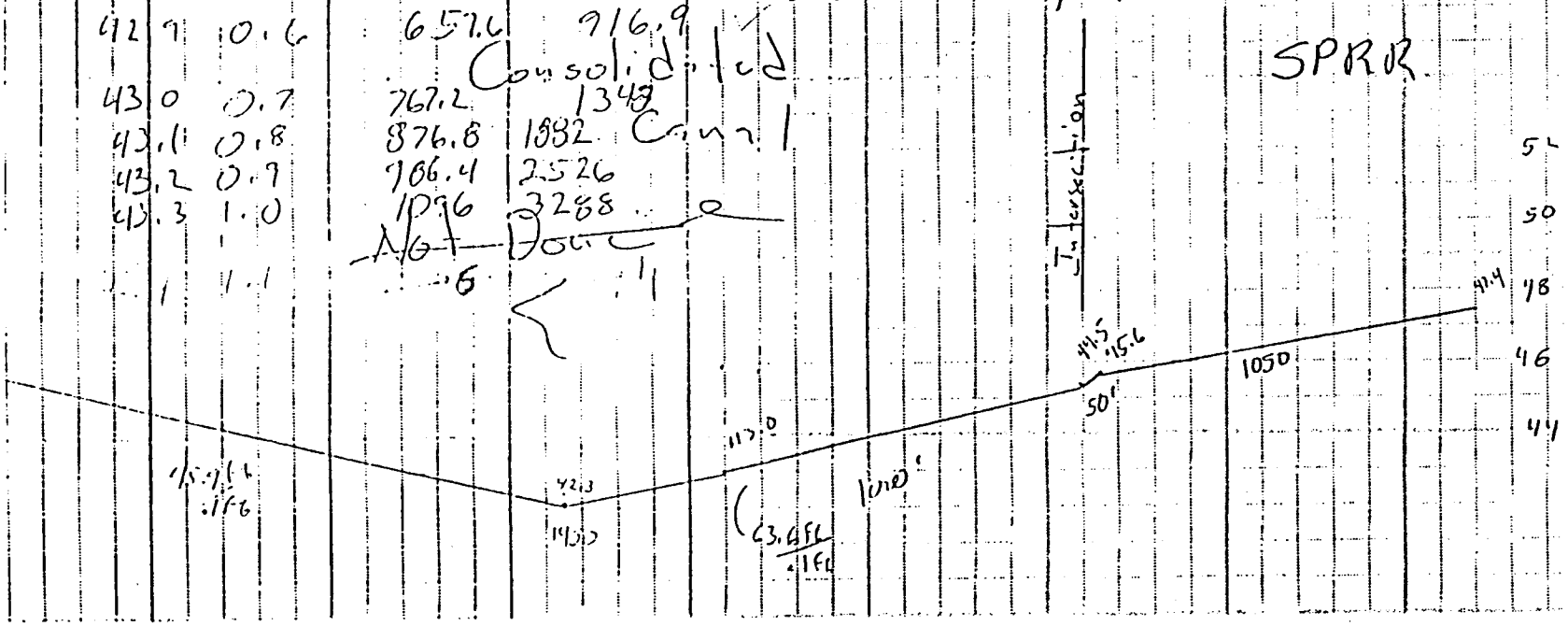
No Significant Ponding



Elev.	H	L	Q
42.3	0	—	0
42.4	0.1	109.6	10.4
42.5	0.2	219.2	58.8
42.6	0.3	328.7	162.0
42.7	0.4	438.3	332.6
42.8	0.5	548.0	581.0
42.9	0.6	657.6	916.9
43.0	0.7	767.2	1348
43.1	0.8	876.8	1882
43.2	0.9	986.4	2526
43.3	1.0	1096	3288
[illegible]	1.1	[illegible]	[illegible]

Consolidated Canal

Not Done



Franzoy • Corey

SUBJECT Combine Ponding of PT 10, FSS02 & PT 8 FSS05
PROJECT Gilbert-Chandler
FILE NO. 35001.00
COMPUTED RMI CHECKED
DATE 7/90 PAGE ___ OF ___ PAGES

Consolidated Canal

Conversion of Kinematic Wave Hydrographs to Clark resulted in the pond just south of Guadalupe Rd backing water up over the road and requiring the combining of the two ponds in the analysis. Outflow will need to be split into flow over the canal and flow into Freestone park.

PT 8 - FSS5 South of Guadalupe			PT 10 - FSS2 North of Guadalupe			Combined		
SA	SE	SQ	SA	SE	SQ	SA	SE	SQ
0	1242.5	0				0	1242.5	0
6.1			0	1243.5		6.1	1243.5	0
9.2	1244.0	0	2.5	1244.0	0	11.7	1244.5	0
20.7	45.3		15.4	1245.3	17.4	36.1	1245.3	17.4
21.6	45.4		28.3	1245.4	98.5	49.9	1245.4	98.5
22.5	45.5		41.2	1245.5	271.1	63.7	1245.5	271.1
23.4	45.6		54.2	1245.6	556.3	77.6	1245.6	556.3
24.2	45.7		67.1	1245.7	971.6	91.3	1245.7	971.6
25.1	45.8		80.0	1245.8	1533.7	105.1	1245.8	1,533.7
26.9	1246.0	0						
			14.4	1245.2	0	34.2	1245.2	0
19.8	1245.2	0						

7.7

canal overflow only

Note: No flow from south of Guadalupe Rd will enter Freestone Park.

5/19/89

MCFCD - Gilbert/Chandler Flood Plain Delineation Field Review - Consolidated Canal

John Schmeltzer & I met @ the Gilbert City office and conducted a field review of the preliminary pencil delineations on consolidated canal. The reach from the Superstition Fwy to Ray Road (first 3 sheets of 7). Findings are summarized below.

1. at baseline road - we confirmed that subasins B and C do concentrate @ PT 2, flow down baseline road and contribute to ponding north of baseline and subarea A contributes to PT 9. Ponded flows crossing baseline will flow into a ranchette area bordering the canal. A subdivison east of this ranchette area and south of baseline have a block wall which diverts road overflow toward the canal. The entry into the subdivision is raised above road crest preventing entry of flood water.

Revision 2. a ponding analysis @ PT 8 needs to be included in HEC1 with the outfall approx 800' ease of the canal into the subdivision to the south (elev 1246). Route outflow to PT 10.

3. PT 10 looks OK

Revision 4. Road overflow crossing Guadalupe Rd will flow into a depressed area & pond. The Gilbert Freestone Park has a block wall and maintenance building along the north edge. Water will pond north of the park and spill into the basin approx 1200' east of the canal @ ≈ elev 1247. a small pipe ~~@~~ m. lindsay rd drains the area into the basin but should not be included into the analysis. With only 36 acre-feet crossing Guadalupe, we need to compute elev at which 36 ac-ft will be stored & delineate this area.

Revision 5. Subarea 8 - Subbasin H north of Elliot & subbasin I drains into freestone

affect ponding @ canal & SPRR

6. Ponding will outflow at Elliot rd

7. PT8 - FSS14 looks OK as shown
8. PT 9 - FSS14 looks OK as shown
9. PT 10 - FSS14 looks OK as shown

end of review

FLOOD CONTROL DISTRICT of Maricopa County

Interoffice Memorandum

CMT. NO.	SUBJECT: Gilbert - Chandler Hydrology Revisions	☐ FILE ☐ DESTROY

TO: Tim Murphy FROM: Tom Hieb DATE: 1/24/92

I have checked through the material submitted by Stanley Franzoy Corey. They have addressed all of our previous review comments concerning hydrology. I have no further review comments on the hydrology. Do we need to send the hard copy of the output to FEMA? If not, I would like to keep it. Also, we need to get several more complete sets of floodplain maps.

I took one copy of the map, two copies of the report and the diskettes. Let me know if you need any of this returned to submit to FEMA.

6910-007 3-90