DAVID EVANS
AND ASSOCIATES INC.

41951 Remington Ave, Suite 220 Temecula, CA 92590
Telephone: 1-951-294-9326◆ FAX: (951) 294-9300 ◆ website: www.deainc.com

PRELIMINARY HYDROLOGY REPORT

Honda Center

Lake Elsinore, CA

Prepared for:
SRZ Yuma LLC
3158 Auto Center Circle, Suite E
Stockton, CA 95212

Prepared under the Supervision of:

Aaron Cook, P.E.

April 18, 2018

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1. PROJECT DESCRIPTION

1.Project Introduction

The Honda Center project is a 281,833-sqft Commercial Car Retailer Development located in the City of Lake Elsinore that will create 253,650sqft of impervious surface. The project is bounded by the I-15 freeway to the east, Collier Avenue to the west, and 3rd Street to the south. The projects north boundary is a vacant lot at the time of this report, although, per the approved plans 17-071 for Central Plaza, the project will be a commercial development. The project is part of the Santa Ana River Watershed.

The purpose of this report is to provide engineering calculations in support of the Honda Center development, which will:

1) Analyze the existing and proposed condition Hydrology,
2) Perform hydraulic analysis of the proposed storm drain facilities and insure project flow rates for the 10 year design storm is mitigated to equal or less than the 10 year existing discharge rate.
3) Perform hydraulic analysis of the proposed storm drain for the 100 year storm and insure adequate capacity is provided to convey storm water flows to the public storm drain system.
4) Determine the required channel size to convey offsite storm water to the future 3rd street storm drain. (Refer to Appendix H)
4) Provide sizing recommendations of all hydraulics structures

2.Existing Hydrologic Characteristics

The hydrology for the site was broken into 2 sub areas that ultimately drain to the western boundary of the project via sheet flow. All the drainage is direct into the 3rd street channel on the south end of the project, which confluences with Temescal Creek, Reach 6, otherwise describe as the Lake Elsinore Outlet. The hydrologic soil group for the project was identified as type B, which is generally described as silt loam or loam soils with a moderate infiltration potential. The soil assessment is based on the NRCS Soil Survey Maps, which is adequate for the preliminary assessment in this report and will be updated upon a formal soil investigation.

This existing site is flat, with a gentle slope of 2% with little vegetative cover unevenly spread over the open space. Existing infrastructure includes 2 highway billboards and an outlet 54" storm drain on the east project boundary near the freeway, a concrete pad on the west, a retaining wall on the south west corner and a pump station outside the south boundary. Additionally, a parcel approximately 0.15 acres in size, sits in the southwest corner of the project. The parcel contains a wingwall and riprap pad, which establishes the entrance of an existing double 14'x4.5' RCB into the 3rd street channel, owned by the Riverside County Flood Control. Future plans for this parcel includes the construction of a 6'x10' RCB that will connect to the existing double 14'x4.5' RCB.

3.Developed Hydrologic Characteristics

As previously described, the Honda Center project is a 281,833-sqft Commercial Car Retailer Development that will create 6.47 acres of impervious surface. The majority of the project footprint will be composed of parking stalls; with approximately 1.5 acres of building space for the construction of the dealership building that will contain car maintenance and customer services.

The project will follow the existing condition drainage pattern and will generally carry runoff to the west side of the project. Referring to Appendix B Hydrology Map, drainage area A is defined as the area on the East side of the project, parallel to the I-15 freeway. Stormwater sheet flows North into 2 proposed grated inlets and into 12" storm drains that outflow into the proposed Bioretention Basin A. Drainage area B, which is on the West side of the project, adjacent to Collier Avenue, drains West into a the proposed storm drain line that runs South-North through 5 grated inlets. Storm water is then directed to Bioretention Basin B.

During a 2 year storm event, the proposed bioretention basins are used to treat storm water using Best Management Practices. The project was determined to be infeasible to use infiltration BMPs. For that reason, an underdrain is provided in the gravel layer of the basins, which is used to convey treated water to the public storm drain system. Specifically, treated storm water from Bioretention Basin A joins the treated storm water from Basin B in the gravel layer using a solid 6-inch storm drain that connects the basins. Through the perforated underdrain, storm water is conveyed to the outflow pipe, where flows ultimately join the public storm drain line on Collier Avenue. Refer to Appendix B Proposed Hydrology Map for a cross-section of the Bioretention Basin connectivity.

For storm events greater than the 2- year, storm water overflows from Basin A to the surface of Basin B using a driveway culvert. Once in Basin B, water is conveyed towards the overflow structure and directed towards the outflow storm drain that connects to the public 48-inch RCP in Collier Avenue.

4.Methodology

As previously mentioned, the project design criteria was to determine the required capacity for the onsite storm drain system to safely convey storm water to the public storm drain on Collier Avenue for the 100 year storm, while mitigating the 10 year storm to a discharge level equal to or less than the 10 year existing condition. To do this, hydrologic calculations for the project were performed using CIVILCADD/ CIVILDESIGN Engineering Software, Version 7.0. 'Peak Flow' and 'Time of Concentration' values for each storm event were obtained using the 'Riverside County Rational Hydrology Program' option within the software. The 'Time of Concentration' and other pertinent information obtained from the rational method analysis was then used to generate a 'Unit Hydrograph' for each respective drainage area, as applicable.

The 'Unit Hydrograph Analysis' was performed using the same CIVILCADD/CIVILDESIGN Engineering Software previously mentioned. The unit hydrograph was used to obtain the time distribution of flow, which was performed for the 1 hour, 3 hour, 6 hour and 24 hour duration. Next, the duration that produced the greatest peak flow rate was used and was calibrated to match the Rational Method peak flow rates for each respective major drainage area.

Once the desired hydrograph was obtained, basin routing was performed using Bentleys Civilstorm V8i (Select series 4). Due to the complexity of analyzing interconnected basins and the unsteady backwater effects that may occur in the outlets of Basin A and B, Hydraulic Routing Methods, specifically, the Dynamic Wave model, was used. By using this model, the hydraulic impacts of reverse flow and outlet behavior was observed. With that said, the hydraulic routing analysis demonstrated that the basins would function adequately in the event of a 100-year storm and 10-year storm.

Finally, Bentley's StormCAD V8i (SELECT series 3) was used to size the onsite storm drain pipe. In order to be consistent with the hydrology analysis that was performed, project flow rates were distributed based on the area tributary to each inlet and were used as input variables for the hydraulic model. Additionally, inlet sizing was determined using Bentley's Flow Master V8i. Refer to Appendix F & G for additional detail on the hydraulics analysis performed.

5.Summary of Hydrologic Results and Recommendations

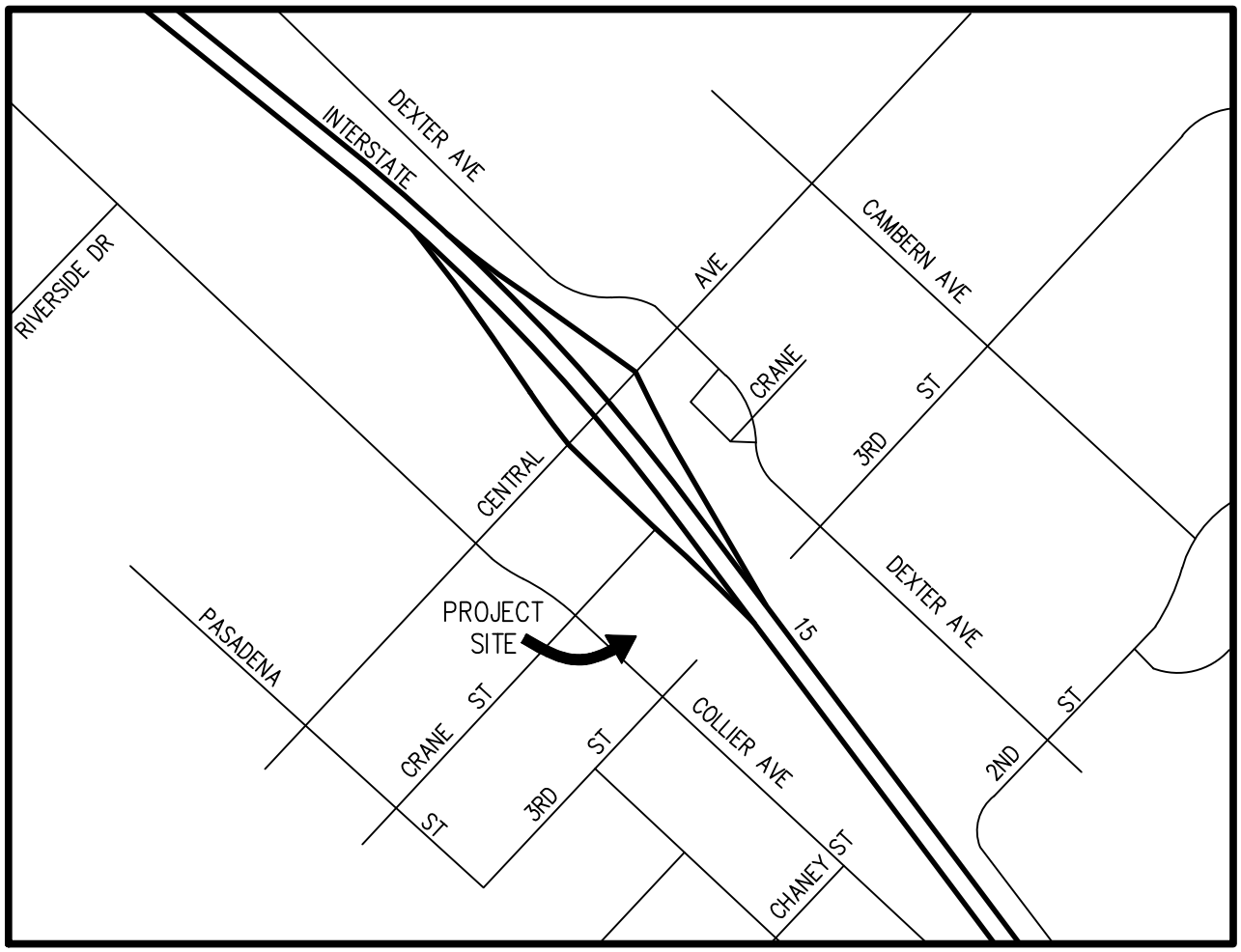
Hydrology Summary				
Condition	**Catchment Area**	**Area (acres)**	**100-Year Q (cfs)**	**10-Year Q (cfs)**
Proposed	Area A	1.67	5.26	3.36
Proposed	Area B	4.80	13.78	8.81
Mitigated	Area A & B	6.47	11.46	2.92
Existing	Area A1,A2,A3	6.47	15.85	9.11

*Refer to basin Routing analysis in Appendix H

Hydraulic Capacity
Design Flow Rate for 48" Storm Drain = 21 cfs*
Project Flow Rate = 11.46 cfs

Based on the design criteria stated earlier, the report hereon demonstrates that the project is adequately designed to convey storm water to the public storm drain system, as well as satisfy the design requirements for peak flow mitigation of the 10 year storm event. Additionally, the proposed 4.5' rectangular channel on the easterly boundary is capable of conveying offsite storm water into the future 3rd street storm drain and all storm drain facilities are designed to operate as the intended.

Appendix A: Vicinity Map



VICINITY MAP

NOT TO SCALE

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DAVID EVANS
AND ASSOCIATES INC.
41951 Remington Ave. Suite 220
Temecula, California 92590
Phone: 951.294.9300 Fax: 951.294.9301

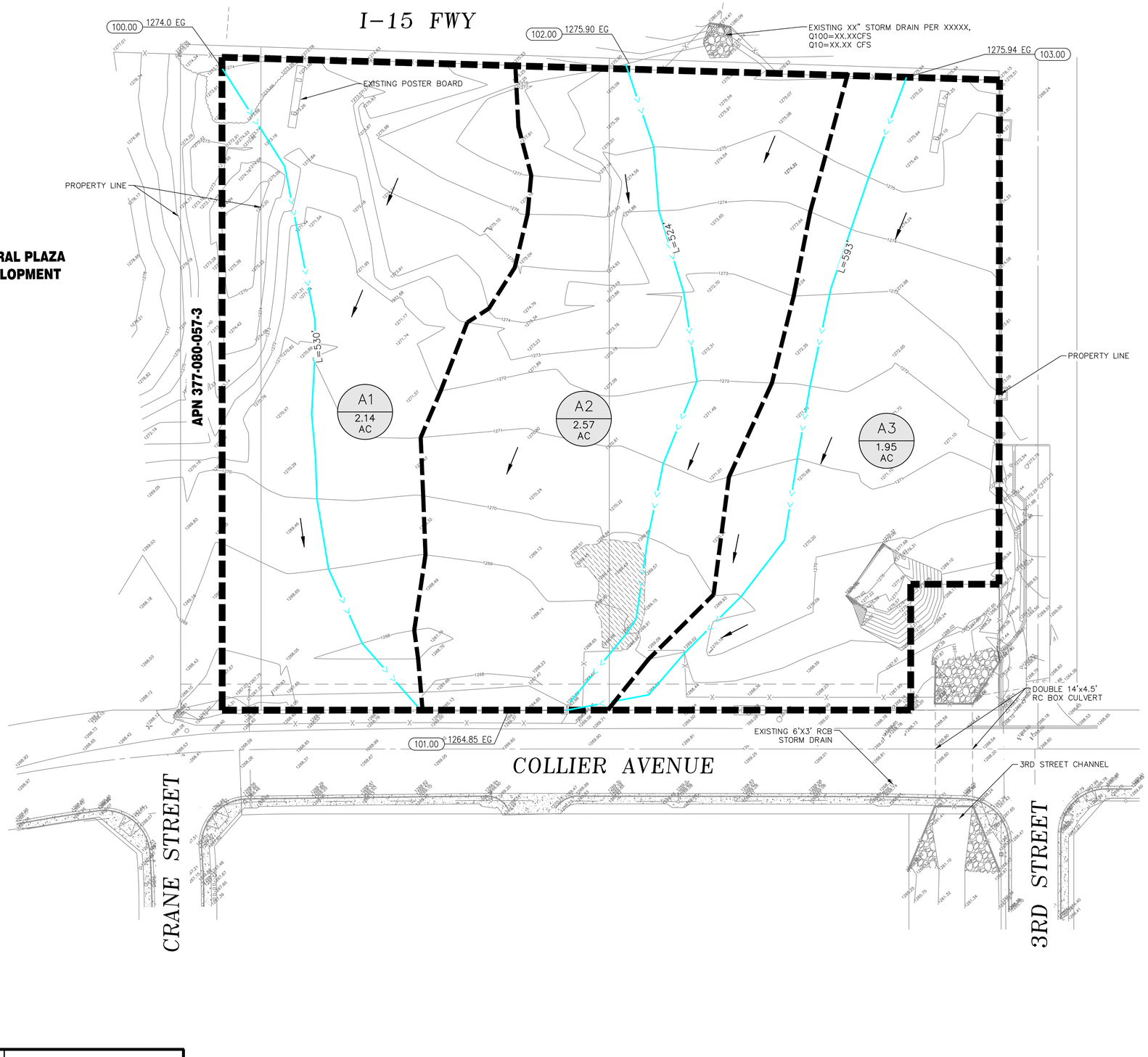
VICINITY MAP

HONDA CENTER

Appendix B: Hydrology Maps

- Existing Hydrology Map
- Proposed Hydrology Map

CENTRAL PLAZA DEVELOPMENT



40 0 40 80
scale 1"= 40' feet

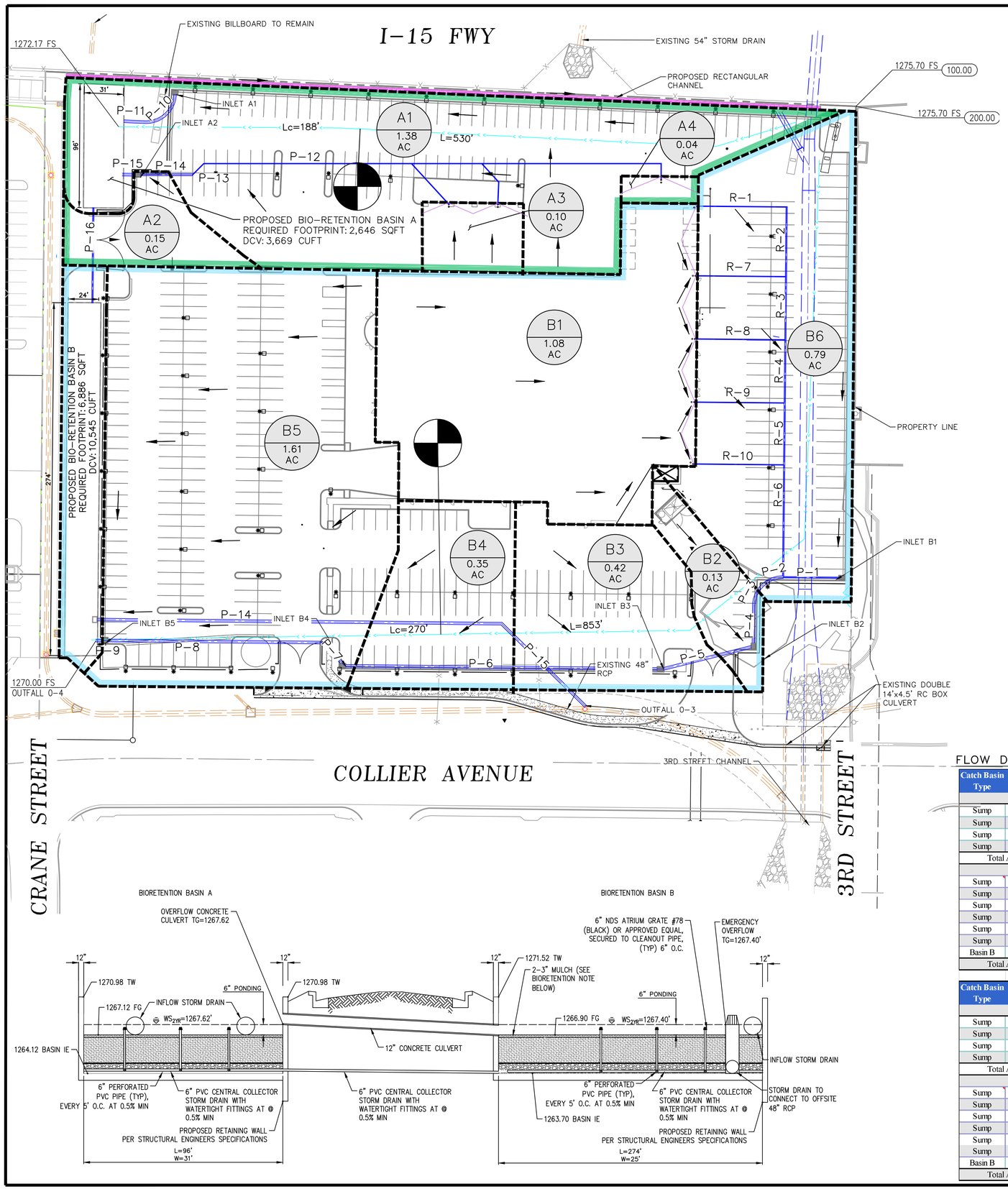
LEGEND

- DRAINGE AREA BOUNDARY
- FLOW PATH
- STORM DRAIN
- DIRECTION OF FLOW
- 100.00 249.97 FS NODE DESIGNATION
- D 0.18 AC DMA ID ACREAGE

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Avenue, Suite 220
Temecula ,Ca 91764
Phone: 951.294.9300 Fax: 951.294.9301

EXISTING CONDITION

HYDROLOGY MAP



STORM DRAIN HYDRAULIC SUMMARY (100 YEAR DESIGN STORM)*

	Pipe Properties										Hydraulic Properties				Surface Properties		Other
	Label	Start Node	Stop Node	Invert (Stop) (ft)	Invert (Start) (ft)	Diameter (in)	User Defined Length (ft)	Section Type	Slope (Calculated) (ft/ft)	Manning's n	Capacity (Design) (cfs)	Flow (cfs)	Velocity (fps)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Elevation Ground (Start) (ft)	Elevation Ground (Stop) (ft)	Notes
Tributary to Basin A	P-10	CB-A1	MH-5	1,267.32	1,267.18	18	35.9	Circle	0.004	0.02	4.27	4.35	2.75	1,268.71	1,268.58	1,271.12	1,271.96	
	P-11	MH-5	O-7	1,267.18	1,267.12	18	15.5	Circle	0.004	0.02	4.24	4.35	2.73	1,268.58	1,268.53	1,271.96	1,272.11	
	P-12	MH-25	MH-24	1,269.75	1,267.97	6	355.6	Circle	0.005	0.015	0.34	0.44	2.24	1,271.57	1,268.66	1,275.61	1,272.08	
	P-13	MH-24	MH-23	1,267.96	1,267.90	6	12.3	Circle	0.005	0.015	0.35	0.44	2.24	1,268.66	1,268.56	1,272.08	1,272.12	
	P-14	MH-23	CB-A2	1,267.39	1,267.18	12	44	Circle	0.005	0.018	1.79	0.44	0.56	1,268.56	1,268.54	1,272.12	1,271.94	
	P-15	CB-A2	O-10	1,267.18	1,267.12	12	11.5	Circle	0.005	0.018	1.81	0.91	1.16	1,268.54	1,268.53	1,271.94	1,272.56	
	P-16	Overflow Culver - Basin A	O-9	1,267.62	1,266.82	12	74.3	Circle	0.011	0.013	3.7	1.8	4.68	1,268.19	1,267.77	1,273.70	1,273.13	
Tributary to Basin B	R-7	MH-29	MH-17	1,273.00	1,270.81	6	70.4	Circle	0.031	0.015	0.86	0.72	4.89	1,273.43	1,271.59	1,276.00	1,276.00	
	R-8	MH-28	MH-16	1,273.39	1,270.57	6	70.4	Circle	0.04	0.015	0.97	0.72	5.42	1,273.81	1,271.45	1,276.00	1,275.55	
	R-9	MH-27	MH-15	1,273.00	1,270.32	6	70.5	Circle	0.038	0.015	0.95	0.72	5.31	1,273.43	1,270.64	1,276.00	1,275.06	
	R-10	MH-26	MH-14	1,273.00	1,269.58	6	70.8	Circle	0.048	0.015	1.07	0.72	5.84	1,273.43	1,270.61	1,276.00	1,274.57	
	R-1	MH-30	MH-18	1,273.00	1,271.08	6	69.9	Circle	0.028	0.015	0.81	0.72	4.64	1,273.43	1,271.64	1,276.00	1,276.00	Refer to Appendix 'H' for Tailwater Calculation used hereon.
	R-2	MH-18	MH-17	1,271.08	1,270.81	12	54.2	Circle	0.005	0.018	1.8	0.72	2.16	1,271.64	1,271.59	1,276.00	1,276.00	
	R-3	MH-17	MH-16	1,270.81	1,270.57	12	49.1	Circle	0.005	0.018	1.78	1.44	2.52	1,271.59	1,271.45	1,276.00	1,275.55	
	R-4	MH-16	MH-15	1,270.55	1,270.32	12	49.1	Circle	0.005	0.018	1.78	2.16	2.75	1,271.45	1,270.95	1,275.55	1,275.06	
	R-5	MH-15	MH-14	1,269.81	1,269.58	18	48.1	Circle	0.005	0.02	4.74	2.88	2.81	1,270.74	1,270.61	1,275.06	1,274.57	
	R-6	MH-14	MH-1	1,269.57	1,269.14	18	87.3	Circle	0.005	0.02	4.8	3.6	2.98	1,270.61	1,270.34	1,274.57	1,273.65	
	P-1	CB-B1	MH-1	1,270.40	1,270.22	12	42.6	Circle	0.004	0.018	1.66	2.27	2.89	1,271.34	1,270.87	1,272.78	1,273.65	
	P-2	MH-1	MH-2	1,269.14	1,269.08	24	15.7	Circle	0.004	0.02	9.25	5.87	3.12	1,270.34	1,270.29	1,273.65	1,274.38	
	P-3	MH-2	MH-3	1,269.08	1,269.02	24	15.7	Circle	0.004	0.02	9.32	5.87	3.14	1,270.29	1,270.24	1,274.38	1,273.86	
	P-4	MH-3	CB-B2	1,269.02	1,268.89	24	30.5	Circle	0.004	0.02	9.37	5.87	3.15	1,270.24	1,270.15	1,273.86	1,273.54	
	P-5	CB-B2	CB-B3	1,268.88	1,268.59	24	73.5	Circle	0.004	0.02	9.27	6.24	3.16	1,270.15	1,269.94	1,273.54	1,273.51	
	P-6	CB-B3	CB-B4	1,268.58	1,267.60	24	245	Circle	0.004	0.02	9.3	7.45	3.29	1,269.94	1,269.09	1,273.51	1,271.98	
	P-7	CB-B4	MH-4	1,267.60	1,267.51	24	22.5	Circle	0.004	0.02	9.19	8.45	3.32	1,269.09	1,269.00	1,271.98	1,272.37	
	P-8	MH-4	CB-B5	1,267.51	1,266.84	24	166.1	Circle	0.004	0.02	9.3	8.45	3.36	1,269.00	1,268.33	1,272.37	1,271.18	
	P-9	CB-B5	O-4	1,266.84	1,266.82	24	5.5	Circle	0.004	0.02	9.3	13.07	4.16	1,268.33	1,268.12	1,271.18	1,271.58	
	P-17	Overflow - Basin B	MH-6	1,263.62	1,262.36	24	314.2	Circle	0.004	0.02	9.31	11.67	3.71	1,268.28	1,266.30	1,271.66	1,274.36	
	P-18	MH-6	O-3	1,262.36	1,262.00	24	90	Circle	0.004	0.02	9.27	11.67	3.71	1,266.30	1,265.73	1,274.36	1,269.43	

STORM DRAIN HYDRAULIC SUMMARY (10 YEAR DESIGN STORM)*

	Pipe Properties										Hydraulic Properties				Surface Properties		Other
	Label	Start Node	Stop Node	Invert (Stop) (ft)	Invert (Start) (ft)	Diameter (in)	User Defined Length (ft)	Section Type	Slope (Calculated) (ft/ft)	Manning's n	Capacity (Design) (cfs)	Flow (cfs)	Velocity (fps)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Elevation Ground (Start) (ft)	Elevation Ground (Stop) (ft)	Notes
Tributary to Basin A	P-10	CB-A1	MH-5	1,267.32	1,267.18	18	35.9	Circle	0.004	0.02	4.27	2.78	2.57	1,268.17	1,267.97	1,271.12	1,271.96	
	P-11	MH-5	O-7	1,267.18	1,267.12	18	15.5	Circle	0.004	0.02	4.24	2.78	2.56	1,267.97	1,267.76	1,271.96	1,272.11	
	P-12	MH-25	MH-24	1,269.75	1,267.97	6	355.6	Circle	0.005	0.015	0.34	0.28	1.95	1,270.09	1,268.29	1,275.61	1,272.08	
	P-13	MH-24	MH-23	1,267.96	1,267.90	6	12.3	Circle	0.005	0.015	0.35	0.28	1.96	1,268.29	1,268.17	1,272.08	1,272.12	
	P-14	MH-23	CB-A2	1,267.39	1,267.18	12	44	Circle	0.005	0.018	1.79	0.28	1.66	1,267.78	1,267.77	1,272.12	1,271.94	
	P-15	CB-A2	O-10	1,267.18	1,267.12	12	11.5	Circle	0.005	0.018	1.81	0.58	2.05	1,267.77	1,267.76	1,271.94	1,272.56	
	P-16	Overflow Culver - Basin A	O-9	1,267.62	1,266.82	12	74.3	Circle	0.011	0.013	3.7	0.1	2.06	1,267.75	1,267.43	1,273.70	1,273.13	
Tributary to Basin B	R-7	MH-29	MH-17	1,273.00	1,270.81	6	70.4	Circle	0.031	0.015	0.86	0.46	4.44	1,273.35	1,271.34	1,276.00	1,276.00	
	R-8	MH-28	MH-16	1,273.39	1,270.57	6	70.4	Circle	0.04	0.015	0.97	0.46	4.89	1,273.73	1,271.20	1,276.00	1,275.55	
	R-9	MH-27	MH-15	1,273.00	1,270.32	6	70.5	Circle	0.038	0.015	0.95	0.46	4.8	1,273.35	1,270.56	1,276.00	1,275.06	
	R-10	MH-26	MH-14	1,273.00	1,269.58	6	70.8	Circle	0.048	0.015	1.07	0.46	5.24	1,273.35	1,270.32	1,276.00	1,274.57	
	R-1	MH-30	MH-18	1,273.00	1,271.08	6	69.9	Circle	0.028	0.015	0.81	0.46	4.24	1,273.35	1,271.44	1,276.00	1,276.00	Refer to Appendix 'H' for Tailwater Calculation used hereon.
	R-2	MH-18	MH-17	1,271.08	1,270.81	12	54.2	Circle	0.005	0.018	1.8	0.46	1.92	1,271.44	1,271.34	1,276.00	1,276.00	
	R-3	MH-17	MH-16	1,270.81	1,270.57	12	49.1	Circle	0.005	0.018	1.78	0.92	2.29	1,271.34	1,271.20	1,276.00	1,275.55	
	R-4	MH-16	MH-15	1,270.55	1,270.32	12	49.1	Circle	0.005	0.018	1.78	1.38	2.5	1,271.20	1,270.82	1,275.55	1,275.06	
	R-5	MH-15	MH-14	1,269.81	1,269.58	18	48.1	Circle	0.005	0.02	4.74	1.84	2.51	1,270.48	1,270.32	1,275.06	1,274.57	
	R-6	MH-14	MH-1	1,269.57	1,269.14	18	87.3	Circle	0.005	0.02	4.8	2.3	2.69	1,270.32	1,270.05	1,274.57	1,273.65	
	P-1	CB-B1	MH-1	1,270.40	1,270.22	12	42.6	Circle	0.004	0.018	1.66	1.45	2.38	1,271.09	1,270.73	1,272.78	1,273.65	
	P-2	MH-1	MH-2	1,269.14	1,269.08	24	15.7	Circle	0.004	0.02	9.25	3.75	2.79	1,270.05	1,269.99	1,273.65	1,274.38	
	P-3	MH-2	MH-3	1,269.08	1,269.02	24	15.7	Circle	0.004	0.02	9.32	3.75	2.81	1,269.99	1,269.94	1,274.38	1,273.86	
	P-4	MH-3	CB-B2	1,269.02	1,268.89	24	30.5	Circle	0.004	0.02	9.37	3.75	2.82	1,269.94	1,269.86	1,273.86	1,273.54	
	P-5	CB-B2	CB-B3	1,268.88	1,268.59	24	73.5	Circle	0.004	0.02	9.27	4.3	2.9	1,269.86	1,269.63	1,273.54	1,273.51	
	P-6	CB-B3	CB-B4	1,268.58	1,267.60	24	245	Circle	0.004	0.02	9.3	5.07	3.02	1,269.63	1,268.73	1,273.51	1,271.98	
	P-7	CB-B4	MH-4	1,267.60	1,267.51	24	22.5	Circle	0.004	0.02	9.19	5.71	3.08	1,268.73	1,268.65	1,271.98	1,272.37	
	P-8	MH-4	CB-B5	1,267.51	1,266.84	24	166.1	Circle	0.004	0.02	9.3	5.71	3.11	1,268.65	1,268.03	1,272.37	1,271.18	
	P-9	CB-B5	O-4	1,266.84	1,266.82	24	5.5	Circle	0.004	0.02	9.3	8.67	3.36	1,268.03	1,267.87	1,271.18	1,271.58	
	P-17	Overflow - Basin B	MH-6	1,263.62	1,262.36	24	314.2	Circle	0.004	0.02	9.31	4.46	1.42	1,266.10	1,265.81	1,271.66	1,274.36	
	P-18	MH-6	O-3	1,262.36	1,262.00	24	90	Circle	0.004	0.02	9.27	4.46	1.42	1,265.81	1,265.73	1,274.36	1,269.43	

FLOW DISTRIBUTION

Catch Basin Type	Inlet ID	Sub-Area (Ac)	Q10 (cfs)	Q Tributary to Inlet
Area A				
Sump	A1	1.38	3.36	2.78
Sump	A2	0.15		0.30
Sump	A3 (Roof)	0.10		0.20
Sump	A4 (Roof)	0.04		0.08
Total Area:		1.67	-	
Area B				
Sump	B1 (Roof)	1.25	8.81	2.29
Sump	B2	0.13		0.24
Sump	B3	0.42		0.77
Sump	B4	0.35		0.64
Sump	B5	1.61		2.96
Sump	B6	0.79		1.45
Basin B	-	0.25		0.46
Total Area:		4.80		

Catch Basin Type	Inlet ID	Sub-Area (Ac)	Q100 (cfs)	Q Tributary to Inlet
Area A				
Sump	A1	1.38	5.26	4.35
Sump	A2	0.15		0.47
Sump	A3 (Roof)	0.10		0.31
Sump	A4 (Roof)	0.04		0.13
Total Area:		1.67	-	
Area B				
Sump	B1 (Roof)	1.25	13.78	3.59
Sump	B2	0.13		0.37
Sump	B3	0.42		1.21
Sump	B4	0.35		1.00
Sump	B5	1.61		4.62
Sump	B6	0.79		2.27
Basin B	-	0.25		0.72
Total Area:		4.80		

LEGEND

- MAJOR DRAINAGE BOUNDARY – AREA A (1.67 AC)
  MAJOR DRAINAGE BOUNDARY – AREA B (4.80 AC)
- MINOR DRAINGE AREA BOUNDARY (AREA TRIBUTARY TO INLET)
- FLOW PATH
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED RECTANGULAR CHANNEL
- DIRECTION OF FLOW
- 100.00 249.97 FS — NODE DESIGNATION
- D 0.18 AC — MINOR DRAINAGE AREA ID ACREAGE
- CENTROID LOCATION

40 0 40 80
scale 1"= 40' feet

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Avenue, Suite 220
Temecula, Ca 91764
Phone: 951.294.9300 Fax: 951.294.9301

PROPOSED CONDITION
HONDA CENTER

HYDROLOGY MAP

Drawing Name: C:\Users\mbeck\appdata\local\temp\AcPublish_11244\HM - Prop Condition - Honda Center.dwg
Last Opened: Apr 18, 2018 - 1:18pm by mbeck

Appendix C: Rational Method Existing Condition

- Area A - 10 Year Rational Method Analysis
- Area A - 100 Year Rational Method Analysis

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 11/02/17 File:EXAREAA10YR.out

Existing Condition Rational Method Hydrology
Honda Center Development
10 Year Design Storm

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6385

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Elsinore-Wildomar] area used.
10 year storm 10 minute intensity = 2.320(In/Hr)
10 year storm 60 minute intensity = 0.980(In/Hr)
100 year storm 10 minute intensity = 3.540(In/Hr)
100 year storm 60 minute intensity = 1.500(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.980(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 100.000 to Point/Station 101.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 530.000(Ft.)
Top (of initial area) elevation = 1274.000(Ft.)
Bottom (of initial area) elevation = 1264.850(Ft.)
Difference in elevation = 9.150(Ft.)
Slope = 0.01726 s(percent)= 1.73
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 14.674 min.
Rainfall intensity = 1.927(In/Hr) for a 10.0 year storm
UNDEVELOPED (poor cover) subarea

```
Runoff Coefficient = 0.753
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  78.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      3.018(CFS)
Total initial stream area =        2.080(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      100.000 to Point/Station      101.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      2.080(Ac.)
Runoff from this stream =      3.018(CFS)
Time of concentration =   14.67 min.
Rainfall intensity =     1.927(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      102.000 to Point/Station      101.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   524.000(Ft.)
Top (of initial area) elevation =  1275.900(Ft.)
Bottom (of initial area) elevation =  1264.850(Ft.)
Difference in elevation =    11.050(Ft.)
Slope =    0.02109  s(percent)=       2.11
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   14.035 min.
Rainfall intensity =      1.968(In/Hr) for a    10.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.756
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  78.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      3.718(CFS)
Total initial stream area =        2.500(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      102.000 to Point/Station      103.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      2.500(Ac.)
Runoff from this stream =      3.718(CFS)
Time of concentration =   14.03 min.
```

```
Rainfall intensity =     1.968(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      103.000 to Point/Station      101.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   593.000(Ft.)
Top (of initial area) elevation =  1275.940(Ft.)
Bottom (of initial area) elevation =  1264.850(Ft.)
Difference in elevation =    11.090(Ft.)
Slope =    0.01870  s(percent)=       1.87
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   15.105 min.
Rainfall intensity =      1.900(In/Hr) for a    10.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.751
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  78.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      2.698(CFS)
Total initial stream area =        1.890(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      103.000 to Point/Station      101.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 3
Stream flow area =      1.890(Ac.)
Runoff from this stream =      2.698(CFS)
Time of concentration =   15.11 min.
Rainfall intensity =     1.900(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                 (In/Hr)


1        3.018     14.67                1.927
2        3.718     14.03                1.968
3        2.698     15.11                1.900
Largest stream flow has longer or shorter time of concentration
Qp =      3.718 + sum of
        Qa          Tb/Ta
         3.018 *    0.956 =      2.886
        Qa          Tb/Ta
         2.698 *    0.929 =      2.507
Qp =      9.111

Total of 3 streams to confluence:
Flow rates before confluence point:
```

```
       3.018       3.718       2.698
Area of streams before confluence:
        2.080        2.500        1.890
Results of confluence:
Total flow rate =      9.111(CFS)
Time of concentration =    14.035 min.
Effective stream area after confluence =      6.470(Ac.)
End of computations, total study area =            6.47 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  78.0
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 11/02/17 File:exareaa100yr.out

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Existing Condition Rational Method Hydrology
Honda Center Development
100 Year Design Storm

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6385

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [Elsinore-Wildomar] area used.
10 year storm 10 minute intensity = 2.320(In/Hr)
10 year storm 60 minute intensity = 0.980(In/Hr)
100 year storm 10 minute intensity = 3.540(In/Hr)
100 year storm 60 minute intensity = 1.500(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.500(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 100.000 to Point/Station 101.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 530.000(Ft.)
Top (of initial area) elevation = 1274.000(Ft.)
Bottom (of initial area) elevation = 1264.850(Ft.)
Difference in elevation = 9.150(Ft.)
Slope = 0.01726 s(percent)= 1.73
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 14.674 min.
Rainfall intensity = 2.949(In/Hr) for a 100.0 year storm
UNDEVELOPED (poor cover) subarea

```
Runoff Coefficient = 0.856
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  89.80
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      5.251(CFS)
Total initial stream area =        2.080(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      100.000 to Point/Station      101.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 1
Stream flow area =      2.080(Ac.)
Runoff from this stream =      5.251(CFS)
Time of concentration =   14.67 min.
Rainfall intensity =     2.949(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      102.000 to Point/Station      101.000
**** INITIAL AREA EVALUATION ****
________________________________________________________________________
Initial area flow distance =   524.000(Ft.)
Top (of initial area) elevation =  1275.900(Ft.)
Bottom (of initial area) elevation =  1264.850(Ft.)
Difference in elevation =    11.050(Ft.)
Slope =    0.02109  s(percent)=       2.11
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   14.035 min.
Rainfall intensity =      3.013(In/Hr) for a   100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.857
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  89.80
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      6.454(CFS)
Total initial stream area =        2.500(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      102.000 to Point/Station      103.000
**** CONFLUENCE OF MINOR STREAMS ****
________________________________________________________________________
Along Main Stream number: 1 in normal stream number 2
Stream flow area =      2.500(Ac.)
Runoff from this stream =      6.454(CFS)
Time of concentration =   14.03 min.
```

```
Rainfall intensity =     3.013(In/Hr)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      103.000 to Point/Station      101.000
**** INITIAL AREA EVALUATION ****
______________________________________________________________________________
Initial area flow distance =   593.000(Ft.)
Top (of initial area) elevation =  1275.940(Ft.)
Bottom (of initial area) elevation =  1264.850(Ft.)
Difference in elevation =    11.090(Ft.)
Slope =    0.01870  s(percent)=       1.87
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration =   15.105 min.
Rainfall intensity =      2.908(In/Hr) for a   100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.855
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  89.80
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      4.702(CFS)
Total initial stream area =        1.890(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      103.000 to Point/Station      101.000
**** CONFLUENCE OF MINOR STREAMS ****
______________________________________________________________________________
Along Main Stream number: 1 in normal stream number 3
Stream flow area =      1.890(Ac.)
Runoff from this stream =      4.702(CFS)
Time of concentration =   15.11 min.
Rainfall intensity =     2.908(In/Hr)
Summary of stream data:

Stream   Flow rate      TC            Rainfall Intensity
 No.       (CFS)       (min)                (In/Hr)


1        5.251     14.67                2.949
2        6.454     14.03                3.013
3        4.702     15.11                2.908
Largest stream flow has longer or shorter time of concentration
Qp =      6.454 + sum of
        Qa          Tb/Ta
         5.251 *    0.956 =      5.022
        Qa          Tb/Ta
         4.702 *    0.929 =      4.369
Qp =     15.845

Total of 3 streams to confluence:
Flow rates before confluence point:
```

```
       5.251       6.454       4.702
Area of streams before confluence:
        2.080        2.500        1.890
Results of confluence:
Total flow rate =     15.845(CFS)
Time of concentration =    14.035 min.
Effective stream area after confluence =      6.470(Ac.)
End of computations, total study area =            6.47 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  78.0
```

Appendix D: Proposed Condition Rational Method

- Area A - 10 Year Rational Method Analysis
- Area A - 100 Year Rational Method Analysis
- Area B - 10 Year Rational Method Analysis
- Area B - 100 Year Rational Method Analysis

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 11/02/17 File:devareaa10yr.out

---

Developed Condition Rational Method Hydrology
Honda Center Development
10 Year Design Storm
Area A

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6385

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Elsinore-Wildomar] area used.
10 year storm 10 minute intensity = 2.320(In/Hr)
10 year storm 60 minute intensity = 0.980(In/Hr)
100 year storm 10 minute intensity = 3.540(In/Hr)
100 year storm 60 minute intensity = 1.500(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.980(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 100.000 to Point/Station 101.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 530.000(Ft.)
Top (of initial area) elevation = 1275.700(Ft.)
Bottom (of initial area) elevation = 1272.170(Ft.)
Difference in elevation = 3.530(Ft.)
Slope = 0.00666 s(percent)= 0.67
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 10.049 min.
Rainfall intensity = 2.311(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type

```
Runoff Coefficient = 0.872
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      3.364(CFS)
Total initial stream area =        1.670(Ac.)
Pervious area fraction = 0.100
End of computations, total study area =            1.67 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  56.0
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 11/02/17 File:devareaa100yr.out

---

Developed Condition Rational Method Hydrology
Honda Center Development
100 Year Design Storm
Area A

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6385

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [Elsinore-Wildomar] area used.
10 year storm 10 minute intensity = 2.320(In/Hr)
10 year storm 60 minute intensity = 0.980(In/Hr)
100 year storm 10 minute intensity = 3.540(In/Hr)
100 year storm 60 minute intensity = 1.500(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.500(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 100.000 to Point/Station 101.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 530.000(Ft.)
Top (of initial area) elevation = 1275.700(Ft.)
Bottom (of initial area) elevation = 1272.170(Ft.)
Difference in elevation = 3.530(Ft.)
Slope = 0.00666 s(percent)= 0.67
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 10.049 min.
Rainfall intensity = 3.537(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type

```
Runoff Coefficient = 0.890
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  74.80
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      5.256(CFS)
Total initial stream area =        1.670(Ac.)
Pervious area fraction = 0.100
End of computations, total study area =            1.67 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  56.0
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 11/02/17 File:devareab10yr.out
---
Developed Condition Rational Method Hydrology
Honda Center Development
10 Year Design Storm
Area B

 ********* Hydrology Study Control Information **********

 English (in-lb) Units used in input data file

Program License Serial Number 6385

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 10.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Elsinore-Wildomar] area used.
10 year storm 10 minute intensity = 2.320(In/Hr)
10 year storm 60 minute intensity = 0.980(In/Hr)
100 year storm 10 minute intensity = 3.540(In/Hr)
100 year storm 60 minute intensity = 1.500(In/Hr)

Storm event year = 10.0
Calculated rainfall intensity data:
1 hour intensity = 0.980(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 200.000 to Point/Station 201.000
**** INITIAL AREA EVALUATION ****
_____
Initial area flow distance = 853.000(Ft.)
Top (of initial area) elevation = 1275.700(Ft.)
Bottom (of initial area) elevation = 1270.000(Ft.)
Difference in elevation = 5.700(Ft.)
Slope = 0.00668 s(percent)= 0.67
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 12.148 min.
Rainfall intensity = 2.109(In/Hr) for a 10.0 year storm
COMMERCIAL subarea type

```
Runoff Coefficient = 0.870
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  56.00
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =      8.810(CFS)
Total initial stream area =        4.800(Ac.)
Pervious area fraction = 0.100
End of computations, total study area =            4.80 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  56.0
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2014 Version 9.0
Rational Hydrology Study Date: 11/02/17 File:devareab100yr.out

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Developed Condition Rational Method Hydrology
Honda Center Development
100 Year Design Storm
Area B

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Program License Serial Number 6385

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

Standard intensity-duration curves data (Plate D-4.1)
For the [Elsinore-Wildomar] area used.
10 year storm 10 minute intensity = 2.320(In/Hr)
10 year storm 60 minute intensity = 0.980(In/Hr)
100 year storm 10 minute intensity = 3.540(In/Hr)
100 year storm 60 minute intensity = 1.500(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.500(In/Hr)
Slope of intensity duration curve = 0.4800

++
Process from Point/Station 200.000 to Point/Station 201.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 853.000(Ft.)
Top (of initial area) elevation = 1275.700(Ft.)
Bottom (of initial area) elevation = 1270.000(Ft.)
Difference in elevation = 5.700(Ft.)
Slope = 0.00668 s(percent)= 0.67
TC = k(0.300)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 12.148 min.
Rainfall intensity = 3.229(In/Hr) for a 100.0 year storm
COMMERCIAL subarea type

```
Runoff Coefficient = 0.889
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  74.80
Pervious area fraction =  0.100; Impervious fraction =  0.900
Initial subarea runoff =     13.778(CFS)
Total initial stream area =        4.800(Ac.)
Pervious area fraction = 0.100
End of computations, total study area =            4.80 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.100
Area averaged RI index number =  56.0
```

Appendix E: Unit Hydrograph Analysis

- Area A - 10 Year 1 Hour Storm Frequency
- Area A - 10 Year 3 Hour Storm Frequency
- Area A - 10 Year 6 Hour Storm Frequency
- Area A - 10 Year 24 Hour Storm Frequency
- Area B - 10 Year 1 Hour Storm Frequency
- Area B - 10 Year 3 Hour Storm Frequency
- Area B - 10 Year 6 Hour Storm Frequency
- Area B - 10 Year 24 Hour Storm Frequency
- Area A - 100 Year 1 Hour Storm Frequency
- Area A - 100 Year 3 Hour Storm Frequency
- Area A - 100 Year 6 Hour Storm Frequency
- Area A - 100 Year 24 Hour Storm Frequency
- Area B - 100 Year 1 Hour Storm Frequency
- Area B - 100 Year 3 Hour Storm Frequency
- Area B - 100 Year 6 Hour Storm Frequency
- Area B - 100 Year 24 Hour Storm Frequency

U n i t H y d r o g r a p h A n a l y s i s

Study date 02/19/18 File: devareaauh10yr110.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6385

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Developed Condition Unit Hydrograph Analysis
10 Year 1 Hour Frequency
Area A
Honda Center

Drainage Area = 1.67(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.67(Ac.) = 0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.020 Hr.
Lag time = 1.20 Min.
25% of lag time = 0.30 Min.
40% of lag time = 0.48 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.67	0.48	0.79

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.67	1.31	2.19

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.476(In)

Area Averaged 100-Year Rainfall = 1.310(In)

Point rain (area averaged) = 0.819(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.819(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.670	56.00	0.900

Total Area Entered = 1.67(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.900	0.097	1.000	0.097
					Sum (F) =	0.097

Area averaged mean soil loss (F) (In/Hr) = 0.097
Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	416.667	66.200	1.114
2	0.167	833.333	33.800	0.569
			Sum = 100.000 Sum=	1.683

The following loss rate calculations reflect use of the minimum calculated loss
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	4.40	0.432	0.097	(0.389)	0.335
2	0.17	4.50	0.442	0.097	(0.398)	0.345
3	0.25	5.40	0.531	0.097	(0.478)	0.434
4	0.33	5.40	0.531	0.097	(0.478)	0.434
5	0.42	5.70	0.560	0.097	(0.504)	0.463
6	0.50	6.40	0.629	0.097	(0.566)	0.532
7	0.58	7.90	0.777	0.097	(0.699)	0.679
8	0.67	9.10	0.894	0.097	(0.805)	0.797
9	0.75	12.80	1.258	0.097	(1.132)	1.161
10	0.83	25.60	2.516	0.097	(2.265)	2.419
11	0.92	7.90	0.777	0.097	(0.699)	0.679

```
 12   1.00     4.90      0.482          0.097    (  0.433)        0.385
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     8.7
     Flood volume = Effective rainfall      0.72(In)
      times area       1.7(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
     Total soil loss =      0.10(In)
     Total soil loss =     0.014(Ac.Ft)
     Total rainfall =      0.82(In)
     Flood volume =        4377.1 Cubic Feet
     Total soil loss =         588.3 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      3.358(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         1 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
  ------------------------------------------------------------------------
    0+ 5       0.0026      0.37  |Q        |         |         |         |
    0+10       0.0065      0.58  | Q       |         |         |         |
    0+15       0.0112      0.68  | Q V     |         |         |         |
    0+20       0.0163      0.73  | Q   V   |         |         |         |
    0+25       0.0215      0.76  |  Q    V |         |         |         |
    0+30       0.0274      0.86  |  Q      V         |         |         |
    0+35       0.0347      1.06  |   Q     |  V      |         |         |
    0+40       0.0435      1.28  |    Q    |      V  |         |         |
    0+45       0.0555      1.75  |     Q   |         | V       |         |
    0+50       0.0787      3.36  |         |  Q      |         |V        |
    0+55       0.0934      2.13  |       Q |         |         |      V  |
    1+ 0       0.0990      0.82  |  Q      |         |         |        V|
    1+ 5       0.1005      0.22  Q         |         |         |         V
 -----------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

Study date 02/19/18 File: devareaauh10yr310.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6385

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Developed Condition Unit Hydrograph Analysis
10 Year 3 Hour Frequency
Area A
Honda Center

Drainage Area = 1.67(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.67(Ac.) = 0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.020 Hr.
Lag time = 1.20 Min.
25% of lag time = 0.30 Min.
40% of lag time = 0.48 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.67	0.87	1.45

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.67	2.16	3.61

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 0.866(In)

Area Averaged 100-Year Rainfall = 2.160(In)

Point rain (area averaged) = 1.398(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.398(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.670	56.00	0.900

Total Area Entered = 1.67(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.900	0.097	1.000	0.097
					Sum (F) =	0.097

Area averaged mean soil loss (F) (In/Hr) = 0.097
Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

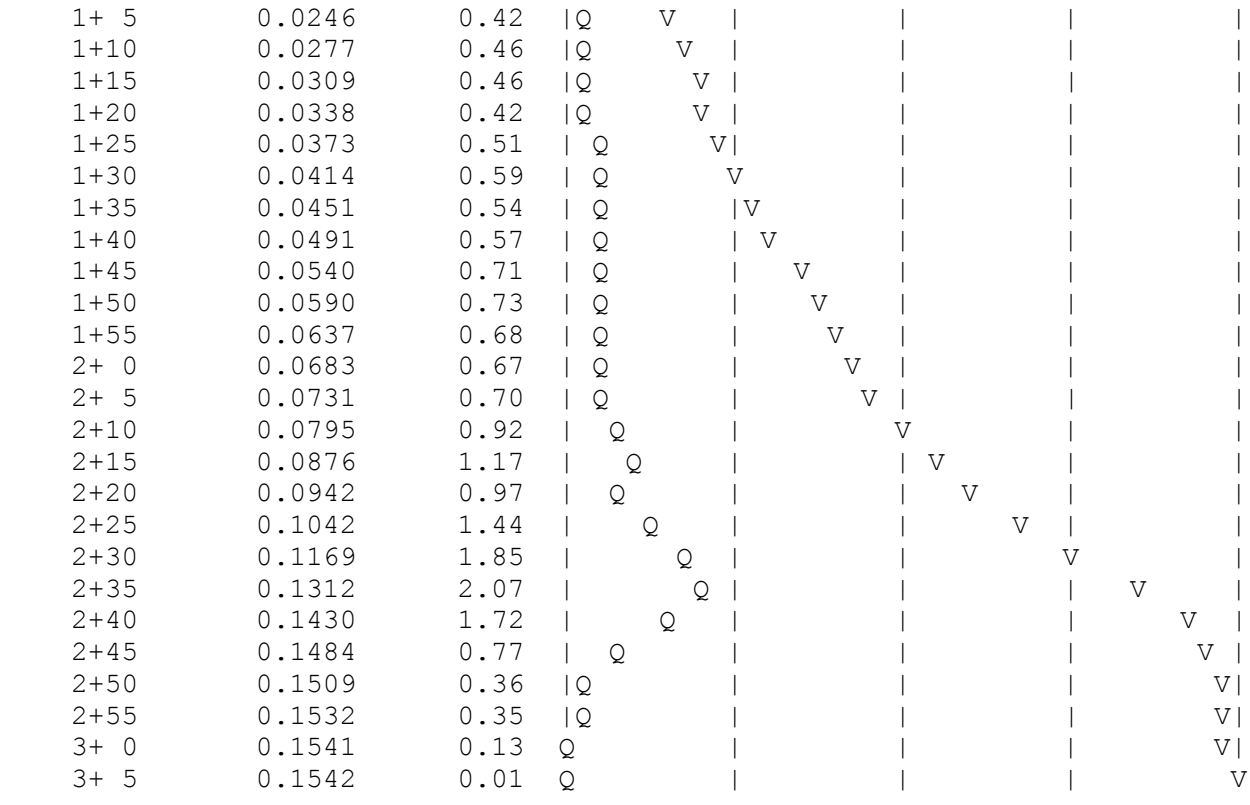
Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	416.667	66.200	1.114
2	0.167	833.333	33.800	0.569
			Sum = 100.000 Sum=	1.683

The following loss rate calculations reflect use of the minimum calculated loss
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time		Pattern	Storm Rain	Loss rate(In./Hr)			Effective
	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	1.30	0.218	0.097	(	0.196)	0.121
2	0.17	1.30	0.218	0.097	(	0.196)	0.121
3	0.25	1.10	0.185	0.097	(	0.166)	0.088
4	0.33	1.50	0.252	0.097	(	0.227)	0.155
5	0.42	1.50	0.252	0.097	(	0.227)	0.155
6	0.50	1.80	0.302	0.097	(	0.272)	0.205
7	0.58	1.50	0.252	0.097	(	0.227)	0.155
8	0.67	1.80	0.302	0.097	(	0.272)	0.205
9	0.75	1.80	0.302	0.097	(	0.272)	0.205
10	0.83	1.50	0.252	0.097	(	0.227)	0.155
11	0.92	1.60	0.268	0.097	(	0.242)	0.171
12	1.00	1.80	0.302	0.097	(	0.272)	0.205
13	1.08	2.20	0.369	0.097	(	0.332)	0.272

```
14   1.17     2.20      0.369          0.097    (  0.332)         0.272
15   1.25     2.20      0.369          0.097    (  0.332)         0.272
16   1.33     2.00      0.336          0.097    (  0.302)         0.239
17   1.42     2.60      0.436          0.097    (  0.393)         0.339
18   1.50     2.70      0.453          0.097    (  0.408)         0.356
19   1.58     2.40      0.403          0.097    (  0.362)         0.306
20   1.67     2.70      0.453          0.097    (  0.408)         0.356
21   1.75     3.30      0.554          0.097    (  0.498)         0.457
22   1.83     3.10      0.520          0.097    (  0.468)         0.423
23   1.92     2.90      0.487          0.097    (  0.438)         0.390
24   2.00     3.00      0.503          0.097    (  0.453)         0.406
25   2.08     3.10      0.520          0.097    (  0.468)         0.423
26   2.17     4.20      0.705          0.097    (  0.634)         0.608
27   2.25     5.00      0.839          0.097    (  0.755)         0.742
28   2.33     3.50      0.587          0.097    (  0.529)         0.490
29   2.42     6.80      1.141          0.097    (  1.027)         1.044
30   2.50     7.30      1.225          0.097    (  1.102)         1.128
31   2.58     8.20      1.376          0.097    (  1.238)         1.279
32   2.67     5.90      0.990          0.097    (  0.891)         0.893
33   2.75     2.00      0.336          0.097    (  0.302)         0.239
34   2.83     1.80      0.302          0.097    (  0.272)         0.205
35   2.92     1.80      0.302          0.097    (  0.272)         0.205
36   3.00     0.60      0.101       (  0.097)       0.091         0.010
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    13.3
    Flood volume = Effective rainfall      1.11(In)
     times area       1.7(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
    Total soil loss =      0.29(In)
    Total soil loss =     0.040(Ac.Ft)
    Total rainfall =      1.40(In)
    Flood volume =        6715.2 Cubic Feet
    Total soil loss =        1761.8 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      2.068(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        3 - H O U R    S T O R M
                    R u n o f f     H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0009      0.13  Q         |         |         |         |
  0+10       0.0023      0.20  Q         |         |         |         |
  0+15       0.0035      0.17  Q         |         |         |         |
  0+20       0.0050      0.22  QV        |         |         |         |
  0+25       0.0068      0.26  |Q        |         |         |         |
  0+30       0.0090      0.32  |QV       |         |         |         |
  0+35       0.0110      0.29  |QV       |         |         |         |
  0+40       0.0132      0.32  |Q V      |         |         |         |
  0+45       0.0155      0.35  |Q  V     |         |         |         |
  0+50       0.0175      0.29  |Q  V     |         |         |         |
  0+55       0.0194      0.28  |Q   V    |         |         |         |
  1+ 0       0.0217      0.33  |Q   V    |         |         |         |
```



1+ 5	0.0246	0.42	Q V
1+10	0.0277	0.46	Q V
1+15	0.0309	0.46	Q V
1+20	0.0338	0.42	Q V
1+25	0.0373	0.51	Q V
1+30	0.0414	0.59	Q V
1+35	0.0451	0.54	Q V
1+40	0.0491	0.57	Q V
1+45	0.0540	0.71	Q V
1+50	0.0590	0.73	Q V
1+55	0.0637	0.68	Q V
2+ 0	0.0683	0.67	Q V
2+ 5	0.0731	0.70	Q V
2+10	0.0795	0.92	Q V
2+15	0.0876	1.17	Q V
2+20	0.0942	0.97	Q V
2+25	0.1042	1.44	Q V
2+30	0.1169	1.85	Q V
2+35	0.1312	2.07	Q V
2+40	0.1430	1.72	Q V
2+45	0.1484	0.77	Q V
2+50	0.1509	0.36	Q V
2+55	0.1532	0.35	Q V
3+ 0	0.1541	0.13	Q V
3+ 5	0.1542	0.01	Q V

U n i t H y d r o g r a p h A n a l y s i s

Study date 02/19/18 File: devareaauh10yr610.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6385

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Developed Condition Unit Hydrograph Analysis
10 Year 6 Hour Frequency
Area A
Honda Center

Drainage Area = 1.67(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.67(Ac.) = 0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.020 Hr.
Lag time = 1.20 Min.
25% of lag time = 0.30 Min.
40% of lag time = 0.48 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.67	1.25	2.09

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.67	3.09	5.16

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 1.250(In)

Area Averaged 100-Year Rainfall = 3.090(In)

Point rain (area averaged) = 2.007(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.007(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.670	56.00	0.900

Total Area Entered = 1.67(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.900	0.097	1.000	0.097
					Sum (F) =	0.097

Area averaged mean soil loss (F) (In/Hr) = 0.097
Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %		Unit Hydrograph (CFS)
1	0.083	416.667	66.200		1.114
2	0.167	833.333	33.800		0.569
			Sum = 100.000	Sum=	1.683

The following loss rate calculations reflect use of the minimum calculated loss
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time		Pattern	Storm Rain	Loss rate(In./Hr)			Effective
	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	0.50	0.120	0.097	(	0.108)	0.023
2	0.17	0.60	0.145	0.097	(	0.130)	0.047
3	0.25	0.60	0.145	0.097	(	0.130)	0.047
4	0.33	0.60	0.145	0.097	(	0.130)	0.047
5	0.42	0.60	0.145	0.097	(	0.130)	0.047
6	0.50	0.70	0.169	0.097	(	0.152)	0.072
7	0.58	0.70	0.169	0.097	(	0.152)	0.072
8	0.67	0.70	0.169	0.097	(	0.152)	0.072
9	0.75	0.70	0.169	0.097	(	0.152)	0.072
10	0.83	0.70	0.169	0.097	(	0.152)	0.072
11	0.92	0.70	0.169	0.097	(	0.152)	0.072
12	1.00	0.80	0.193	0.097	(	0.173)	0.096
13	1.08	0.80	0.193	0.097	(	0.173)	0.096

14	1.17	0.80	0.193	0.097	(0.173)	0.096
15	1.25	0.80	0.193	0.097	(0.173)	0.096
16	1.33	0.80	0.193	0.097	(0.173)	0.096
17	1.42	0.80	0.193	0.097	(0.173)	0.096
18	1.50	0.80	0.193	0.097	(0.173)	0.096
19	1.58	0.80	0.193	0.097	(0.173)	0.096
20	1.67	0.80	0.193	0.097	(0.173)	0.096
21	1.75	0.80	0.193	0.097	(0.173)	0.096
22	1.83	0.80	0.193	0.097	(0.173)	0.096
23	1.92	0.80	0.193	0.097	(0.173)	0.096
24	2.00	0.90	0.217	0.097	(0.195)	0.120
25	2.08	0.80	0.193	0.097	(0.173)	0.096
26	2.17	0.90	0.217	0.097	(0.195)	0.120
27	2.25	0.90	0.217	0.097	(0.195)	0.120
28	2.33	0.90	0.217	0.097	(0.195)	0.120
29	2.42	0.90	0.217	0.097	(0.195)	0.120
30	2.50	0.90	0.217	0.097	(0.195)	0.120
31	2.58	0.90	0.217	0.097	(0.195)	0.120
32	2.67	0.90	0.217	0.097	(0.195)	0.120
33	2.75	1.00	0.241	0.097	(0.217)	0.144
34	2.83	1.00	0.241	0.097	(0.217)	0.144
35	2.92	1.00	0.241	0.097	(0.217)	0.144
36	3.00	1.00	0.241	0.097	(0.217)	0.144
37	3.08	1.00	0.241	0.097	(0.217)	0.144
38	3.17	1.10	0.265	0.097	(0.238)	0.168
39	3.25	1.10	0.265	0.097	(0.238)	0.168
40	3.33	1.10	0.265	0.097	(0.238)	0.168
41	3.42	1.20	0.289	0.097	(0.260)	0.192
42	3.50	1.30	0.313	0.097	(0.282)	0.216
43	3.58	1.40	0.337	0.097	(0.303)	0.240
44	3.67	1.40	0.337	0.097	(0.303)	0.240
45	3.75	1.50	0.361	0.097	(0.325)	0.264
46	3.83	1.50	0.361	0.097	(0.325)	0.264
47	3.92	1.60	0.385	0.097	(0.347)	0.288
48	4.00	1.60	0.385	0.097	(0.347)	0.288
49	4.08	1.70	0.409	0.097	(0.368)	0.312
50	4.17	1.80	0.434	0.097	(0.390)	0.336
51	4.25	1.90	0.458	0.097	(0.412)	0.361
52	4.33	2.00	0.482	0.097	(0.434)	0.385
53	4.42	2.10	0.506	0.097	(0.455)	0.409
54	4.50	2.10	0.506	0.097	(0.455)	0.409
55	4.58	2.20	0.530	0.097	(0.477)	0.433
56	4.67	2.30	0.554	0.097	(0.499)	0.457
57	4.75	2.40	0.578	0.097	(0.520)	0.481
58	4.83	2.40	0.578	0.097	(0.520)	0.481
59	4.92	2.50	0.602	0.097	(0.542)	0.505
60	5.00	2.60	0.626	0.097	(0.564)	0.529
61	5.08	3.10	0.747	0.097	(0.672)	0.650
62	5.17	3.60	0.867	0.097	(0.780)	0.770
63	5.25	3.90	0.939	0.097	(0.845)	0.842
64	5.33	4.20	1.012	0.097	(0.910)	0.914
65	5.42	4.70	1.132	0.097	(1.019)	1.035
66	5.50	5.60	1.349	0.097	(1.214)	1.252
67	5.58	1.90	0.458	0.097	(0.412)	0.361
68	5.67	0.90	0.217	0.097	(0.195)	0.120
69	5.75	0.60	0.145	0.097	(0.130)	0.047

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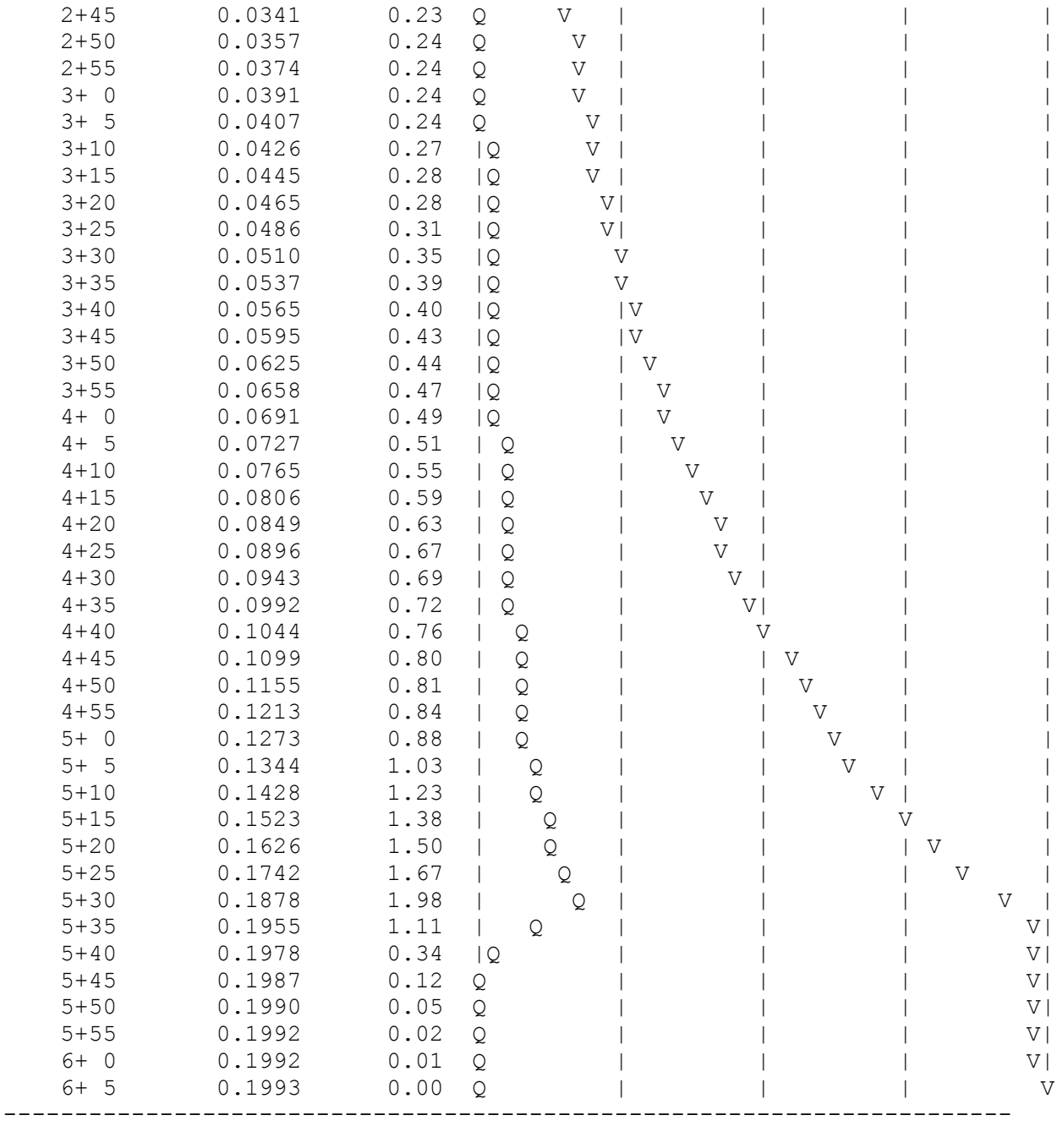
70   5.83     0.50      0.120          0.097    (  0.108)        0.023
71   5.92     0.30      0.072       (  0.097)       0.065        0.007
72   6.00     0.20      0.048       (  0.097)       0.043        0.005
           (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    17.2
    Flood volume = Effective rainfall      1.43(In)
     times area       1.7(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
    Total soil loss =      0.58(In)
    Total soil loss =     0.080(Ac.Ft)
    Total rainfall =      2.01(In)
    Flood volume =        8679.8 Cubic Feet
    Total soil loss =        3486.7 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      1.984(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        6 - H O U R    S T O R M
                    R u n o f f     H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0002      0.03  Q          |         |         |         |
  0+10       0.0006      0.07  Q          |         |         |         |
  0+15       0.0012      0.08  Q          |         |         |         |
  0+20       0.0017      0.08  Q          |         |         |         |
  0+25       0.0023      0.08  Q          |         |         |         |
  0+30       0.0030      0.11  Q          |         |         |         |
  0+35       0.0039      0.12  Q          |         |         |         |
  0+40       0.0047      0.12  Q          |         |         |         |
  0+45       0.0055      0.12  QV         |         |         |         |
  0+50       0.0063      0.12  QV         |         |         |         |
  0+55       0.0072      0.12  QV         |         |         |         |
  1+ 0       0.0082      0.15  QV         |         |         |         |
  1+ 5       0.0093      0.16  QV         |         |         |         |
  1+10       0.0104      0.16  Q V        |         |         |         |
  1+15       0.0115      0.16  Q V        |         |         |         |
  1+20       0.0126      0.16  Q V        |         |         |         |
  1+25       0.0137      0.16  Q V        |         |         |         |
  1+30       0.0148      0.16  Q V        |         |         |         |
  1+35       0.0159      0.16  Q  V       |         |         |         |
  1+40       0.0171      0.16  Q  V       |         |         |         |
  1+45       0.0182      0.16  Q  V       |         |         |         |
  1+50       0.0193      0.16  Q  V       |         |         |         |
  1+55       0.0204      0.16  Q   V      |         |         |         |
  2+ 0       0.0217      0.19  Q   V      |         |         |         |
  2+ 5       0.0229      0.17  Q   V      |         |         |         |
  2+10       0.0242      0.19  Q   V      |         |         |         |
  2+15       0.0256      0.20  Q    V     |         |         |         |
  2+20       0.0269      0.20  Q    V     |         |         |         |
  2+25       0.0283      0.20  Q    V     |         |         |         |
  2+30       0.0297      0.20  Q    V     |         |         |         |
  2+35       0.0311      0.20  Q     V    |         |         |         |
  2+40       0.0325      0.20  Q     V    |         |         |         |
```



2+45	0.0341	0.23	Q V
2+50	0.0357	0.24	Q V
2+55	0.0374	0.24	Q V
3+ 0	0.0391	0.24	Q V
3+ 5	0.0407	0.24	Q V
3+10	0.0426	0.27	|Q V
3+15	0.0445	0.28	|Q V
3+20	0.0465	0.28	|Q V|
3+25	0.0486	0.31	|Q V|
3+30	0.0510	0.35	|Q V
3+35	0.0537	0.39	|Q V
3+40	0.0565	0.40	|Q |V
3+45	0.0595	0.43	|Q |V
3+50	0.0625	0.44	|Q | V
3+55	0.0658	0.47	|Q | V
4+ 0	0.0691	0.49	|Q | V
4+ 5	0.0727	0.51	| Q | V
4+10	0.0765	0.55	| Q | V
4+15	0.0806	0.59	| Q | V
4+20	0.0849	0.63	| Q | V
4+25	0.0896	0.67	| Q | V
4+30	0.0943	0.69	| Q | V
4+35	0.0992	0.72	| Q | V|
4+40	0.1044	0.76	| Q | V
4+45	0.1099	0.80	| Q | V
4+50	0.1155	0.81	| Q | V
4+55	0.1213	0.84	| Q | V
5+ 0	0.1273	0.88	| Q | V
5+ 5	0.1344	1.03	| Q | V
5+10	0.1428	1.23	| Q | V
5+15	0.1523	1.38	| Q | V
5+20	0.1626	1.50	| Q | V
5+25	0.1742	1.67	| Q | V
5+30	0.1878	1.98	| Q | V
5+35	0.1955	1.11	| Q | V|
5+40	0.1978	0.34	|Q | V|
5+45	0.1987	0.12	Q | V|
5+50	0.1990	0.05	Q | V|
5+55	0.1992	0.02	Q | V|
6+ 0	0.1992	0.01	Q | V|
6+ 5	0.1993	0.00	Q | V

U n i t H y d r o g r a p h A n a l y s i s

Study date 02/19/18 File: devareaauh10yr2410.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6385

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Developed Condition Unit Hydrograph Analysis
10 Year 24 Hour Frequency
Area A
Honda Center

Drainage Area = 1.67(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.67(Ac.) = 0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.020 Hr.
Lag time = 1.20 Min.
25% of lag time = 0.30 Min.
40% of lag time = 0.48 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.67	2.42	4.04

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.67	6.58	10.99

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.420(In)

Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 4.131(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.131(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.670	56.00	0.900

Total Area Entered = 1.67(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.900	0.097	1.000	0.097
					Sum (F) =	0.097

Area averaged mean soil loss (F) (In/Hr) = 0.097
Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	416.667	66.200	1.114
2	0.167	833.333	33.800	0.569
			Sum = 100.000 Sum=	1.683

The following loss rate calculations reflect use of the minimum calculated loss
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time		Pattern	Storm Rain	Loss rate(In./Hr)		Effective
	(Hr.)	Percent	(In/Hr)	Max	Low	(In/Hr)
1	0.08	0.07	0.033	(0.172)	0.030	0.003
2	0.17	0.07	0.033	(0.171)	0.030	0.003
3	0.25	0.07	0.033	(0.171)	0.030	0.003
4	0.33	0.10	0.050	(0.170)	0.045	0.005
5	0.42	0.10	0.050	(0.169)	0.045	0.005
6	0.50	0.10	0.050	(0.169)	0.045	0.005
7	0.58	0.10	0.050	(0.168)	0.045	0.005
8	0.67	0.10	0.050	(0.167)	0.045	0.005
9	0.75	0.10	0.050	(0.167)	0.045	0.005
10	0.83	0.13	0.066	(0.166)	0.059	0.007
11	0.92	0.13	0.066	(0.165)	0.059	0.007
12	1.00	0.13	0.066	(0.165)	0.059	0.007
13	1.08	0.10	0.050	(0.164)	0.045	0.005

14	1.17	0.10	0.050	(0.163)	0.045	0.005
15	1.25	0.10	0.050	(0.163)	0.045	0.005
16	1.33	0.10	0.050	(0.162)	0.045	0.005
17	1.42	0.10	0.050	(0.162)	0.045	0.005
18	1.50	0.10	0.050	(0.161)	0.045	0.005
19	1.58	0.10	0.050	(0.160)	0.045	0.005
20	1.67	0.10	0.050	(0.160)	0.045	0.005
21	1.75	0.10	0.050	(0.159)	0.045	0.005
22	1.83	0.13	0.066	(0.158)	0.059	0.007
23	1.92	0.13	0.066	(0.158)	0.059	0.007
24	2.00	0.13	0.066	(0.157)	0.059	0.007
25	2.08	0.13	0.066	(0.156)	0.059	0.007
26	2.17	0.13	0.066	(0.156)	0.059	0.007
27	2.25	0.13	0.066	(0.155)	0.059	0.007
28	2.33	0.13	0.066	(0.155)	0.059	0.007
29	2.42	0.13	0.066	(0.154)	0.059	0.007
30	2.50	0.13	0.066	(0.153)	0.059	0.007
31	2.58	0.17	0.083	(0.153)	0.074	0.008
32	2.67	0.17	0.083	(0.152)	0.074	0.008
33	2.75	0.17	0.083	(0.151)	0.074	0.008
34	2.83	0.17	0.083	(0.151)	0.074	0.008
35	2.92	0.17	0.083	(0.150)	0.074	0.008
36	3.00	0.17	0.083	(0.150)	0.074	0.008
37	3.08	0.17	0.083	(0.149)	0.074	0.008
38	3.17	0.17	0.083	(0.148)	0.074	0.008
39	3.25	0.17	0.083	(0.148)	0.074	0.008
40	3.33	0.17	0.083	(0.147)	0.074	0.008
41	3.42	0.17	0.083	(0.146)	0.074	0.008
42	3.50	0.17	0.083	(0.146)	0.074	0.008
43	3.58	0.17	0.083	(0.145)	0.074	0.008
44	3.67	0.17	0.083	(0.145)	0.074	0.008
45	3.75	0.17	0.083	(0.144)	0.074	0.008
46	3.83	0.20	0.099	(0.143)	0.089	0.010
47	3.92	0.20	0.099	(0.143)	0.089	0.010
48	4.00	0.20	0.099	(0.142)	0.089	0.010
49	4.08	0.20	0.099	(0.142)	0.089	0.010
50	4.17	0.20	0.099	(0.141)	0.089	0.010
51	4.25	0.20	0.099	(0.140)	0.089	0.010
52	4.33	0.23	0.116	(0.140)	0.104	0.012
53	4.42	0.23	0.116	(0.139)	0.104	0.012
54	4.50	0.23	0.116	(0.139)	0.104	0.012
55	4.58	0.23	0.116	(0.138)	0.104	0.012
56	4.67	0.23	0.116	(0.137)	0.104	0.012
57	4.75	0.23	0.116	(0.137)	0.104	0.012
58	4.83	0.27	0.132	(0.136)	0.119	0.013
59	4.92	0.27	0.132	(0.136)	0.119	0.013
60	5.00	0.27	0.132	(0.135)	0.119	0.013
61	5.08	0.20	0.099	(0.134)	0.089	0.010
62	5.17	0.20	0.099	(0.134)	0.089	0.010
63	5.25	0.20	0.099	(0.133)	0.089	0.010
64	5.33	0.23	0.116	(0.133)	0.104	0.012
65	5.42	0.23	0.116	(0.132)	0.104	0.012
66	5.50	0.23	0.116	(0.132)	0.104	0.012
67	5.58	0.27	0.132	(0.131)	0.119	0.013
68	5.67	0.27	0.132	(0.130)	0.119	0.013
69	5.75	0.27	0.132	(0.130)	0.119	0.013

70	5.83	0.27	0.132	(0.129)	0.119	0.013
71	5.92	0.27	0.132	(0.129)	0.119	0.013
72	6.00	0.27	0.132	(0.128)	0.119	0.013
73	6.08	0.30	0.149	0.128	(0.134)	0.021
74	6.17	0.30	0.149	0.127	(0.134)	0.022
75	6.25	0.30	0.149	0.126	(0.134)	0.022
76	6.33	0.30	0.149	0.126	(0.134)	0.023
77	6.42	0.30	0.149	0.125	(0.134)	0.023
78	6.50	0.30	0.149	0.125	(0.134)	0.024
79	6.58	0.33	0.165	0.124	(0.149)	0.041
80	6.67	0.33	0.165	0.124	(0.149)	0.042
81	6.75	0.33	0.165	0.123	(0.149)	0.042
82	6.83	0.33	0.165	0.122	(0.149)	0.043
83	6.92	0.33	0.165	0.122	(0.149)	0.043
84	7.00	0.33	0.165	0.121	(0.149)	0.044
85	7.08	0.33	0.165	0.121	(0.149)	0.044
86	7.17	0.33	0.165	0.120	(0.149)	0.045
87	7.25	0.33	0.165	0.120	(0.149)	0.046
88	7.33	0.37	0.182	0.119	(0.164)	0.063
89	7.42	0.37	0.182	0.119	(0.164)	0.063
90	7.50	0.37	0.182	0.118	(0.164)	0.064
91	7.58	0.40	0.198	0.118	(0.178)	0.081
92	7.67	0.40	0.198	0.117	(0.178)	0.081
93	7.75	0.40	0.198	0.116	(0.178)	0.082
94	7.83	0.43	0.215	0.116	(0.193)	0.099
95	7.92	0.43	0.215	0.115	(0.193)	0.099
96	8.00	0.43	0.215	0.115	(0.193)	0.100
97	8.08	0.50	0.248	0.114	(0.223)	0.134
98	8.17	0.50	0.248	0.114	(0.223)	0.134
99	8.25	0.50	0.248	0.113	(0.223)	0.135
100	8.33	0.50	0.248	0.113	(0.223)	0.135
101	8.42	0.50	0.248	0.112	(0.223)	0.136
102	8.50	0.50	0.248	0.112	(0.223)	0.136
103	8.58	0.53	0.264	0.111	(0.238)	0.153
104	8.67	0.53	0.264	0.111	(0.238)	0.154
105	8.75	0.53	0.264	0.110	(0.238)	0.154
106	8.83	0.57	0.281	0.110	(0.253)	0.171
107	8.92	0.57	0.281	0.109	(0.253)	0.172
108	9.00	0.57	0.281	0.109	(0.253)	0.172
109	9.08	0.63	0.314	0.108	(0.283)	0.206
110	9.17	0.63	0.314	0.108	(0.283)	0.206
111	9.25	0.63	0.314	0.107	(0.283)	0.207
112	9.33	0.67	0.331	0.107	(0.297)	0.224
113	9.42	0.67	0.331	0.106	(0.297)	0.225
114	9.50	0.67	0.331	0.105	(0.297)	0.225
115	9.58	0.70	0.347	0.105	(0.312)	0.242
116	9.67	0.70	0.347	0.104	(0.312)	0.243
117	9.75	0.70	0.347	0.104	(0.312)	0.243
118	9.83	0.73	0.364	0.103	(0.327)	0.260
119	9.92	0.73	0.364	0.103	(0.327)	0.261
120	10.00	0.73	0.364	0.102	(0.327)	0.261
121	10.08	0.50	0.248	0.102	(0.223)	0.146
122	10.17	0.50	0.248	0.101	(0.223)	0.146
123	10.25	0.50	0.248	0.101	(0.223)	0.147
124	10.33	0.50	0.248	0.101	(0.223)	0.147
125	10.42	0.50	0.248	0.100	(0.223)	0.148

126	10.50	0.50	0.248	0.100	(0.223)	0.148
127	10.58	0.67	0.331	0.099	(0.297)	0.231
128	10.67	0.67	0.331	0.099	(0.297)	0.232
129	10.75	0.67	0.331	0.098	(0.297)	0.232
130	10.83	0.67	0.331	0.098	(0.297)	0.233
131	10.92	0.67	0.331	0.097	(0.297)	0.233
132	11.00	0.67	0.331	0.097	(0.297)	0.234
133	11.08	0.63	0.314	0.096	(0.283)	0.218
134	11.17	0.63	0.314	0.096	(0.283)	0.218
135	11.25	0.63	0.314	0.095	(0.283)	0.219
136	11.33	0.63	0.314	0.095	(0.283)	0.219
137	11.42	0.63	0.314	0.094	(0.283)	0.220
138	11.50	0.63	0.314	0.094	(0.283)	0.220
139	11.58	0.57	0.281	0.093	(0.253)	0.188
140	11.67	0.57	0.281	0.093	(0.253)	0.188
141	11.75	0.57	0.281	0.092	(0.253)	0.189
142	11.83	0.60	0.297	0.092	(0.268)	0.205
143	11.92	0.60	0.297	0.092	(0.268)	0.206
144	12.00	0.60	0.297	0.091	(0.268)	0.206
145	12.08	0.83	0.413	0.091	(0.372)	0.323
146	12.17	0.83	0.413	0.090	(0.372)	0.323
147	12.25	0.83	0.413	0.090	(0.372)	0.323
148	12.33	0.87	0.430	0.089	(0.387)	0.340
149	12.42	0.87	0.430	0.089	(0.387)	0.341
150	12.50	0.87	0.430	0.088	(0.387)	0.341
151	12.58	0.93	0.463	0.088	(0.416)	0.375
152	12.67	0.93	0.463	0.087	(0.416)	0.375
153	12.75	0.93	0.463	0.087	(0.416)	0.376
154	12.83	0.97	0.479	0.087	(0.431)	0.393
155	12.92	0.97	0.479	0.086	(0.431)	0.393
156	13.00	0.97	0.479	0.086	(0.431)	0.394
157	13.08	1.13	0.562	0.085	(0.506)	0.477
158	13.17	1.13	0.562	0.085	(0.506)	0.477
159	13.25	1.13	0.562	0.084	(0.506)	0.477
160	13.33	1.13	0.562	0.084	(0.506)	0.478
161	13.42	1.13	0.562	0.084	(0.506)	0.478
162	13.50	1.13	0.562	0.083	(0.506)	0.479
163	13.58	0.77	0.380	0.083	(0.342)	0.297
164	13.67	0.77	0.380	0.082	(0.342)	0.298
165	13.75	0.77	0.380	0.082	(0.342)	0.298
166	13.83	0.77	0.380	0.081	(0.342)	0.299
167	13.92	0.77	0.380	0.081	(0.342)	0.299
168	14.00	0.77	0.380	0.081	(0.342)	0.299
169	14.08	0.90	0.446	0.080	(0.402)	0.366
170	14.17	0.90	0.446	0.080	(0.402)	0.366
171	14.25	0.90	0.446	0.079	(0.402)	0.367
172	14.33	0.87	0.430	0.079	(0.387)	0.351
173	14.42	0.87	0.430	0.079	(0.387)	0.351
174	14.50	0.87	0.430	0.078	(0.387)	0.351
175	14.58	0.87	0.430	0.078	(0.387)	0.352
176	14.67	0.87	0.430	0.077	(0.387)	0.352
177	14.75	0.87	0.430	0.077	(0.387)	0.353
178	14.83	0.83	0.413	0.077	(0.372)	0.337
179	14.92	0.83	0.413	0.076	(0.372)	0.337
180	15.00	0.83	0.413	0.076	(0.372)	0.337
181	15.08	0.80	0.397	0.075	(0.357)	0.321

182	15.17	0.80	0.397	0.075	(0.357)	0.322
183	15.25	0.80	0.397	0.075	(0.357)	0.322
184	15.33	0.77	0.380	0.074	(0.342)	0.306
185	15.42	0.77	0.380	0.074	(0.342)	0.306
186	15.50	0.77	0.380	0.073	(0.342)	0.307
187	15.58	0.63	0.314	0.073	(0.283)	0.241
188	15.67	0.63	0.314	0.073	(0.283)	0.241
189	15.75	0.63	0.314	0.072	(0.283)	0.242
190	15.83	0.63	0.314	0.072	(0.283)	0.242
191	15.92	0.63	0.314	0.072	(0.283)	0.242
192	16.00	0.63	0.314	0.071	(0.283)	0.243
193	16.08	0.13	0.066	(0.071)	0.059	0.007
194	16.17	0.13	0.066	(0.071)	0.059	0.007
195	16.25	0.13	0.066	(0.070)	0.059	0.007
196	16.33	0.13	0.066	(0.070)	0.059	0.007
197	16.42	0.13	0.066	(0.069)	0.059	0.007
198	16.50	0.13	0.066	(0.069)	0.059	0.007
199	16.58	0.10	0.050	(0.069)	0.045	0.005
200	16.67	0.10	0.050	(0.068)	0.045	0.005
201	16.75	0.10	0.050	(0.068)	0.045	0.005
202	16.83	0.10	0.050	(0.068)	0.045	0.005
203	16.92	0.10	0.050	(0.067)	0.045	0.005
204	17.00	0.10	0.050	(0.067)	0.045	0.005
205	17.08	0.17	0.083	0.067	(0.074)	0.016
206	17.17	0.17	0.083	0.066	(0.074)	0.016
207	17.25	0.17	0.083	0.066	(0.074)	0.017
208	17.33	0.17	0.083	0.066	(0.074)	0.017
209	17.42	0.17	0.083	0.065	(0.074)	0.017
210	17.50	0.17	0.083	0.065	(0.074)	0.018
211	17.58	0.17	0.083	0.065	(0.074)	0.018
212	17.67	0.17	0.083	0.064	(0.074)	0.018
213	17.75	0.17	0.083	0.064	(0.074)	0.019
214	17.83	0.13	0.066	(0.064)	0.059	0.007
215	17.92	0.13	0.066	(0.063)	0.059	0.007
216	18.00	0.13	0.066	(0.063)	0.059	0.007
217	18.08	0.13	0.066	(0.063)	0.059	0.007
218	18.17	0.13	0.066	(0.063)	0.059	0.007
219	18.25	0.13	0.066	(0.062)	0.059	0.007
220	18.33	0.13	0.066	(0.062)	0.059	0.007
221	18.42	0.13	0.066	(0.062)	0.059	0.007
222	18.50	0.13	0.066	(0.061)	0.059	0.007
223	18.58	0.10	0.050	(0.061)	0.045	0.005
224	18.67	0.10	0.050	(0.061)	0.045	0.005
225	18.75	0.10	0.050	(0.060)	0.045	0.005
226	18.83	0.07	0.033	(0.060)	0.030	0.003
227	18.92	0.07	0.033	(0.060)	0.030	0.003
228	19.00	0.07	0.033	(0.060)	0.030	0.003
229	19.08	0.10	0.050	(0.059)	0.045	0.005
230	19.17	0.10	0.050	(0.059)	0.045	0.005
231	19.25	0.10	0.050	(0.059)	0.045	0.005
232	19.33	0.13	0.066	0.058	(0.059)	0.008
233	19.42	0.13	0.066	0.058	(0.059)	0.008
234	19.50	0.13	0.066	0.058	(0.059)	0.008
235	19.58	0.10	0.050	(0.058)	0.045	0.005
236	19.67	0.10	0.050	(0.057)	0.045	0.005
237	19.75	0.10	0.050	(0.057)	0.045	0.005

238	19.83	0.07	0.033	(0.057)	0.030	0.003
239	19.92	0.07	0.033	(0.057)	0.030	0.003
240	20.00	0.07	0.033	(0.056)	0.030	0.003
241	20.08	0.10	0.050	(0.056)	0.045	0.005
242	20.17	0.10	0.050	(0.056)	0.045	0.005
243	20.25	0.10	0.050	(0.056)	0.045	0.005
244	20.33	0.10	0.050	(0.055)	0.045	0.005
245	20.42	0.10	0.050	(0.055)	0.045	0.005
246	20.50	0.10	0.050	(0.055)	0.045	0.005
247	20.58	0.10	0.050	(0.055)	0.045	0.005
248	20.67	0.10	0.050	(0.054)	0.045	0.005
249	20.75	0.10	0.050	(0.054)	0.045	0.005
250	20.83	0.07	0.033	(0.054)	0.030	0.003
251	20.92	0.07	0.033	(0.054)	0.030	0.003
252	21.00	0.07	0.033	(0.054)	0.030	0.003
253	21.08	0.10	0.050	(0.053)	0.045	0.005
254	21.17	0.10	0.050	(0.053)	0.045	0.005
255	21.25	0.10	0.050	(0.053)	0.045	0.005
256	21.33	0.07	0.033	(0.053)	0.030	0.003
257	21.42	0.07	0.033	(0.053)	0.030	0.003
258	21.50	0.07	0.033	(0.052)	0.030	0.003
259	21.58	0.10	0.050	(0.052)	0.045	0.005
260	21.67	0.10	0.050	(0.052)	0.045	0.005
261	21.75	0.10	0.050	(0.052)	0.045	0.005
262	21.83	0.07	0.033	(0.052)	0.030	0.003
263	21.92	0.07	0.033	(0.051)	0.030	0.003
264	22.00	0.07	0.033	(0.051)	0.030	0.003
265	22.08	0.10	0.050	(0.051)	0.045	0.005
266	22.17	0.10	0.050	(0.051)	0.045	0.005
267	22.25	0.10	0.050	(0.051)	0.045	0.005
268	22.33	0.07	0.033	(0.051)	0.030	0.003
269	22.42	0.07	0.033	(0.050)	0.030	0.003
270	22.50	0.07	0.033	(0.050)	0.030	0.003
271	22.58	0.07	0.033	(0.050)	0.030	0.003
272	22.67	0.07	0.033	(0.050)	0.030	0.003
273	22.75	0.07	0.033	(0.050)	0.030	0.003
274	22.83	0.07	0.033	(0.050)	0.030	0.003
275	22.92	0.07	0.033	(0.050)	0.030	0.003
276	23.00	0.07	0.033	(0.049)	0.030	0.003
277	23.08	0.07	0.033	(0.049)	0.030	0.003
278	23.17	0.07	0.033	(0.049)	0.030	0.003
279	23.25	0.07	0.033	(0.049)	0.030	0.003
280	23.33	0.07	0.033	(0.049)	0.030	0.003
281	23.42	0.07	0.033	(0.049)	0.030	0.003
282	23.50	0.07	0.033	(0.049)	0.030	0.003
283	23.58	0.07	0.033	(0.049)	0.030	0.003
284	23.67	0.07	0.033	(0.049)	0.030	0.003
285	23.75	0.07	0.033	(0.049)	0.030	0.003
286	23.83	0.07	0.033	(0.049)	0.030	0.003
287	23.92	0.07	0.033	(0.049)	0.030	0.003
288	24.00	0.07	0.033	(0.049)	0.030	0.003

(Loss Rate Not Used)

Sum = 100.0 Sum = 28.3

Flood volume = Effective rainfall 2.36(In)
times area 1.7(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 1.77(In)

Total soil loss = 0.247(Ac.Ft)
Total rainfall = 4.13(In)
Flood volume = 14291.0 Cubic Feet
Total soil loss = 10754.3 Cubic Feet

Peak flow rate of this hydrograph = 0.806(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0002	0.01	Q				
0+30	0.0003	0.01	Q				
0+35	0.0003	0.01	Q				
0+40	0.0004	0.01	Q				
0+45	0.0004	0.01	Q				
0+50	0.0005	0.01	Q				
0+55	0.0006	0.01	Q				
1+ 0	0.0007	0.01	Q				
1+ 5	0.0007	0.01	Q				
1+10	0.0008	0.01	Q				
1+15	0.0008	0.01	Q				
1+20	0.0009	0.01	Q				
1+25	0.0010	0.01	Q				
1+30	0.0010	0.01	Q				
1+35	0.0011	0.01	Q				
1+40	0.0011	0.01	Q				
1+45	0.0012	0.01	Q				
1+50	0.0013	0.01	Q				
1+55	0.0013	0.01	Q				
2+ 0	0.0014	0.01	Q				
2+ 5	0.0015	0.01	Q				
2+10	0.0016	0.01	Q				
2+15	0.0016	0.01	Q				
2+20	0.0017	0.01	Q				
2+25	0.0018	0.01	Q				
2+30	0.0019	0.01	Q				
2+35	0.0020	0.01	Q				
2+40	0.0021	0.01	Q				
2+45	0.0022	0.01	Q				
2+50	0.0022	0.01	Q				
2+55	0.0023	0.01	Q				
3+ 0	0.0024	0.01	Q				
3+ 5	0.0025	0.01	Q				
3+10	0.0026	0.01	Q				
3+15	0.0027	0.01	Q				
3+20	0.0028	0.01	Q				

3+25	0.0029	0.01	Q	|	|	|	|
3+30	0.0030	0.01	Q	|	|	|	|
3+35	0.0031	0.01	Q	|	|	|	|
3+40	0.0032	0.01	Q	|	|	|	|
3+45	0.0033	0.01	Q	|	|	|	|
3+50	0.0034	0.02	Q	|	|	|	|
3+55	0.0035	0.02	Q	|	|	|	|
4+ 0	0.0036	0.02	Q	|	|	|	|
4+ 5	0.0038	0.02	Q	|	|	|	|
4+10	0.0039	0.02	Q	|	|	|	|
4+15	0.0040	0.02	Q	|	|	|	|
4+20	0.0041	0.02	Q	|	|	|	|
4+25	0.0042	0.02	Q	|	|	|	|
4+30	0.0044	0.02	Q	|	|	|	|
4+35	0.0045	0.02	Q	|	|	|	|
4+40	0.0047	0.02	Q	|	|	|	|
4+45	0.0048	0.02	Q	|	|	|	|
4+50	0.0049	0.02	Q	|	|	|	|
4+55	0.0051	0.02	Q	|	|	|	|
5+ 0	0.0052	0.02	Q	|	|	|	|
5+ 5	0.0054	0.02	Q	|	|	|	|
5+10	0.0055	0.02	Q	|	|	|	|
5+15	0.0056	0.02	Q	|	|	|	|
5+20	0.0057	0.02	Q	|	|	|	|
5+25	0.0059	0.02	Q	|	|	|	|
5+30	0.0060	0.02	Q	|	|	|	|
5+35	0.0061	0.02	Q	|	|	|	|
5+40	0.0063	0.02	Q	|	|	|	|
5+45	0.0064	0.02	Q	|	|	|	|
5+50	0.0066	0.02	Q	|	|	|	|
5+55	0.0068	0.02	Q	|	|	|	|
6+ 0	0.0069	0.02	Q	|	|	|	|
6+ 5	0.0071	0.03	Q	|	|	|	|
6+10	0.0074	0.04	Q	|	|	|	|
6+15	0.0076	0.04	Q	|	|	|	|
6+20	0.0079	0.04	Q	|	|	|	|
6+25	0.0082	0.04	Q	|	|	|	|
6+30	0.0084	0.04	QV	|	|	|	|
6+35	0.0088	0.06	QV	|	|	|	|
6+40	0.0093	0.07	QV	|	|	|	|
6+45	0.0098	0.07	QV	|	|	|	|
6+50	0.0103	0.07	QV	|	|	|	|
6+55	0.0108	0.07	QV	|	|	|	|
7+ 0	0.0113	0.07	QV	|	|	|	|
7+ 5	0.0118	0.07	QV	|	|	|	|
7+10	0.0123	0.08	QV	|	|	|	|
7+15	0.0129	0.08	QV	|	|	|	|
7+20	0.0135	0.10	QV	|	|	|	|
7+25	0.0143	0.11	QV	|	|	|	|
7+30	0.0150	0.11	QV	|	|	|	|
7+35	0.0159	0.13	QV	|	|	|	|
7+40	0.0168	0.14	Q V	|	|	|	|
7+45	0.0178	0.14	Q V	|	|	|	|
7+50	0.0188	0.16	Q V	|	|	|	|
7+55	0.0200	0.17	Q V	|	|	|	|
8+ 0	0.0211	0.17	Q V	|	|	|	|

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 8+ 5       0.0226      0.21  Q V       |         |         |         |
 8+10       0.0241      0.23  Q V       |         |         |         |
 8+15       0.0257      0.23  Q  V      |         |         |         |
 8+20       0.0272      0.23  Q  V      |         |         |         |
 8+25       0.0288      0.23  Q  V      |         |         |         |
 8+30       0.0304      0.23  Q  V      |         |         |         |
 8+35       0.0321      0.25  Q  V      |         |         |         |
 8+40       0.0339      0.26  |Q  V     |         |         |         |
 8+45       0.0357      0.26  |Q  V     |         |         |         |
 8+50       0.0376      0.28  |Q  V     |         |         |         |
 8+55       0.0396      0.29  |Q  V     |         |         |         |
 9+ 0       0.0416      0.29  |Q   V    |         |         |         |
 9+ 5       0.0438      0.33  |Q   V    |         |         |         |
 9+10       0.0462      0.35  |Q   V    |         |         |         |
 9+15       0.0486      0.35  |Q   V    |         |         |         |
 9+20       0.0512      0.37  |Q    V   |         |         |         |
 9+25       0.0538      0.38  |Q    V   |         |         |         |
 9+30       0.0564      0.38  |Q    V   |         |         |         |
 9+35       0.0591      0.40  |Q     V  |         |         |         |
 9+40       0.0619      0.41  |Q     V  |         |         |         |
 9+45       0.0647      0.41  |Q     V  |         |         |         |
 9+50       0.0677      0.43  |Q      V |         |         |         |
 9+55       0.0707      0.44  |Q      V |         |         |         |
10+ 0       0.0737      0.44  |Q      V |         |         |         |
10+ 5       0.0759      0.31  |Q       V|         |         |         |
10+10       0.0776      0.25  Q        V|         |         |         |
10+15       0.0793      0.25  Q        V|         |         |         |
10+20       0.0810      0.25  Q        V|         |         |         |
10+25       0.0827      0.25  Q         V         |         |         |
10+30       0.0844      0.25  Q         V         |         |         |
10+35       0.0868      0.34  |Q        V         |         |         |
10+40       0.0895      0.39  |Q        V         |         |         |
10+45       0.0921      0.39  |Q        |V        |         |         |
10+50       0.0948      0.39  |Q        |V        |         |         |
10+55       0.0976      0.39  |Q        |V        |         |         |
11+ 0       0.1003      0.39  |Q        | V       |         |         |
11+ 5       0.1029      0.38  |Q        | V       |         |         |
11+10       0.1054      0.37  |Q        | V       |         |         |
11+15       0.1079      0.37  |Q        |  V      |         |         |
11+20       0.1105      0.37  |Q        |  V      |         |         |
11+25       0.1130      0.37  |Q        |  V      |         |         |
11+30       0.1156      0.37  |Q        |   V     |         |         |
11+35       0.1179      0.33  |Q        |   V     |         |         |
11+40       0.1200      0.32  |Q        |   V     |         |         |
11+45       0.1222      0.32  |Q        |   V     |         |         |
11+50       0.1245      0.34  |Q        |    V    |         |         |
11+55       0.1269      0.35  |Q        |    V    |         |         |
12+ 0       0.1293      0.35  |Q        |    V    |         |         |
12+ 5       0.1326      0.48  |Q        |     V   |         |         |
12+10       0.1363      0.54  | Q       |     V   |         |         |
12+15       0.1401      0.54  | Q       |      V  |         |         |
12+20       0.1440      0.56  | Q       |      V  |         |         |
12+25       0.1479      0.57  | Q       |       V |         |         |
12+30       0.1519      0.57  | Q       |       V |         |         |
12+35       0.1561      0.61  | Q       |        V|         |         |
12+40       0.1605      0.63  | Q       |        V|         |         |
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12+45       0.1648      0.63  | Q       |          V          |          |
12+50       0.1693      0.65  | Q       |          V          |          |
12+55       0.1739      0.66  | Q       |          |V         |          |
13+ 0       0.1784      0.66  | Q       |          |V         |          |
13+ 5       0.1836      0.76  |  Q      |          | V        |          |
13+10       0.1891      0.80  |  Q      |          |  V       |          |
13+15       0.1947      0.80  |  Q      |          |  V       |          |
13+20       0.2002      0.80  |  Q      |          |   V      |          |
13+25       0.2058      0.81  |  Q      |          |    V     |          |
13+30       0.2113      0.81  |  Q      |          |    V     |          |
13+35       0.2155      0.60  | Q       |          |     V    |          |
13+40       0.2189      0.50  | Q       |          |     V    |          |
13+45       0.2224      0.50  | Q       |          |      V   |          |
13+50       0.2258      0.50  | Q       |          |      V   |          |
13+55       0.2293      0.50  | Q       |          |      V   |          |
14+ 0       0.2328      0.50  | Q       |          |       V  |          |
14+ 5       0.2368      0.58  | Q       |          |       V  |          |
14+10       0.2410      0.62  | Q       |          |        V|          |
14+15       0.2453      0.62  | Q       |          |        V|          |
14+20       0.2494      0.60  | Q       |          |         V          |
14+25       0.2535      0.59  | Q       |          |         V          |
14+30       0.2575      0.59  | Q       |          |          |V         |
14+35       0.2616      0.59  | Q       |          |          |V         |
14+40       0.2657      0.59  | Q       |          |          | V        |
14+45       0.2698      0.59  | Q       |          |          | V        |
14+50       0.2738      0.58  | Q       |          |          |  V       |
14+55       0.2777      0.57  | Q       |          |          |  V       |
15+ 0       0.2816      0.57  | Q       |          |          |   V      |
15+ 5       0.2854      0.55  | Q       |          |          |   V      |
15+10       0.2891      0.54  | Q       |          |          |    V     |
15+15       0.2928      0.54  | Q       |          |          |    V     |
15+20       0.2964      0.52  | Q       |          |          |     V    |
15+25       0.3000      0.52  | Q       |          |          |     V    |
15+30       0.3035      0.52  | Q       |          |          |      V   |
15+35       0.3066      0.44  |Q        |          |          |      V   |
15+40       0.3094      0.41  |Q        |          |          |      V   |
15+45       0.3122      0.41  |Q        |          |          |       V  |
15+50       0.3150      0.41  |Q        |          |          |       V  |
15+55       0.3178      0.41  |Q        |          |          |       V  |
16+ 0       0.3206      0.41  |Q        |          |          |        V|
16+ 5       0.3216      0.15  Q         |          |          |        V|
16+10       0.3217      0.01  Q         |          |          |        V|
16+15       0.3218      0.01  Q         |          |          |        V|
16+20       0.3219      0.01  Q         |          |          |        V|
16+25       0.3219      0.01  Q         |          |          |        V|
16+30       0.3220      0.01  Q         |          |          |        V|
16+35       0.3221      0.01  Q         |          |          |        V|
16+40       0.3221      0.01  Q         |          |          |        V|
16+45       0.3222      0.01  Q         |          |          |        V|
16+50       0.3222      0.01  Q         |          |          |        V|
16+55       0.3223      0.01  Q         |          |          |        V|
17+ 0       0.3224      0.01  Q         |          |          |        V|
17+ 5       0.3225      0.02  Q         |          |          |        V|
17+10       0.3227      0.03  Q         |          |          |        V|
17+15       0.3229      0.03  Q         |          |          |        V|
17+20       0.3231      0.03  Q         |          |          |        V|
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17+25	0.3233	0.03	Q	|	|	|	V|
17+30	0.3235	0.03	Q	|	|	|	V|
17+35	0.3237	0.03	Q	|	|	|	V|
17+40	0.3239	0.03	Q	|	|	|	V|
17+45	0.3241	0.03	Q	|	|	|	V|
17+50	0.3242	0.02	Q	|	|	|	V|
17+55	0.3243	0.01	Q	|	|	|	V|
18+ 0	0.3244	0.01	Q	|	|	|	V|
18+ 5	0.3245	0.01	Q	|	|	|	V|
18+10	0.3245	0.01	Q	|	|	|	V|
18+15	0.3246	0.01	Q	|	|	|	V|
18+20	0.3247	0.01	Q	|	|	|	V|
18+25	0.3248	0.01	Q	|	|	|	V|
18+30	0.3248	0.01	Q	|	|	|	V|
18+35	0.3249	0.01	Q	|	|	|	V|
18+40	0.3250	0.01	Q	|	|	|	V|
18+45	0.3250	0.01	Q	|	|	|	V|
18+50	0.3251	0.01	Q	|	|	|	V|
18+55	0.3251	0.01	Q	|	|	|	V|
19+ 0	0.3251	0.01	Q	|	|	|	V|
19+ 5	0.3252	0.01	Q	|	|	|	V|
19+10	0.3253	0.01	Q	|	|	|	V|
19+15	0.3253	0.01	Q	|	|	|	V|
19+20	0.3254	0.01	Q	|	|	|	V|
19+25	0.3255	0.01	Q	|	|	|	V|
19+30	0.3256	0.01	Q	|	|	|	V|
19+35	0.3256	0.01	Q	|	|	|	V|
19+40	0.3257	0.01	Q	|	|	|	V|
19+45	0.3258	0.01	Q	|	|	|	V|
19+50	0.3258	0.01	Q	|	|	|	V|
19+55	0.3258	0.01	Q	|	|	|	V|
20+ 0	0.3259	0.01	Q	|	|	|	V|
20+ 5	0.3259	0.01	Q	|	|	|	V|
20+10	0.3260	0.01	Q	|	|	|	V|
20+15	0.3260	0.01	Q	|	|	|	V|
20+20	0.3261	0.01	Q	|	|	|	V|
20+25	0.3262	0.01	Q	|	|	|	V|
20+30	0.3262	0.01	Q	|	|	|	V|
20+35	0.3263	0.01	Q	|	|	|	V|
20+40	0.3263	0.01	Q	|	|	|	V|
20+45	0.3264	0.01	Q	|	|	|	V|
20+50	0.3264	0.01	Q	|	|	|	V|
20+55	0.3265	0.01	Q	|	|	|	V|
21+ 0	0.3265	0.01	Q	|	|	|	V|
21+ 5	0.3266	0.01	Q	|	|	|	V|
21+10	0.3266	0.01	Q	|	|	|	V|
21+15	0.3267	0.01	Q	|	|	|	V|
21+20	0.3267	0.01	Q	|	|	|	V|
21+25	0.3268	0.01	Q	|	|	|	V|
21+30	0.3268	0.01	Q	|	|	|	V|
21+35	0.3268	0.01	Q	|	|	|	V|
21+40	0.3269	0.01	Q	|	|	|	V|
21+45	0.3270	0.01	Q	|	|	|	V|
21+50	0.3270	0.01	Q	|	|	|	V|
21+55	0.3270	0.01	Q	|	|	|	V|
22+ 0	0.3271	0.01	Q	|	|	|	V|

```
   22+ 5       0.3271      0.01  Q          |          |          |         V|
   22+10       0.3272      0.01  Q          |          |          |         V|
   22+15       0.3273      0.01  Q          |          |          |         V|
   22+20       0.3273      0.01  Q          |          |          |         V|
   22+25       0.3273      0.01  Q          |          |          |         V|
   22+30       0.3274      0.01  Q          |          |          |         V|
   22+35       0.3274      0.01  Q          |          |          |         V|
   22+40       0.3274      0.01  Q          |          |          |         V|
   22+45       0.3275      0.01  Q          |          |          |         V|
   22+50       0.3275      0.01  Q          |          |          |         V|
   22+55       0.3276      0.01  Q          |          |          |         V|
   23+ 0       0.3276      0.01  Q          |          |          |         V|
   23+ 5       0.3276      0.01  Q          |          |          |         V|
   23+10       0.3277      0.01  Q          |          |          |         V|
   23+15       0.3277      0.01  Q          |          |          |         V|
   23+20       0.3278      0.01  Q          |          |          |         V|
   23+25       0.3278      0.01  Q          |          |          |         V|
   23+30       0.3278      0.01  Q          |          |          |         V|
   23+35       0.3279      0.01  Q          |          |          |         V|
   23+40       0.3279      0.01  Q          |          |          |         V|
   23+45       0.3279      0.01  Q          |          |          |         V|
   23+50       0.3280      0.01  Q          |          |          |         V|
   23+55       0.3280      0.01  Q          |          |          |         V|
   24+ 0       0.3281      0.01  Q          |          |          |         V|
   24+ 5       0.3281      0.00  Q          |          |          |         V|
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

Study date 02/13/18 File: devareabuh10yr110.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6385

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Developed Condition Unit Hydrograph Analysis
10 Year 1 Hour Frequency
Area B
Honda Center

Drainage Area = 4.80(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.80(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 853.00(Ft.)
Length along longest watercourse measured to centroid = 270.00(Ft.)
Length along longest watercourse = 0.162 Mi.
Length along longest watercourse measured to centroid = 0.051 Mi.
Difference in elevation = 5.70(Ft.)
Slope along watercourse = 35.2825 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.030 Hr.
Lag time = 1.77 Min.
25% of lag time = 0.44 Min.
40% of lag time = 0.71 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.80	0.48	2.28

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.80             1.31                 6.29

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.476(In)
Area Averaged 100-Year Rainfall =    1.310(In)

Point rain (area averaged) =    0.819(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.819(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     4.800           56.00          0.900
 Total Area Entered =      4.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
56.0  56.0      0.511     0.900        0.097       1.000      0.097
                                                   Sum (F) =   0.097
Area averaged mean soil loss (F) (In/Hr) =  0.097
Minimum soil loss rate ((In/Hr)) =  0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.4800
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
        1   0.083        281.887         54.742              2.648
        2   0.167        563.775         38.148              1.845
        3   0.250        845.662          7.110              0.344
                                  Sum = 100.000   Sum=       4.838
------------------------------------------------------------------------

 The following loss rate calculations reflect use of the minimum calculated
loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain
value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low         (In/Hr)
   1   0.08     4.40      0.432          0.097    (  0.389)        0.335
   2   0.17     4.50      0.442          0.097    (  0.398)        0.345
   3   0.25     5.40      0.531          0.097    (  0.478)        0.434
   4   0.33     5.40      0.531          0.097    (  0.478)        0.434
```

```
  5   0.42     5.70      0.560          0.097    (  0.504)        0.463
  6   0.50     6.40      0.629          0.097    (  0.566)        0.532
  7   0.58     7.90      0.776          0.097    (  0.699)        0.679
  8   0.67     9.10      0.894          0.097    (  0.805)        0.797
  9   0.75    12.80      1.258          0.097    (  1.132)        1.161
 10   0.83    25.60      2.516          0.097    (  2.265)        2.419
 11   0.92     7.90      0.776          0.097    (  0.699)        0.679
 12   1.00     4.90      0.482          0.097    (  0.433)        0.385
          (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     8.7
    Flood volume = Effective rainfall      0.72(In)
     times area       4.8(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
    Total soil loss =      0.10(In)
    Total soil loss =     0.039(Ac.Ft)
    Total rainfall =      0.82(In)
    Flood volume =       12580.6 Cubic Feet
    Total soil loss =        1691.0 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      8.828(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                    R u n o f f     H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0061      0.89  V  Q      |         |         |         |
   0+10       0.0167      1.53  | V   Q   |         |         |         |
   0+15       0.0298      1.90  |   V  Q  |         |         |         |
   0+20       0.0440      2.07  |     V Q |         |         |         |
   0+25       0.0590      2.18  |       Q |         |         |         |
   0+30       0.0757      2.41  |        QV         |         |         |
   0+35       0.0959      2.94  |          |Q V     |         |         |
   0+40       0.1204      3.55  |          |   Q V  |         |         |
   0+45       0.1533      4.78  |          |        Q|V        |         |
   0+50       0.2141      8.83  |          |         |        V|    Q    |
   0+55       0.2600      6.67  |          |         |     Q   |     V   |
   1+ 0       0.2814      3.11  |          | Q       |         |       V |
   1+ 5       0.2879      0.94  |  Q       |         |         |        V|
   1+10       0.2888      0.13  Q          |         |         |        V|
---------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

Study date 02/13/18 File: devareabuh10yr310.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6385

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Developed Condition Unit Hydrograph Analysis
10 Year 3 Hour Frequency
Area B
Honda Center

Drainage Area = 4.80(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.80(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 853.00(Ft.)
Length along longest watercourse measured to centroid = 270.00(Ft.)
Length along longest watercourse = 0.162 Mi.
Length along longest watercourse measured to centroid = 0.051 Mi.
Difference in elevation = 5.70(Ft.)
Slope along watercourse = 35.2825 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.030 Hr.
Lag time = 1.77 Min.
25% of lag time = 0.44 Min.
40% of lag time = 0.71 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.80	0.87	4.16

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.80             2.16                 10.37

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.866(In)
Area Averaged 100-Year Rainfall =    2.160(In)

Point rain (area averaged) =    1.398(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.398(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     4.800           56.00          0.900
 Total Area Entered =      4.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
56.0  56.0      0.511     0.900        0.097       1.000      0.097
                                                   Sum (F) =   0.097
Area averaged mean soil loss (F) (In/Hr) =  0.097
Minimum soil loss rate ((In/Hr)) =  0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

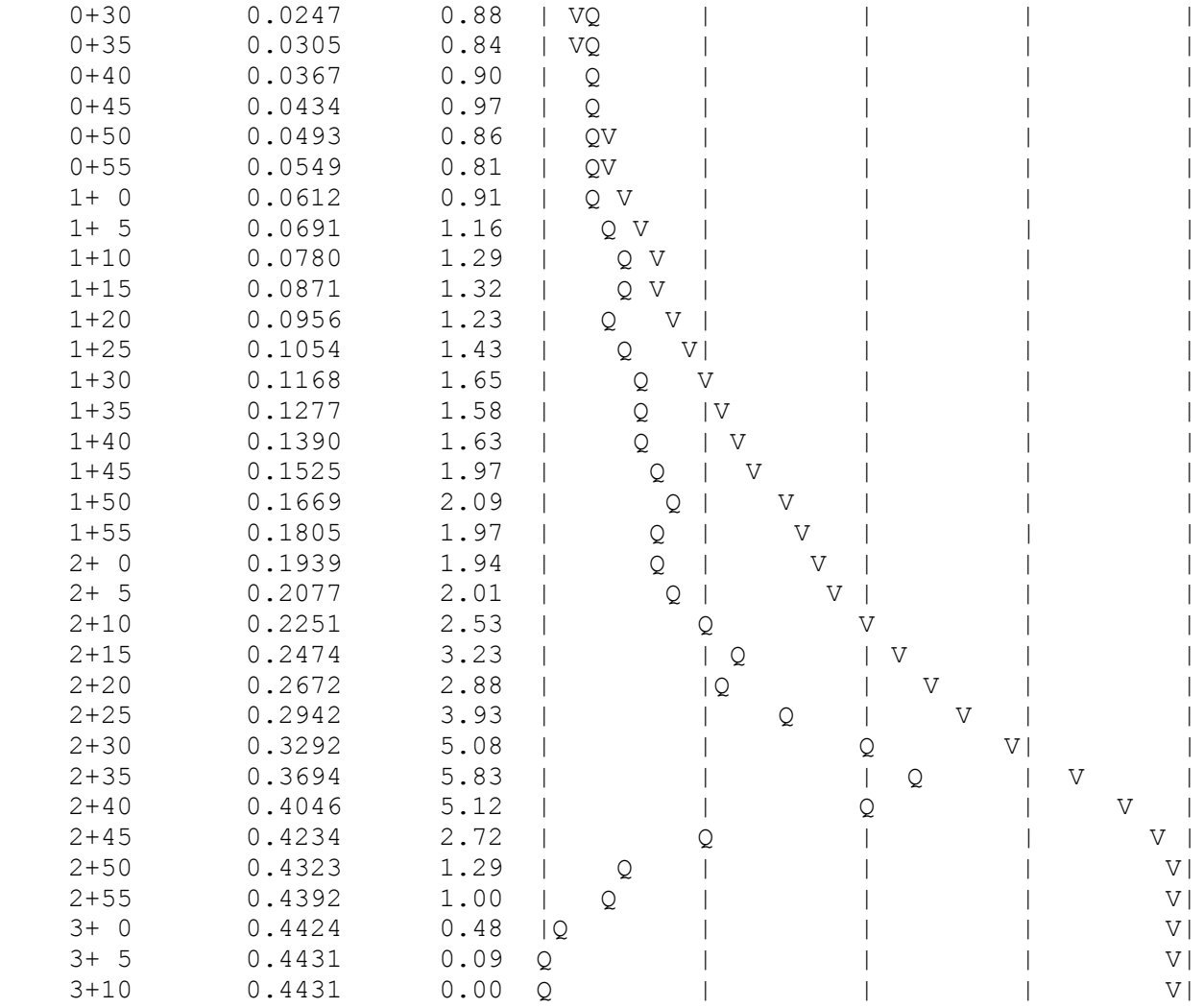
            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
       1   0.083        281.887         54.742              2.648
       2   0.167        563.775         38.148              1.845
       3   0.250        845.662          7.110              0.344
                               Sum = 100.000   Sum=          4.838
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated
loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain
value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low         (In/Hr)
    1   0.08     1.30      0.218          0.097    (  0.196)        0.121
    2   0.17     1.30      0.218          0.097    (  0.196)        0.121
    3   0.25     1.10      0.185          0.097    (  0.166)        0.088
    4   0.33     1.50      0.252          0.097    (  0.227)        0.155
    5   0.42     1.50      0.252          0.097    (  0.227)        0.155
    6   0.50     1.80      0.302          0.097    (  0.272)        0.205
```

```
 7   0.58     1.50      0.252          0.097    (  0.227)         0.155
 8   0.67     1.80      0.302          0.097    (  0.272)         0.205
 9   0.75     1.80      0.302          0.097    (  0.272)         0.205
10   0.83     1.50      0.252          0.097    (  0.227)         0.155
11   0.92     1.60      0.268          0.097    (  0.242)         0.171
12   1.00     1.80      0.302          0.097    (  0.272)         0.205
13   1.08     2.20      0.369          0.097    (  0.332)         0.272
14   1.17     2.20      0.369          0.097    (  0.332)         0.272
15   1.25     2.20      0.369          0.097    (  0.332)         0.272
16   1.33     2.00      0.336          0.097    (  0.302)         0.239
17   1.42     2.60      0.436          0.097    (  0.393)         0.339
18   1.50     2.70      0.453          0.097    (  0.408)         0.356
19   1.58     2.40      0.403          0.097    (  0.362)         0.306
20   1.67     2.70      0.453          0.097    (  0.408)         0.356
21   1.75     3.30      0.554          0.097    (  0.498)         0.457
22   1.83     3.10      0.520          0.097    (  0.468)         0.423
23   1.92     2.90      0.487          0.097    (  0.438)         0.390
24   2.00     3.00      0.503          0.097    (  0.453)         0.406
25   2.08     3.10      0.520          0.097    (  0.468)         0.423
26   2.17     4.20      0.705          0.097    (  0.634)         0.608
27   2.25     5.00      0.839          0.097    (  0.755)         0.742
28   2.33     3.50      0.587          0.097    (  0.529)         0.490
29   2.42     6.80      1.141          0.097    (  1.027)         1.044
30   2.50     7.30      1.225          0.097    (  1.102)         1.128
31   2.58     8.20      1.376          0.097    (  1.238)         1.279
32   2.67     5.90      0.990          0.097    (  0.891)         0.893
33   2.75     2.00      0.336          0.097    (  0.302)         0.239
34   2.83     1.80      0.302          0.097    (  0.272)         0.205
35   2.92     1.80      0.302          0.097    (  0.272)         0.205
36   3.00     0.60      0.101       (  0.097)       0.091         0.010
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    13.3
    Flood volume = Effective rainfall      1.11(In)
     times area       4.8(Ac.)/[(In)/(Ft.)] =       0.4(Ac.Ft)
    Total soil loss =      0.29(In)
    Total soil loss =     0.116(Ac.Ft)
    Total rainfall =      1.40(In)
    Flood volume =       19300.8 Cubic Feet
    Total soil loss =        5063.8 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      5.830(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        3 - H O U R    S T O R M
                    R u n o f f     H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0022      0.32  VQ        |         |         |         |
  0+10       0.0060      0.54  V Q       |         |         |         |
  0+15       0.0094      0.50  VQ        |         |         |         |
  0+20       0.0136      0.61  |VQ       |         |         |         |
  0+25       0.0186      0.73  |VQ       |         |         |         |
```


0+30 0.0247 0.88
0+35 0.0305 0.84
0+40 0.0367 0.90
0+45 0.0434 0.97
0+50 0.0493 0.86
0+55 0.0549 0.81
1+ 0 0.0612 0.91
1+ 5 0.0691 1.16
1+10 0.0780 1.29
1+15 0.0871 1.32
1+20 0.0956 1.23
1+25 0.1054 1.43
1+30 0.1168 1.65
1+35 0.1277 1.58
1+40 0.1390 1.63
1+45 0.1525 1.97
1+50 0.1669 2.09
1+55 0.1805 1.97
2+ 0 0.1939 1.94
2+ 5 0.2077 2.01
2+10 0.2251 2.53
2+15 0.2474 3.23
2+20 0.2672 2.88
2+25 0.2942 3.93
2+30 0.3292 5.08
2+35 0.3694 5.83
2+40 0.4046 5.12
2+45 0.4234 2.72
2+50 0.4323 1.29
2+55 0.4392 1.00
3+ 0 0.4424 0.48
3+ 5 0.4431 0.09
3+10 0.4431 0.00

U n i t H y d r o g r a p h A n a l y s i s

Study date 02/13/18 File: devareabuh10yr610.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6385

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Developed Condition Unit Hydrograph Analysis
10 Year 6 Hour Frequency
Area B
Honda Center

Drainage Area = 4.80(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.80(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 853.00(Ft.)
Length along longest watercourse measured to centroid = 270.00(Ft.)
Length along longest watercourse = 0.162 Mi.
Length along longest watercourse measured to centroid = 0.051 Mi.
Difference in elevation = 5.70(Ft.)
Slope along watercourse = 35.2825 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.030 Hr.
Lag time = 1.77 Min.
25% of lag time = 0.44 Min.
40% of lag time = 0.71 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.80	1.25	6.00

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.80             3.09                 14.83

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    1.250(In)
Area Averaged 100-Year Rainfall =    3.090(In)

Point rain (area averaged) =    2.007(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.007(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     4.800           56.00          0.900
 Total Area Entered =      4.80(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
56.0  56.0      0.511     0.900        0.097       1.000      0.097
                                                   Sum (F) =   0.097
Area averaged mean soil loss (F) (In/Hr) =  0.097
Minimum soil loss rate ((In/Hr)) =  0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------

            U n i t  H y d r o g r a p h
                 VALLEY S-Curve
------------------------------------------------------------------------
            Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
       1   0.083        281.887         54.742              2.648
       2   0.167        563.775         38.148              1.845
       3   0.250        845.662          7.110              0.344
                               Sum = 100.000   Sum=          4.838
------------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated
loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain
value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low         (In/Hr)
    1   0.08     0.50      0.120         0.097    (  0.108)        0.023
    2   0.17     0.60      0.145         0.097    (  0.130)        0.047
    3   0.25     0.60      0.145         0.097    (  0.130)        0.047
    4   0.33     0.60      0.145         0.097    (  0.130)        0.047
    5   0.42     0.60      0.145         0.097    (  0.130)        0.047
    6   0.50     0.70      0.169         0.097    (  0.152)        0.072
```

7	0.58	0.70	0.169	0.097	(0.152)	0.072
8	0.67	0.70	0.169	0.097	(0.152)	0.072
9	0.75	0.70	0.169	0.097	(0.152)	0.072
10	0.83	0.70	0.169	0.097	(0.152)	0.072
11	0.92	0.70	0.169	0.097	(0.152)	0.072
12	1.00	0.80	0.193	0.097	(0.173)	0.096
13	1.08	0.80	0.193	0.097	(0.173)	0.096
14	1.17	0.80	0.193	0.097	(0.173)	0.096
15	1.25	0.80	0.193	0.097	(0.173)	0.096
16	1.33	0.80	0.193	0.097	(0.173)	0.096
17	1.42	0.80	0.193	0.097	(0.173)	0.096
18	1.50	0.80	0.193	0.097	(0.173)	0.096
19	1.58	0.80	0.193	0.097	(0.173)	0.096
20	1.67	0.80	0.193	0.097	(0.173)	0.096
21	1.75	0.80	0.193	0.097	(0.173)	0.096
22	1.83	0.80	0.193	0.097	(0.173)	0.096
23	1.92	0.80	0.193	0.097	(0.173)	0.096
24	2.00	0.90	0.217	0.097	(0.195)	0.120
25	2.08	0.80	0.193	0.097	(0.173)	0.096
26	2.17	0.90	0.217	0.097	(0.195)	0.120
27	2.25	0.90	0.217	0.097	(0.195)	0.120
28	2.33	0.90	0.217	0.097	(0.195)	0.120
29	2.42	0.90	0.217	0.097	(0.195)	0.120
30	2.50	0.90	0.217	0.097	(0.195)	0.120
31	2.58	0.90	0.217	0.097	(0.195)	0.120
32	2.67	0.90	0.217	0.097	(0.195)	0.120
33	2.75	1.00	0.241	0.097	(0.217)	0.144
34	2.83	1.00	0.241	0.097	(0.217)	0.144
35	2.92	1.00	0.241	0.097	(0.217)	0.144
36	3.00	1.00	0.241	0.097	(0.217)	0.144
37	3.08	1.00	0.241	0.097	(0.217)	0.144
38	3.17	1.10	0.265	0.097	(0.238)	0.168
39	3.25	1.10	0.265	0.097	(0.238)	0.168
40	3.33	1.10	0.265	0.097	(0.238)	0.168
41	3.42	1.20	0.289	0.097	(0.260)	0.192
42	3.50	1.30	0.313	0.097	(0.282)	0.216
43	3.58	1.40	0.337	0.097	(0.303)	0.240
44	3.67	1.40	0.337	0.097	(0.303)	0.240
45	3.75	1.50	0.361	0.097	(0.325)	0.264
46	3.83	1.50	0.361	0.097	(0.325)	0.264
47	3.92	1.60	0.385	0.097	(0.347)	0.288
48	4.00	1.60	0.385	0.097	(0.347)	0.288
49	4.08	1.70	0.409	0.097	(0.368)	0.312
50	4.17	1.80	0.434	0.097	(0.390)	0.336
51	4.25	1.90	0.458	0.097	(0.412)	0.361
52	4.33	2.00	0.482	0.097	(0.434)	0.385
53	4.42	2.10	0.506	0.097	(0.455)	0.409
54	4.50	2.10	0.506	0.097	(0.455)	0.409
55	4.58	2.20	0.530	0.097	(0.477)	0.433
56	4.67	2.30	0.554	0.097	(0.499)	0.457
57	4.75	2.40	0.578	0.097	(0.520)	0.481
58	4.83	2.40	0.578	0.097	(0.520)	0.481
59	4.92	2.50	0.602	0.097	(0.542)	0.505
60	5.00	2.60	0.626	0.097	(0.564)	0.529
61	5.08	3.10	0.747	0.097	(0.672)	0.650
62	5.17	3.60	0.867	0.097	(0.780)	0.770

63	5.25	3.90	0.939	0.097	(0.845)	0.842
64	5.33	4.20	1.012	0.097	(0.910)	0.914
65	5.42	4.70	1.132	0.097	(1.019)	1.035
66	5.50	5.60	1.349	0.097	(1.214)	1.252
67	5.58	1.90	0.458	0.097	(0.412)	0.361
68	5.67	0.90	0.217	0.097	(0.195)	0.120
69	5.75	0.60	0.145	0.097	(0.130)	0.047
70	5.83	0.50	0.120	0.097	(0.108)	0.023
71	5.92	0.30	0.072	(0.097)	0.065	0.007
72	6.00	0.20	0.048	(0.097)	0.043	0.005

(Loss Rate Not Used)

Sum = 100.0 Sum = 17.2

Flood volume = Effective rainfall 1.43(In)
times area 4.8(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.58(In)
Total soil loss = 0.230(Ac.Ft)
Total rainfall = 2.01(In)
Flood volume = 24947.5 Cubic Feet
Total soil loss = 10021.7 Cubic Feet

Peak flow rate of this hydrograph = 5.542(CFS)

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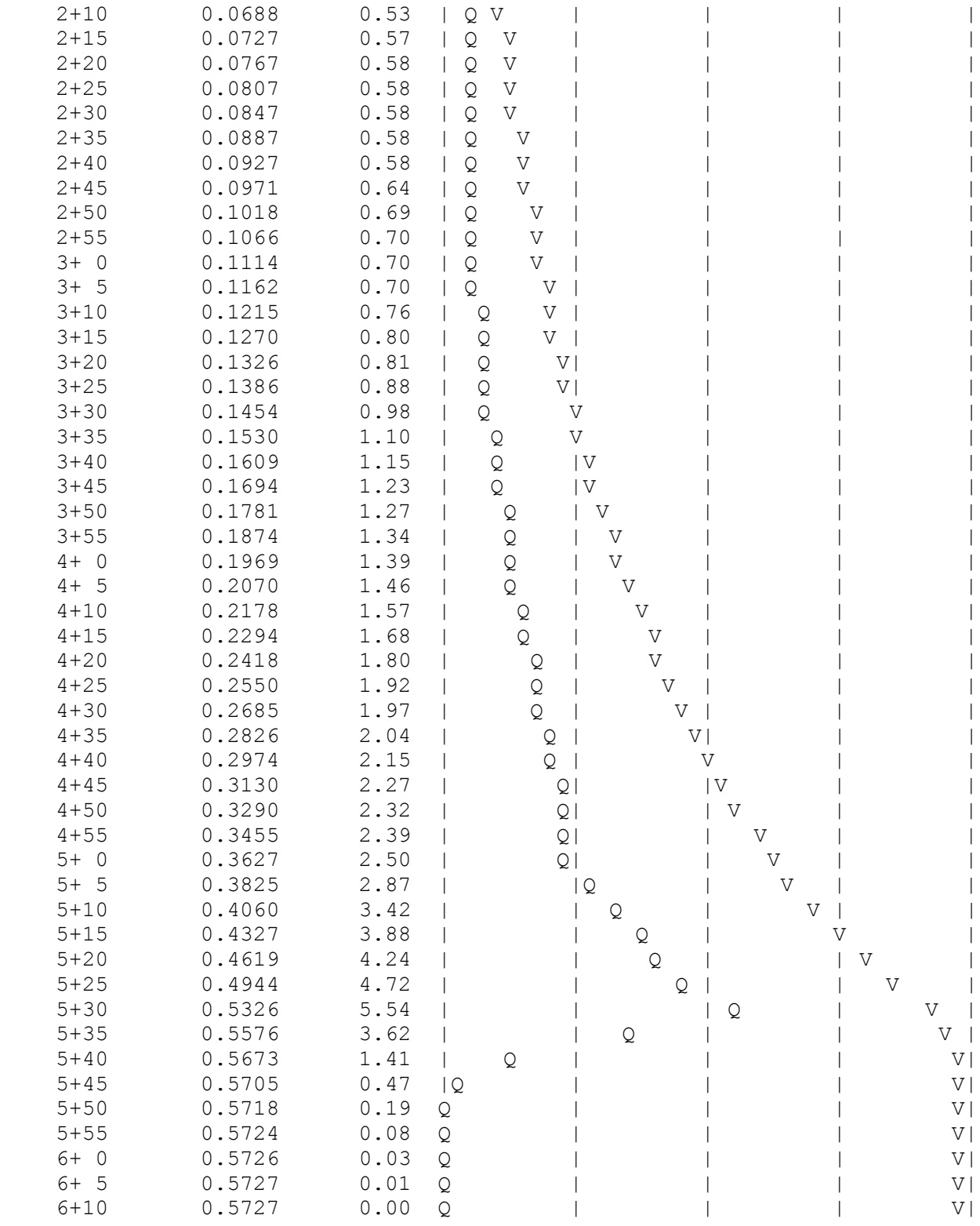
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0004	0.06	Q				
0+10	0.0016	0.17	Q				
0+15	0.0031	0.22	Q				
0+20	0.0047	0.23	Q				
0+25	0.0063	0.23	Q				
0+30	0.0083	0.29	VQ				
0+35	0.0106	0.34	VQ				
0+40	0.0130	0.35	VQ				
0+45	0.0154	0.35	|Q				
0+50	0.0178	0.35	|Q				
0+55	0.0202	0.35	|Q				
1+ 0	0.0230	0.41	|Q				
1+ 5	0.0261	0.45	|Q				
1+10	0.0293	0.46	|QV				
1+15	0.0325	0.46	|QV				
1+20	0.0357	0.46	|QV				
1+25	0.0389	0.46	|QV				
1+30	0.0421	0.46	|QV				
1+35	0.0452	0.46	|Q V				
1+40	0.0484	0.46	|Q V				
1+45	0.0516	0.46	|Q V				
1+50	0.0548	0.46	|Q V				
1+55	0.0580	0.46	|Q V				
2+ 0	0.0616	0.53	| Q V				
2+ 5	0.0651	0.51	| Q V				



2+10	0.0688	0.53	Q V
2+15	0.0727	0.57	Q V
2+20	0.0767	0.58	Q V
2+25	0.0807	0.58	Q V
2+30	0.0847	0.58	Q V
2+35	0.0887	0.58	Q V
2+40	0.0927	0.58	Q V
2+45	0.0971	0.64	Q V
2+50	0.1018	0.69	Q V
2+55	0.1066	0.70	Q V
3+ 0	0.1114	0.70	Q V
3+ 5	0.1162	0.70	Q V
3+10	0.1215	0.76	Q V
3+15	0.1270	0.80	Q V
3+20	0.1326	0.81	Q V
3+25	0.1386	0.88	Q V
3+30	0.1454	0.98	Q V
3+35	0.1530	1.10	Q V
3+40	0.1609	1.15	Q V
3+45	0.1694	1.23	Q V
3+50	0.1781	1.27	Q V
3+55	0.1874	1.34	Q V
4+ 0	0.1969	1.39	Q V
4+ 5	0.2070	1.46	Q V
4+10	0.2178	1.57	Q V
4+15	0.2294	1.68	Q V
4+20	0.2418	1.80	Q V
4+25	0.2550	1.92	Q V
4+30	0.2685	1.97	Q V
4+35	0.2826	2.04	Q V
4+40	0.2974	2.15	Q V
4+45	0.3130	2.27	Q V
4+50	0.3290	2.32	Q V
4+55	0.3455	2.39	Q V
5+ 0	0.3627	2.50	Q V
5+ 5	0.3825	2.87	Q V
5+10	0.4060	3.42	Q V
5+15	0.4327	3.88	Q V
5+20	0.4619	4.24	Q V
5+25	0.4944	4.72	Q V
5+30	0.5326	5.54	Q V
5+35	0.5576	3.62	Q V
5+40	0.5673	1.41	Q V
5+45	0.5705	0.47	Q V
5+50	0.5718	0.19	Q V
5+55	0.5724	0.08	Q V
6+ 0	0.5726	0.03	Q V
6+ 5	0.5727	0.01	Q V
6+10	0.5727	0.00	Q V

U n i t H y d r o g r a p h A n a l y s i s

Study date 02/13/18 File: devareabuh10yr2410.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6385

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Developed Condition Unit Hydrograph Analysis
10 Year 24 Hour Frequency
Area B
Honda Center

Drainage Area = 4.80(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.80(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 853.00(Ft.)
Length along longest watercourse measured to centroid = 270.00(Ft.)
Length along longest watercourse = 0.162 Mi.
Length along longest watercourse measured to centroid = 0.051 Mi.
Difference in elevation = 5.70(Ft.)
Slope along watercourse = 35.2825 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.030 Hr.
Lag time = 1.77 Min.
25% of lag time = 0.44 Min.
40% of lag time = 0.71 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.80	2.42	11.62

100 YEAR Area rainfall data:

Area(Ac.)[1] Rainfall(In)[2] Weighting[1*2]
4.80 6.58 31.58

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.420(In)
Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 4.131(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.131(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.800	56.00	0.900

Total Area Entered = 4.80(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.900	0.097	1.000	0.097
					Sum (F) =	0.097

Area averaged mean soil loss (F) (In/Hr) = 0.097
Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	281.887	54.742	2.648
2	0.167	563.775	38.148	1.845
3	0.250	845.662	7.110	0.344
		Sum = 100.000	Sum=	4.838

The following loss rate calculations reflect use of the minimum calculated loss
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.033	(0.172)	0.030	0.003
2	0.17	0.07	0.033	(0.171)	0.030	0.003
3	0.25	0.07	0.033	(0.171)	0.030	0.003
4	0.33	0.10	0.050	(0.170)	0.045	0.005
5	0.42	0.10	0.050	(0.169)	0.045	0.005
6	0.50	0.10	0.050	(0.169)	0.045	0.005

7	0.58	0.10	0.050	(0.168)	0.045	0.005
8	0.67	0.10	0.050	(0.167)	0.045	0.005
9	0.75	0.10	0.050	(0.167)	0.045	0.005
10	0.83	0.13	0.066	(0.166)	0.059	0.007
11	0.92	0.13	0.066	(0.165)	0.059	0.007
12	1.00	0.13	0.066	(0.165)	0.059	0.007
13	1.08	0.10	0.050	(0.164)	0.045	0.005
14	1.17	0.10	0.050	(0.163)	0.045	0.005
15	1.25	0.10	0.050	(0.163)	0.045	0.005
16	1.33	0.10	0.050	(0.162)	0.045	0.005
17	1.42	0.10	0.050	(0.162)	0.045	0.005
18	1.50	0.10	0.050	(0.161)	0.045	0.005
19	1.58	0.10	0.050	(0.160)	0.045	0.005
20	1.67	0.10	0.050	(0.160)	0.045	0.005
21	1.75	0.10	0.050	(0.159)	0.045	0.005
22	1.83	0.13	0.066	(0.158)	0.059	0.007
23	1.92	0.13	0.066	(0.158)	0.059	0.007
24	2.00	0.13	0.066	(0.157)	0.059	0.007
25	2.08	0.13	0.066	(0.156)	0.059	0.007
26	2.17	0.13	0.066	(0.156)	0.059	0.007
27	2.25	0.13	0.066	(0.155)	0.059	0.007
28	2.33	0.13	0.066	(0.155)	0.059	0.007
29	2.42	0.13	0.066	(0.154)	0.059	0.007
30	2.50	0.13	0.066	(0.153)	0.059	0.007
31	2.58	0.17	0.083	(0.153)	0.074	0.008
32	2.67	0.17	0.083	(0.152)	0.074	0.008
33	2.75	0.17	0.083	(0.151)	0.074	0.008
34	2.83	0.17	0.083	(0.151)	0.074	0.008
35	2.92	0.17	0.083	(0.150)	0.074	0.008
36	3.00	0.17	0.083	(0.150)	0.074	0.008
37	3.08	0.17	0.083	(0.149)	0.074	0.008
38	3.17	0.17	0.083	(0.148)	0.074	0.008
39	3.25	0.17	0.083	(0.148)	0.074	0.008
40	3.33	0.17	0.083	(0.147)	0.074	0.008
41	3.42	0.17	0.083	(0.146)	0.074	0.008
42	3.50	0.17	0.083	(0.146)	0.074	0.008
43	3.58	0.17	0.083	(0.145)	0.074	0.008
44	3.67	0.17	0.083	(0.145)	0.074	0.008
45	3.75	0.17	0.083	(0.144)	0.074	0.008
46	3.83	0.20	0.099	(0.143)	0.089	0.010
47	3.92	0.20	0.099	(0.143)	0.089	0.010
48	4.00	0.20	0.099	(0.142)	0.089	0.010
49	4.08	0.20	0.099	(0.142)	0.089	0.010
50	4.17	0.20	0.099	(0.141)	0.089	0.010
51	4.25	0.20	0.099	(0.140)	0.089	0.010
52	4.33	0.23	0.116	(0.140)	0.104	0.012
53	4.42	0.23	0.116	(0.139)	0.104	0.012
54	4.50	0.23	0.116	(0.139)	0.104	0.012
55	4.58	0.23	0.116	(0.138)	0.104	0.012
56	4.67	0.23	0.116	(0.137)	0.104	0.012
57	4.75	0.23	0.116	(0.137)	0.104	0.012
58	4.83	0.27	0.132	(0.136)	0.119	0.013
59	4.92	0.27	0.132	(0.136)	0.119	0.013
60	5.00	0.27	0.132	(0.135)	0.119	0.013
61	5.08	0.20	0.099	(0.134)	0.089	0.010
62	5.17	0.20	0.099	(0.134)	0.089	0.010

63	5.25	0.20	0.099	(0.133)	0.089	0.010
64	5.33	0.23	0.116	(0.133)	0.104	0.012
65	5.42	0.23	0.116	(0.132)	0.104	0.012
66	5.50	0.23	0.116	(0.132)	0.104	0.012
67	5.58	0.27	0.132	(0.131)	0.119	0.013
68	5.67	0.27	0.132	(0.130)	0.119	0.013
69	5.75	0.27	0.132	(0.130)	0.119	0.013
70	5.83	0.27	0.132	(0.129)	0.119	0.013
71	5.92	0.27	0.132	(0.129)	0.119	0.013
72	6.00	0.27	0.132	(0.128)	0.119	0.013
73	6.08	0.30	0.149	0.128	(0.134)	0.021
74	6.17	0.30	0.149	0.127	(0.134)	0.022
75	6.25	0.30	0.149	0.126	(0.134)	0.022
76	6.33	0.30	0.149	0.126	(0.134)	0.023
77	6.42	0.30	0.149	0.125	(0.134)	0.023
78	6.50	0.30	0.149	0.125	(0.134)	0.024
79	6.58	0.33	0.165	0.124	(0.149)	0.041
80	6.67	0.33	0.165	0.124	(0.149)	0.042
81	6.75	0.33	0.165	0.123	(0.149)	0.042
82	6.83	0.33	0.165	0.122	(0.149)	0.043
83	6.92	0.33	0.165	0.122	(0.149)	0.043
84	7.00	0.33	0.165	0.121	(0.149)	0.044
85	7.08	0.33	0.165	0.121	(0.149)	0.044
86	7.17	0.33	0.165	0.120	(0.149)	0.045
87	7.25	0.33	0.165	0.120	(0.149)	0.046
88	7.33	0.37	0.182	0.119	(0.164)	0.063
89	7.42	0.37	0.182	0.119	(0.164)	0.063
90	7.50	0.37	0.182	0.118	(0.164)	0.064
91	7.58	0.40	0.198	0.118	(0.178)	0.081
92	7.67	0.40	0.198	0.117	(0.178)	0.081
93	7.75	0.40	0.198	0.116	(0.178)	0.082
94	7.83	0.43	0.215	0.116	(0.193)	0.099
95	7.92	0.43	0.215	0.115	(0.193)	0.099
96	8.00	0.43	0.215	0.115	(0.193)	0.100
97	8.08	0.50	0.248	0.114	(0.223)	0.134
98	8.17	0.50	0.248	0.114	(0.223)	0.134
99	8.25	0.50	0.248	0.113	(0.223)	0.135
100	8.33	0.50	0.248	0.113	(0.223)	0.135
101	8.42	0.50	0.248	0.112	(0.223)	0.136
102	8.50	0.50	0.248	0.112	(0.223)	0.136
103	8.58	0.53	0.264	0.111	(0.238)	0.153
104	8.67	0.53	0.264	0.111	(0.238)	0.154
105	8.75	0.53	0.264	0.110	(0.238)	0.154
106	8.83	0.57	0.281	0.110	(0.253)	0.171
107	8.92	0.57	0.281	0.109	(0.253)	0.172
108	9.00	0.57	0.281	0.109	(0.253)	0.172
109	9.08	0.63	0.314	0.108	(0.283)	0.206
110	9.17	0.63	0.314	0.108	(0.283)	0.206
111	9.25	0.63	0.314	0.107	(0.283)	0.207
112	9.33	0.67	0.331	0.107	(0.297)	0.224
113	9.42	0.67	0.331	0.106	(0.297)	0.225
114	9.50	0.67	0.331	0.105	(0.297)	0.225
115	9.58	0.70	0.347	0.105	(0.312)	0.242
116	9.67	0.70	0.347	0.104	(0.312)	0.243
117	9.75	0.70	0.347	0.104	(0.312)	0.243
118	9.83	0.73	0.364	0.103	(0.327)	0.260

119	9.92	0.73	0.364	0.103	(0.327)	0.261
120	10.00	0.73	0.364	0.102	(0.327)	0.261
121	10.08	0.50	0.248	0.102	(0.223)	0.146
122	10.17	0.50	0.248	0.101	(0.223)	0.146
123	10.25	0.50	0.248	0.101	(0.223)	0.147
124	10.33	0.50	0.248	0.101	(0.223)	0.147
125	10.42	0.50	0.248	0.100	(0.223)	0.148
126	10.50	0.50	0.248	0.100	(0.223)	0.148
127	10.58	0.67	0.331	0.099	(0.297)	0.231
128	10.67	0.67	0.331	0.099	(0.297)	0.232
129	10.75	0.67	0.331	0.098	(0.297)	0.232
130	10.83	0.67	0.331	0.098	(0.297)	0.233
131	10.92	0.67	0.331	0.097	(0.297)	0.233
132	11.00	0.67	0.331	0.097	(0.297)	0.234
133	11.08	0.63	0.314	0.096	(0.283)	0.218
134	11.17	0.63	0.314	0.096	(0.283)	0.218
135	11.25	0.63	0.314	0.095	(0.283)	0.219
136	11.33	0.63	0.314	0.095	(0.283)	0.219
137	11.42	0.63	0.314	0.094	(0.283)	0.220
138	11.50	0.63	0.314	0.094	(0.283)	0.220
139	11.58	0.57	0.281	0.093	(0.253)	0.188
140	11.67	0.57	0.281	0.093	(0.253)	0.188
141	11.75	0.57	0.281	0.092	(0.253)	0.189
142	11.83	0.60	0.297	0.092	(0.268)	0.205
143	11.92	0.60	0.297	0.092	(0.268)	0.206
144	12.00	0.60	0.297	0.091	(0.268)	0.206
145	12.08	0.83	0.413	0.091	(0.372)	0.323
146	12.17	0.83	0.413	0.090	(0.372)	0.323
147	12.25	0.83	0.413	0.090	(0.372)	0.323
148	12.33	0.87	0.430	0.089	(0.387)	0.340
149	12.42	0.87	0.430	0.089	(0.387)	0.341
150	12.50	0.87	0.430	0.088	(0.387)	0.341
151	12.58	0.93	0.463	0.088	(0.416)	0.375
152	12.67	0.93	0.463	0.087	(0.416)	0.375
153	12.75	0.93	0.463	0.087	(0.416)	0.376
154	12.83	0.97	0.479	0.087	(0.431)	0.393
155	12.92	0.97	0.479	0.086	(0.431)	0.393
156	13.00	0.97	0.479	0.086	(0.431)	0.394
157	13.08	1.13	0.562	0.085	(0.506)	0.477
158	13.17	1.13	0.562	0.085	(0.506)	0.477
159	13.25	1.13	0.562	0.084	(0.506)	0.477
160	13.33	1.13	0.562	0.084	(0.506)	0.478
161	13.42	1.13	0.562	0.084	(0.506)	0.478
162	13.50	1.13	0.562	0.083	(0.506)	0.479
163	13.58	0.77	0.380	0.083	(0.342)	0.297
164	13.67	0.77	0.380	0.082	(0.342)	0.298
165	13.75	0.77	0.380	0.082	(0.342)	0.298
166	13.83	0.77	0.380	0.081	(0.342)	0.299
167	13.92	0.77	0.380	0.081	(0.342)	0.299
168	14.00	0.77	0.380	0.081	(0.342)	0.299
169	14.08	0.90	0.446	0.080	(0.402)	0.366
170	14.17	0.90	0.446	0.080	(0.402)	0.366
171	14.25	0.90	0.446	0.079	(0.402)	0.367
172	14.33	0.87	0.430	0.079	(0.387)	0.351
173	14.42	0.87	0.430	0.079	(0.387)	0.351
174	14.50	0.87	0.430	0.078	(0.387)	0.351

175	14.58	0.87	0.430	0.078	(0.387)	0.352
176	14.67	0.87	0.430	0.077	(0.387)	0.352
177	14.75	0.87	0.430	0.077	(0.387)	0.353
178	14.83	0.83	0.413	0.077	(0.372)	0.337
179	14.92	0.83	0.413	0.076	(0.372)	0.337
180	15.00	0.83	0.413	0.076	(0.372)	0.337
181	15.08	0.80	0.397	0.075	(0.357)	0.321
182	15.17	0.80	0.397	0.075	(0.357)	0.322
183	15.25	0.80	0.397	0.075	(0.357)	0.322
184	15.33	0.77	0.380	0.074	(0.342)	0.306
185	15.42	0.77	0.380	0.074	(0.342)	0.306
186	15.50	0.77	0.380	0.073	(0.342)	0.307
187	15.58	0.63	0.314	0.073	(0.283)	0.241
188	15.67	0.63	0.314	0.073	(0.283)	0.241
189	15.75	0.63	0.314	0.072	(0.283)	0.242
190	15.83	0.63	0.314	0.072	(0.283)	0.242
191	15.92	0.63	0.314	0.072	(0.283)	0.242
192	16.00	0.63	0.314	0.071	(0.283)	0.243
193	16.08	0.13	0.066	(0.071)	0.059	0.007
194	16.17	0.13	0.066	(0.071)	0.059	0.007
195	16.25	0.13	0.066	(0.070)	0.059	0.007
196	16.33	0.13	0.066	(0.070)	0.059	0.007
197	16.42	0.13	0.066	(0.069)	0.059	0.007
198	16.50	0.13	0.066	(0.069)	0.059	0.007
199	16.58	0.10	0.050	(0.069)	0.045	0.005
200	16.67	0.10	0.050	(0.068)	0.045	0.005
201	16.75	0.10	0.050	(0.068)	0.045	0.005
202	16.83	0.10	0.050	(0.068)	0.045	0.005
203	16.92	0.10	0.050	(0.067)	0.045	0.005
204	17.00	0.10	0.050	(0.067)	0.045	0.005
205	17.08	0.17	0.083	0.067	(0.074)	0.016
206	17.17	0.17	0.083	0.066	(0.074)	0.016
207	17.25	0.17	0.083	0.066	(0.074)	0.017
208	17.33	0.17	0.083	0.066	(0.074)	0.017
209	17.42	0.17	0.083	0.065	(0.074)	0.017
210	17.50	0.17	0.083	0.065	(0.074)	0.018
211	17.58	0.17	0.083	0.065	(0.074)	0.018
212	17.67	0.17	0.083	0.064	(0.074)	0.018
213	17.75	0.17	0.083	0.064	(0.074)	0.019
214	17.83	0.13	0.066	(0.064)	0.059	0.007
215	17.92	0.13	0.066	(0.063)	0.059	0.007
216	18.00	0.13	0.066	(0.063)	0.059	0.007
217	18.08	0.13	0.066	(0.063)	0.059	0.007
218	18.17	0.13	0.066	(0.063)	0.059	0.007
219	18.25	0.13	0.066	(0.062)	0.059	0.007
220	18.33	0.13	0.066	(0.062)	0.059	0.007
221	18.42	0.13	0.066	(0.062)	0.059	0.007
222	18.50	0.13	0.066	(0.061)	0.059	0.007
223	18.58	0.10	0.050	(0.061)	0.045	0.005
224	18.67	0.10	0.050	(0.061)	0.045	0.005
225	18.75	0.10	0.050	(0.060)	0.045	0.005
226	18.83	0.07	0.033	(0.060)	0.030	0.003
227	18.92	0.07	0.033	(0.060)	0.030	0.003
228	19.00	0.07	0.033	(0.060)	0.030	0.003
229	19.08	0.10	0.050	(0.059)	0.045	0.005
230	19.17	0.10	0.050	(0.059)	0.045	0.005

231	19.25	0.10	0.050	(0.059)	0.045	0.005
232	19.33	0.13	0.066	0.058	(0.059)	0.008
233	19.42	0.13	0.066	0.058	(0.059)	0.008
234	19.50	0.13	0.066	0.058	(0.059)	0.008
235	19.58	0.10	0.050	(0.058)	0.045	0.005
236	19.67	0.10	0.050	(0.057)	0.045	0.005
237	19.75	0.10	0.050	(0.057)	0.045	0.005
238	19.83	0.07	0.033	(0.057)	0.030	0.003
239	19.92	0.07	0.033	(0.057)	0.030	0.003
240	20.00	0.07	0.033	(0.056)	0.030	0.003
241	20.08	0.10	0.050	(0.056)	0.045	0.005
242	20.17	0.10	0.050	(0.056)	0.045	0.005
243	20.25	0.10	0.050	(0.056)	0.045	0.005
244	20.33	0.10	0.050	(0.055)	0.045	0.005
245	20.42	0.10	0.050	(0.055)	0.045	0.005
246	20.50	0.10	0.050	(0.055)	0.045	0.005
247	20.58	0.10	0.050	(0.055)	0.045	0.005
248	20.67	0.10	0.050	(0.054)	0.045	0.005
249	20.75	0.10	0.050	(0.054)	0.045	0.005
250	20.83	0.07	0.033	(0.054)	0.030	0.003
251	20.92	0.07	0.033	(0.054)	0.030	0.003
252	21.00	0.07	0.033	(0.054)	0.030	0.003
253	21.08	0.10	0.050	(0.053)	0.045	0.005
254	21.17	0.10	0.050	(0.053)	0.045	0.005
255	21.25	0.10	0.050	(0.053)	0.045	0.005
256	21.33	0.07	0.033	(0.053)	0.030	0.003
257	21.42	0.07	0.033	(0.053)	0.030	0.003
258	21.50	0.07	0.033	(0.052)	0.030	0.003
259	21.58	0.10	0.050	(0.052)	0.045	0.005
260	21.67	0.10	0.050	(0.052)	0.045	0.005
261	21.75	0.10	0.050	(0.052)	0.045	0.005
262	21.83	0.07	0.033	(0.052)	0.030	0.003
263	21.92	0.07	0.033	(0.051)	0.030	0.003
264	22.00	0.07	0.033	(0.051)	0.030	0.003
265	22.08	0.10	0.050	(0.051)	0.045	0.005
266	22.17	0.10	0.050	(0.051)	0.045	0.005
267	22.25	0.10	0.050	(0.051)	0.045	0.005
268	22.33	0.07	0.033	(0.051)	0.030	0.003
269	22.42	0.07	0.033	(0.050)	0.030	0.003
270	22.50	0.07	0.033	(0.050)	0.030	0.003
271	22.58	0.07	0.033	(0.050)	0.030	0.003
272	22.67	0.07	0.033	(0.050)	0.030	0.003
273	22.75	0.07	0.033	(0.050)	0.030	0.003
274	22.83	0.07	0.033	(0.050)	0.030	0.003
275	22.92	0.07	0.033	(0.050)	0.030	0.003
276	23.00	0.07	0.033	(0.049)	0.030	0.003
277	23.08	0.07	0.033	(0.049)	0.030	0.003
278	23.17	0.07	0.033	(0.049)	0.030	0.003
279	23.25	0.07	0.033	(0.049)	0.030	0.003
280	23.33	0.07	0.033	(0.049)	0.030	0.003
281	23.42	0.07	0.033	(0.049)	0.030	0.003
282	23.50	0.07	0.033	(0.049)	0.030	0.003
283	23.58	0.07	0.033	(0.049)	0.030	0.003
284	23.67	0.07	0.033	(0.049)	0.030	0.003
285	23.75	0.07	0.033	(0.049)	0.030	0.003
286	23.83	0.07	0.033	(0.049)	0.030	0.003

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287  23.92     0.07      0.033       (  0.049)       0.030        0.003
288  24.00     0.07      0.033       (  0.049)       0.030        0.003
          (Loss Rate Not Used)
    Sum =     100.0                                   Sum =    28.3
     Flood volume = Effective rainfall      2.36(In)
      times area       4.8(Ac.)/[(In)/(Ft.)] =       0.9(Ac.Ft)
     Total soil loss =      1.77(In)
     Total soil loss =     0.710(Ac.Ft)
     Total rainfall =      4.13(In)
     Flood volume =       41075.5 Cubic Feet
     Total soil loss =       30910.4 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      2.316(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        24 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q          |         |         |         |
   0+10       0.0002      0.01  Q          |         |         |         |
   0+15       0.0003      0.02  Q          |         |         |         |
   0+20       0.0004      0.02  Q          |         |         |         |
   0+25       0.0006      0.02  Q          |         |         |         |
   0+30       0.0007      0.02  Q          |         |         |         |
   0+35       0.0009      0.02  Q          |         |         |         |
   0+40       0.0011      0.02  Q          |         |         |         |
   0+45       0.0012      0.02  Q          |         |         |         |
   0+50       0.0014      0.03  Q          |         |         |         |
   0+55       0.0016      0.03  Q          |         |         |         |
   1+ 0       0.0019      0.03  Q          |         |         |         |
   1+ 5       0.0021      0.03  Q          |         |         |         |
   1+10       0.0022      0.02  Q          |         |         |         |
   1+15       0.0024      0.02  Q          |         |         |         |
   1+20       0.0026      0.02  Q          |         |         |         |
   1+25       0.0027      0.02  Q          |         |         |         |
   1+30       0.0029      0.02  Q          |         |         |         |
   1+35       0.0031      0.02  Q          |         |         |         |
   1+40       0.0032      0.02  Q          |         |         |         |
   1+45       0.0034      0.02  Q          |         |         |         |
   1+50       0.0036      0.03  Q          |         |         |         |
   1+55       0.0038      0.03  Q          |         |         |         |
   2+ 0       0.0040      0.03  Q          |         |         |         |
   2+ 5       0.0042      0.03  Q          |         |         |         |
   2+10       0.0045      0.03  Q          |         |         |         |
   2+15       0.0047      0.03  Q          |         |         |         |
   2+20       0.0049      0.03  Q          |         |         |         |
   2+25       0.0051      0.03  Q          |         |         |         |
   2+30       0.0053      0.03  Q          |         |         |         |
   2+35       0.0056      0.04  Q          |         |         |         |
   2+40       0.0059      0.04  Q          |         |         |         |
   2+45       0.0061      0.04  Q          |         |         |         |
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2+50	0.0064	0.04	Q	|	|	|	|
2+55	0.0067	0.04	Q	|	|	|	|
3+ 0	0.0070	0.04	Q	|	|	|	|
3+ 5	0.0072	0.04	Q	|	|	|	|
3+10	0.0075	0.04	Q	|	|	|	|
3+15	0.0078	0.04	Q	|	|	|	|
3+20	0.0081	0.04	Q	|	|	|	|
3+25	0.0083	0.04	Q	|	|	|	|
3+30	0.0086	0.04	Q	|	|	|	|
3+35	0.0089	0.04	Q	|	|	|	|
3+40	0.0092	0.04	Q	|	|	|	|
3+45	0.0094	0.04	Q	|	|	|	|
3+50	0.0097	0.04	Q	|	|	|	|
3+55	0.0101	0.05	Q	|	|	|	|
4+ 0	0.0104	0.05	Q	|	|	|	|
4+ 5	0.0107	0.05	Q	|	|	|	|
4+10	0.0111	0.05	Q	|	|	|	|
4+15	0.0114	0.05	Q	|	|	|	|
4+20	0.0118	0.05	Q	|	|	|	|
4+25	0.0121	0.06	Q	|	|	|	|
4+30	0.0125	0.06	Q	|	|	|	|
4+35	0.0129	0.06	Q	|	|	|	|
4+40	0.0133	0.06	Q	|	|	|	|
4+45	0.0137	0.06	Q	|	|	|	|
4+50	0.0141	0.06	Q	|	|	|	|
4+55	0.0145	0.06	Q	|	|	|	|
5+ 0	0.0150	0.06	Q	|	|	|	|
5+ 5	0.0154	0.06	Q	|	|	|	|
5+10	0.0157	0.05	Q	|	|	|	|
5+15	0.0160	0.05	Q	|	|	|	|
5+20	0.0164	0.05	Q	|	|	|	|
5+25	0.0168	0.06	Q	|	|	|	|
5+30	0.0172	0.06	Q	|	|	|	|
5+35	0.0176	0.06	Q	|	|	|	|
5+40	0.0180	0.06	Q	|	|	|	|
5+45	0.0184	0.06	Q	|	|	|	|
5+50	0.0189	0.06	Q	|	|	|	|
5+55	0.0193	0.06	Q	|	|	|	|
6+ 0	0.0198	0.06	Q	|	|	|	|
6+ 5	0.0204	0.09	Q	|	|	|	|
6+10	0.0210	0.10	Q	|	|	|	|
6+15	0.0218	0.11	Q	|	|	|	|
6+20	0.0225	0.11	Q	|	|	|	|
6+25	0.0233	0.11	Q	|	|	|	|
6+30	0.0241	0.11	QV	|	|	|	|
6+35	0.0252	0.16	QV	|	|	|	|
6+40	0.0266	0.19	QV	|	|	|	|
6+45	0.0279	0.20	QV	|	|	|	|
6+50	0.0294	0.21	QV	|	|	|	|
6+55	0.0308	0.21	QV	|	|	|	|
7+ 0	0.0323	0.21	QV	|	|	|	|
7+ 5	0.0337	0.21	QV	|	|	|	|
7+10	0.0352	0.22	QV	|	|	|	|
7+15	0.0367	0.22	QV	|	|	|	|
7+20	0.0385	0.27	|Q	|	|	|	|
7+25	0.0406	0.30	|Q	|	|	|	|

7+30	0.0427	0.31	|Q	|	|	|	|
7+35	0.0452	0.35	|Q	|	|	|	|
7+40	0.0478	0.39	|QV	|	|	|	|
7+45	0.0505	0.39	|QV	|	|	|	|
7+50	0.0536	0.44	|QV	|	|	|	|
7+55	0.0568	0.47	|QV	|	|	|	|
8+ 0	0.0602	0.48	|QV	|	|	|	|
8+ 5	0.0641	0.57	| Q	|	|	|	|
8+10	0.0685	0.64	| Q	|	|	|	|
8+15	0.0730	0.65	| QV	|	|	|	|
8+20	0.0775	0.65	| QV	|	|	|	|
8+25	0.0820	0.66	| QV	|	|	|	|
8+30	0.0865	0.66	| QV	|	|	|	|
8+35	0.0914	0.70	| QV	|	|	|	|
8+40	0.0964	0.74	| Q V	|	|	|	|
8+45	0.1016	0.75	| Q V	|	|	|	|
8+50	0.1070	0.79	| QV	|	|	|	|
8+55	0.1127	0.82	| QV	|	|	|	|
9+ 0	0.1184	0.83	| Q V	|	|	|	|
9+ 5	0.1248	0.92	| Q V	|	|	|	|
9+10	0.1316	0.99	| Q V	|	|	|	|
9+15	0.1385	1.00	| QV	|	|	|	|
9+20	0.1457	1.05	| Q V	|	|	|	|
9+25	0.1531	1.08	| Q V	|	|	|	|
9+30	0.1606	1.09	| Q V	|	|	|	|
9+35	0.1684	1.13	| Q V	|	|	|	|
9+40	0.1765	1.17	| Q V	|	|	|	|
9+45	0.1846	1.18	| Q V	|	|	|	|
9+50	0.1930	1.22	| Q V	|	|	|	|
9+55	0.2016	1.25	| Q V	|	|	|	|
10+ 0	0.2103	1.26	| Q V	|	|	|	|
10+ 5	0.2169	0.96	| Q V|	|	|	|	|
10+10	0.2220	0.75	| Q V|	|	|	|	|
10+15	0.2269	0.71	| Q V|	|	|	|	|
10+20	0.2318	0.71	| Q V|	|	|	|	|
10+25	0.2368	0.71	| Q V	|	|	|	|
10+30	0.2417	0.72	| Q V	|	|	|	|
10+35	0.2482	0.94	| Q V	|	|	|	|
10+40	0.2557	1.09	| Q V	|	|	|	|
10+45	0.2634	1.12	| Q |V	|	|	|	|
10+50	0.2712	1.13	| Q |V	|	|	|	|
10+55	0.2789	1.13	| Q |V	|	|	|	|
11+ 0	0.2867	1.13	| Q | V	|	|	|	|
11+ 5	0.2942	1.09	| Q | V	|	|	|	|
11+10	0.3015	1.06	| Q | V	|	|	|	|
11+15	0.3088	1.06	| Q | V	|	|	|	|
11+20	0.3161	1.06	| Q | V	|	|	|	|
11+25	0.3234	1.06	| Q | V	|	|	|	|
11+30	0.3308	1.06	| Q | V	|	|	|	|
11+35	0.3375	0.98	| Q | V	|	|	|	|
11+40	0.3439	0.92	| Q | V	|	|	|	|
11+45	0.3501	0.91	| Q | V	|	|	|	|
11+50	0.3567	0.96	| Q | V	|	|	|	|
11+55	0.3635	0.99	| Q | V	|	|	|	|
12+ 0	0.3704	1.00	| Q | V	|	|	|	|
12+ 5	0.3794	1.31	| Q | V	|	|	|	|

12+10	0.3899	1.52	| Q |	V |	|	|
12+15	0.4007	1.56	| Q |	V |	|	|
12+20	0.4118	1.61	| Q |	V |	|	|
12+25	0.4231	1.64	| Q |	V |	|	|
12+30	0.4344	1.65	| Q |	V |	|	|
12+35	0.4464	1.74	| Q |	V |	|	|
12+40	0.4589	1.80	| Q |	V|	|	|
12+45	0.4714	1.82	| Q |	V|	|	|
12+50	0.4842	1.86	| Q |	V |	|	|
12+55	0.4973	1.90	| Q |	|V |	|	|
13+ 0	0.5104	1.90	| Q |	|V |	|	|
13+ 5	0.5250	2.12	| Q |	| V |	|	|
13+10	0.5407	2.28	| Q|	| V |	|	|
13+15	0.5566	2.31	| Q|	| V |	|	|
13+20	0.5725	2.31	| Q|	| V |	|	|
13+25	0.5885	2.31	| Q|	| V |	|	|
13+30	0.6044	2.32	| Q|	| V |	|	|
13+35	0.6171	1.84	| Q |	| V |	|	|
13+40	0.6274	1.50	| Q |	| V |	|	|
13+45	0.6373	1.44	| Q |	| V |	|	|
13+50	0.6473	1.44	| Q |	| V |	|	|
13+55	0.6573	1.45	| Q |	| V |	|	|
14+ 0	0.6672	1.45	| Q |	| V |	|	|
14+ 5	0.6784	1.63	| Q |	| V |	|	|
14+10	0.6905	1.75	| Q |	| V|	|	|
14+15	0.7027	1.77	| Q |	| V|	|	|
14+20	0.7146	1.73	| Q |	| V |	|	|
14+25	0.7264	1.70	| Q |	| V |	|	|
14+30	0.7381	1.70	| Q |	| |V |	|	|
14+35	0.7498	1.70	| Q |	| |V |	|	|
14+40	0.7615	1.70	| Q |	| | V |	|	|
14+45	0.7733	1.71	| Q |	| | V |	|	|
14+50	0.7847	1.66	| Q |	| | V |	|	|
14+55	0.7960	1.64	| Q |	| | V |	|	|
15+ 0	0.8072	1.63	| Q |	| | V |	|	|
15+ 5	0.8182	1.59	| Q |	| | V |	|	|
15+10	0.8289	1.56	| Q |	| | V |	|	|
15+15	0.8397	1.56	| Q |	| | V |	|	|
15+20	0.8501	1.52	| Q |	| | V |	|	|
15+25	0.8603	1.49	| Q |	| | V |	|	|
15+30	0.8706	1.48	| Q |	| | V |	|	|
15+35	0.8796	1.31	| Q |	| | V |	|	|
15+40	0.8878	1.19	| Q |	| | V |	|	|
15+45	0.8958	1.17	| Q |	| | V |	|	|
15+50	0.9039	1.17	| Q |	| | V |	|	|
15+55	0.9119	1.17	| Q |	| | V |	|	|
16+ 0	0.9200	1.17	| Q |	| | V |	|	|
16+ 5	0.9238	0.55	| Q |	| | V |	|	|
16+10	0.9246	0.11	| Q |	| | V |	|	|
16+15	0.9248	0.03	| Q |	| | V |	|	|
16+20	0.9250	0.03	| Q |	| | V |	|	|
16+25	0.9253	0.03	| Q |	| | V |	|	|
16+30	0.9255	0.03	| Q |	| | V |	|	|
16+35	0.9257	0.03	| Q |	| | V |	|	|
16+40	0.9258	0.02	| Q |	| | V |	|	|
16+45	0.9260	0.02	| Q |	| | V |	|	|

16+50	0.9262	0.02	Q	|	|	|	V|
16+55	0.9263	0.02	Q	|	|	|	V|
17+ 0	0.9265	0.02	Q	|	|	|	V|
17+ 5	0.9269	0.05	Q	|	|	|	V|
17+10	0.9274	0.07	Q	|	|	|	V|
17+15	0.9279	0.08	Q	|	|	|	V|
17+20	0.9285	0.08	Q	|	|	|	V|
17+25	0.9290	0.08	Q	|	|	|	V|
17+30	0.9296	0.08	Q	|	|	|	V|
17+35	0.9302	0.09	Q	|	|	|	V|
17+40	0.9308	0.09	Q	|	|	|	V|
17+45	0.9314	0.09	Q	|	|	|	V|
17+50	0.9318	0.06	Q	|	|	|	V|
17+55	0.9321	0.04	Q	|	|	|	V|
18+ 0	0.9323	0.03	Q	|	|	|	V|
18+ 5	0.9325	0.03	Q	|	|	|	V|
18+10	0.9327	0.03	Q	|	|	|	V|
18+15	0.9330	0.03	Q	|	|	|	V|
18+20	0.9332	0.03	Q	|	|	|	V|
18+25	0.9334	0.03	Q	|	|	|	V|
18+30	0.9336	0.03	Q	|	|	|	V|
18+35	0.9338	0.03	Q	|	|	|	V|
18+40	0.9340	0.02	Q	|	|	|	V|
18+45	0.9342	0.02	Q	|	|	|	V|
18+50	0.9343	0.02	Q	|	|	|	V|
18+55	0.9344	0.02	Q	|	|	|	V|
19+ 0	0.9345	0.02	Q	|	|	|	V|
19+ 5	0.9347	0.02	Q	|	|	|	V|
19+10	0.9348	0.02	Q	|	|	|	V|
19+15	0.9350	0.02	Q	|	|	|	V|
19+20	0.9352	0.03	Q	|	|	|	V|
19+25	0.9354	0.04	Q	|	|	|	V|
19+30	0.9357	0.04	Q	|	|	|	V|
19+35	0.9359	0.03	Q	|	|	|	V|
19+40	0.9361	0.03	Q	|	|	|	V|
19+45	0.9363	0.02	Q	|	|	|	V|
19+50	0.9364	0.02	Q	|	|	|	V|
19+55	0.9365	0.02	Q	|	|	|	V|
20+ 0	0.9366	0.02	Q	|	|	|	V|
20+ 5	0.9368	0.02	Q	|	|	|	V|
20+10	0.9369	0.02	Q	|	|	|	V|
20+15	0.9371	0.02	Q	|	|	|	V|
20+20	0.9373	0.02	Q	|	|	|	V|
20+25	0.9374	0.02	Q	|	|	|	V|
20+30	0.9376	0.02	Q	|	|	|	V|
20+35	0.9378	0.02	Q	|	|	|	V|
20+40	0.9379	0.02	Q	|	|	|	V|
20+45	0.9381	0.02	Q	|	|	|	V|
20+50	0.9382	0.02	Q	|	|	|	V|
20+55	0.9383	0.02	Q	|	|	|	V|
21+ 0	0.9384	0.02	Q	|	|	|	V|
21+ 5	0.9386	0.02	Q	|	|	|	V|
21+10	0.9387	0.02	Q	|	|	|	V|
21+15	0.9389	0.02	Q	|	|	|	V|
21+20	0.9390	0.02	Q	|	|	|	V|
21+25	0.9392	0.02	Q	|	|	|	V|

21+30	0.9393	0.02	Q	|	|	|	V|
21+35	0.9394	0.02	Q	|	|	|	V|
21+40	0.9396	0.02	Q	|	|	|	V|
21+45	0.9397	0.02	Q	|	|	|	V|
21+50	0.9399	0.02	Q	|	|	|	V|
21+55	0.9400	0.02	Q	|	|	|	V|
22+ 0	0.9401	0.02	Q	|	|	|	V|
22+ 5	0.9402	0.02	Q	|	|	|	V|
22+10	0.9404	0.02	Q	|	|	|	V|
22+15	0.9406	0.02	Q	|	|	|	V|
22+20	0.9407	0.02	Q	|	|	|	V|
22+25	0.9408	0.02	Q	|	|	|	V|
22+30	0.9409	0.02	Q	|	|	|	V|
22+35	0.9410	0.02	Q	|	|	|	V|
22+40	0.9411	0.02	Q	|	|	|	V|
22+45	0.9413	0.02	Q	|	|	|	V|
22+50	0.9414	0.02	Q	|	|	|	V|
22+55	0.9415	0.02	Q	|	|	|	V|
23+ 0	0.9416	0.02	Q	|	|	|	V|
23+ 5	0.9417	0.02	Q	|	|	|	V|
23+10	0.9418	0.02	Q	|	|	|	V|
23+15	0.9419	0.02	Q	|	|	|	V|
23+20	0.9420	0.02	Q	|	|	|	V|
23+25	0.9421	0.02	Q	|	|	|	V|
23+30	0.9422	0.02	Q	|	|	|	V|
23+35	0.9424	0.02	Q	|	|	|	V|
23+40	0.9425	0.02	Q	|	|	|	V|
23+45	0.9426	0.02	Q	|	|	|	V|
23+50	0.9427	0.02	Q	|	|	|	V|
23+55	0.9428	0.02	Q	|	|	|	V|
24+ 0	0.9429	0.02	Q	|	|	|	V|
24+ 5	0.9430	0.01	Q	|	|	|	V|
24+10	0.9430	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

Study date 02/20/18 File: devareaauh100yr1100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6385

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Developed Condition Unit Hydrograph Analysis
100 Year **1** Hour Frequency
Area A
Honda Center

Drainage Area = 1.67(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.67(Ac.) = 0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.025 Hr.
Lag time = 1.50 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.67	0.48	0.79

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.67	1.31	2.19

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.476(In)

Area Averaged 100-Year Rainfall = 1.310(In)

Point rain (area averaged) = 1.310(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.310(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.670	56.00	0.900

Total Area Entered = 1.67(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	74.8	0.305	0.900	0.058	1.000	0.058
					Sum (F) =	0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	333.333	59.862	1.008
2	0.167	666.667	35.367	0.595
3	0.250	1000.000	4.771	0.080
			Sum = 100.000 Sum=	1.683

The following loss rate calculations reflect use of the minimum calculated loss
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	4.40	0.692	0.058	(0.623)	0.634
2	0.17	4.50	0.707	0.058	(0.637)	0.649
3	0.25	5.40	0.849	0.058	(0.764)	0.791
4	0.33	5.40	0.849	0.058	(0.764)	0.791
5	0.42	5.70	0.896	0.058	(0.806)	0.838
6	0.50	6.40	1.006	0.058	(0.905)	0.948
7	0.58	7.90	1.242	0.058	(1.118)	1.184
8	0.67	9.10	1.430	0.058	(1.287)	1.372
9	0.75	12.80	2.012	0.058	(1.811)	1.954
10	0.83	25.60	4.024	0.058	(3.622)	3.966

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 11   0.92     7.90      1.242          0.058    (  1.118)        1.184
 12   1.00     4.90      0.770          0.058    (  0.693)        0.712
           (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    15.0
    Flood volume = Effective rainfall      1.25(In)
     times area       1.7(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
    Total soil loss =      0.06(In)
    Total soil loss =     0.008(Ac.Ft)
    Total rainfall =      1.31(In)
    Flood volume =        7589.5 Cubic Feet
    Total soil loss =         351.7 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      5.272(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------
   0+ 5       0.0044      0.64  |VQ       |         |         |         |
   0+10       0.0115      1.03  | V Q     |         |         |         |
   0+15       0.0200      1.23  |   Q     |         |         |         |
   0+20       0.0291      1.32  |    QV   |         |         |         |
   0+25       0.0386      1.38  |    Q  V |         |         |         |
   0+30       0.0491      1.52  |     Q   |V        |         |         |
   0+35       0.0616      1.83  |      Q  |   V     |         |         |
   0+40       0.0765      2.16  |       Q |      V  |         |         |
   0+45       0.0964      2.88  |         |Q        | V       |         |
   0+50       0.1327      5.27  |         |         |Q        V         |
   0+55       0.1583      3.71  |         |   Q     |         |     V   |
   1+ 0       0.1703      1.74  |     Q   |         |         |        V|
   1+ 5       0.1738      0.52  | Q       |         |         |        V|
   1+10       0.1742      0.06  Q         |         |         |         V
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U n i t H y d r o g r a p h A n a l y s i s

Study date 02/20/18 File: devareaauh100yr3100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6385

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Developed Condition Unit Hydrograph Analysis
100 Year 3 Hour Frequency
Area A
Honda Center

Drainage Area = 1.67(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.67(Ac.) = 0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.025 Hr.
Lag time = 1.50 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.67	0.87	1.45

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.67	2.16	3.61

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.866(In)

Area Averaged 100-Year Rainfall = 2.160(In)

Point rain (area averaged) = 2.160(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.160(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.670	56.00	0.900

Total Area Entered = 1.67(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	74.8	0.305	0.900	0.058	1.000	0.058
					Sum (F) =	0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	333.333	59.862	1.008
2	0.167	666.667	35.367	0.595
3	0.250	1000.000	4.771	0.080
			Sum = 100.000 Sum=	1.683

The following loss rate calculations reflect use of the minimum calculated loss
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.337	0.058	(0.303)	0.279
2	0.17	1.30	0.337	0.058	(0.303)	0.279
3	0.25	1.10	0.285	0.058	(0.257)	0.227
4	0.33	1.50	0.389	0.058	(0.350)	0.331
5	0.42	1.50	0.389	0.058	(0.350)	0.331
6	0.50	1.80	0.467	0.058	(0.420)	0.409
7	0.58	1.50	0.389	0.058	(0.350)	0.331
8	0.67	1.80	0.467	0.058	(0.420)	0.409
9	0.75	1.80	0.467	0.058	(0.420)	0.409
10	0.83	1.50	0.389	0.058	(0.350)	0.331
11	0.92	1.60	0.415	0.058	(0.373)	0.357
12	1.00	1.80	0.467	0.058	(0.420)	0.409

13	1.08	2.20	0.570	0.058	(0.513)	0.512
14	1.17	2.20	0.570	0.058	(0.513)	0.512
15	1.25	2.20	0.570	0.058	(0.513)	0.512
16	1.33	2.00	0.518	0.058	(0.467)	0.460
17	1.42	2.60	0.674	0.058	(0.607)	0.616
18	1.50	2.70	0.700	0.058	(0.630)	0.642
19	1.58	2.40	0.622	0.058	(0.560)	0.564
20	1.67	2.70	0.700	0.058	(0.630)	0.642
21	1.75	3.30	0.855	0.058	(0.770)	0.797
22	1.83	3.10	0.804	0.058	(0.723)	0.745
23	1.92	2.90	0.752	0.058	(0.677)	0.694
24	2.00	3.00	0.778	0.058	(0.700)	0.720
25	2.08	3.10	0.804	0.058	(0.723)	0.745
26	2.17	4.20	1.089	0.058	(0.980)	1.031
27	2.25	5.00	1.296	0.058	(1.166)	1.238
28	2.33	3.50	0.907	0.058	(0.816)	0.849
29	2.42	6.80	1.763	0.058	(1.586)	1.705
30	2.50	7.30	1.892	0.058	(1.703)	1.834
31	2.58	8.20	2.125	0.058	(1.913)	2.067
32	2.67	5.90	1.529	0.058	(1.376)	1.471
33	2.75	2.00	0.518	0.058	(0.467)	0.460
34	2.83	1.80	0.467	0.058	(0.420)	0.409
35	2.92	1.80	0.467	0.058	(0.420)	0.409
36	3.00	0.60	0.156	0.058	(0.140)	0.098

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.99(In)
times area 1.7(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.17(In)
Total soil loss = 0.024(Ac.Ft)
Total rainfall = 2.16(In)
Flood volume = 12038.9 Cubic Feet
Total soil loss = 1055.1 Cubic Feet

Peak flow rate of this hydrograph = 3.313(CFS)

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3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0019	0.28	VQ				
0+10	0.0050	0.45	VQ				
0+15	0.0079	0.42	|Q				
0+20	0.0113	0.49	|Q				
0+25	0.0151	0.55	| Q				
0+30	0.0194	0.64	| Q				
0+35	0.0236	0.60	| QV				
0+40	0.0280	0.64	| Q V				
0+45	0.0327	0.68	| Q V				
0+50	0.0369	0.61	| Q V				
0+55	0.0410	0.59	| Q V				

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    1+ 0       0.0454      0.65  | Q   V   |         |         |         |
    1+ 5       0.0509      0.79  |  Q   V  |         |         |         |
    1+10       0.0567      0.85  |  Q    V |         |         |         |
    1+15       0.0627      0.86  |  Q     V|         |         |         |
    1+20       0.0683      0.81  |  Q     V|         |         |         |
    1+25       0.0747      0.94  |  Q      V         |         |         |
    1+30       0.0820      1.05  |   Q     |V        |         |         |
    1+35       0.0888      1.00  |   Q     | V       |         |         |
    1+40       0.0960      1.03  |   Q     |  V      |         |         |
    1+45       0.1044      1.23  |   Q     |    V    |         |         |
    1+50       0.1132      1.28  |    Q    |     V   |         |         |
    1+55       0.1216      1.21  |   Q     |      V  |         |         |
    2+ 0       0.1298      1.20  |   Q     |       V |         |         |
    2+ 5       0.1383      1.24  |   Q     |         V         |         |
    2+10       0.1489      1.54  |     Q   |         |V        |         |
    2+15       0.1622      1.92  |      Q  |         |  V      |         |
    2+20       0.1737      1.68  |     Q   |         |    V    |         |
    2+25       0.1897      2.32  |        Q|         |      V  |         |
    2+30       0.2099      2.93  |         |Q        |         V         |
    2+35       0.2327      3.31  |         |  Q      |         |  V      |
    2+40       0.2524      2.86  |         |Q        |         |     V   |
    2+45       0.2628      1.51  |     Q   |         |         |       V |
    2+50       0.2684      0.80  |  Q      |         |         |       V |
    2+55       0.2731      0.69  | Q       |         |         |        V|
    3+ 0       0.2757      0.37  |Q        |         |         |        V|
    3+ 5       0.2763      0.09  Q         |         |         |        V|
    3+10       0.2764      0.01  Q         |         |         |         V
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U n i t H y d r o g r a p h A n a l y s i s

Study date 02/20/18 File: devareaauh100yr6100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6385

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Developed Condition Unit Hydrograph Analysis
100 Year 6 Hour Frequency
Area A
Honda Center

Drainage Area = 1.67(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.67(Ac.) = 0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.025 Hr.
Lag time = 1.50 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.67	1.25	2.09

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.67	3.09	5.16

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.250(In)

Area Averaged 100-Year Rainfall = 3.090(In)

Point rain (area averaged) = 3.090(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.090(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.670	56.00	0.900

Total Area Entered = 1.67(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	74.8	0.305	0.900	0.058	1.000	0.058
					Sum (F) =	0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	333.333	59.862	1.008
2	0.167	666.667	35.367	0.595
3	0.250	1000.000	4.771	0.080
			Sum = 100.000 Sum=	1.683

The following loss rate calculations reflect use of the minimum calculated loss
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.185	0.058	(0.167)	0.127
2	0.17	0.60	0.222	0.058	(0.200)	0.164
3	0.25	0.60	0.222	0.058	(0.200)	0.164
4	0.33	0.60	0.222	0.058	(0.200)	0.164
5	0.42	0.60	0.222	0.058	(0.200)	0.164
6	0.50	0.70	0.260	0.058	(0.234)	0.202
7	0.58	0.70	0.260	0.058	(0.234)	0.202
8	0.67	0.70	0.260	0.058	(0.234)	0.202
9	0.75	0.70	0.260	0.058	(0.234)	0.202
10	0.83	0.70	0.260	0.058	(0.234)	0.202
11	0.92	0.70	0.260	0.058	(0.234)	0.202
12	1.00	0.80	0.297	0.058	(0.267)	0.239

13	1.08	0.80	0.297	0.058	(0.267)	0.239
14	1.17	0.80	0.297	0.058	(0.267)	0.239
15	1.25	0.80	0.297	0.058	(0.267)	0.239
16	1.33	0.80	0.297	0.058	(0.267)	0.239
17	1.42	0.80	0.297	0.058	(0.267)	0.239
18	1.50	0.80	0.297	0.058	(0.267)	0.239
19	1.58	0.80	0.297	0.058	(0.267)	0.239
20	1.67	0.80	0.297	0.058	(0.267)	0.239
21	1.75	0.80	0.297	0.058	(0.267)	0.239
22	1.83	0.80	0.297	0.058	(0.267)	0.239
23	1.92	0.80	0.297	0.058	(0.267)	0.239
24	2.00	0.90	0.334	0.058	(0.300)	0.276
25	2.08	0.80	0.297	0.058	(0.267)	0.239
26	2.17	0.90	0.334	0.058	(0.300)	0.276
27	2.25	0.90	0.334	0.058	(0.300)	0.276
28	2.33	0.90	0.334	0.058	(0.300)	0.276
29	2.42	0.90	0.334	0.058	(0.300)	0.276
30	2.50	0.90	0.334	0.058	(0.300)	0.276
31	2.58	0.90	0.334	0.058	(0.300)	0.276
32	2.67	0.90	0.334	0.058	(0.300)	0.276
33	2.75	1.00	0.371	0.058	(0.334)	0.313
34	2.83	1.00	0.371	0.058	(0.334)	0.313
35	2.92	1.00	0.371	0.058	(0.334)	0.313
36	3.00	1.00	0.371	0.058	(0.334)	0.313
37	3.08	1.00	0.371	0.058	(0.334)	0.313
38	3.17	1.10	0.408	0.058	(0.367)	0.350
39	3.25	1.10	0.408	0.058	(0.367)	0.350
40	3.33	1.10	0.408	0.058	(0.367)	0.350
41	3.42	1.20	0.445	0.058	(0.400)	0.387
42	3.50	1.30	0.482	0.058	(0.434)	0.424
43	3.58	1.40	0.519	0.058	(0.467)	0.461
44	3.67	1.40	0.519	0.058	(0.467)	0.461
45	3.75	1.50	0.556	0.058	(0.501)	0.498
46	3.83	1.50	0.556	0.058	(0.501)	0.498
47	3.92	1.60	0.593	0.058	(0.534)	0.535
48	4.00	1.60	0.593	0.058	(0.534)	0.535
49	4.08	1.70	0.630	0.058	(0.567)	0.572
50	4.17	1.80	0.667	0.058	(0.601)	0.609
51	4.25	1.90	0.705	0.058	(0.634)	0.646
52	4.33	2.00	0.742	0.058	(0.667)	0.684
53	4.42	2.10	0.779	0.058	(0.701)	0.721
54	4.50	2.10	0.779	0.058	(0.701)	0.721
55	4.58	2.20	0.816	0.058	(0.734)	0.758
56	4.67	2.30	0.853	0.058	(0.768)	0.795
57	4.75	2.40	0.890	0.058	(0.801)	0.832
58	4.83	2.40	0.890	0.058	(0.801)	0.832
59	4.92	2.50	0.927	0.058	(0.834)	0.869
60	5.00	2.60	0.964	0.058	(0.868)	0.906
61	5.08	3.10	1.149	0.058	(1.035)	1.091
62	5.17	3.60	1.335	0.058	(1.201)	1.277
63	5.25	3.90	1.446	0.058	(1.302)	1.388
64	5.33	4.20	1.557	0.058	(1.402)	1.499
65	5.42	4.70	1.743	0.058	(1.568)	1.685
66	5.50	5.60	2.076	0.058	(1.869)	2.018
67	5.58	1.90	0.705	0.058	(0.634)	0.646
68	5.67	0.90	0.334	0.058	(0.300)	0.276

69	5.75	0.60	0.222	0.058	(0.200)	0.164
70	5.83	0.50	0.185	0.058	(0.167)	0.127
71	5.92	0.30	0.111	0.058	(0.100)	0.053
72	6.00	0.20	0.074	0.058	(0.067)	0.016

(Loss Rate Not Used)

Sum = 100.0 Sum = 32.9

Flood volume = Effective rainfall 2.74(In)
times area 1.7(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.35(In)
Total soil loss = 0.048(Ac.Ft)
Total rainfall = 3.09(In)
Flood volume = 16621.5 Cubic Feet
Total soil loss = 2110.3 Cubic Feet

Peak flow rate of this hydrograph = 3.158(CFS)

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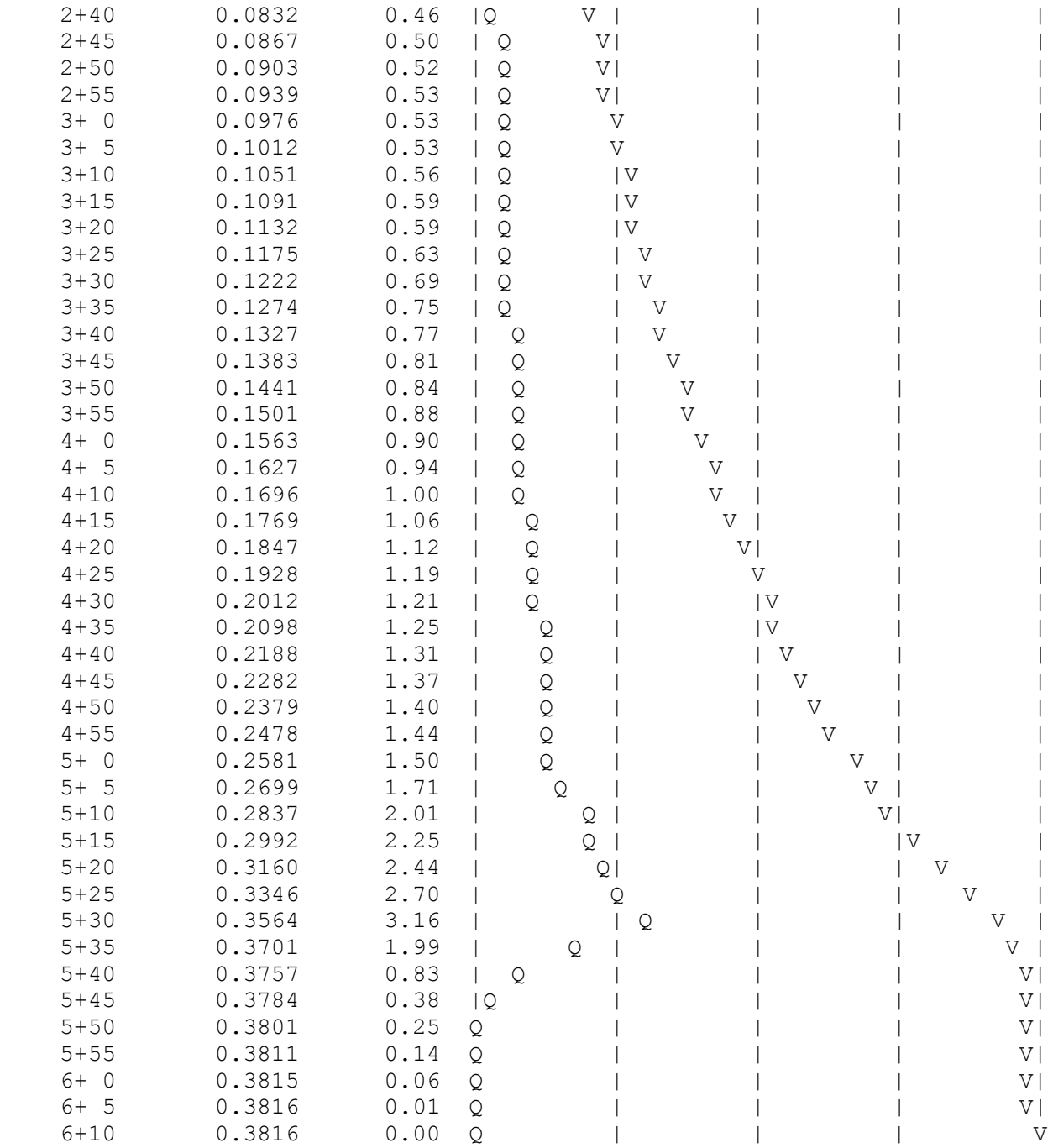
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0009	0.13	Q				
0+10	0.0025	0.24	Q				
0+15	0.0044	0.27	VQ				
0+20	0.0063	0.28	VQ				
0+25	0.0082	0.28	VQ				
0+30	0.0104	0.31	|Q				
0+35	0.0127	0.34	|Q				
0+40	0.0151	0.34	|Q				
0+45	0.0174	0.34	|Q				
0+50	0.0197	0.34	|QV				
0+55	0.0221	0.34	|QV				
1+ 0	0.0247	0.38	|QV				
1+ 5	0.0274	0.40	|QV				
1+10	0.0302	0.40	|Q V				
1+15	0.0330	0.40	|Q V				
1+20	0.0357	0.40	|Q V				
1+25	0.0385	0.40	|Q V				
1+30	0.0413	0.40	|Q V				
1+35	0.0440	0.40	|Q V				
1+40	0.0468	0.40	|Q V				
1+45	0.0496	0.40	|Q V				
1+50	0.0523	0.40	|Q V				
1+55	0.0551	0.40	|Q V				
2+ 0	0.0581	0.44	|Q V				
2+ 5	0.0610	0.42	|Q V				
2+10	0.0641	0.44	|Q V				
2+15	0.0673	0.46	|Q V				
2+20	0.0705	0.46	|Q V				
2+25	0.0737	0.46	|Q V				
2+30	0.0769	0.46	|Q V				
2+35	0.0801	0.46	|Q V				



2+40	0.0832	0.46	
2+45	0.0867	0.50	
2+50	0.0903	0.52	
2+55	0.0939	0.53	
3+ 0	0.0976	0.53	
3+ 5	0.1012	0.53	
3+10	0.1051	0.56	
3+15	0.1091	0.59	
3+20	0.1132	0.59	
3+25	0.1175	0.63	
3+30	0.1222	0.69	
3+35	0.1274	0.75	
3+40	0.1327	0.77	
3+45	0.1383	0.81	
3+50	0.1441	0.84	
3+55	0.1501	0.88	
4+ 0	0.1563	0.90	
4+ 5	0.1627	0.94	
4+10	0.1696	1.00	
4+15	0.1769	1.06	
4+20	0.1847	1.12	
4+25	0.1928	1.19	
4+30	0.2012	1.21	
4+35	0.2098	1.25	
4+40	0.2188	1.31	
4+45	0.2282	1.37	
4+50	0.2379	1.40	
4+55	0.2478	1.44	
5+ 0	0.2581	1.50	
5+ 5	0.2699	1.71	
5+10	0.2837	2.01	
5+15	0.2992	2.25	
5+20	0.3160	2.44	
5+25	0.3346	2.70	
5+30	0.3564	3.16	
5+35	0.3701	1.99	
5+40	0.3757	0.83	
5+45	0.3784	0.38	
5+50	0.3801	0.25	
5+55	0.3811	0.14	
6+ 0	0.3815	0.06	
6+ 5	0.3816	0.01	
6+10	0.3816	0.00	

U n i t H y d r o g r a p h A n a l y s i s

Study date 02/20/18 File: devareaauh100yr24100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6385

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Developed Condition Unit Hydrograph Analysis
100 Year 24 Hour Frequency
Area A
Honda Center

Drainage Area = 1.67(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.67(Ac.) = 0.003 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.025 Hr.
Lag time = 1.50 Min.
25% of lag time = 0.38 Min.
40% of lag time = 0.60 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.67	2.42	4.04

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.67	6.58	10.99

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 2.420(In)

Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 6.580(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 6.580(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.670	56.00	0.900

Total Area Entered = 1.67(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	74.8	0.305	0.900	0.058	1.000	0.058
					Sum (F) =	0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	333.333	59.862	1.008
2	0.167	666.667	35.367	0.595
3	0.250	1000.000	4.771	0.080
			Sum = 100.000 Sum=	1.683

The following loss rate calculations reflect use of the minimum calculated loss
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.053	(0.103)	0.047	0.005
2	0.17	0.07	0.053	(0.102)	0.047	0.005
3	0.25	0.07	0.053	(0.102)	0.047	0.005
4	0.33	0.10	0.079	(0.102)	0.071	0.008
5	0.42	0.10	0.079	(0.101)	0.071	0.008
6	0.50	0.10	0.079	(0.101)	0.071	0.008
7	0.58	0.10	0.079	(0.100)	0.071	0.008
8	0.67	0.10	0.079	(0.100)	0.071	0.008
9	0.75	0.10	0.079	(0.100)	0.071	0.008
10	0.83	0.13	0.105	(0.099)	0.095	0.011
11	0.92	0.13	0.105	(0.099)	0.095	0.011
12	1.00	0.13	0.105	(0.099)	0.095	0.011

13	1.08	0.10	0.079	(0.098)	0.071	0.008
14	1.17	0.10	0.079	(0.098)	0.071	0.008
15	1.25	0.10	0.079	(0.097)	0.071	0.008
16	1.33	0.10	0.079	(0.097)	0.071	0.008
17	1.42	0.10	0.079	(0.097)	0.071	0.008
18	1.50	0.10	0.079	(0.096)	0.071	0.008
19	1.58	0.10	0.079	(0.096)	0.071	0.008
20	1.67	0.10	0.079	(0.095)	0.071	0.008
21	1.75	0.10	0.079	(0.095)	0.071	0.008
22	1.83	0.13	0.105	0.095	(0.095)	0.011
23	1.92	0.13	0.105	0.094	(0.095)	0.011
24	2.00	0.13	0.105	0.094	(0.095)	0.011
25	2.08	0.13	0.105	0.094	(0.095)	0.012
26	2.17	0.13	0.105	0.093	(0.095)	0.012
27	2.25	0.13	0.105	0.093	(0.095)	0.013
28	2.33	0.13	0.105	0.092	(0.095)	0.013
29	2.42	0.13	0.105	0.092	(0.095)	0.013
30	2.50	0.13	0.105	0.092	(0.095)	0.014
31	2.58	0.17	0.132	0.091	(0.118)	0.040
32	2.67	0.17	0.132	0.091	(0.118)	0.041
33	2.75	0.17	0.132	0.091	(0.118)	0.041
34	2.83	0.17	0.132	0.090	(0.118)	0.041
35	2.92	0.17	0.132	0.090	(0.118)	0.042
36	3.00	0.17	0.132	0.089	(0.118)	0.042
37	3.08	0.17	0.132	0.089	(0.118)	0.043
38	3.17	0.17	0.132	0.089	(0.118)	0.043
39	3.25	0.17	0.132	0.088	(0.118)	0.043
40	3.33	0.17	0.132	0.088	(0.118)	0.044
41	3.42	0.17	0.132	0.088	(0.118)	0.044
42	3.50	0.17	0.132	0.087	(0.118)	0.044
43	3.58	0.17	0.132	0.087	(0.118)	0.045
44	3.67	0.17	0.132	0.086	(0.118)	0.045
45	3.75	0.17	0.132	0.086	(0.118)	0.046
46	3.83	0.20	0.158	0.086	(0.142)	0.072
47	3.92	0.20	0.158	0.085	(0.142)	0.073
48	4.00	0.20	0.158	0.085	(0.142)	0.073
49	4.08	0.20	0.158	0.085	(0.142)	0.073
50	4.17	0.20	0.158	0.084	(0.142)	0.074
51	4.25	0.20	0.158	0.084	(0.142)	0.074
52	4.33	0.23	0.184	0.084	(0.166)	0.101
53	4.42	0.23	0.184	0.083	(0.166)	0.101
54	4.50	0.23	0.184	0.083	(0.166)	0.101
55	4.58	0.23	0.184	0.082	(0.166)	0.102
56	4.67	0.23	0.184	0.082	(0.166)	0.102
57	4.75	0.23	0.184	0.082	(0.166)	0.102
58	4.83	0.27	0.211	0.081	(0.190)	0.129
59	4.92	0.27	0.211	0.081	(0.190)	0.129
60	5.00	0.27	0.211	0.081	(0.190)	0.130
61	5.08	0.20	0.158	0.080	(0.142)	0.078
62	5.17	0.20	0.158	0.080	(0.142)	0.078
63	5.25	0.20	0.158	0.080	(0.142)	0.078
64	5.33	0.23	0.184	0.079	(0.166)	0.105
65	5.42	0.23	0.184	0.079	(0.166)	0.105
66	5.50	0.23	0.184	0.079	(0.166)	0.106
67	5.58	0.27	0.211	0.078	(0.190)	0.132
68	5.67	0.27	0.211	0.078	(0.190)	0.133

69	5.75	0.27	0.211	0.078	(0.190)	0.133
70	5.83	0.27	0.211	0.077	(0.190)	0.133
71	5.92	0.27	0.211	0.077	(0.190)	0.134
72	6.00	0.27	0.211	0.077	(0.190)	0.134
73	6.08	0.30	0.237	0.076	(0.213)	0.161
74	6.17	0.30	0.237	0.076	(0.213)	0.161
75	6.25	0.30	0.237	0.076	(0.213)	0.161
76	6.33	0.30	0.237	0.075	(0.213)	0.162
77	6.42	0.30	0.237	0.075	(0.213)	0.162
78	6.50	0.30	0.237	0.075	(0.213)	0.162
79	6.58	0.33	0.263	0.074	(0.237)	0.189
80	6.67	0.33	0.263	0.074	(0.237)	0.189
81	6.75	0.33	0.263	0.074	(0.237)	0.190
82	6.83	0.33	0.263	0.073	(0.237)	0.190
83	6.92	0.33	0.263	0.073	(0.237)	0.190
84	7.00	0.33	0.263	0.073	(0.237)	0.191
85	7.08	0.33	0.263	0.072	(0.237)	0.191
86	7.17	0.33	0.263	0.072	(0.237)	0.191
87	7.25	0.33	0.263	0.072	(0.237)	0.192
88	7.33	0.37	0.290	0.071	(0.261)	0.218
89	7.42	0.37	0.290	0.071	(0.261)	0.219
90	7.50	0.37	0.290	0.071	(0.261)	0.219
91	7.58	0.40	0.316	0.070	(0.284)	0.246
92	7.67	0.40	0.316	0.070	(0.284)	0.246
93	7.75	0.40	0.316	0.070	(0.284)	0.246
94	7.83	0.43	0.342	0.069	(0.308)	0.273
95	7.92	0.43	0.342	0.069	(0.308)	0.273
96	8.00	0.43	0.342	0.069	(0.308)	0.273
97	8.08	0.50	0.395	0.068	(0.355)	0.326
98	8.17	0.50	0.395	0.068	(0.355)	0.327
99	8.25	0.50	0.395	0.068	(0.355)	0.327
100	8.33	0.50	0.395	0.067	(0.355)	0.327
101	8.42	0.50	0.395	0.067	(0.355)	0.328
102	8.50	0.50	0.395	0.067	(0.355)	0.328
103	8.58	0.53	0.421	0.066	(0.379)	0.355
104	8.67	0.53	0.421	0.066	(0.379)	0.355
105	8.75	0.53	0.421	0.066	(0.379)	0.355
106	8.83	0.57	0.447	0.066	(0.403)	0.382
107	8.92	0.57	0.447	0.065	(0.403)	0.382
108	9.00	0.57	0.447	0.065	(0.403)	0.383
109	9.08	0.63	0.500	0.065	(0.450)	0.435
110	9.17	0.63	0.500	0.064	(0.450)	0.436
111	9.25	0.63	0.500	0.064	(0.450)	0.436
112	9.33	0.67	0.526	0.064	(0.474)	0.463
113	9.42	0.67	0.526	0.063	(0.474)	0.463
114	9.50	0.67	0.526	0.063	(0.474)	0.463
115	9.58	0.70	0.553	0.063	(0.497)	0.490
116	9.67	0.70	0.553	0.062	(0.497)	0.490
117	9.75	0.70	0.553	0.062	(0.497)	0.491
118	9.83	0.73	0.579	0.062	(0.521)	0.517
119	9.92	0.73	0.579	0.062	(0.521)	0.517
120	10.00	0.73	0.579	0.061	(0.521)	0.518
121	10.08	0.50	0.395	0.061	(0.355)	0.334
122	10.17	0.50	0.395	0.061	(0.355)	0.334
123	10.25	0.50	0.395	0.060	(0.355)	0.334
124	10.33	0.50	0.395	0.060	(0.355)	0.335

125	10.42	0.50	0.395	0.060	(	0.355)	0.335
126	10.50	0.50	0.395	0.060	(	0.355)	0.335
127	10.58	0.67	0.526	0.059	(	0.474)	0.467
128	10.67	0.67	0.526	0.059	(	0.474)	0.467
129	10.75	0.67	0.526	0.059	(	0.474)	0.468
130	10.83	0.67	0.526	0.058	(	0.474)	0.468
131	10.92	0.67	0.526	0.058	(	0.474)	0.468
132	11.00	0.67	0.526	0.058	(	0.474)	0.469
133	11.08	0.63	0.500	0.057	(	0.450)	0.443
134	11.17	0.63	0.500	0.057	(	0.450)	0.443
135	11.25	0.63	0.500	0.057	(	0.450)	0.443
136	11.33	0.63	0.500	0.057	(	0.450)	0.443
137	11.42	0.63	0.500	0.056	(	0.450)	0.444
138	11.50	0.63	0.500	0.056	(	0.450)	0.444
139	11.58	0.57	0.447	0.056	(	0.403)	0.392
140	11.67	0.57	0.447	0.056	(	0.403)	0.392
141	11.75	0.57	0.447	0.055	(	0.403)	0.392
142	11.83	0.60	0.474	0.055	(	0.426)	0.419
143	11.92	0.60	0.474	0.055	(	0.426)	0.419
144	12.00	0.60	0.474	0.054	(	0.426)	0.419
145	12.08	0.83	0.658	0.054	(	0.592)	0.604
146	12.17	0.83	0.658	0.054	(	0.592)	0.604
147	12.25	0.83	0.658	0.054	(	0.592)	0.604
148	12.33	0.87	0.684	0.053	(	0.616)	0.631
149	12.42	0.87	0.684	0.053	(	0.616)	0.631
150	12.50	0.87	0.684	0.053	(	0.616)	0.632
151	12.58	0.93	0.737	0.053	(	0.663)	0.684
152	12.67	0.93	0.737	0.052	(	0.663)	0.685
153	12.75	0.93	0.737	0.052	(	0.663)	0.685
154	12.83	0.97	0.763	0.052	(	0.687)	0.712
155	12.92	0.97	0.763	0.051	(	0.687)	0.712
156	13.00	0.97	0.763	0.051	(	0.687)	0.712
157	13.08	1.13	0.895	0.051	(	0.805)	0.844
158	13.17	1.13	0.895	0.051	(	0.805)	0.844
159	13.25	1.13	0.895	0.050	(	0.805)	0.844
160	13.33	1.13	0.895	0.050	(	0.805)	0.845
161	13.42	1.13	0.895	0.050	(	0.805)	0.845
162	13.50	1.13	0.895	0.050	(	0.805)	0.845
163	13.58	0.77	0.605	0.049	(	0.545)	0.556
164	13.67	0.77	0.605	0.049	(	0.545)	0.556
165	13.75	0.77	0.605	0.049	(	0.545)	0.556
166	13.83	0.77	0.605	0.049	(	0.545)	0.557
167	13.92	0.77	0.605	0.048	(	0.545)	0.557
168	14.00	0.77	0.605	0.048	(	0.545)	0.557
169	14.08	0.90	0.711	0.048	(	0.640)	0.663
170	14.17	0.90	0.711	0.048	(	0.640)	0.663
171	14.25	0.90	0.711	0.047	(	0.640)	0.663
172	14.33	0.87	0.684	0.047	(	0.616)	0.637
173	14.42	0.87	0.684	0.047	(	0.616)	0.637
174	14.50	0.87	0.684	0.047	(	0.616)	0.638
175	14.58	0.87	0.684	0.046	(	0.616)	0.638
176	14.67	0.87	0.684	0.046	(	0.616)	0.638
177	14.75	0.87	0.684	0.046	(	0.616)	0.638
178	14.83	0.83	0.658	0.046	(	0.592)	0.612
179	14.92	0.83	0.658	0.046	(	0.592)	0.612
180	15.00	0.83	0.658	0.045	(	0.592)	0.613

181	15.08	0.80	0.632	0.045	(	0.569)	0.587
182	15.17	0.80	0.632	0.045	(	0.569)	0.587
183	15.25	0.80	0.632	0.045	(	0.569)	0.587
184	15.33	0.77	0.605	0.044	(	0.545)	0.561
185	15.42	0.77	0.605	0.044	(	0.545)	0.561
186	15.50	0.77	0.605	0.044	(	0.545)	0.561
187	15.58	0.63	0.500	0.044	(	0.450)	0.456
188	15.67	0.63	0.500	0.043	(	0.450)	0.457
189	15.75	0.63	0.500	0.043	(	0.450)	0.457
190	15.83	0.63	0.500	0.043	(	0.450)	0.457
191	15.92	0.63	0.500	0.043	(	0.450)	0.457
192	16.00	0.63	0.500	0.043	(	0.450)	0.457
193	16.08	0.13	0.105	0.042	(	0.095)	0.063
194	16.17	0.13	0.105	0.042	(	0.095)	0.063
195	16.25	0.13	0.105	0.042	(	0.095)	0.063
196	16.33	0.13	0.105	0.042	(	0.095)	0.064
197	16.42	0.13	0.105	0.042	(	0.095)	0.064
198	16.50	0.13	0.105	0.041	(	0.095)	0.064
199	16.58	0.10	0.079	0.041	(	0.071)	0.038
200	16.67	0.10	0.079	0.041	(	0.071)	0.038
201	16.75	0.10	0.079	0.041	(	0.071)	0.038
202	16.83	0.10	0.079	0.040	(	0.071)	0.038
203	16.92	0.10	0.079	0.040	(	0.071)	0.039
204	17.00	0.10	0.079	0.040	(	0.071)	0.039
205	17.08	0.17	0.132	0.040	(	0.118)	0.092
206	17.17	0.17	0.132	0.040	(	0.118)	0.092
207	17.25	0.17	0.132	0.039	(	0.118)	0.092
208	17.33	0.17	0.132	0.039	(	0.118)	0.092
209	17.42	0.17	0.132	0.039	(	0.118)	0.093
210	17.50	0.17	0.132	0.039	(	0.118)	0.093
211	17.58	0.17	0.132	0.039	(	0.118)	0.093
212	17.67	0.17	0.132	0.038	(	0.118)	0.093
213	17.75	0.17	0.132	0.038	(	0.118)	0.093
214	17.83	0.13	0.105	0.038	(	0.095)	0.067
215	17.92	0.13	0.105	0.038	(	0.095)	0.067
216	18.00	0.13	0.105	0.038	(	0.095)	0.068
217	18.08	0.13	0.105	0.038	(	0.095)	0.068
218	18.17	0.13	0.105	0.037	(	0.095)	0.068
219	18.25	0.13	0.105	0.037	(	0.095)	0.068
220	18.33	0.13	0.105	0.037	(	0.095)	0.068
221	18.42	0.13	0.105	0.037	(	0.095)	0.068
222	18.50	0.13	0.105	0.037	(	0.095)	0.069
223	18.58	0.10	0.079	0.036	(	0.071)	0.042
224	18.67	0.10	0.079	0.036	(	0.071)	0.043
225	18.75	0.10	0.079	0.036	(	0.071)	0.043
226	18.83	0.07	0.053	0.036	(	0.047)	0.017
227	18.92	0.07	0.053	0.036	(	0.047)	0.017
228	19.00	0.07	0.053	0.036	(	0.047)	0.017
229	19.08	0.10	0.079	0.035	(	0.071)	0.044
230	19.17	0.10	0.079	0.035	(	0.071)	0.044
231	19.25	0.10	0.079	0.035	(	0.071)	0.044
232	19.33	0.13	0.105	0.035	(	0.095)	0.070
233	19.42	0.13	0.105	0.035	(	0.095)	0.071
234	19.50	0.13	0.105	0.035	(	0.095)	0.071
235	19.58	0.10	0.079	0.034	(	0.071)	0.045
236	19.67	0.10	0.079	0.034	(	0.071)	0.045

237	19.75	0.10	0.079	0.034	(0.071)	0.045
238	19.83	0.07	0.053	0.034	(0.047)	0.019
239	19.92	0.07	0.053	0.034	(0.047)	0.019
240	20.00	0.07	0.053	0.034	(0.047)	0.019
241	20.08	0.10	0.079	0.034	(0.071)	0.045
242	20.17	0.10	0.079	0.033	(0.071)	0.046
243	20.25	0.10	0.079	0.033	(0.071)	0.046
244	20.33	0.10	0.079	0.033	(0.071)	0.046
245	20.42	0.10	0.079	0.033	(0.071)	0.046
246	20.50	0.10	0.079	0.033	(0.071)	0.046
247	20.58	0.10	0.079	0.033	(0.071)	0.046
248	20.67	0.10	0.079	0.033	(0.071)	0.046
249	20.75	0.10	0.079	0.032	(0.071)	0.047
250	20.83	0.07	0.053	0.032	(0.047)	0.020
251	20.92	0.07	0.053	0.032	(0.047)	0.020
252	21.00	0.07	0.053	0.032	(0.047)	0.021
253	21.08	0.10	0.079	0.032	(0.071)	0.047
254	21.17	0.10	0.079	0.032	(0.071)	0.047
255	21.25	0.10	0.079	0.032	(0.071)	0.047
256	21.33	0.07	0.053	0.032	(0.047)	0.021
257	21.42	0.07	0.053	0.031	(0.047)	0.021
258	21.50	0.07	0.053	0.031	(0.047)	0.021
259	21.58	0.10	0.079	0.031	(0.071)	0.048
260	21.67	0.10	0.079	0.031	(0.071)	0.048
261	21.75	0.10	0.079	0.031	(0.071)	0.048
262	21.83	0.07	0.053	0.031	(0.047)	0.022
263	21.92	0.07	0.053	0.031	(0.047)	0.022
264	22.00	0.07	0.053	0.031	(0.047)	0.022
265	22.08	0.10	0.079	0.031	(0.071)	0.048
266	22.17	0.10	0.079	0.030	(0.071)	0.049
267	22.25	0.10	0.079	0.030	(0.071)	0.049
268	22.33	0.07	0.053	0.030	(0.047)	0.022
269	22.42	0.07	0.053	0.030	(0.047)	0.022
270	22.50	0.07	0.053	0.030	(0.047)	0.023
271	22.58	0.07	0.053	0.030	(0.047)	0.023
272	22.67	0.07	0.053	0.030	(0.047)	0.023
273	22.75	0.07	0.053	0.030	(0.047)	0.023
274	22.83	0.07	0.053	0.030	(0.047)	0.023
275	22.92	0.07	0.053	0.030	(0.047)	0.023
276	23.00	0.07	0.053	0.030	(0.047)	0.023
277	23.08	0.07	0.053	0.030	(0.047)	0.023
278	23.17	0.07	0.053	0.029	(0.047)	0.023
279	23.25	0.07	0.053	0.029	(0.047)	0.023
280	23.33	0.07	0.053	0.029	(0.047)	0.023
281	23.42	0.07	0.053	0.029	(0.047)	0.023
282	23.50	0.07	0.053	0.029	(0.047)	0.023
283	23.58	0.07	0.053	0.029	(0.047)	0.023
284	23.67	0.07	0.053	0.029	(0.047)	0.024
285	23.75	0.07	0.053	0.029	(0.047)	0.024
286	23.83	0.07	0.053	0.029	(0.047)	0.024
287	23.92	0.07	0.053	0.029	(0.047)	0.024
288	24.00	0.07	0.053	0.029	(0.047)	0.024

(Loss Rate Not Used)

Sum = 100.0 Sum = 62.8

Flood volume = Effective rainfall 5.24(In)
times area 1.7(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)

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   Total soil loss =      1.34(In)
   Total soil loss =     0.187(Ac.Ft)
   Total rainfall =      6.58(In)
   Flood volume =       31739.1 Cubic Feet
   Total soil loss =        8149.4 Cubic Feet
   ------------------------------------------------------------------------
    Peak flow rate of this hydrograph =      1.423(CFS)
   ------------------------------------------------------------------------
   ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                      24 - H O U R    S T O R M
                  R u n o f f      H y d r o g r a p h
   ------------------------------------------------------------------------
              Hydrograph in   5   Minute intervals ((CFS))

   ------------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
------------------------------------------------------------------------
  0+ 5       0.0000      0.01  Q          |         |         |         |
  0+10       0.0001      0.01  Q          |         |         |         |
  0+15       0.0002      0.01  Q          |         |         |         |
  0+20       0.0002      0.01  Q          |         |         |         |
  0+25       0.0003      0.01  Q          |         |         |         |
  0+30       0.0004      0.01  Q          |         |         |         |
  0+35       0.0005      0.01  Q          |         |         |         |
  0+40       0.0006      0.01  Q          |         |         |         |
  0+45       0.0007      0.01  Q          |         |         |         |
  0+50       0.0008      0.02  Q          |         |         |         |
  0+55       0.0009      0.02  Q          |         |         |         |
  1+ 0       0.0010      0.02  Q          |         |         |         |
  1+ 5       0.0011      0.02  Q          |         |         |         |
  1+10       0.0012      0.01  Q          |         |         |         |
  1+15       0.0013      0.01  Q          |         |         |         |
  1+20       0.0014      0.01  Q          |         |         |         |
  1+25       0.0015      0.01  Q          |         |         |         |
  1+30       0.0016      0.01  Q          |         |         |         |
  1+35       0.0017      0.01  Q          |         |         |         |
  1+40       0.0018      0.01  Q          |         |         |         |
  1+45       0.0019      0.01  Q          |         |         |         |
  1+50       0.0020      0.02  Q          |         |         |         |
  1+55       0.0021      0.02  Q          |         |         |         |
  2+ 0       0.0022      0.02  Q          |         |         |         |
  2+ 5       0.0024      0.02  Q          |         |         |         |
  2+10       0.0025      0.02  Q          |         |         |         |
  2+15       0.0027      0.02  Q          |         |         |         |
  2+20       0.0028      0.02  Q          |         |         |         |
  2+25       0.0030      0.02  Q          |         |         |         |
  2+30       0.0031      0.02  Q          |         |         |         |
  2+35       0.0035      0.05  Q          |         |         |         |
  2+40       0.0039      0.07  Q          |         |         |         |
  2+45       0.0044      0.07  Q          |         |         |         |
  2+50       0.0049      0.07  Q          |         |         |         |
  2+55       0.0054      0.07  Q          |         |         |         |
  3+ 0       0.0058      0.07  Q          |         |         |         |
  3+ 5       0.0063      0.07  Q          |         |         |         |
  3+10       0.0068      0.07  Q          |         |         |         |
  3+15       0.0073      0.07  Q          |         |         |         |
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3+20	0.0078	0.07	Q	|	|	|	|
3+25	0.0083	0.07	Q	|	|	|	|
3+30	0.0089	0.07	Q	|	|	|	|
3+35	0.0094	0.08	Q	|	|	|	|
3+40	0.0099	0.08	Q	|	|	|	|
3+45	0.0104	0.08	Q	|	|	|	|
3+50	0.0111	0.10	Q	|	|	|	|
3+55	0.0120	0.12	Q	|	|	|	|
4+ 0	0.0128	0.12	Q	|	|	|	|
4+ 5	0.0137	0.12	Q	|	|	|	|
4+10	0.0145	0.12	Q	|	|	|	|
4+15	0.0154	0.12	Q	|	|	|	|
4+20	0.0164	0.15	Q	|	|	|	|
4+25	0.0176	0.17	Q	|	|	|	|
4+30	0.0187	0.17	QV	|	|	|	|
4+35	0.0199	0.17	QV	|	|	|	|
4+40	0.0211	0.17	QV	|	|	|	|
4+45	0.0223	0.17	QV	|	|	|	|
4+50	0.0237	0.20	QV	|	|	|	|
4+55	0.0251	0.22	QV	|	|	|	|
5+ 0	0.0266	0.22	QV	|	|	|	|
5+ 5	0.0278	0.17	QV	|	|	|	|
5+10	0.0287	0.14	QV	|	|	|	|
5+15	0.0296	0.13	QV	|	|	|	|
5+20	0.0307	0.16	QV	|	|	|	|
5+25	0.0319	0.17	QV	|	|	|	|
5+30	0.0331	0.18	QV	|	|	|	|
5+35	0.0345	0.20	QV	|	|	|	|
5+40	0.0361	0.22	QV	|	|	|	|
5+45	0.0376	0.22	Q V	|	|	|	|
5+50	0.0392	0.22	Q V	|	|	|	|
5+55	0.0407	0.22	Q V	|	|	|	|
6+ 0	0.0423	0.23	Q V	|	|	|	|
6+ 5	0.0440	0.25	|QV	|	|	|	|
6+10	0.0458	0.27	|QV	|	|	|	|
6+15	0.0477	0.27	|QV	|	|	|	|
6+20	0.0496	0.27	|QV	|	|	|	|
6+25	0.0515	0.27	|QV	|	|	|	|
6+30	0.0533	0.27	|QV	|	|	|	|
6+35	0.0554	0.30	|Q V	|	|	|	|
6+40	0.0576	0.32	|Q V	|	|	|	|
6+45	0.0598	0.32	|Q V	|	|	|	|
6+50	0.0620	0.32	|Q V	|	|	|	|
6+55	0.0642	0.32	|Q V	|	|	|	|
7+ 0	0.0664	0.32	|Q V	|	|	|	|
7+ 5	0.0686	0.32	|Q V	|	|	|	|
7+10	0.0708	0.32	|Q V	|	|	|	|
7+15	0.0731	0.32	|Q V	|	|	|	|
7+20	0.0755	0.35	|Q V	|	|	|	|
7+25	0.0780	0.37	|Q V	|	|	|	|
7+30	0.0805	0.37	|Q V	|	|	|	|
7+35	0.0832	0.40	|Q V	|	|	|	|
7+40	0.0861	0.41	|Q V	|	|	|	|
7+45	0.0889	0.41	|Q V	|	|	|	|
7+50	0.0920	0.44	|Q V	|	|	|	|
7+55	0.0951	0.46	|Q V	|	|	|	|

8+ 0	0.0983	0.46	Q V				
8+ 5	0.1018	0.51	Q V				
8+10	0.1056	0.55	Q V				
8+15	0.1094	0.55	Q V				
8+20	0.1132	0.55	Q V				
8+25	0.1170	0.55	Q V				
8+30	0.1208	0.55	Q V				
8+35	0.1248	0.58	Q V				
8+40	0.1289	0.60	Q V				
8+45	0.1330	0.60	Q V				
8+50	0.1373	0.63	Q V				
8+55	0.1417	0.64	Q V				
9+ 0	0.1461	0.64	Q V				
9+ 5	0.1509	0.70	Q V				
9+10	0.1560	0.73	Q V				
9+15	0.1610	0.73	Q V				
9+20	0.1663	0.76	Q V				
9+25	0.1716	0.78	Q V				
9+30	0.1770	0.78	Q V				
9+35	0.1826	0.81	Q V				
9+40	0.1882	0.82	Q V				
9+45	0.1939	0.83	Q V				
9+50	0.1998	0.85	Q V				
9+55	0.2058	0.87	Q V				
10+ 0	0.2118	0.87	Q V				
10+ 5	0.2165	0.69	Q V				
10+10	0.2205	0.58	Q V				
10+15	0.2244	0.56	Q V				
10+20	0.2282	0.56	Q V				
10+25	0.2321	0.56	Q V				
10+30	0.2360	0.56	Q V				
10+35	0.2408	0.70	Q V				
10+40	0.2462	0.78	Q V				
10+45	0.2516	0.79	Q V				
10+50	0.2570	0.79	Q V				
10+55	0.2624	0.79	Q V				
11+ 0	0.2679	0.79	Q V				
11+ 5	0.2731	0.76	Q V				
11+10	0.2783	0.75	Q V				
11+15	0.2834	0.75	Q V				
11+20	0.2885	0.75	Q V				
11+25	0.2937	0.75	Q V				
11+30	0.2988	0.75	Q V				
11+35	0.3036	0.69	Q V				
11+40	0.3082	0.66	Q V				
11+45	0.3127	0.66	Q V				
11+50	0.3175	0.69	Q V				
11+55	0.3223	0.70	Q V				
12+ 0	0.3272	0.71	Q V				
12+ 5	0.3333	0.89	Q V				
12+10	0.3402	1.00	Q V				
12+15	0.3472	1.02	Q V				
12+20	0.3544	1.04	Q V				
12+25	0.3617	1.06	Q V				
12+30	0.3691	1.06	Q V				
12+35	0.3767	1.12	Q V				

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12+40       0.3847      1.15  |   Q     |          |V        |          |
12+45       0.3926      1.15  |   Q     |          |V        |          |
12+50       0.4007      1.18  |   Q     |          |V        |          |
12+55       0.4090      1.20  |   Q     |          | V       |          |
13+ 0       0.4172      1.20  |   Q     |          | V       |          |
13+ 5       0.4264      1.33  |    Q    |          |  V      |          |
13+10       0.4361      1.41  |    Q    |          |  V      |          |
13+15       0.4459      1.42  |    Q    |          |   V     |          |
13+20       0.4557      1.42  |    Q    |          |    V    |          |
13+25       0.4655      1.42  |    Q    |          |    V    |          |
13+30       0.4753      1.42  |    Q    |          |     V   |          |
13+35       0.4831      1.13  |   Q     |          |     V   |          |
13+40       0.4897      0.96  |  Q      |          |     V   |          |
13+45       0.4962      0.94  |  Q      |          |      V  |          |
13+50       0.5026      0.94  |  Q      |          |      V  |          |
13+55       0.5091      0.94  |  Q      |          |      V  |          |
14+ 0       0.5155      0.94  |  Q      |          |       V |          |
14+ 5       0.5227      1.04  |   Q     |          |       V |          |
14+10       0.5303      1.11  |   Q     |          |        V|          |
14+15       0.5380      1.12  |   Q     |          |        V|          |
14+20       0.5455      1.09  |   Q     |          |        V|          |
14+25       0.5529      1.08  |   Q     |          |         V          |
14+30       0.5603      1.07  |   Q     |          |         V          |
14+35       0.5677      1.07  |   Q     |          |         |V         |
14+40       0.5751      1.07  |   Q     |          |         |V         |
14+45       0.5825      1.07  |   Q     |          |         |V         |
14+50       0.5898      1.05  |   Q     |          |         | V        |
14+55       0.5969      1.03  |   Q     |          |         | V        |
15+ 0       0.6040      1.03  |   Q     |          |         |  V       |
15+ 5       0.6109      1.01  |   Q     |          |         |  V       |
15+10       0.6177      0.99  |  Q      |          |         |  V       |
15+15       0.6245      0.99  |  Q      |          |         |   V      |
15+20       0.6312      0.96  |  Q      |          |         |   V      |
15+25       0.6377      0.95  |  Q      |          |         |    V     |
15+30       0.6442      0.95  |  Q      |          |         |    V     |
15+35       0.6500      0.84  |  Q      |          |         |    V     |
15+40       0.6553      0.78  |  Q      |          |         |    V     |
15+45       0.6606      0.77  |  Q      |          |         |     V    |
15+50       0.6659      0.77  |  Q      |          |         |     V    |
15+55       0.6712      0.77  |  Q      |          |         |     V    |
16+ 0       0.6765      0.77  |  Q      |          |         |      V   |
16+ 5       0.6791      0.37  |Q        |          |         |      V   |
16+10       0.6800      0.14  Q         |          |         |      V   |
16+15       0.6808      0.11  Q         |          |         |      V   |
16+20       0.6815      0.11  Q         |          |         |      V   |
16+25       0.6822      0.11  Q         |          |         |      V   |
16+30       0.6830      0.11  Q         |          |         |      V   |
16+35       0.6835      0.08  Q         |          |         |      V   |
16+40       0.6840      0.07  Q         |          |         |      V   |
16+45       0.6844      0.06  Q         |          |         |      V   |
16+50       0.6849      0.06  Q         |          |         |      V   |
16+55       0.6853      0.06  Q         |          |         |      V   |
17+ 0       0.6858      0.07  Q         |          |         |      V   |
17+ 5       0.6866      0.12  Q         |          |         |      V   |
17+10       0.6876      0.15  Q         |          |         |      V   |
17+15       0.6887      0.15  Q         |          |         |      V   |
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17+20	0.6898	0.16	Q	|	|	|	V |
17+25	0.6908	0.16	Q	|	|	|	V |
17+30	0.6919	0.16	Q	|	|	|	V |
17+35	0.6930	0.16	Q	|	|	|	V |
17+40	0.6941	0.16	Q	|	|	|	V |
17+45	0.6952	0.16	Q	|	|	|	V |
17+50	0.6961	0.13	Q	|	|	|	V |
17+55	0.6969	0.12	Q	|	|	|	V |
18+ 0	0.6976	0.11	Q	|	|	|	V |
18+ 5	0.6984	0.11	Q	|	|	|	V |
18+10	0.6992	0.11	Q	|	|	|	V |
18+15	0.7000	0.11	Q	|	|	|	V |
18+20	0.7008	0.11	Q	|	|	|	V |
18+25	0.7016	0.12	Q	|	|	|	V |
18+30	0.7024	0.12	Q	|	|	|	V |
18+35	0.7030	0.09	Q	|	|	|	V |
18+40	0.7035	0.07	Q	|	|	|	V |
18+45	0.7040	0.07	Q	|	|	|	V |
18+50	0.7043	0.05	Q	|	|	|	V |
18+55	0.7045	0.03	Q	|	|	|	V |
19+ 0	0.7047	0.03	Q	|	|	|	V |
19+ 5	0.7051	0.06	Q	|	|	|	V |
19+10	0.7056	0.07	Q	|	|	|	V |
19+15	0.7061	0.07	Q	|	|	|	V |
19+20	0.7068	0.10	Q	|	|	|	V |
19+25	0.7076	0.12	Q	|	|	|	V |
19+30	0.7084	0.12	Q	|	|	|	V |
19+35	0.7090	0.09	Q	|	|	|	V |
19+40	0.7096	0.08	Q	|	|	|	V |
19+45	0.7101	0.08	Q	|	|	|	V |
19+50	0.7104	0.05	Q	|	|	|	V|
19+55	0.7107	0.03	Q	|	|	|	V|
20+ 0	0.7109	0.03	Q	|	|	|	V|
20+ 5	0.7113	0.06	Q	|	|	|	V|
20+10	0.7118	0.07	Q	|	|	|	V|
20+15	0.7123	0.08	Q	|	|	|	V|
20+20	0.7129	0.08	Q	|	|	|	V|
20+25	0.7134	0.08	Q	|	|	|	V|
20+30	0.7139	0.08	Q	|	|	|	V|
20+35	0.7145	0.08	Q	|	|	|	V|
20+40	0.7150	0.08	Q	|	|	|	V|
20+45	0.7155	0.08	Q	|	|	|	V|
20+50	0.7159	0.05	Q	|	|	|	V|
20+55	0.7162	0.04	Q	|	|	|	V|
21+ 0	0.7164	0.03	Q	|	|	|	V|
21+ 5	0.7168	0.06	Q	|	|	|	V|
21+10	0.7173	0.08	Q	|	|	|	V|
21+15	0.7179	0.08	Q	|	|	|	V|
21+20	0.7183	0.05	Q	|	|	|	V|
21+25	0.7185	0.04	Q	|	|	|	V|
21+30	0.7188	0.04	Q	|	|	|	V|
21+35	0.7192	0.06	Q	|	|	|	V|
21+40	0.7197	0.08	Q	|	|	|	V|
21+45	0.7203	0.08	Q	|	|	|	V|
21+50	0.7207	0.05	Q	|	|	|	V|
21+55	0.7209	0.04	Q	|	|	|	V|

22+ 0	0.7212	0.04	Q	|	|	|	V|
22+ 5	0.7216	0.06	Q	|	|	|	V|
22+10	0.7222	0.08	Q	|	|	|	V|
22+15	0.7227	0.08	Q	|	|	|	V|
22+20	0.7231	0.06	Q	|	|	|	V|
22+25	0.7234	0.04	Q	|	|	|	V|
22+30	0.7237	0.04	Q	|	|	|	V|
22+35	0.7239	0.04	Q	|	|	|	V|
22+40	0.7242	0.04	Q	|	|	|	V|
22+45	0.7245	0.04	Q	|	|	|	V|
22+50	0.7247	0.04	Q	|	|	|	V|
22+55	0.7250	0.04	Q	|	|	|	V|
23+ 0	0.7252	0.04	Q	|	|	|	V|
23+ 5	0.7255	0.04	Q	|	|	|	V|
23+10	0.7258	0.04	Q	|	|	|	V|
23+15	0.7261	0.04	Q	|	|	|	V|
23+20	0.7263	0.04	Q	|	|	|	V|
23+25	0.7266	0.04	Q	|	|	|	V|
23+30	0.7269	0.04	Q	|	|	|	V|
23+35	0.7271	0.04	Q	|	|	|	V|
23+40	0.7274	0.04	Q	|	|	|	V|
23+45	0.7277	0.04	Q	|	|	|	V|
23+50	0.7280	0.04	Q	|	|	|	V|
23+55	0.7282	0.04	Q	|	|	|	V|
24+ 0	0.7285	0.04	Q	|	|	|	V|
24+ 5	0.7286	0.02	Q	|	|	|	V|
24+10	0.7286	0.00	Q	|	|	|	V|

U n i t H y d r o g r a p h A n a l y s i s

Study date 02/20/18 File: devareabuh100yr1100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6385

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Developed Condition Unit Hydrograph Analysis
100 Year **1** Hour Storm Frequency
Area B
Honda Center

Drainage Area = 4.80(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.80(Ac.) = 0.007 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.036 Hr.
Lag time = 2.19 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.88 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.80	0.48	2.28

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.80	1.31	6.29

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.476(In)

Area Averaged 100-Year Rainfall = 1.310(In)

Point rain (area averaged) = 1.310(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.310(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.800	56.00	0.900

Total Area Entered = 4.80(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	74.8	0.305	0.900	0.058	1.000	0.058
					Sum (F) =	0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	228.311	47.902	2.317
2	0.167	456.621	41.440	2.005
3	0.250	684.932	7.749	0.375
4	0.333	913.242	2.909	0.141
		Sum = 100.000	Sum=	4.838

The following loss rate calculations reflect use of the minimum calculated loss
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time		Pattern	Storm Rain	Loss rate(In./Hr)			Effective
	(Hr.)	Percent	(In/Hr)	Max		Low	(In/Hr)
1	0.08	4.40	0.692	0.058	(	0.622)	0.634
2	0.17	4.50	0.707	0.058	(	0.637)	0.649
3	0.25	5.40	0.849	0.058	(	0.764)	0.791
4	0.33	5.40	0.849	0.058	(	0.764)	0.791
5	0.42	5.70	0.896	0.058	(	0.806)	0.838
6	0.50	6.40	1.006	0.058	(	0.905)	0.948
7	0.58	7.90	1.242	0.058	(	1.118)	1.184
8	0.67	9.10	1.430	0.058	(	1.287)	1.372
9	0.75	12.80	2.012	0.058	(	1.811)	1.954

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 10   0.83    25.60      4.024          0.058    (  3.622)        3.966
 11   0.92     7.90      1.242          0.058    (  1.118)        1.184
 12   1.00     4.90      0.770          0.058    (  0.693)        0.712
           (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    15.0
    Flood volume = Effective rainfall      1.25(In)
     times area       4.8(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
    Total soil loss =      0.06(In)
    Total soil loss =     0.023(Ac.Ft)
    Total rainfall =      1.31(In)
    Flood volume =       21813.5 Cubic Feet
    Total soil loss =        1010.9 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     13.796(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
 ----------------------------------------------------------------------------
   0+ 5       0.0101      1.47  V Q       |         |         |         |
   0+10       0.0292      2.78  | V  Q    |         |         |         |
   0+15       0.0525      3.37  |   V Q   |         |         |         |
   0+20       0.0783      3.75  |     VQ  |         |         |         |
   0+25       0.1053      3.92  |      QV |         |         |         |
   0+30       0.1348      4.29  |       Q V         |         |         |
   0+35       0.1697      5.07  |         Q  V      |         |         |
   0+40       0.2113      6.03  |         | Q   V   |         |         |
   0+45       0.2654      7.86  |         |    Q    |V        |         |
   0+50       0.3604     13.80  |         |         |      QV |         |
   0+55       0.4405     11.63  |         |         |  Q      |    V    |
   1+ 0       0.4803      5.79  |         |Q        |         |       V |
   1+ 5       0.4971      2.43  |   Q     |         |         |        V|
   1+10       0.5001      0.43  Q         |         |         |        V|
   1+15       0.5008      0.10  Q         |         |         |        V|
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U n i t H y d r o g r a p h A n a l y s i s

Study date 02/20/18 File: devareabuh100yr3100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6385

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Developed Condition Unit Hydrograph Analysis
100 Year 3 Hour Storm Frequency
Area B
Honda Center

Drainage Area = 4.80(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.80(Ac.) = 0.007 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.036 Hr.
Lag time = 2.19 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.88 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.80	0.87	4.16

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.80	2.16	10.37

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.866(In)

Area Averaged 100-Year Rainfall = 2.160(In)

Point rain (area averaged) = 2.160(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.160(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.800	56.00	0.900

Total Area Entered = 4.80(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	74.8	0.305	0.900	0.058	1.000	0.058
					Sum (F) =	0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %		Unit Hydrograph (CFS)
1	0.083	228.311	47.902		2.317
2	0.167	456.621	41.440		2.005
3	0.250	684.932	7.749		0.375
4	0.333	913.242	2.909		0.141
			Sum = 100.000	Sum=	4.838

The following loss rate calculations reflect use of the minimum calculated loss
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.337	0.058	(0.303)	0.279
2	0.17	1.30	0.337	0.058	(0.303)	0.279
3	0.25	1.10	0.285	0.058	(0.257)	0.227
4	0.33	1.50	0.389	0.058	(0.350)	0.331
5	0.42	1.50	0.389	0.058	(0.350)	0.331
6	0.50	1.80	0.467	0.058	(0.420)	0.409
7	0.58	1.50	0.389	0.058	(0.350)	0.331
8	0.67	1.80	0.467	0.058	(0.420)	0.409
9	0.75	1.80	0.467	0.058	(0.420)	0.409
10	0.83	1.50	0.389	0.058	(0.350)	0.331
11	0.92	1.60	0.415	0.058	(0.373)	0.357

12	1.00	1.80	0.467	0.058	(0.420)	0.409
13	1.08	2.20	0.570	0.058	(0.513)	0.512
14	1.17	2.20	0.570	0.058	(0.513)	0.512
15	1.25	2.20	0.570	0.058	(0.513)	0.512
16	1.33	2.00	0.518	0.058	(0.467)	0.460
17	1.42	2.60	0.674	0.058	(0.607)	0.616
18	1.50	2.70	0.700	0.058	(0.630)	0.642
19	1.58	2.40	0.622	0.058	(0.560)	0.564
20	1.67	2.70	0.700	0.058	(0.630)	0.642
21	1.75	3.30	0.855	0.058	(0.770)	0.797
22	1.83	3.10	0.804	0.058	(0.723)	0.745
23	1.92	2.90	0.752	0.058	(0.676)	0.694
24	2.00	3.00	0.778	0.058	(0.700)	0.720
25	2.08	3.10	0.804	0.058	(0.723)	0.745
26	2.17	4.20	1.089	0.058	(0.980)	1.031
27	2.25	5.00	1.296	0.058	(1.166)	1.238
28	2.33	3.50	0.907	0.058	(0.816)	0.849
29	2.42	6.80	1.763	0.058	(1.586)	1.705
30	2.50	7.30	1.892	0.058	(1.703)	1.834
31	2.58	8.20	2.125	0.058	(1.913)	2.067
32	2.67	5.90	1.529	0.058	(1.376)	1.471
33	2.75	2.00	0.518	0.058	(0.467)	0.460
34	2.83	1.80	0.467	0.058	(0.420)	0.409
35	2.92	1.80	0.467	0.058	(0.420)	0.409
36	3.00	0.60	0.156	0.058	(0.140)	0.097

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.8

Flood volume = Effective rainfall 1.99(In)
times area 4.8(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)
Total soil loss = 0.17(In)
Total soil loss = 0.070(Ac.Ft)
Total rainfall = 2.16(In)
Flood volume = 34602.3 Cubic Feet
Total soil loss = 3032.7 Cubic Feet

Peak flow rate of this hydrograph = 9.231(CFS)

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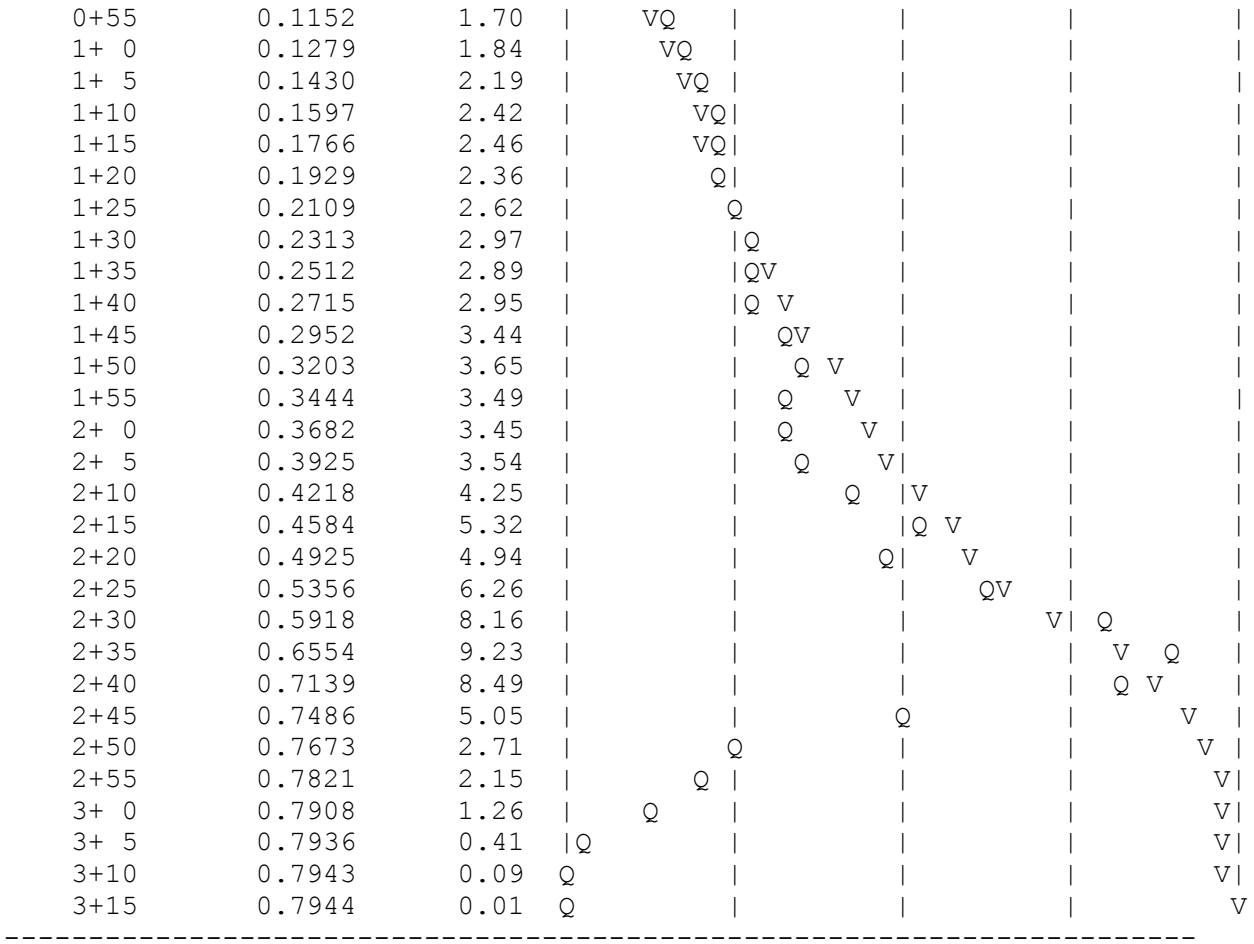
3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0045	0.65	V Q	|	|	|	|
0+10	0.0128	1.21	V Q	|	|	|	|
0+15	0.0210	1.19	|V Q	|	|	|	|
0+20	0.0304	1.37	|V Q	|	|	|	|
0+25	0.0411	1.55	| V Q	|	|	|	|
0+30	0.0532	1.77	| V Q	|	|	|	|
0+35	0.0653	1.76	| V Q	|	|	|	|
0+40	0.0778	1.81	| V Q	|	|	|	|
0+45	0.0912	1.95	| V Q	|	|	|	|
0+50	0.1035	1.79	| V Q	|	|	|	|



0+55	0.1152	1.70	VQ				
1+ 0	0.1279	1.84	VQ				
1+ 5	0.1430	2.19	VQ				
1+10	0.1597	2.42	VQ				
1+15	0.1766	2.46	VQ				
1+20	0.1929	2.36	Q				
1+25	0.2109	2.62	Q				
1+30	0.2313	2.97	Q				
1+35	0.2512	2.89	QV				
1+40	0.2715	2.95	Q V				
1+45	0.2952	3.44	QV				
1+50	0.3203	3.65	Q V				
1+55	0.3444	3.49	Q V				
2+ 0	0.3682	3.45	Q V				
2+ 5	0.3925	3.54	Q V				
2+10	0.4218	4.25	Q V				
2+15	0.4584	5.32	Q V				
2+20	0.4925	4.94	Q V				
2+25	0.5356	6.26	QV				
2+30	0.5918	8.16	V Q				
2+35	0.6554	9.23	V Q				
2+40	0.7139	8.49	Q V				
2+45	0.7486	5.05	Q V				
2+50	0.7673	2.71	Q V				
2+55	0.7821	2.15	Q V				
3+ 0	0.7908	1.26	Q V				
3+ 5	0.7936	0.41	Q V				
3+10	0.7943	0.09	Q V				
3+15	0.7944	0.01	Q V				

U n i t H y d r o g r a p h A n a l y s i s

Study date 02/20/18 File: devareabuh100yr6100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6385

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Developed Condition Unit Hydrograph Analysis
100 Year 6 Hour Storm Frequency
Area B
Honda Center

Drainage Area = 4.80(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.80(Ac.) = 0.007 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.036 Hr.
Lag time = 2.19 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.88 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.80	1.25	6.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.80	3.09	14.83

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.250(In)

Area Averaged 100-Year Rainfall = 3.090(In)

Point rain (area averaged) = 3.090(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.090(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.800	56.00	0.900

Total Area Entered = 4.80(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	74.8	0.305	0.900	0.058	1.000	0.058
					Sum (F) =	0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %		Unit Hydrograph (CFS)
1	0.083	228.311	47.902		2.317
2	0.167	456.621	41.440		2.005
3	0.250	684.932	7.749		0.375
4	0.333	913.242	2.909		0.141
			Sum = 100.000	Sum=	4.838

The following loss rate calculations reflect use of the minimum calculated loss
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.185	0.058	(	0.167)	0.127
2	0.17	0.60	0.222	0.058	(	0.200)	0.164
3	0.25	0.60	0.222	0.058	(	0.200)	0.164
4	0.33	0.60	0.222	0.058	(	0.200)	0.164
5	0.42	0.60	0.222	0.058	(	0.200)	0.164
6	0.50	0.70	0.260	0.058	(	0.234)	0.202
7	0.58	0.70	0.260	0.058	(	0.234)	0.202
8	0.67	0.70	0.260	0.058	(	0.234)	0.202
9	0.75	0.70	0.260	0.058	(	0.234)	0.202
10	0.83	0.70	0.260	0.058	(	0.234)	0.202
11	0.92	0.70	0.260	0.058	(	0.234)	0.202

12	1.00	0.80	0.297	0.058	(0.267)	0.239
13	1.08	0.80	0.297	0.058	(0.267)	0.239
14	1.17	0.80	0.297	0.058	(0.267)	0.239
15	1.25	0.80	0.297	0.058	(0.267)	0.239
16	1.33	0.80	0.297	0.058	(0.267)	0.239
17	1.42	0.80	0.297	0.058	(0.267)	0.239
18	1.50	0.80	0.297	0.058	(0.267)	0.239
19	1.58	0.80	0.297	0.058	(0.267)	0.239
20	1.67	0.80	0.297	0.058	(0.267)	0.239
21	1.75	0.80	0.297	0.058	(0.267)	0.239
22	1.83	0.80	0.297	0.058	(0.267)	0.239
23	1.92	0.80	0.297	0.058	(0.267)	0.239
24	2.00	0.90	0.334	0.058	(0.300)	0.276
25	2.08	0.80	0.297	0.058	(0.267)	0.239
26	2.17	0.90	0.334	0.058	(0.300)	0.276
27	2.25	0.90	0.334	0.058	(0.300)	0.276
28	2.33	0.90	0.334	0.058	(0.300)	0.276
29	2.42	0.90	0.334	0.058	(0.300)	0.276
30	2.50	0.90	0.334	0.058	(0.300)	0.276
31	2.58	0.90	0.334	0.058	(0.300)	0.276
32	2.67	0.90	0.334	0.058	(0.300)	0.276
33	2.75	1.00	0.371	0.058	(0.334)	0.313
34	2.83	1.00	0.371	0.058	(0.334)	0.313
35	2.92	1.00	0.371	0.058	(0.334)	0.313
36	3.00	1.00	0.371	0.058	(0.334)	0.313
37	3.08	1.00	0.371	0.058	(0.334)	0.313
38	3.17	1.10	0.408	0.058	(0.367)	0.350
39	3.25	1.10	0.408	0.058	(0.367)	0.350
40	3.33	1.10	0.408	0.058	(0.367)	0.350
41	3.42	1.20	0.445	0.058	(0.400)	0.387
42	3.50	1.30	0.482	0.058	(0.434)	0.424
43	3.58	1.40	0.519	0.058	(0.467)	0.461
44	3.67	1.40	0.519	0.058	(0.467)	0.461
45	3.75	1.50	0.556	0.058	(0.501)	0.498
46	3.83	1.50	0.556	0.058	(0.501)	0.498
47	3.92	1.60	0.593	0.058	(0.534)	0.535
48	4.00	1.60	0.593	0.058	(0.534)	0.535
49	4.08	1.70	0.630	0.058	(0.567)	0.572
50	4.17	1.80	0.667	0.058	(0.601)	0.609
51	4.25	1.90	0.705	0.058	(0.634)	0.646
52	4.33	2.00	0.742	0.058	(0.667)	0.684
53	4.42	2.10	0.779	0.058	(0.701)	0.721
54	4.50	2.10	0.779	0.058	(0.701)	0.721
55	4.58	2.20	0.816	0.058	(0.734)	0.758
56	4.67	2.30	0.853	0.058	(0.768)	0.795
57	4.75	2.40	0.890	0.058	(0.801)	0.832
58	4.83	2.40	0.890	0.058	(0.801)	0.832
59	4.92	2.50	0.927	0.058	(0.834)	0.869
60	5.00	2.60	0.964	0.058	(0.868)	0.906
61	5.08	3.10	1.149	0.058	(1.035)	1.091
62	5.17	3.60	1.335	0.058	(1.201)	1.277
63	5.25	3.90	1.446	0.058	(1.301)	1.388
64	5.33	4.20	1.557	0.058	(1.402)	1.499
65	5.42	4.70	1.743	0.058	(1.568)	1.685
66	5.50	5.60	2.076	0.058	(1.869)	2.018
67	5.58	1.90	0.705	0.058	(0.634)	0.646

68	5.67	0.90	0.334	0.058	(0.300)	0.276
69	5.75	0.60	0.222	0.058	(0.200)	0.164
70	5.83	0.50	0.185	0.058	(0.167)	0.127
71	5.92	0.30	0.111	0.058	(0.100)	0.053
72	6.00	0.20	0.074	0.058	(0.067)	0.016

(Loss Rate Not Used)

Sum = 100.0 Sum = 32.9

Flood volume = Effective rainfall 2.74(In)
times area 4.8(Ac.)/[(In)/(Ft.)] = 1.1(Ac.Ft)
Total soil loss = 0.35(In)
Total soil loss = 0.139(Ac.Ft)
Total rainfall = 3.09(In)
Flood volume = 47773.8 Cubic Feet
Total soil loss = 6065.5 Cubic Feet

Peak flow rate of this hydrograph = 8.816(CFS)

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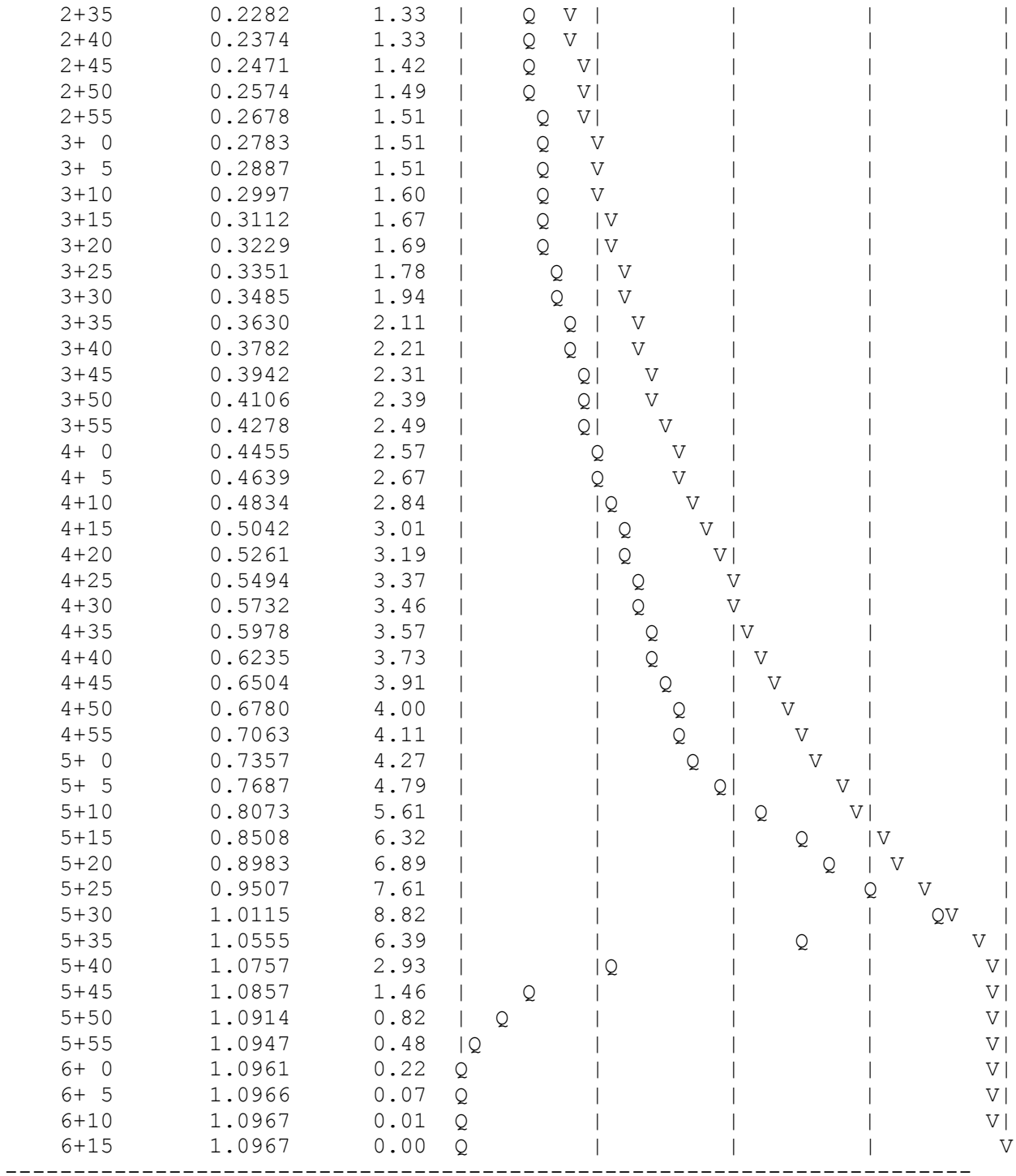
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0020	0.30	VQ				
0+10	0.0064	0.64	V Q				
0+15	0.0116	0.76	V Q				
0+20	0.0171	0.79	V Q				
0+25	0.0226	0.80	V Q				
0+30	0.0286	0.88	|V Q				
0+35	0.0352	0.96	|V Q				
0+40	0.0419	0.97	|V Q				
0+45	0.0486	0.98	|V Q				
0+50	0.0554	0.98	| VQ				
0+55	0.0621	0.98	| VQ				
1+ 0	0.0694	1.06	| V Q				
1+ 5	0.0772	1.14	| V Q				
1+10	0.0851	1.15	| VQ				
1+15	0.0931	1.15	| VQ				
1+20	0.1010	1.15	| VQ				
1+25	0.1090	1.15	| VQ				
1+30	0.1169	1.15	| Q				
1+35	0.1249	1.15	| Q				
1+40	0.1328	1.15	| Q				
1+45	0.1408	1.15	| QV				
1+50	0.1488	1.15	| QV				
1+55	0.1567	1.15	| QV				
2+ 0	0.1653	1.24	| Q V				
2+ 5	0.1737	1.23	| Q V				
2+10	0.1824	1.25	| QV				
2+15	0.1915	1.32	| QV				
2+20	0.2006	1.33	| Q V				
2+25	0.2098	1.33	| Q V				
2+30	0.2190	1.33	| Q V				



2+35	0.2282	1.33	
2+40	0.2374	1.33	
2+45	0.2471	1.42	
2+50	0.2574	1.49	
2+55	0.2678	1.51	
3+ 0	0.2783	1.51	
3+ 5	0.2887	1.51	
3+10	0.2997	1.60	
3+15	0.3112	1.67	
3+20	0.3229	1.69	
3+25	0.3351	1.78	
3+30	0.3485	1.94	
3+35	0.3630	2.11	
3+40	0.3782	2.21	
3+45	0.3942	2.31	
3+50	0.4106	2.39	
3+55	0.4278	2.49	
4+ 0	0.4455	2.57	
4+ 5	0.4639	2.67	
4+10	0.4834	2.84	
4+15	0.5042	3.01	
4+20	0.5261	3.19	
4+25	0.5494	3.37	
4+30	0.5732	3.46	
4+35	0.5978	3.57	
4+40	0.6235	3.73	
4+45	0.6504	3.91	
4+50	0.6780	4.00	
4+55	0.7063	4.11	
5+ 0	0.7357	4.27	
5+ 5	0.7687	4.79	
5+10	0.8073	5.61	
5+15	0.8508	6.32	
5+20	0.8983	6.89	
5+25	0.9507	7.61	
5+30	1.0115	8.82	
5+35	1.0555	6.39	
5+40	1.0757	2.93	
5+45	1.0857	1.46	
5+50	1.0914	0.82	
5+55	1.0947	0.48	
6+ 0	1.0961	0.22	
6+ 5	1.0966	0.07	
6+10	1.0967	0.01	
6+15	1.0967	0.00	

U n i t H y d r o g r a p h A n a l y s i s

Study date 02/20/18 File: devareabuh100yr24100.out

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6385

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

Developed Condition Unit Hydrograph Analysis
100 Year 24 Hour Storm Frequency
Area B
Honda Center

Drainage Area = 4.80(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.80(Ac.) = 0.007 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.036 Hr.
Lag time = 2.19 Min.
25% of lag time = 0.55 Min.
40% of lag time = 0.88 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.80	2.42	11.62

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.80	6.58	31.58

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 2.420(In)

Area Averaged 100-Year Rainfall = 6.580(In)

Point rain (area averaged) = 6.580(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 6.580(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.800	56.00	0.900

Total Area Entered = 4.80(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	74.8	0.305	0.900	0.058	1.000	0.058
					Sum (F) =	0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.900

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	228.311	47.902	2.317
2	0.167	456.621	41.440	2.005
3	0.250	684.932	7.749	0.375
4	0.333	913.242	2.909	0.141
		Sum = 100.000	Sum=	4.838

The following loss rate calculations reflect use of the minimum calculated loss
rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.053	(0.103)	0.047	0.005
2	0.17	0.07	0.053	(0.102)	0.047	0.005
3	0.25	0.07	0.053	(0.102)	0.047	0.005
4	0.33	0.10	0.079	(0.102)	0.071	0.008
5	0.42	0.10	0.079	(0.101)	0.071	0.008
6	0.50	0.10	0.079	(0.101)	0.071	0.008
7	0.58	0.10	0.079	(0.100)	0.071	0.008
8	0.67	0.10	0.079	(0.100)	0.071	0.008
9	0.75	0.10	0.079	(0.100)	0.071	0.008
10	0.83	0.13	0.105	(0.099)	0.095	0.011
11	0.92	0.13	0.105	(0.099)	0.095	0.011

12	1.00	0.13	0.105	(0.099)	0.095	0.011
13	1.08	0.10	0.079	(0.098)	0.071	0.008
14	1.17	0.10	0.079	(0.098)	0.071	0.008
15	1.25	0.10	0.079	(0.097)	0.071	0.008
16	1.33	0.10	0.079	(0.097)	0.071	0.008
17	1.42	0.10	0.079	(0.097)	0.071	0.008
18	1.50	0.10	0.079	(0.096)	0.071	0.008
19	1.58	0.10	0.079	(0.096)	0.071	0.008
20	1.67	0.10	0.079	(0.095)	0.071	0.008
21	1.75	0.10	0.079	(0.095)	0.071	0.008
22	1.83	0.13	0.105	0.095	(0.095)	0.011
23	1.92	0.13	0.105	0.094	(0.095)	0.011
24	2.00	0.13	0.105	0.094	(0.095)	0.011
25	2.08	0.13	0.105	0.094	(0.095)	0.012
26	2.17	0.13	0.105	0.093	(0.095)	0.012
27	2.25	0.13	0.105	0.093	(0.095)	0.013
28	2.33	0.13	0.105	0.092	(0.095)	0.013
29	2.42	0.13	0.105	0.092	(0.095)	0.013
30	2.50	0.13	0.105	0.092	(0.095)	0.014
31	2.58	0.17	0.132	0.091	(0.118)	0.040
32	2.67	0.17	0.132	0.091	(0.118)	0.041
33	2.75	0.17	0.132	0.091	(0.118)	0.041
34	2.83	0.17	0.132	0.090	(0.118)	0.041
35	2.92	0.17	0.132	0.090	(0.118)	0.042
36	3.00	0.17	0.132	0.089	(0.118)	0.042
37	3.08	0.17	0.132	0.089	(0.118)	0.043
38	3.17	0.17	0.132	0.089	(0.118)	0.043
39	3.25	0.17	0.132	0.088	(0.118)	0.043
40	3.33	0.17	0.132	0.088	(0.118)	0.044
41	3.42	0.17	0.132	0.088	(0.118)	0.044
42	3.50	0.17	0.132	0.087	(0.118)	0.044
43	3.58	0.17	0.132	0.087	(0.118)	0.045
44	3.67	0.17	0.132	0.086	(0.118)	0.045
45	3.75	0.17	0.132	0.086	(0.118)	0.046
46	3.83	0.20	0.158	0.086	(0.142)	0.072
47	3.92	0.20	0.158	0.085	(0.142)	0.073
48	4.00	0.20	0.158	0.085	(0.142)	0.073
49	4.08	0.20	0.158	0.085	(0.142)	0.073
50	4.17	0.20	0.158	0.084	(0.142)	0.074
51	4.25	0.20	0.158	0.084	(0.142)	0.074
52	4.33	0.23	0.184	0.084	(0.166)	0.101
53	4.42	0.23	0.184	0.083	(0.166)	0.101
54	4.50	0.23	0.184	0.083	(0.166)	0.101
55	4.58	0.23	0.184	0.082	(0.166)	0.102
56	4.67	0.23	0.184	0.082	(0.166)	0.102
57	4.75	0.23	0.184	0.082	(0.166)	0.102
58	4.83	0.27	0.211	0.081	(0.190)	0.129
59	4.92	0.27	0.211	0.081	(0.190)	0.129
60	5.00	0.27	0.211	0.081	(0.190)	0.130
61	5.08	0.20	0.158	0.080	(0.142)	0.078
62	5.17	0.20	0.158	0.080	(0.142)	0.078
63	5.25	0.20	0.158	0.080	(0.142)	0.078
64	5.33	0.23	0.184	0.079	(0.166)	0.105
65	5.42	0.23	0.184	0.079	(0.166)	0.105
66	5.50	0.23	0.184	0.079	(0.166)	0.106
67	5.58	0.27	0.211	0.078	(0.190)	0.132

68	5.67	0.27	0.211	0.078	(0.190)	0.133
69	5.75	0.27	0.211	0.078	(0.190)	0.133
70	5.83	0.27	0.211	0.077	(0.190)	0.133
71	5.92	0.27	0.211	0.077	(0.190)	0.134
72	6.00	0.27	0.211	0.077	(0.190)	0.134
73	6.08	0.30	0.237	0.076	(0.213)	0.161
74	6.17	0.30	0.237	0.076	(0.213)	0.161
75	6.25	0.30	0.237	0.076	(0.213)	0.161
76	6.33	0.30	0.237	0.075	(0.213)	0.162
77	6.42	0.30	0.237	0.075	(0.213)	0.162
78	6.50	0.30	0.237	0.075	(0.213)	0.162
79	6.58	0.33	0.263	0.074	(0.237)	0.189
80	6.67	0.33	0.263	0.074	(0.237)	0.189
81	6.75	0.33	0.263	0.074	(0.237)	0.190
82	6.83	0.33	0.263	0.073	(0.237)	0.190
83	6.92	0.33	0.263	0.073	(0.237)	0.190
84	7.00	0.33	0.263	0.073	(0.237)	0.191
85	7.08	0.33	0.263	0.072	(0.237)	0.191
86	7.17	0.33	0.263	0.072	(0.237)	0.191
87	7.25	0.33	0.263	0.072	(0.237)	0.192
88	7.33	0.37	0.290	0.071	(0.261)	0.218
89	7.42	0.37	0.290	0.071	(0.261)	0.219
90	7.50	0.37	0.290	0.071	(0.261)	0.219
91	7.58	0.40	0.316	0.070	(0.284)	0.246
92	7.67	0.40	0.316	0.070	(0.284)	0.246
93	7.75	0.40	0.316	0.070	(0.284)	0.246
94	7.83	0.43	0.342	0.069	(0.308)	0.273
95	7.92	0.43	0.342	0.069	(0.308)	0.273
96	8.00	0.43	0.342	0.069	(0.308)	0.273
97	8.08	0.50	0.395	0.068	(0.355)	0.326
98	8.17	0.50	0.395	0.068	(0.355)	0.327
99	8.25	0.50	0.395	0.068	(0.355)	0.327
100	8.33	0.50	0.395	0.067	(0.355)	0.327
101	8.42	0.50	0.395	0.067	(0.355)	0.328
102	8.50	0.50	0.395	0.067	(0.355)	0.328
103	8.58	0.53	0.421	0.066	(0.379)	0.355
104	8.67	0.53	0.421	0.066	(0.379)	0.355
105	8.75	0.53	0.421	0.066	(0.379)	0.355
106	8.83	0.57	0.447	0.066	(0.403)	0.382
107	8.92	0.57	0.447	0.065	(0.403)	0.382
108	9.00	0.57	0.447	0.065	(0.403)	0.383
109	9.08	0.63	0.500	0.065	(0.450)	0.435
110	9.17	0.63	0.500	0.064	(0.450)	0.436
111	9.25	0.63	0.500	0.064	(0.450)	0.436
112	9.33	0.67	0.526	0.064	(0.474)	0.463
113	9.42	0.67	0.526	0.063	(0.474)	0.463
114	9.50	0.67	0.526	0.063	(0.474)	0.463
115	9.58	0.70	0.553	0.063	(0.497)	0.490
116	9.67	0.70	0.553	0.062	(0.497)	0.490
117	9.75	0.70	0.553	0.062	(0.497)	0.491
118	9.83	0.73	0.579	0.062	(0.521)	0.517
119	9.92	0.73	0.579	0.062	(0.521)	0.517
120	10.00	0.73	0.579	0.061	(0.521)	0.518
121	10.08	0.50	0.395	0.061	(0.355)	0.334
122	10.17	0.50	0.395	0.061	(0.355)	0.334
123	10.25	0.50	0.395	0.060	(0.355)	0.334

124	10.33	0.50	0.395	0.060	(0.355)	0.335
125	10.42	0.50	0.395	0.060	(0.355)	0.335
126	10.50	0.50	0.395	0.060	(0.355)	0.335
127	10.58	0.67	0.526	0.059	(0.474)	0.467
128	10.67	0.67	0.526	0.059	(0.474)	0.467
129	10.75	0.67	0.526	0.059	(0.474)	0.468
130	10.83	0.67	0.526	0.058	(0.474)	0.468
131	10.92	0.67	0.526	0.058	(0.474)	0.468
132	11.00	0.67	0.526	0.058	(0.474)	0.469
133	11.08	0.63	0.500	0.057	(0.450)	0.443
134	11.17	0.63	0.500	0.057	(0.450)	0.443
135	11.25	0.63	0.500	0.057	(0.450)	0.443
136	11.33	0.63	0.500	0.057	(0.450)	0.443
137	11.42	0.63	0.500	0.056	(0.450)	0.444
138	11.50	0.63	0.500	0.056	(0.450)	0.444
139	11.58	0.57	0.447	0.056	(0.403)	0.392
140	11.67	0.57	0.447	0.056	(0.403)	0.392
141	11.75	0.57	0.447	0.055	(0.403)	0.392
142	11.83	0.60	0.474	0.055	(0.426)	0.419
143	11.92	0.60	0.474	0.055	(0.426)	0.419
144	12.00	0.60	0.474	0.054	(0.426)	0.419
145	12.08	0.83	0.658	0.054	(0.592)	0.604
146	12.17	0.83	0.658	0.054	(0.592)	0.604
147	12.25	0.83	0.658	0.054	(0.592)	0.604
148	12.33	0.87	0.684	0.053	(0.616)	0.631
149	12.42	0.87	0.684	0.053	(0.616)	0.631
150	12.50	0.87	0.684	0.053	(0.616)	0.631
151	12.58	0.93	0.737	0.053	(0.663)	0.684
152	12.67	0.93	0.737	0.052	(0.663)	0.685
153	12.75	0.93	0.737	0.052	(0.663)	0.685
154	12.83	0.97	0.763	0.052	(0.687)	0.712
155	12.92	0.97	0.763	0.051	(0.687)	0.712
156	13.00	0.97	0.763	0.051	(0.687)	0.712
157	13.08	1.13	0.895	0.051	(0.805)	0.844
158	13.17	1.13	0.895	0.051	(0.805)	0.844
159	13.25	1.13	0.895	0.050	(0.805)	0.844
160	13.33	1.13	0.895	0.050	(0.805)	0.845
161	13.42	1.13	0.895	0.050	(0.805)	0.845
162	13.50	1.13	0.895	0.050	(0.805)	0.845
163	13.58	0.77	0.605	0.049	(0.545)	0.556
164	13.67	0.77	0.605	0.049	(0.545)	0.556
165	13.75	0.77	0.605	0.049	(0.545)	0.556
166	13.83	0.77	0.605	0.049	(0.545)	0.557
167	13.92	0.77	0.605	0.048	(0.545)	0.557
168	14.00	0.77	0.605	0.048	(0.545)	0.557
169	14.08	0.90	0.711	0.048	(0.640)	0.663
170	14.17	0.90	0.711	0.048	(0.640)	0.663
171	14.25	0.90	0.711	0.047	(0.640)	0.663
172	14.33	0.87	0.684	0.047	(0.616)	0.637
173	14.42	0.87	0.684	0.047	(0.616)	0.637
174	14.50	0.87	0.684	0.047	(0.616)	0.638
175	14.58	0.87	0.684	0.046	(0.616)	0.638
176	14.67	0.87	0.684	0.046	(0.616)	0.638
177	14.75	0.87	0.684	0.046	(0.616)	0.638
178	14.83	0.83	0.658	0.046	(0.592)	0.612
179	14.92	0.83	0.658	0.046	(0.592)	0.612

180	15.00	0.83	0.658	0.045	(	0.592)	0.613
181	15.08	0.80	0.632	0.045	(	0.569)	0.587
182	15.17	0.80	0.632	0.045	(	0.569)	0.587
183	15.25	0.80	0.632	0.045	(	0.569)	0.587
184	15.33	0.77	0.605	0.044	(	0.545)	0.561
185	15.42	0.77	0.605	0.044	(	0.545)	0.561
186	15.50	0.77	0.605	0.044	(	0.545)	0.561
187	15.58	0.63	0.500	0.044	(	0.450)	0.456
188	15.67	0.63	0.500	0.043	(	0.450)	0.457
189	15.75	0.63	0.500	0.043	(	0.450)	0.457
190	15.83	0.63	0.500	0.043	(	0.450)	0.457
191	15.92	0.63	0.500	0.043	(	0.450)	0.457
192	16.00	0.63	0.500	0.043	(	0.450)	0.457
193	16.08	0.13	0.105	0.042	(	0.095)	0.063
194	16.17	0.13	0.105	0.042	(	0.095)	0.063
195	16.25	0.13	0.105	0.042	(	0.095)	0.063
196	16.33	0.13	0.105	0.042	(	0.095)	0.064
197	16.42	0.13	0.105	0.042	(	0.095)	0.064
198	16.50	0.13	0.105	0.041	(	0.095)	0.064
199	16.58	0.10	0.079	0.041	(	0.071)	0.038
200	16.67	0.10	0.079	0.041	(	0.071)	0.038
201	16.75	0.10	0.079	0.041	(	0.071)	0.038
202	16.83	0.10	0.079	0.040	(	0.071)	0.038
203	16.92	0.10	0.079	0.040	(	0.071)	0.039
204	17.00	0.10	0.079	0.040	(	0.071)	0.039
205	17.08	0.17	0.132	0.040	(	0.118)	0.092
206	17.17	0.17	0.132	0.040	(	0.118)	0.092
207	17.25	0.17	0.132	0.039	(	0.118)	0.092
208	17.33	0.17	0.132	0.039	(	0.118)	0.092
209	17.42	0.17	0.132	0.039	(	0.118)	0.093
210	17.50	0.17	0.132	0.039	(	0.118)	0.093
211	17.58	0.17	0.132	0.039	(	0.118)	0.093
212	17.67	0.17	0.132	0.038	(	0.118)	0.093
213	17.75	0.17	0.132	0.038	(	0.118)	0.093
214	17.83	0.13	0.105	0.038	(	0.095)	0.067
215	17.92	0.13	0.105	0.038	(	0.095)	0.067
216	18.00	0.13	0.105	0.038	(	0.095)	0.068
217	18.08	0.13	0.105	0.038	(	0.095)	0.068
218	18.17	0.13	0.105	0.037	(	0.095)	0.068
219	18.25	0.13	0.105	0.037	(	0.095)	0.068
220	18.33	0.13	0.105	0.037	(	0.095)	0.068
221	18.42	0.13	0.105	0.037	(	0.095)	0.068
222	18.50	0.13	0.105	0.037	(	0.095)	0.069
223	18.58	0.10	0.079	0.036	(	0.071)	0.042
224	18.67	0.10	0.079	0.036	(	0.071)	0.043
225	18.75	0.10	0.079	0.036	(	0.071)	0.043
226	18.83	0.07	0.053	0.036	(	0.047)	0.017
227	18.92	0.07	0.053	0.036	(	0.047)	0.017
228	19.00	0.07	0.053	0.036	(	0.047)	0.017
229	19.08	0.10	0.079	0.035	(	0.071)	0.044
230	19.17	0.10	0.079	0.035	(	0.071)	0.044
231	19.25	0.10	0.079	0.035	(	0.071)	0.044
232	19.33	0.13	0.105	0.035	(	0.095)	0.070
233	19.42	0.13	0.105	0.035	(	0.095)	0.071
234	19.50	0.13	0.105	0.035	(	0.095)	0.071
235	19.58	0.10	0.079	0.034	(	0.071)	0.045

236	19.67	0.10	0.079	0.034	(0.071)	0.045
237	19.75	0.10	0.079	0.034	(0.071)	0.045
238	19.83	0.07	0.053	0.034	(0.047)	0.019
239	19.92	0.07	0.053	0.034	(0.047)	0.019
240	20.00	0.07	0.053	0.034	(0.047)	0.019
241	20.08	0.10	0.079	0.034	(0.071)	0.045
242	20.17	0.10	0.079	0.033	(0.071)	0.046
243	20.25	0.10	0.079	0.033	(0.071)	0.046
244	20.33	0.10	0.079	0.033	(0.071)	0.046
245	20.42	0.10	0.079	0.033	(0.071)	0.046
246	20.50	0.10	0.079	0.033	(0.071)	0.046
247	20.58	0.10	0.079	0.033	(0.071)	0.046
248	20.67	0.10	0.079	0.033	(0.071)	0.046
249	20.75	0.10	0.079	0.032	(0.071)	0.047
250	20.83	0.07	0.053	0.032	(0.047)	0.020
251	20.92	0.07	0.053	0.032	(0.047)	0.020
252	21.00	0.07	0.053	0.032	(0.047)	0.021
253	21.08	0.10	0.079	0.032	(0.071)	0.047
254	21.17	0.10	0.079	0.032	(0.071)	0.047
255	21.25	0.10	0.079	0.032	(0.071)	0.047
256	21.33	0.07	0.053	0.032	(0.047)	0.021
257	21.42	0.07	0.053	0.031	(0.047)	0.021
258	21.50	0.07	0.053	0.031	(0.047)	0.021
259	21.58	0.10	0.079	0.031	(0.071)	0.048
260	21.67	0.10	0.079	0.031	(0.071)	0.048
261	21.75	0.10	0.079	0.031	(0.071)	0.048
262	21.83	0.07	0.053	0.031	(0.047)	0.022
263	21.92	0.07	0.053	0.031	(0.047)	0.022
264	22.00	0.07	0.053	0.031	(0.047)	0.022
265	22.08	0.10	0.079	0.031	(0.071)	0.048
266	22.17	0.10	0.079	0.030	(0.071)	0.049
267	22.25	0.10	0.079	0.030	(0.071)	0.049
268	22.33	0.07	0.053	0.030	(0.047)	0.022
269	22.42	0.07	0.053	0.030	(0.047)	0.022
270	22.50	0.07	0.053	0.030	(0.047)	0.023
271	22.58	0.07	0.053	0.030	(0.047)	0.023
272	22.67	0.07	0.053	0.030	(0.047)	0.023
273	22.75	0.07	0.053	0.030	(0.047)	0.023
274	22.83	0.07	0.053	0.030	(0.047)	0.023
275	22.92	0.07	0.053	0.030	(0.047)	0.023
276	23.00	0.07	0.053	0.030	(0.047)	0.023
277	23.08	0.07	0.053	0.030	(0.047)	0.023
278	23.17	0.07	0.053	0.029	(0.047)	0.023
279	23.25	0.07	0.053	0.029	(0.047)	0.023
280	23.33	0.07	0.053	0.029	(0.047)	0.023
281	23.42	0.07	0.053	0.029	(0.047)	0.023
282	23.50	0.07	0.053	0.029	(0.047)	0.023
283	23.58	0.07	0.053	0.029	(0.047)	0.023
284	23.67	0.07	0.053	0.029	(0.047)	0.024
285	23.75	0.07	0.053	0.029	(0.047)	0.024
286	23.83	0.07	0.053	0.029	(0.047)	0.024
287	23.92	0.07	0.053	0.029	(0.047)	0.024
288	24.00	0.07	0.053	0.029	(0.047)	0.024
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	62.8

Flood volume = Effective rainfall 5.24(In)

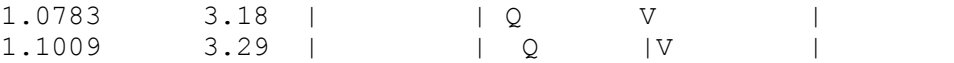
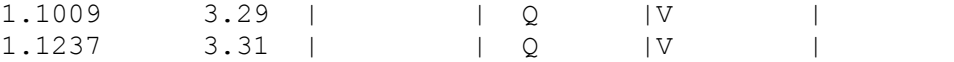
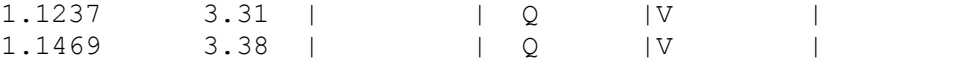
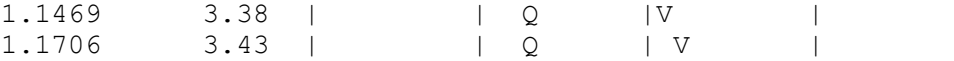
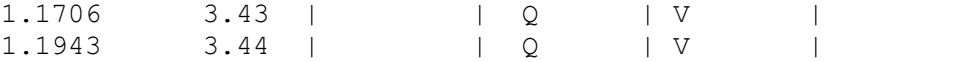
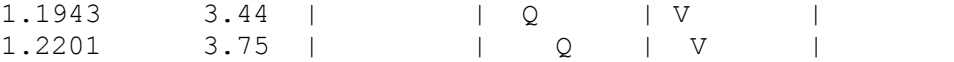
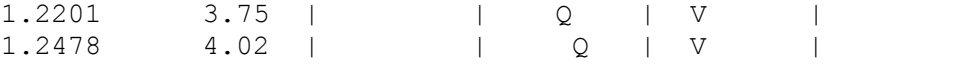
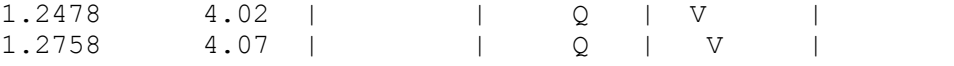
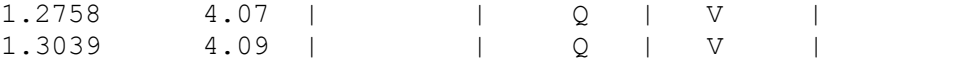
```
 times area       4.8(Ac.)/[(In)/(Ft.)] =       2.1(Ac.Ft)
Total soil loss =      1.34(In)
Total soil loss =     0.538(Ac.Ft)
Total rainfall =      6.58(In)
Flood volume =       91225.4 Cubic Feet
Total soil loss =       23423.4 Cubic Feet
---------------------------------------------------------------------
 Peak flow rate of this hydrograph =      4.090(CFS)
---------------------------------------------------------------------
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                  24 - H O U R    S T O R M
              R u n o f f     H y d r o g r a p h
---------------------------------------------------------------------
            Hydrograph in   5   Minute intervals ((CFS))

---------------------------------------------------------------------
```

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.01	Q				
0+10	0.0002	0.02	Q				
0+15	0.0004	0.02	Q				
0+20	0.0006	0.03	Q				
0+25	0.0009	0.04	Q				
0+30	0.0011	0.04	Q				
0+35	0.0014	0.04	Q				
0+40	0.0017	0.04	Q				
0+45	0.0019	0.04	Q				
0+50	0.0022	0.04	Q				
0+55	0.0026	0.05	Q				
1+ 0	0.0029	0.05	Q				
1+ 5	0.0032	0.04	Q				
1+10	0.0035	0.04	Q				
1+15	0.0038	0.04	Q				
1+20	0.0040	0.04	Q				
1+25	0.0043	0.04	Q				
1+30	0.0046	0.04	Q				
1+35	0.0048	0.04	Q				
1+40	0.0051	0.04	Q				
1+45	0.0054	0.04	Q				
1+50	0.0057	0.04	Q				
1+55	0.0060	0.05	Q				
2+ 0	0.0064	0.05	Q				
2+ 5	0.0068	0.06	Q				
2+10	0.0072	0.06	Q				
2+15	0.0076	0.06	Q				
2+20	0.0080	0.06	Q				
2+25	0.0084	0.06	Q				
2+30	0.0089	0.06	Q				
2+35	0.0098	0.13	Q				
2+40	0.0110	0.18	Q				
2+45	0.0123	0.19	Q				
2+50	0.0137	0.20	Q				
2+55	0.0151	0.20	Q				
3+ 0	0.0165	0.20	Q				
3+ 5	0.0179	0.20	Q				
3+10	0.0193	0.21	Q				

3+15	0.0208	0.21	Q	|	|	|	|
3+20	0.0222	0.21	Q	|	|	|	|
3+25	0.0237	0.21	Q	|	|	|	|
3+30	0.0252	0.21	Q	|	|	|	|
3+35	0.0266	0.22	Q	|	|	|	|
3+40	0.0281	0.22	Q	|	|	|	|
3+45	0.0296	0.22	Q	|	|	|	|
3+50	0.0316	0.28	VQ	|	|	|	|
3+55	0.0339	0.34	VQ	|	|	|	|
4+ 0	0.0363	0.35	VQ	|	|	|	|
4+ 5	0.0387	0.35	VQ	|	|	|	|
4+10	0.0412	0.36	VQ	|	|	|	|
4+15	0.0436	0.36	VQ	|	|	|	|
4+20	0.0465	0.42	VQ	|	|	|	|
4+25	0.0498	0.47	VQ	|	|	|	|
4+30	0.0531	0.49	|Q	|	|	|	|
4+35	0.0565	0.49	|Q	|	|	|	|
4+40	0.0599	0.49	|Q	|	|	|	|
4+45	0.0633	0.49	|Q	|	|	|	|
4+50	0.0672	0.56	|VQ	|	|	|	|
4+55	0.0714	0.61	|VQ	|	|	|	|
5+ 0	0.0757	0.62	|VQ	|	|	|	|
5+ 5	0.0792	0.51	|VQ	|	|	|	|
5+10	0.0819	0.40	|Q	|	|	|	|
5+15	0.0846	0.38	|Q	|	|	|	|
5+20	0.0876	0.44	|Q	|	|	|	|
5+25	0.0910	0.49	|Q	|	|	|	|
5+30	0.0945	0.51	|VQ	|	|	|	|
5+35	0.0985	0.57	|VQ	|	|	|	|
5+40	0.1028	0.63	|VQ	|	|	|	|
5+45	0.1072	0.64	| Q	|	|	|	|
5+50	0.1116	0.64	| Q	|	|	|	|
5+55	0.1161	0.65	| Q	|	|	|	|
6+ 0	0.1205	0.65	| Q	|	|	|	|
6+ 5	0.1254	0.71	| Q	|	|	|	|
6+10	0.1307	0.76	| VQ	|	|	|	|
6+15	0.1360	0.78	| VQ	|	|	|	|
6+20	0.1414	0.78	| VQ	|	|	|	|
6+25	0.1468	0.78	| VQ	|	|	|	|
6+30	0.1522	0.78	| VQ	|	|	|	|
6+35	0.1580	0.85	| Q	|	|	|	|
6+40	0.1642	0.90	| Q	|	|	|	|
6+45	0.1705	0.91	| Q	|	|	|	|
6+50	0.1769	0.92	| Q	|	|	|	|
6+55	0.1832	0.92	| Q	|	|	|	|
7+ 0	0.1895	0.92	| Q	|	|	|	|
7+ 5	0.1959	0.92	| Q	|	|	|	|
7+10	0.2023	0.92	| Q	|	|	|	|
7+15	0.2086	0.93	| Q	|	|	|	|
7+20	0.2155	0.99	| QV	|	|	|	|
7+25	0.2226	1.04	| Q	|	|	|	|
7+30	0.2299	1.05	| Q	|	|	|	|
7+35	0.2376	1.12	| Q	|	|	|	|
7+40	0.2457	1.18	| Q	|	|	|	|
7+45	0.2539	1.19	| Q	|	|	|	|
7+50	0.2625	1.25	| Q	|	|	|	|

7+55	0.2715	1.31	Q				
8+ 0	0.2806	1.32	Q				
8+ 5	0.2906	1.45	Q				
8+10	0.3013	1.55	VQ				
8+15	0.3121	1.57	VQ				
8+20	0.3230	1.58	Q				
8+25	0.3340	1.59	Q				
8+30	0.3449	1.59	Q				
8+35	0.3562	1.65	Q				
8+40	0.3680	1.70	QV				
8+45	0.3798	1.71	QV				
8+50	0.3920	1.78	Q				
8+55	0.4047	1.84	Q				
9+ 0	0.4174	1.85	Q				
9+ 5	0.4310	1.97	QV				
9+10	0.4453	2.08	Q				
9+15	0.4598	2.10	Q				
9+20	0.4748	2.17	QV				
9+25	0.4901	2.23	QV				
9+30	0.5055	2.24	QV				
9+35	0.5214	2.30	Q				
9+40	0.5376	2.36	QV				
9+45	0.5539	2.37	QV				
9+50	0.5707	2.44	QV				
9+55	0.5879	2.49	Q V				
10+ 0	0.6051	2.50	QV				
10+ 5	0.6194	2.08	Q V				
10+10	0.6312	1.71	Q V				
10+15	0.6425	1.64	Q V				
10+20	0.6537	1.62	Q V				
10+25	0.6648	1.62	Q V				
10+30	0.6760	1.62	Q V				
10+35	0.6893	1.93	Q V				
10+40	0.7044	2.19	Q V				
10+45	0.7199	2.24	Q V				
10+50	0.7354	2.26	Q V				
10+55	0.7511	2.27	Q V				
11+ 0	0.7667	2.27	Q V				
11+ 5	0.7819	2.21	Q V				
11+10	0.7967	2.16	Q V				
11+15	0.8115	2.15	Q V				
11+20	0.8263	2.15	Q V				
11+25	0.8411	2.15	Q V				
11+30	0.8559	2.15	Q V				
11+35	0.8698	2.03	Q V				
11+40	0.8831	1.92	Q V				
11+45	0.8962	1.90	Q V				
11+50	0.9097	1.96	Q V				
11+55	0.9236	2.01	Q V				
12+ 0	0.9375	2.02	Q V				
12+ 5	0.9544	2.46	Q V				
12+10	0.9739	2.83	Q V				
12+15	0.9939	2.90	Q V				
12+20	1.0144	2.99	Q V				
12+25	1.0354	3.04	Q V				
12+30	1.0564	3.05	Q V				

12+35	1.0783	3.18	
12+40	1.1009	3.29	
12+45	1.1237	3.31	
12+50	1.1469	3.38	
12+55	1.1706	3.43	
13+ 0	1.1943	3.44	
13+ 5	1.2201	3.75	
13+10	1.2478	4.02	
13+15	1.2758	4.07	
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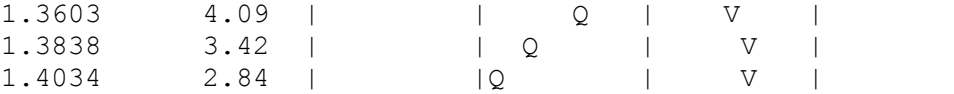
13+30	1.3603	4.09	
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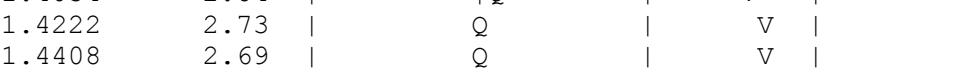
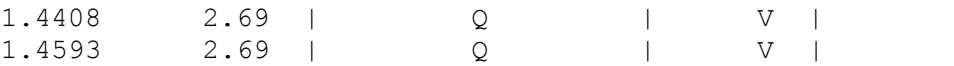
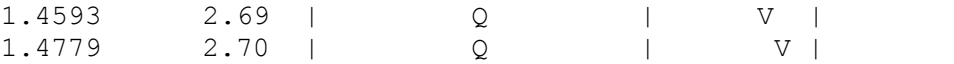
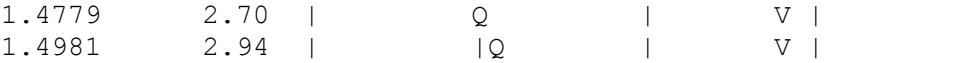
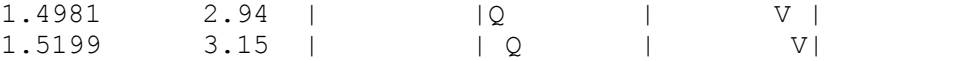
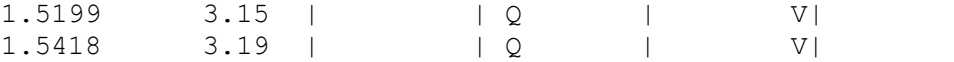
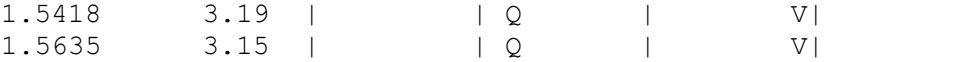
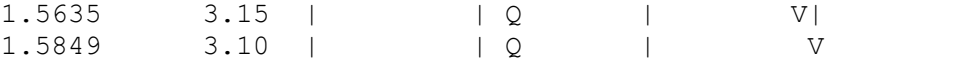
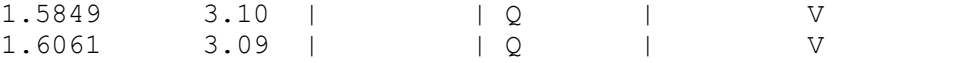
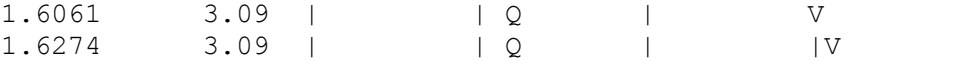
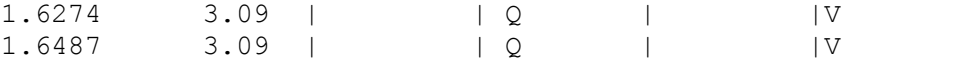
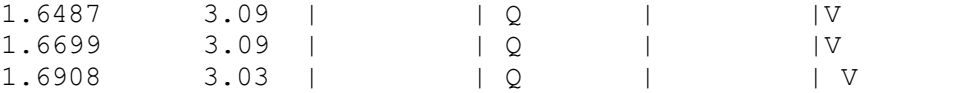
13+40	1.4034	2.84	
13+45	1.4222	2.73	
13+50	1.4408	2.69	
13+55	1.4593	2.69	
14+ 0	1.4779	2.70	
14+ 5	1.4981	2.94	
14+10	1.5199	3.15	
14+15	1.5418	3.19	
14+20	1.5635	3.15	
14+25	1.5849	3.10	
14+30	1.6061	3.09	
14+35	1.6274	3.09	
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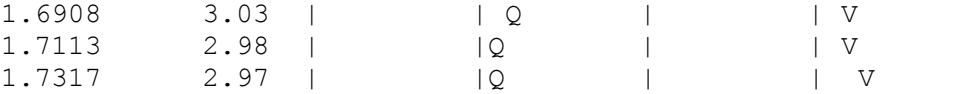
14+45	1.6699	3.09	
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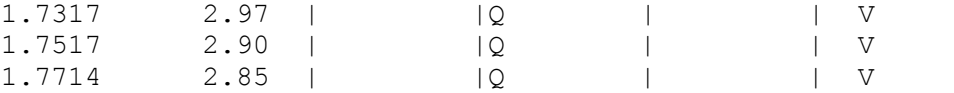
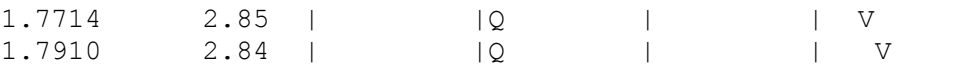
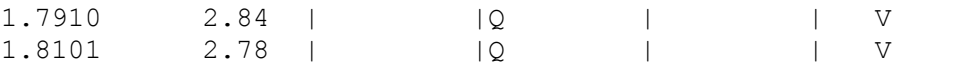
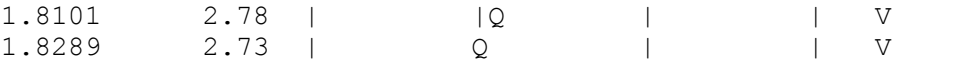
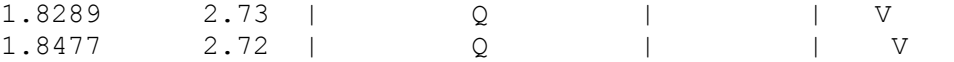
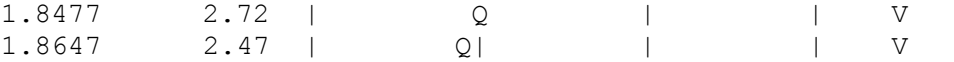
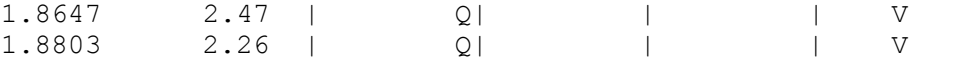
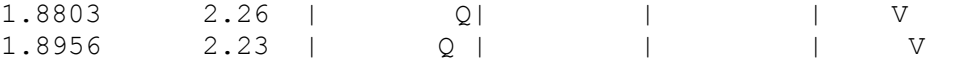
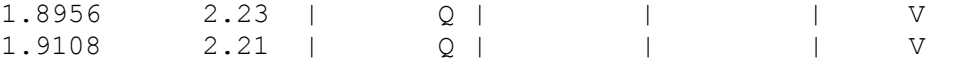
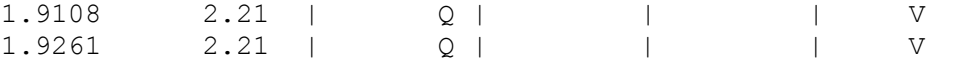
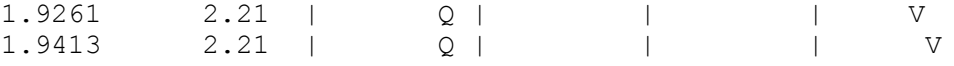
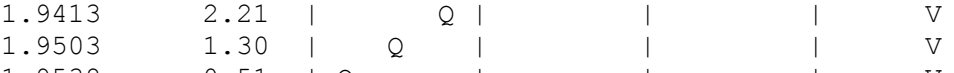
14+55	1.7113	2.98	
15+ 0	1.7317	2.97	
15+ 5	1.7517	2.90	
15+10	1.7714	2.85	
15+15	1.7910	2.84	
15+20	1.8101	2.78	
15+25	1.8289	2.73	
15+30	1.8477	2.72	
15+35	1.8647	2.47	
15+40	1.8803	2.26	
15+45	1.8956	2.23	
15+50	1.9108	2.21	
15+55	1.9261	2.21	
16+ 0	1.9413	2.21	
16+ 5	1.9503	1.30	
16+10	1.9538	0.51	
16+15	1.9563	0.36	
16+20	1.9584	0.31	
16+25	1.9605	0.31	
16+30	1.9626	0.31	
16+35	1.9643	0.25	
16+40	1.9657	0.20	
16+45	1.9670	0.19	
16+50	1.9683	0.19	
16+55	1.9696	0.19	
17+ 0	1.9708	0.19	
17+ 5	1.9730	0.31	
17+10	1.9759	0.42	

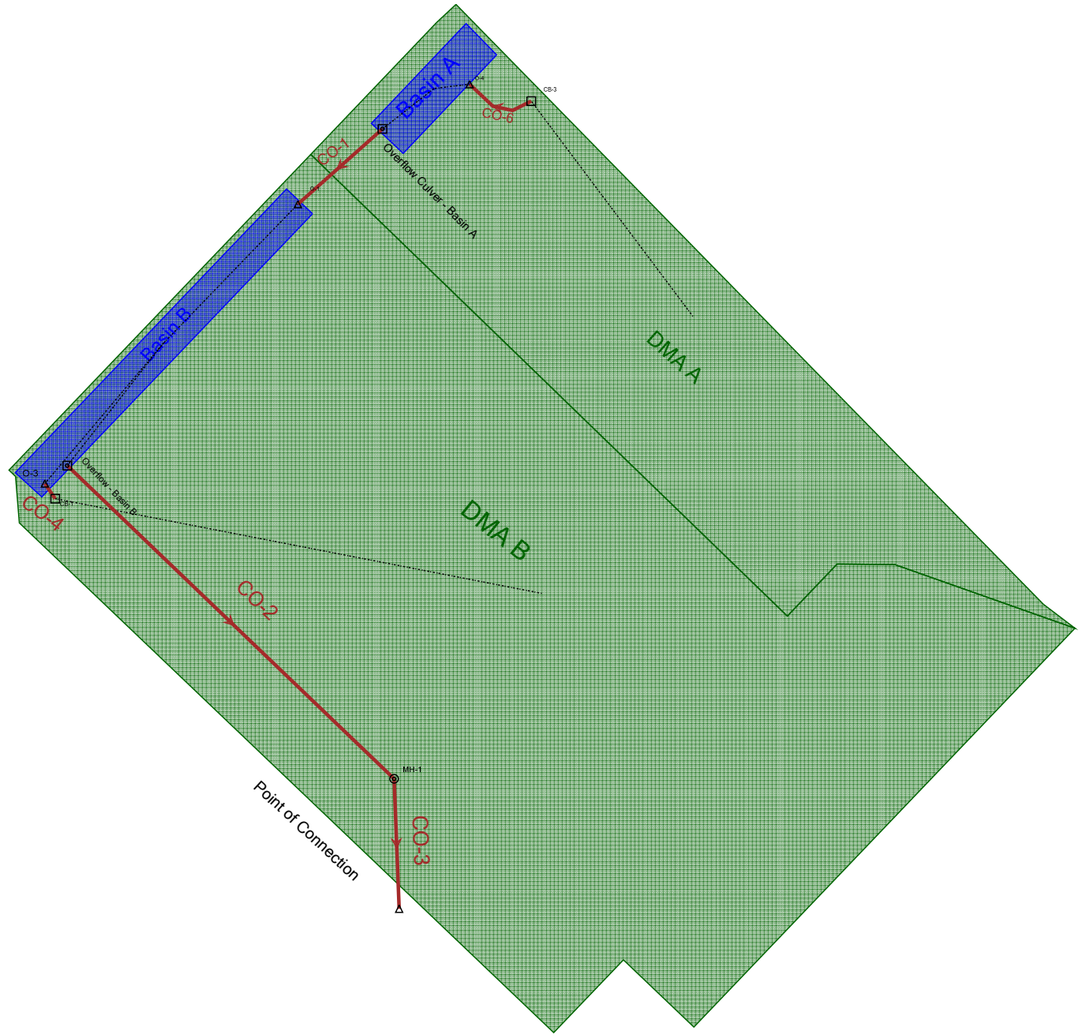
17+15	1.9789	0.44	|Q	|	|	|	V |
17+20	1.9819	0.45	|Q	|	|	|	V |
17+25	1.9850	0.45	|Q	|	|	|	V |
17+30	1.9881	0.45	|Q	|	|	|	V |
17+35	1.9912	0.45	|Q	|	|	|	V |
17+40	1.9943	0.45	|Q	|	|	|	V |
17+45	1.9974	0.45	|Q	|	|	|	V |
17+50	2.0001	0.39	|Q	|	|	|	V |
17+55	2.0024	0.34	|Q	|	|	|	V |
18+ 0	2.0047	0.33	|Q	|	|	|	V |
18+ 5	2.0070	0.33	|Q	|	|	|	V |
18+10	2.0092	0.33	|Q	|	|	|	V |
18+15	2.0115	0.33	|Q	|	|	|	V |
18+20	2.0138	0.33	|Q	|	|	|	V |
18+25	2.0160	0.33	|Q	|	|	|	V |
18+30	2.0183	0.33	|Q	|	|	|	V |
18+35	2.0202	0.27	|Q	|	|	|	V |
18+40	2.0217	0.22	Q	|	|	|	V |
18+45	2.0231	0.21	Q	|	|	|	V |
18+50	2.0242	0.15	Q	|	|	|	V |
18+55	2.0248	0.09	Q	|	|	|	V |
19+ 0	2.0254	0.09	Q	|	|	|	V |
19+ 5	2.0264	0.14	Q	|	|	|	V |
19+10	2.0278	0.20	Q	|	|	|	V |
19+15	2.0292	0.21	Q	|	|	|	V |
19+20	2.0311	0.27	|Q	|	|	|	V |
19+25	2.0333	0.33	|Q	|	|	|	V |
19+30	2.0356	0.34	|Q	|	|	|	V |
19+35	2.0376	0.28	|Q	|	|	|	V |
19+40	2.0392	0.23	Q	|	|	|	V |
19+45	2.0407	0.22	Q	|	|	|	V |
19+50	2.0418	0.16	Q	|	|	|	V |
19+55	2.0425	0.10	Q	|	|	|	V|
20+ 0	2.0431	0.09	Q	|	|	|	V|
20+ 5	2.0442	0.15	Q	|	|	|	V|
20+10	2.0456	0.21	Q	|	|	|	V|
20+15	2.0471	0.22	Q	|	|	|	V|
20+20	2.0486	0.22	Q	|	|	|	V|
20+25	2.0501	0.22	Q	|	|	|	V|
20+30	2.0517	0.22	Q	|	|	|	V|
20+35	2.0532	0.22	Q	|	|	|	V|
20+40	2.0548	0.22	Q	|	|	|	V|
20+45	2.0563	0.22	Q	|	|	|	V|
20+50	2.0574	0.16	Q	|	|	|	V|
20+55	2.0582	0.11	Q	|	|	|	V|
21+ 0	2.0589	0.10	Q	|	|	|	V|
21+ 5	2.0600	0.16	Q	|	|	|	V|
21+10	2.0615	0.21	Q	|	|	|	V|
21+15	2.0631	0.22	Q	|	|	|	V|
21+20	2.0642	0.17	Q	|	|	|	V|
21+25	2.0650	0.12	Q	|	|	|	V|
21+30	2.0658	0.11	Q	|	|	|	V|
21+35	2.0669	0.16	Q	|	|	|	V|
21+40	2.0684	0.22	Q	|	|	|	V|
21+45	2.0700	0.23	Q	|	|	|	V|
21+50	2.0711	0.17	Q	|	|	|	V|

21+55	2.0720	0.12	Q	|	|	|	V|
22+ 0	2.0727	0.11	Q	|	|	|	V|
22+ 5	2.0739	0.17	Q	|	|	|	V|
22+10	2.0754	0.22	Q	|	|	|	V|
22+15	2.0770	0.23	Q	|	|	|	V|
22+20	2.0782	0.17	Q	|	|	|	V|
22+25	2.0790	0.12	Q	|	|	|	V|
22+30	2.0798	0.11	Q	|	|	|	V|
22+35	2.0806	0.11	Q	|	|	|	V|
22+40	2.0813	0.11	Q	|	|	|	V|
22+45	2.0821	0.11	Q	|	|	|	V|
22+50	2.0828	0.11	Q	|	|	|	V|
22+55	2.0836	0.11	Q	|	|	|	V|
23+ 0	2.0844	0.11	Q	|	|	|	V|
23+ 5	2.0851	0.11	Q	|	|	|	V|
23+10	2.0859	0.11	Q	|	|	|	V|
23+15	2.0867	0.11	Q	|	|	|	V|
23+20	2.0875	0.11	Q	|	|	|	V|
23+25	2.0882	0.11	Q	|	|	|	V|
23+30	2.0890	0.11	Q	|	|	|	V|
23+35	2.0898	0.11	Q	|	|	|	V|
23+40	2.0906	0.11	Q	|	|	|	V|
23+45	2.0914	0.11	Q	|	|	|	V|
23+50	2.0922	0.11	Q	|	|	|	V|
23+55	2.0929	0.11	Q	|	|	|	V|
24+ 0	2.0937	0.11	Q	|	|	|	V|
24+ 5	2.0941	0.06	Q	|	|	|	V|
24+10	2.0942	0.01	Q	|	|	|	V|
24+15	2.0942	0.00	Q	|	|	|	V|

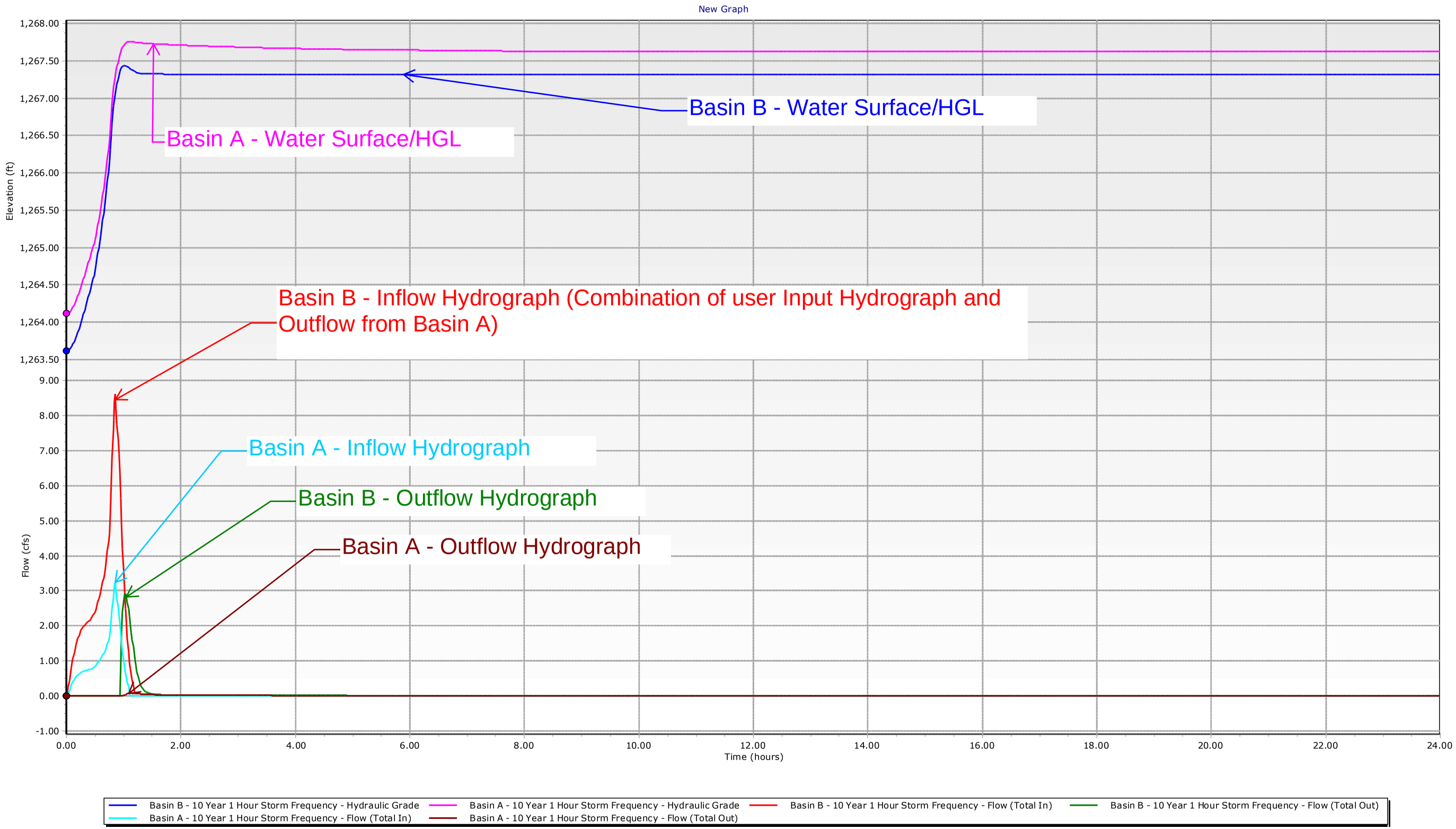
Appendix F: Hydraulic Routing Method (Dynamic Wave)

- Hydraulic Model Layout
- 10 Year 1 Hour Storm - Hydraulic Routing Output (Graphical)
- 10 Year 1 Hour Storm - Hydraulic Routing Output (Tabular)
- 10 Year 1 Hour Storm - Conduit Hydraulic Results
- 10 Year 1 Hour Storm - Basin A Outlet Culvert
- 10 Year 1 Hour Storm - Basin B Outlet
- 100 Year 1 Hour Storm - Hydraulic Routing Output (Graphical)
- 100 Year 1 Hour Storm - Hydraulic Routing Output (Tabular)
- 100 Year 1 Hour Storm - Conduit Hydraulic Results
- 100 Year 1 Hour Storm - Basin A Outlet Culvert
- 100 Year 1 Hour Storm - Basin B Outlet

Scenario: 10 & 100 Year 1 Hour Storm Frequency



Hydraulic Routing Output (Graph) - 10 Year 1 Hour Storm



Hydraulic Routing Output (Tabulated)
10 Year 1 Hour Storm

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Ave.
Temecula, CA 92590
Suite 220

Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	Max: 3.23	Max: 0.09	Max: 8.61	Max: 2.92	Max: 1267.76	Max: 1267.43	Max: 0.08
0	0	0	0	0	1,264.12	1,263.62	0
0.02	0.01	0	0.07	0	1,264.12	1,263.62	0
0.03	0.06	0	0.26	0	1,264.12	1,263.63	0
0.05	0.15	0	0.43	0	1,264.13	1,263.64	0
0.07	0.22	0	0.61	0	1,264.14	1,263.65	0
0.08	0.3	0	0.79	0	1,264.16	1,263.67	0
0.1	0.37	0	0.95	0	1,264.18	1,263.69	0
0.12	0.42	0	1.07	0	1,264.20	1,263.71	0
0.13	0.46	0	1.2	0	1,264.23	1,263.74	0
0.15	0.5	0	1.33	0	1,264.26	1,263.76	0
0.17	0.54	0	1.46	0	1,264.29	1,263.80	0
0.18	0.58	0	1.56	0	1,264.32	1,263.83	0
0.2	0.6	0	1.64	0	1,264.36	1,263.87	0
0.22	0.62	0	1.71	0	1,264.39	1,263.90	0
0.23	0.64	0	1.79	0	1,264.43	1,263.94	0
0.25	0.66	0	1.86	0	1,264.47	1,263.98	0
0.27	0.68	0	1.91	0	1,264.50	1,264.02	0
0.28	0.69	0	1.95	0	1,264.54	1,264.07	0
0.3	0.7	0	1.98	0	1,264.58	1,264.11	0
0.32	0.71	0	2.02	0	1,264.62	1,264.15	0
0.33	0.72	0	2.05	0	1,264.66	1,264.20	0
0.35	0.73	0	2.08	0	1,264.71	1,264.24	0
0.37	0.74	0	2.1	0	1,264.75	1,264.29	0
0.38	0.74	0	2.12	0	1,264.79	1,264.34	0
0.4	0.75	0	2.15	0	1,264.83	1,264.38	0
0.42	0.76	0	2.17	0	1,264.87	1,264.43	0
0.43	0.77	0	2.2	0	1,264.92	1,264.48	0
0.45	0.78	0	2.25	0	1,264.96	1,264.53	0
0.47	0.8	0	2.29	0	1,265.01	1,264.58	0
0.48	0.82	0	2.34	0	1,265.05	1,264.63	0
0.5	0.84	0	2.39	0	1,265.10	1,264.70	0
0.52	0.87	0	2.46	0	1,265.15	1,264.77	0
0.53	0.91	0	2.56	0	1,265.22	1,264.84	0
0.55	0.95	0	2.67	0	1,265.29	1,264.92	0
0.57	0.99	0	2.78	0	1,265.37	1,265.00	0
0.58	1.03	0	2.88	0	1,265.44	1,265.08	0
0.6	1.07	0	3	0	1,265.52	1,265.17	0
0.62	1.11	0	3.12	0	1,265.61	1,265.26	0
0.63	1.16	0	3.24	0	1,265.70	1,265.36	0

Hydraulic Routing Output (Tabulated)
10 Year 1 Hour Storm

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Ave.
Temecula, CA 92590
Suite 220

Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	**Max: 3.23**	**Max: 0.09**	**Max: 8.61**	**Max: 2.92**	**Max: 1267.76**	**Max: 1267.43**	**Max: 0.08**
0.65	1.2	0	3.36	0	1,265.79	1,265.45	0
0.67	1.25	0	3.49	0	1,265.88	1,265.55	0
0.68	1.31	0	3.67	0	1,265.98	1,265.66	0
0.7	1.4	0	3.91	0	1,266.08	1,265.77	0
0.72	1.49	0	4.16	0	1,266.20	1,265.89	0
0.73	1.58	0	4.4	0	1,266.32	1,266.02	0
0.75	1.68	0	4.65	0	1,266.44	1,266.16	0
0.77	1.86	0	5.17	0	1,266.58	1,266.31	0
0.78	2.16	0	5.97	0	1,266.75	1,266.48	0
0.8	2.49	0	6.78	0	1,266.93	1,266.68	0
0.82	2.81	0	7.59	0	1,267.15	1,266.90	0
0.83	3.14	0	8.41	0	1,267.22	1,266.97	0
0.85	**3.23**	0	**8.61**	0	1,267.29	1,267.04	0
0.87	3.03	0	8.19	0	1,267.36	1,267.12	0
0.88	2.79	0	7.76	0	1,267.42	1,267.18	0
0.9	2.54	0	7.33	0	1,267.48	**1,267.25**	0
0.92	2.29	0	6.89	0	1,267.53	**1,267.31**	0
0.93	2.05	0	6.33	**0**	1,267.58	**1,267.36**	0
0.95	1.79	0	5.62	0.93	**1,267.62**	1,267.39	0
0.97	1.52	0	4.91	1.81	**1,267.65**	1,267.41	0
0.98	1.25	0.01	4.2	2.39	**1,267.68**	1,267.43	0.01
1	0.98	**0.02**	3.5	2.74	**1,267.70**	1,267.43	**0.02**
1.02	0.77	0.02	2.93	2.91	1,267.72	1,267.43	0.02
1.03	0.64	0.03	2.49	2.92	1,267.73	1,267.43	0.03
1.05	0.52	0.05	2.08	2.82	1,267.75	1,267.42	0.05
1.07	0.4	0.06	1.66	2.66	1,267.75	1,267.42	0.06
1.08	0.28	0.07	1.24	2.5	1,267.76	1,267.41	0.07
1.1	0.11	0.08	0.94	2.27	1,267.76	1,267.40	0.08
1.12	0	0.09	0.78	2.03	1,267.76	1,267.39	0.08
1.13	0	0.08	0.62	1.81	1,267.75	1,267.38	0.08
1.15	0.01	0.08	0.45	1.6	1,267.75	1,267.38	0.08
1.17	0	0.07	0.29	1.4	1,267.75	1,267.37	0.07
1.18	0	0.07	0.14	1.21	1,267.75	1,267.36	0.07
1.2	0	0.07	0.07	1.03	1,267.75	1,267.35	0.07
1.22	0	0.07	0.07	0.87	1,267.75	1,267.35	0.07
1.23	0	0.07	0.07	0.7	1,267.75	1,267.34	0.07
1.25	0	0.06	0.06	0.56	1,267.74	1,267.34	0.06
1.27	0	0.06	0.06	0.45	1,267.74	1,267.33	0.06
1.28	0	0.06	0.06	0.36	1,267.74	1,267.33	0.06

Hydraulic Routing Output (Tabulated)
10 Year 1 Hour Storm

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Ave.
Temecula, CA 92590
Suite 220

Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	Max: 3.23	Max: 0.09	Max: 8.61	Max: 2.92	Max: 1267.76	Max: 1267.43	Max: 0.08
1.3	0	0.06	0.06	0.3	1,267.74	1,267.33	0.06
1.32	0	0.06	0.06	0.24	1,267.74	1,267.33	0.06
1.33	0	0.05	0.05	0.2	1,267.74	1,267.33	0.05
1.35	0	0.05	0.05	0.17	1,267.74	1,267.33	0.05
1.37	0	0.05	0.05	0.15	1,267.74	1,267.32	0.05
1.38	0	0.05	0.05	0.12	1,267.73	1,267.32	0.05
1.4	0	0.05	0.05	0.11	1,267.73	1,267.32	0.05
1.42	0	0.05	0.05	0.1	1,267.73	1,267.32	0.05
1.43	0	0.04	0.04	0.08	1,267.73	1,267.32	0.04
1.45	0	0.04	0.04	0.07	1,267.73	1,267.32	0.04
1.47	0	0.04	0.04	0.07	1,267.73	1,267.32	0.04
1.48	0	0.04	0.04	0.06	1,267.73	1,267.32	0.04
1.5	0	0.04	0.04	0.06	1,267.73	1,267.32	0.04
1.52	0	0.04	0.04	0.05	1,267.73	1,267.32	0.04
1.53	0	0.04	0.04	0.05	1,267.73	1,267.32	0.04
1.55	0	0.04	0.04	0.05	1,267.73	1,267.32	0.04
1.57	0	0.03	0.03	0.04	1,267.72	1,267.32	0.03
1.58	0	0.03	0.03	0.04	1,267.72	1,267.32	0.03
1.6	0	0.03	0.03	0.04	1,267.72	1,267.32	0.03
1.62	0	0.03	0.03	0.04	1,267.72	1,267.32	0.03
1.63	0	0.03	0.03	0.04	1,267.72	1,267.32	0.03
1.65	0	0.03	0.03	0.04	1,267.72	1,267.32	0.03
1.67	0	0.03	0.03	0.03	1,267.72	1,267.32	0.03
1.68	0	0.03	0.03	0.03	1,267.72	1,267.32	0.03
1.7	0	0.03	0.03	0.03	1,267.72	1,267.32	0.03
1.72	0	0.03	0.03	0.03	1,267.72	1,267.32	0.03
1.73	0	0.03	0.03	0.03	1,267.72	1,267.32	0.03
1.75	0	0.03	0.03	0.03	1,267.72	1,267.32	0.03
1.77	0	0.03	0.03	0.03	1,267.72	1,267.32	0.03
1.78	0	0.03	0.03	0.03	1,267.72	1,267.32	0.03
1.8	0	0.03	0.03	0.03	1,267.72	1,267.32	0.03
1.82	0	0.03	0.03	0.03	1,267.72	1,267.32	0.03
1.83	0	0.03	0.03	0.03	1,267.71	1,267.32	0.03
1.85	0	0.03	0.03	0.03	1,267.71	1,267.32	0.03
1.87	0	0.03	0.03	0.03	1,267.71	1,267.32	0.03
1.88	0	0.03	0.03	0.03	1,267.71	1,267.32	0.03
1.9	0	0.02	0.02	0.03	1,267.71	1,267.32	0.02
1.92	0	0.02	0.02	0.03	1,267.71	1,267.32	0.02
1.93	0	0.02	0.02	0.03	1,267.71	1,267.32	0.02

Hydraulic Routing Output (Tabulated)
10 Year 1 Hour Storm

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Ave.
Temecula, CA 92590
Suite 220

Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	Max: 3.23	Max: 0.09	Max: 8.61	Max: 2.92	Max: 1267.76	Max: 1267.43	Max: 0.08
1.95	0	0.02	0.02	0.03	1,267.71	1,267.32	0.02
1.97	0	0.02	0.02	0.03	1,267.71	1,267.32	0.02
1.98	0	0.02	0.02	0.03	1,267.71	1,267.32	0.02
2	0	0.02	0.02	0.03	1,267.71	1,267.32	0.02
2.02	0	0.02	0.02	0.03	1,267.71	1,267.32	0.02
2.03	0	0.02	0.02	0.03	1,267.71	1,267.32	0.02
2.05	0	0.02	0.02	0.03	1,267.71	1,267.32	0.02
2.07	0	0.02	0.02	0.03	1,267.71	1,267.32	0.02
2.08	0	0.02	0.02	0.03	1,267.71	1,267.32	0.02
2.1	0	0.02	0.02	0.03	1,267.71	1,267.32	0.02
2.12	0	0.02	0.02	0.03	1,267.71	1,267.32	0.02
2.13	0	0.02	0.02	0.03	1,267.71	1,267.32	0.02
2.15	0	0.02	0.02	0.03	1,267.70	1,267.32	0.02
2.17	0	0.02	0.02	0.03	1,267.70	1,267.32	0.02
2.18	0	0.02	0.02	0.03	1,267.70	1,267.32	0.02
2.2	0	0.02	0.02	0.03	1,267.70	1,267.32	0.02
2.22	0	0.02	0.02	0.03	1,267.70	1,267.32	0.02
2.23	0	0.02	0.02	0.03	1,267.70	1,267.32	0.02
2.25	0	0.02	0.02	0.03	1,267.70	1,267.32	0.02
2.27	0	0.02	0.02	0.03	1,267.70	1,267.32	0.02
2.28	0	0.02	0.02	0.03	1,267.70	1,267.32	0.02
2.3	0	0.02	0.02	0.03	1,267.70	1,267.32	0.02
2.32	0	0.02	0.02	0.03	1,267.70	1,267.32	0.02
2.33	0	0.02	0.02	0.03	1,267.70	1,267.32	0.02
2.35	0	0.02	0.02	0.03	1,267.70	1,267.32	0.02
2.37	0	0.02	0.02	0.03	1,267.70	1,267.32	0.02
2.38	0	0.02	0.02	0.03	1,267.70	1,267.32	0.02
2.4	0	0.02	0.02	0.03	1,267.70	1,267.32	0.02
2.42	0	0.02	0.02	0.02	1,267.70	1,267.32	0.02
2.43	0	0.02	0.02	0.02	1,267.70	1,267.32	0.02
2.45	0	0.02	0.02	0.02	1,267.70	1,267.32	0.02
2.47	0	0.02	0.02	0.02	1,267.70	1,267.32	0.02
2.48	0	0.02	0.02	0.02	1,267.70	1,267.32	0.02
2.5	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.52	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.53	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.55	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.57	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.58	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02

Hydraulic Routing Output (Tabulated)
10 Year 1 Hour Storm

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Ave.
Temecula, CA 92590
Suite 220

Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	Max: 3.23	Max: 0.09	Max: 8.61	Max: 2.92	Max: 1267.76	Max: 1267.43	Max: 0.08
2.6	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.62	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.63	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.65	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.67	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.68	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.7	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.72	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.73	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.75	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.77	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.78	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.8	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.82	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.83	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.85	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.87	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.88	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.9	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.92	0	0.02	0.02	0.02	1,267.69	1,267.32	0.02
2.93	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
2.95	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
2.97	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
2.98	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.02	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.03	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.05	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.07	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.08	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.1	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.12	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.13	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.15	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.17	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.18	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.2	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.22	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.23	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02

Hydraulic Routing Output (Tabulated)
10 Year 1 Hour Storm

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Ave.
Temecula, CA 92590
Suite 220

Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	Max: 3.23	Max: 0.09	Max: 8.61	Max: 2.92	Max: 1267.76	Max: 1267.43	Max: 0.08
3.25	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.27	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.28	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.3	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.32	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.33	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
3.35	0	0.01	0.01	0.02	1,267.68	1,267.32	0.01
3.37	0	0.01	0.01	0.02	1,267.68	1,267.32	0.01
3.38	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.4	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.42	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.43	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.45	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.47	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.48	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.5	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.52	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.53	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.55	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.57	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.58	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.6	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.62	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.63	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.65	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.67	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.68	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.7	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.72	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.73	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.75	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.77	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.78	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.8	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.82	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.83	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.85	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.87	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.88	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01

Hydraulic Routing Output (Tabulated)
10 Year 1 Hour Storm

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Ave.
Temecula, CA 92590
Suite 220

Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	**Max: 3.23**	**Max: 0.09**	**Max: 8.61**	**Max: 2.92**	**Max: 1267.76**	**Max: 1267.43**	**Max: 0.08**
3.9	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.92	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.93	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.95	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.97	0	0.01	0.01	0.02	1,267.67	1,267.32	0.01
3.98	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.02	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.03	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.05	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.07	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.08	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.1	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.12	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.13	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.15	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.17	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.18	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.2	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.22	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.23	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.25	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.27	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.28	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.3	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.32	0	0.01	0.01	0.02	1267.66	1267.32	0.01
4.33	0	0.01	0.01	0.02	1267.66	1267.32	0.01
4.35	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.37	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.38	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.4	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.42	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.43	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.45	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.47	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.48	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.5	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.52	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01

Hydraulic Routing Output (Tabulated)
10 Year 1 Hour Storm

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Ave.
Temecula, CA 92590
Suite 220

Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	Max: 3.23	Max: 0.09	Max: 8.61	Max: 2.92	Max: 1267.76	Max: 1267.43	Max: 0.08
4.53	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.55	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.57	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.58	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.6	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.62	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.63	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.65	0	0.01	0.01	0.02	1,267.66	1,267.32	0.01
4.67	0	0.01	0.01	0.02	1,267.65	1,267.32	0.01
4.68	0	0.01	0.01	0.02	1,267.65	1,267.32	0.01
4.7	0	0.01	0.01	0.02	1,267.65	1,267.32	0.01
4.72	0	0.01	0.01	0.02	1,267.65	1,267.32	0.01
4.73	0	0.01	0.01	0.02	1,267.65	1,267.32	0.01
4.75	0	0.01	0.01	0.02	1,267.65	1,267.32	0.01
4.77	0	0.01	0.01	0.02	1,267.65	1,267.32	0.01
4.78	0	0.01	0.01	0.02	1,267.65	1,267.32	0.01
4.8	0	0.01	0.01	0.02	1,267.65	1,267.32	0.01
4.82	0	0.01	0.01	0.02	1,267.65	1,267.32	0.01
4.83	0	0.01	0.01	0.02	1,267.65	1,267.32	0.01
4.85	0	0.01	0.01	0.02	1,267.65	1,267.32	0.01
4.87	0	0.01	0.01	0.02	1,267.65	1,267.32	0.01
4.88	0	0.01	0.01	0.02	1,267.65	1,267.32	0.01
4.9	0	0.01	0.01	0.02	1,267.65	1,267.32	0.01
4.92	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
4.93	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
4.95	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
4.97	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
4.98	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.02	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.03	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.05	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.07	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.08	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.1	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.12	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.13	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.15	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.17	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01

Hydraulic Routing Output (Tabulated)
10 Year 1 Hour Storm

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Ave.
Temecula, CA 92590
Suite 220

Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	Max: 3.23	Max: 0.09	Max: 8.61	Max: 2.92	Max: 1267.76	Max: 1267.43	Max: 0.08
5.18	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.2	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.22	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.23	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.25	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.27	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.28	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.3	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.32	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.33	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.35	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.37	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.38	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.4	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.42	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.43	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.45	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.47	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.48	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.5	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.52	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.53	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.55	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.57	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.58	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.6	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.62	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.63	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.65	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.67	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.68	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.7	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.72	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.73	0	0.01	0.01	0.01	1,267.65	1,267.32	0.01
5.75	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
5.77	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
5.78	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
5.8	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
5.82	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01

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Suite 220

Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	Max: 3.23	Max: 0.09	Max: 8.61	Max: 2.92	Max: 1267.76	Max: 1267.43	Max: 0.08
5.83	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
5.85	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
5.87	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
5.88	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
5.9	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
5.92	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
5.93	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
5.95	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
5.97	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
5.98	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.02	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.03	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.05	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.07	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.08	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.1	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.12	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.13	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.15	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.17	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.18	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.2	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.22	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.23	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.25	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.27	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.28	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.3	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.32	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.33	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.35	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.37	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.38	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.4	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.42	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.43	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.45	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.47	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01

Hydraulic Routing Output (Tabulated)
10 Year 1 Hour Storm

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Ave.
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Suite 220

Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	**Max: 3.23**	**Max: 0.09**	**Max: 8.61**	**Max: 2.92**	**Max: 1267.76**	**Max: 1267.43**	**Max: 0.08**
6.48	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.5	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.52	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.53	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.55	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.57	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.58	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.6	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.62	0	0.01	0.01	0.01	1,267.64	1,267.32	0.01
6.63	0	0	0	0.01	1,267.64	1,267.32	0

Hydraulic Routing Analysis:

Conduit Hydraulic Results At 62.00 Minutes (Time of Maximum Outflow at Point of Connection)

10 Year 1 Hour Design Storm

41951 Remington Ave.
Temecula, CA 92590
Suite 220

ID	Label	Start Node	Stop Node	Invert (Start) (ft)	Invert (Stop) (ft)	Length (ft)	Slope (Calculated) (ft/ft)	Section Type	Diameter (in)	Manning's n	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Finished Surface (In) (ft)	Finished Surface (Out) (ft)	Time (Maximum Flow) (min)	Flow (Maximum) (cfs)	Time (Maximum Calculated Velocity) (min)	Velocity (Maximum Calculated) (ft/s)	Time to Maximum Hydraulic Grade (min)	Hydraulic Grade (Maximum) (ft)
43	CO-1	Overflow Culver - Basin A	O-1	1,267.62	1,266.82		0.01	Circle	12	0.013	1,267.63	1,266.82	1,269.00	1,269.00	67	0.08	67	0.18	65	1,267.56
57	CO-2	Overflow - Basin B	MH-1	1,263.62	1,262.36	314.2	0.004	Circle	24	0.02	1,263.62	1,263.62	1,271.66	1,274.36	62	2.92	62	0.93	1	1,265.73
59	CO-3	MH-1	Point of Connection	1,262.36	1,262.00	90	0.004	Circle	24	0.02	1,263.62	1,265.73	1,274.36	1,269.43	62	2.92	62	0.93	1	1,265.73
93	CO-4	CB-1	O-3	1,266.84	1,266.82	5.5	0.003	Circle	24	0.02	1,266.84	1,266.82	1,271.75	1,269.00	51	8.61	51	4.7	51	1,267.96
97	CO-6	CB-3	O-4	1,267.31	1,267.12	50.5	0.004	Circle	18	0.02	1,267.31	1,267.12	1,271.12	1,270.89	51	3.24	51	3.15	51	1,268.06

Interpretation: Hydraulic Routing for conduit C0-4 demonstrates that the system outflow at the point of connection is 2.92 cfs, which is below the existing condition project flow rate of 9.11 cfs.
Therefore, storm water mitigation for the 10 Year design storm if achieved using the proposed bioretention basins.For pipe sizing hydraulic calculations, please refer to Appendix G.

* 100 Year HGL Used for tailwater based on the available data. Refer to Appendix H in Storm Drain Improvement Plans on Collier Avenue.

Composite Outlet Structures Detailed Report: Culvert to Basin A

Element Details			
Label	Culvert to Basin A	Notes	

Headwater Range			
Headwater Type	Use Pond for Headwater Range	Increment (Headwater)	0.60 ft
Pond	Basin A	Maximum (Headwater)	1,269.62 ft
Minimum (Headwater)	1,264.12 ft		
Spot Elevation (ft)			

Tailwater Setup			
Tailwater Type	Interconnected Ponds	Increment (Tailwater)	0.50 ft
Minimum (Tailwater)	1,267.62 ft	Maximum (Tailwater)	1,269.62 ft
Spot Elevation (ft)			

Tailwater Tolerances			
Maximum Iterations	30	Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft	Flow Tolerance (Minimum)	0.001 ft³/s
Headwater Tolerance (Maximum)	0.50 ft	Flow Tolerance (Maximum)	10.000 ft³/s
Tailwater Tolerance (Minimum)	0.01 ft		

Outlet Structure			
Outlet Structure Type	Culvert	Culvert Type	Circular
Flow Direction	Forward and Reverse Flow		

Outlet Structure (IDs and Direction)			
Outlet ID	Culvert - 1	Notes	
Downstream ID	Tailwater		

Outlet Structure (Advanced)			
Elevation (On)	0.00 ft	Elevation (Off)	0.00 ft

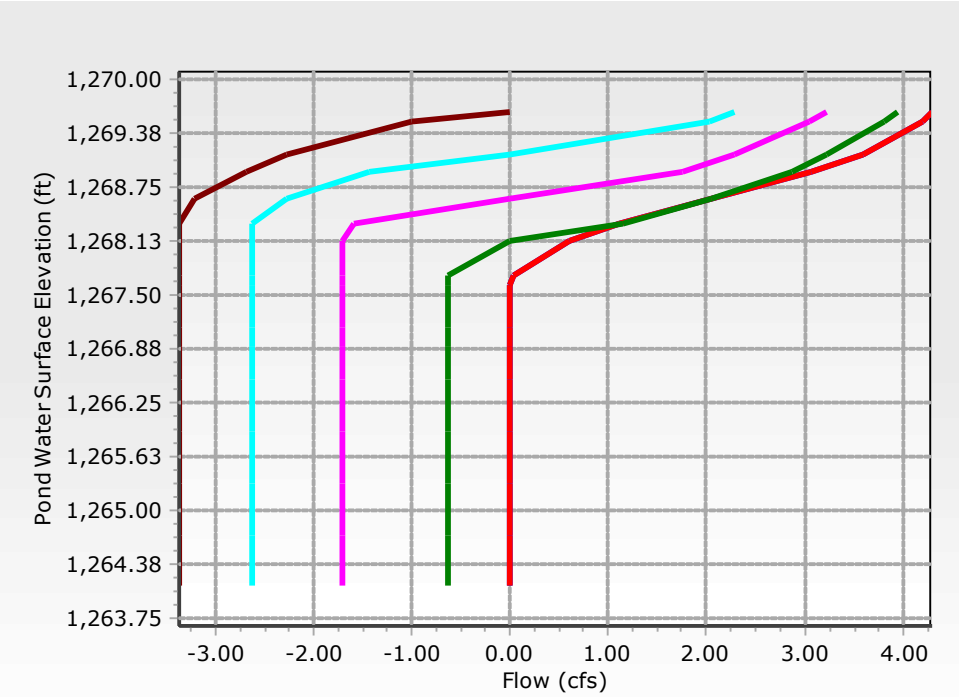
Culvert Data			
Number of Barrels	1	Downstream Invert	1,266.90 ft
Length	74.5 ft	Diameter	12.0 in
Upstream Invert	1,267.62 ft		

Composite Outlet Structures Detailed Report: Culvert to Basin A

Unsubmerged->Submerged			
Specify Transitions	False	Compute Inlet Control Only	False

Culvert Coefficients			
Inlet Description	Concrete - Square edge w/ headwall	C	0.0398
Chart	Chart 1	Y	0.6700
Nomograph	Nomograph 1	Manning's n	0.013
Equation Form	Form 1	Ke	0.500
K	0.0098	Kr	0.000
M	2.0000	Slope Correction Factor	-0.500

Culvert (Advanced)			
Convergence Tolerance	0.00 ft	Specify Number of Backwater Sections?	False



RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,264.12	0.00	1,266.90	0.00
1,264.72	0.00	1,266.90	0.00
1,265.32	0.00	1,266.90	0.00
1,265.92	0.00	1,266.90	0.00
1,266.52	0.00	1,266.90	0.00
1,266.90	0.00	1,266.90	0.00
1,267.12	0.00	1,266.90	0.00
1,267.62	0.00	1,266.90	0.00
1,267.72	0.03	1,266.90	0.00
1,268.12	0.60	1,266.90	0.00
1,268.32	1.12	1,266.90	0.00
1,268.62	2.05	1,266.90	0.00
1,268.92	3.07	1,266.90	0.00
1,269.12	3.60	1,266.90	0.00
1,269.52	4.20	1,266.90	0.00
1,269.62	4.30	1,266.90	0.00

Computation Messages
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
Upstream HW & DNstream TW < Inv.El
Upstream HW & DNstream TW < Inv.El
Upstream HW & DNstream TW < Inv.El
CRIT.DEPTH CONTROL Vh= .022ft Dcr= .066ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .118ft Dcr= .324ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .170ft Dcr= .445ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .258ft Dcr= .612ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .366ft Dcr= .751ft CRIT.DEPTH Hev= .00ft

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
INLET CONTROL... Submerged: HW =1.50
FULL FLOW...Lfull=55.72ft Vh=.444ft HL=1.439ft Hev= .00ft
FULL FLOW...Lfull=60.87ft Vh=.466ft HL=1.587ft Hev= .00ft

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,264.12	0.00	1,267.62	0.00
1,264.72	0.00	1,267.62	0.00
1,265.32	0.00	1,267.62	0.00
1,265.92	0.00	1,267.62	0.00
1,266.52	0.00	1,267.62	0.00
1,266.90	0.00	1,267.62	0.00
1,267.12	0.00	1,267.62	0.00
1,267.62	0.00	1,267.62	0.00
1,267.72	0.03	1,267.62	0.00
1,268.12	0.60	1,267.62	0.00
1,268.32	1.12	1,267.62	0.00
1,268.62	2.05	1,267.62	0.00
1,268.92	3.07	1,267.62	0.00
1,269.12	3.60	1,267.62	0.00
1,269.52	4.20	1,267.62	0.00
1,269.62	4.30	1,267.62	0.00

Computation Messages
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
Upstream HW & DNstream TW < Inv.El
CRIT.DEPTH CONTROL Vh= .022ft Dcr= .066ft H.JUMP IN PIPE Hev= .00ft
CRIT.DEPTH CONTROL Vh= .118ft Dcr= .324ft H.JUMP IN PIPE Hev= .00ft
CRIT.DEPTH CONTROL Vh= .170ft Dcr= .445ft H.JUMP IN PIPE Hev= .00ft
CRIT.DEPTH CONTROL Vh= .258ft Dcr= .612ft H.JUMP IN PIPE Hev= .00ft
CRIT.DEPTH CONTROL Vh= .366ft Dcr= .751ft CRIT.DEPTH Hev= .00ft
INLET CONTROL... Submerged: HW =1.50
FULL FLOW...Lfull=55.72ft Vh=.444ft HL=1.439ft Hev= .00ft
FULL FLOW...Lfull=60.87ft Vh=.466ft HL=1.587ft Hev= .00ft

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,264.12	-0.63	1,268.12	0.00
1,264.72	-0.63	1,268.12	0.00
1,265.32	-0.63	1,268.12	0.00
1,265.92	-0.63	1,268.12	0.00
1,266.52	-0.63	1,268.12	0.00

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,266.90	-0.63	1,268.12	0.00
1,267.12	-0.63	1,268.12	0.00
1,267.62	-0.63	1,268.12	0.00
1,267.72	-0.63	1,268.12	0.00
1,268.12	0.00	1,268.12	0.00
1,268.32	1.15	1,268.12	0.00
1,268.62	2.05	1,268.12	0.00
1,268.92	2.88	1,268.12	0.00
1,269.12	3.22	1,268.12	0.00
1,269.52	3.81	1,268.12	0.00
1,269.62	3.94	1,268.12	0.00

Computation Messages
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
HW = TW elev
BACKWATER CONTROL.. Vh= .131ft hwDi= .503ft Lbw= 49.0ft Hev= .00ft
CRIT.DEPTH CONTROL Vh= .258ft Dcr= .612ft H.JUMP IN PIPE Hev= .00ft
BACKWATER CONTROL.. Vh= .211ft hwDi= .985ft Lbw= 4.0ft Hev= .00ft
FULL FLOW...Lfull=74.50ft Vh=.261ft HL=.999ft Hev= .00ft

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
FULL FLOW...Lfull=74.50ft Vh=.365ft HL=1.400ft Hev= .00ft
FULL FLOW...Lfull=74.50ft Vh=.392ft HL=1.501ft Hev= .00ft

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,264.12	-1.71	1,268.62	0.00
1,264.72	-1.71	1,268.62	0.00
1,265.32	-1.71	1,268.62	0.00
1,265.92	-1.71	1,268.62	0.00
1,266.52	-1.71	1,268.62	0.00
1,266.90	-1.71	1,268.62	0.00
1,267.12	-1.71	1,268.62	0.00
1,267.62	-1.71	1,268.62	0.00
1,267.72	-1.71	1,268.62	0.00
1,268.12	-1.71	1,268.62	0.00
1,268.32	-1.60	1,268.62	0.00
1,268.62	0.00	1,268.62	0.00
1,268.92	1.76	1,268.62	0.00
1,269.12	2.28	1,268.62	0.00
1,269.52	3.05	1,268.62	0.00
1,269.62	3.22	1,268.62	0.00

Computation Messages
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=53.25ft Vh=.065ft HL=.205ft Hev= .00ft
HW = TW elev
FULL FLOW...Lfull=74.50ft Vh=.078ft HL=.300ft Hev= .00ft
FULL FLOW...Lfull=74.50ft Vh=.131ft HL=.500ft Hev= .00ft
FULL FLOW...Lfull=74.50ft Vh=.235ft HL=.900ft Hev= .00ft
FULL FLOW...Lfull=74.50ft Vh=.261ft HL=1.000ft Hev= .00ft

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,264.12	-2.63	1,269.12	0.00
1,264.72	-2.63	1,269.12	0.00
1,265.32	-2.63	1,269.12	0.00
1,265.92	-2.63	1,269.12	0.00
1,266.52	-2.63	1,269.12	0.00
1,266.90	-2.63	1,269.12	0.00
1,267.12	-2.63	1,269.12	0.00
1,267.62	-2.63	1,269.12	0.00
1,267.72	-2.63	1,269.12	0.00
1,268.12	-2.63	1,269.12	0.00
1,268.32	-2.63	1,269.12	0.00

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,268.62	-2.28	1,269.12	0.00
1,268.92	-1.44	1,269.12	0.00
1,269.12	0.00	1,269.12	0.00
1,269.52	2.03	1,269.12	0.00
1,269.62	2.28	1,269.12	0.00

Computation Messages
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.606ft Hev= .00ft
REVERSE FULL: Lfull=74.50ft Vh=.131ft HL=.500ft Hev= .00ft
REVERSE FULL: Lfull=74.50ft Vh=.052ft HL=.201ft Hev= .00ft
HW = TW elev
FULL FLOW...Lfull=74.50ft Vh=.104ft HL=.399ft Hev= .00ft
FULL FLOW...Lfull=74.50ft Vh=.131ft HL=.501ft Hev= .00ft

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,264.12	-3.38	1,269.62	0.00
1,264.72	-3.38	1,269.62	0.00
1,265.32	-3.38	1,269.62	0.00
1,265.92	-3.38	1,269.62	0.00
1,266.52	-3.38	1,269.62	0.00
1,266.90	-3.38	1,269.62	0.00
1,267.12	-3.38	1,269.62	0.00
1,267.62	-3.38	1,269.62	0.00
1,267.72	-3.38	1,269.62	0.00
1,268.12	-3.38	1,269.62	0.00
1,268.32	-3.38	1,269.62	0.00
1,268.62	-3.22	1,269.62	0.00
1,268.92	-2.69	1,269.62	0.00
1,269.12	-2.28	1,269.62	0.00
1,269.52	-1.01	1,269.62	0.00
1,269.62	0.00	1,269.62	0.00

Computation Messages
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=74.50ft Vh=.261ft HL=1.000ft Hev= .00ft

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
REVERSE FULL: Lfull=74.50ft Vh=.183ft HL=.700ft Hev= .00ft
REVERSE FULL: Lfull=74.50ft Vh=.131ft HL=.500ft Hev= .00ft
REVERSE FULL: Lfull=74.50ft Vh=.026ft HL=.099ft Hev= .00ft
HW = TW elev

Composite Outlet Structures Detailed Report: Culvert to Basin A

Composite Rating Table
TW Elev. = 1,266.90 ft (Culvert to Basin A)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,264.12	0.00	1,266.90	0.00
1,264.72	0.00	1,266.90	0.00
1,265.32	0.00	1,266.90	0.00
1,265.92	0.00	1,266.90	0.00
1,266.52	0.00	1,266.90	0.00
1,266.90	0.00	1,266.90	0.00
1,267.12	0.00	1,266.90	0.00
1,267.62	0.00	1,266.90	0.00
1,267.72	0.03	1,266.90	0.00
1,268.12	0.60	1,266.90	0.00
1,268.32	1.12	1,266.90	0.00
1,268.62	2.05	1,266.90	0.00
1,268.92	3.07	1,266.90	0.00
1,269.12	3.60	1,266.90	0.00
1,269.52	4.20	1,266.90	0.00
1,269.62	4.30	1,266.90	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
None Contributing
None Contributing
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1

Composite Rating Table
TW Elev. = 1,267.62 ft (Culvert to Basin A)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,264.12	0.00	1,267.62	0.00
1,264.72	0.00	1,267.62	0.00
1,265.32	0.00	1,267.62	0.00
1,265.92	0.00	1,267.62	0.00
1,266.52	0.00	1,267.62	0.00
1,266.90	0.00	1,267.62	0.00
1,267.12	0.00	1,267.62	0.00

Composite Outlet Structures Detailed Report: Culvert to Basin A

Composite Rating Table
TW Elev. = 1,267.62 ft (Culvert to Basin A)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,267.62	0.00	1,267.62	0.00
1,267.72	0.03	1,267.62	0.00
1,268.12	0.60	1,267.62	0.00
1,268.32	1.12	1,267.62	0.00
1,268.62	2.05	1,267.62	0.00
1,268.92	3.07	1,267.62	0.00
1,269.12	3.60	1,267.62	0.00
1,269.52	4.20	1,267.62	0.00
1,269.62	4.30	1,267.62	0.00

Contributing Structures
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
None Contributing
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1
Culvert - 1

Composite Rating Table
TW Elev. = 1,268.12 ft (Culvert to Basin A)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,264.12	-0.63	1,268.12	0.00
1,264.72	-0.63	1,268.12	0.00
1,265.32	-0.63	1,268.12	0.00
1,265.92	-0.63	1,268.12	0.00
1,266.52	-0.63	1,268.12	0.00
1,266.90	-0.63	1,268.12	0.00
1,267.12	-0.63	1,268.12	0.00
1,267.62	-0.63	1,268.12	0.00
1,267.72	-0.63	1,268.12	0.00
1,268.12	0.00	1,268.12	0.00
1,268.32	1.15	1,268.12	0.00
1,268.62	2.05	1,268.12	0.00
1,268.92	2.88	1,268.12	0.00
1,269.12	3.22	1,268.12	0.00

Composite Outlet Structures Detailed Report: Outlet to Basin B

Element Details			
Label	Outlet to Basin B	Notes	

Headwater Range			
Headwater Type	Use Pond for Headwater Range	Increment (Headwater)	0.60 ft
Pond	Basin B	Maximum (Headwater)	1,268.82 ft
Minimum (Headwater)	1,263.62 ft		
Spot Elevation (ft)			

Tailwater Setup			
Tailwater Type	Interconnected Ponds	Increment (Tailwater)	0.60 ft
Minimum (Tailwater)	1,263.62 ft	Maximum (Tailwater)	1,269.62 ft
Spot Elevation (ft)			

Tailwater Tolerances			
Maximum Iterations	30	Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft	Flow Tolerance (Minimum)	0.001 ft³/s
Headwater Tolerance (Maximum)	0.50 ft	Flow Tolerance (Maximum)	10.000 ft³/s
Tailwater Tolerance (Minimum)	0.01 ft		

Outlet Structure			
Outlet Structure Type	Riser	Orifice Coefficient	0.600
Flow Direction	Forward and Reverse Flow	Transition Elevation	0.00 ft
Riser Type	Inlet Box	Transition Height	0.0 ft
Elevation	1,267.32 ft	K Reverse	1.000
Weir Coefficient	3.00 ft^(1/2)/s		

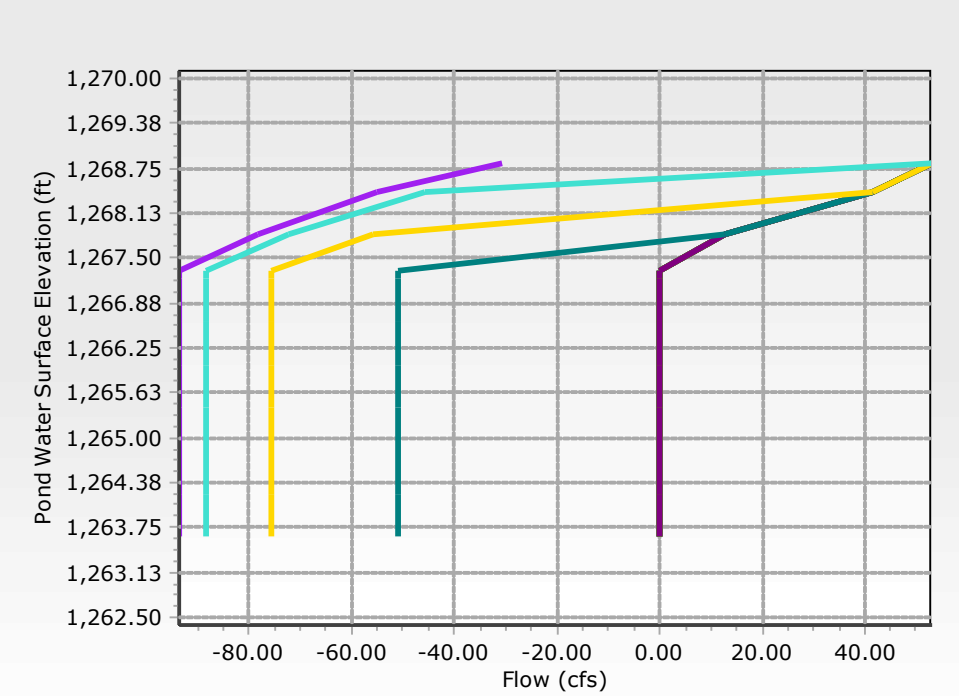
Outlet Structure (IDs and Direction)			
Outlet ID	Riser - 1	Notes	
Downstream ID	Tailwater		

Outlet Structure (Advanced)			
Elevation (On)	0.00 ft	Elevation (Off)	0.00 ft

Outlet Structure (Riser)			
Weir Length	12.0 ft	Orifice Area	9.0 ft²

Composite Outlet Structures Detailed Report: Outlet to Basin B

Outlet Structure (Riser, Advanced)			
Use Orifice Depth to Crest?	True	Use Submerged Weir Equation?	False



RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,263.60	0.00
1,264.22	0.00	1,263.60	0.00
1,264.82	0.00	1,263.60	0.00
1,265.42	0.00	1,263.60	0.00
1,266.02	0.00	1,263.60	0.00
1,266.62	0.00	1,263.60	0.00
1,267.22	0.00	1,263.60	0.00
1,267.32	0.00	1,263.60	0.00
1,267.82	12.73	1,263.60	0.00
1,268.42	41.53	1,263.60	0.00
1,268.82	53.05	1,263.60	0.00

Computation Messages
HW & TW < Inv.El.=1267.320

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
Weir: H =0ft
Weir: H =0.5ft
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,263.62	0.00
1,264.22	0.00	1,263.62	0.00
1,264.82	0.00	1,263.62	0.00
1,265.42	0.00	1,263.62	0.00
1,266.02	0.00	1,263.62	0.00
1,266.62	0.00	1,263.62	0.00
1,267.22	0.00	1,263.62	0.00
1,267.32	0.00	1,263.62	0.00
1,267.82	12.73	1,263.62	0.00
1,268.42	41.53	1,263.62	0.00
1,268.82	53.05	1,263.62	0.00

Computation Messages
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
Weir: H =0ft
Weir: H =0.5ft

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,264.22	0.00
1,264.22	0.00	1,264.22	0.00
1,264.82	0.00	1,264.22	0.00
1,265.42	0.00	1,264.22	0.00
1,266.02	0.00	1,264.22	0.00
1,266.62	0.00	1,264.22	0.00
1,267.22	0.00	1,264.22	0.00
1,267.32	0.00	1,264.22	0.00
1,267.82	12.73	1,264.22	0.00
1,268.42	41.53	1,264.22	0.00
1,268.82	53.05	1,264.22	0.00

Computation Messages
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
Weir: H =0ft
Weir: H =0.5ft
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,264.82	0.00
1,264.22	0.00	1,264.82	0.00
1,264.82	0.00	1,264.82	0.00
1,265.42	0.00	1,264.82	0.00
1,266.02	0.00	1,264.82	0.00
1,266.62	0.00	1,264.82	0.00
1,267.22	0.00	1,264.82	0.00
1,267.32	0.00	1,264.82	0.00
1,267.82	12.73	1,264.82	0.00
1,268.42	41.53	1,264.82	0.00
1,268.82	53.05	1,264.82	0.00

Computation Messages
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
Weir: H =0ft
Weir: H =0.5ft
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,265.42	0.00
1,264.22	0.00	1,265.42	0.00
1,264.82	0.00	1,265.42	0.00
1,265.42	0.00	1,265.42	0.00
1,266.02	0.00	1,265.42	0.00
1,266.62	0.00	1,265.42	0.00

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,267.22	0.00	1,265.42	0.00
1,267.32	0.00	1,265.42	0.00
1,267.82	12.73	1,265.42	0.00
1,268.42	41.53	1,265.42	0.00
1,268.82	53.05	1,265.42	0.00

Computation Messages
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
Weir: H =0ft
Weir: H =0.5ft
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,266.02	0.00
1,264.22	0.00	1,266.02	0.00
1,264.82	0.00	1,266.02	0.00
1,265.42	0.00	1,266.02	0.00
1,266.02	0.00	1,266.02	0.00
1,266.62	0.00	1,266.02	0.00
1,267.22	0.00	1,266.02	0.00
1,267.32	0.00	1,266.02	0.00
1,267.82	12.73	1,266.02	0.00
1,268.42	41.53	1,266.02	0.00
1,268.82	53.05	1,266.02	0.00

Computation Messages

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
Weir: H =0ft
Weir: H =0.5ft
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,266.62	0.00
1,264.22	0.00	1,266.62	0.00
1,264.82	0.00	1,266.62	0.00
1,265.42	0.00	1,266.62	0.00
1,266.02	0.00	1,266.62	0.00
1,266.62	0.00	1,266.62	0.00
1,267.22	0.00	1,266.62	0.00
1,267.32	0.00	1,266.62	0.00
1,267.82	12.73	1,266.62	0.00
1,268.42	41.53	1,266.62	0.00
1,268.82	53.05	1,266.62	0.00

Computation Messages
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
Weir: H =0ft

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
Weir: H =0.5ft
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,267.22	0.00
1,264.22	0.00	1,267.22	0.00
1,264.82	0.00	1,267.22	0.00
1,265.42	0.00	1,267.22	0.00
1,266.02	0.00	1,267.22	0.00
1,266.62	0.00	1,267.22	0.00
1,267.22	0.00	1,267.22	0.00
1,267.32	0.00	1,267.22	0.00
1,267.82	12.73	1,267.22	0.00
1,268.42	41.53	1,267.22	0.00
1,268.82	53.05	1,267.22	0.00

Computation Messages
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
Weir: H =0ft
Weir: H =0.5ft
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,267.32	0.00
1,264.22	0.00	1,267.32	0.00
1,264.82	0.00	1,267.32	0.00
1,265.42	0.00	1,267.32	0.00
1,266.02	0.00	1,267.32	0.00
1,266.62	0.00	1,267.32	0.00
1,267.22	0.00	1,267.32	0.00
1,267.32	0.00	1,267.32	0.00
1,267.82	12.73	1,267.32	0.00
1,268.42	41.53	1,267.32	0.00
1,268.82	53.05	1,267.32	0.00

Computation Messages
REVERSE: Head=.00 Hbarrel=1.0000 Vh=.00
REVERSE: Head=.00 Hbarrel=1.0000 Vh=.00
REVERSE: Head=.00 Hbarrel=1.0000 Vh=.00
REVERSE: Head=.00 Hbarrel=1.0000 Vh=.00
REVERSE: Head=.00 Hbarrel=1.0000 Vh=.00
REVERSE: Head=.00 Hbarrel=1.0000 Vh=.00
REVERSE: Head=.00 Hbarrel=1.0000 Vh=.00
Weir: H =0ft
Weir: H =0.5ft
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	-51.05	1,267.82	0.00
1,264.22	-51.05	1,267.82	0.00
1,264.82	-51.05	1,267.82	0.00
1,265.42	-51.05	1,267.82	0.00
1,266.02	-51.05	1,267.82	0.00
1,266.62	-51.05	1,267.82	0.00
1,267.22	-51.05	1,267.82	0.00
1,267.32	-51.05	1,267.82	0.00
1,267.82	12.73	1,267.82	0.00
1,268.42	41.53	1,267.82	0.00
1,268.82	53.05	1,267.82	0.00

Computation Messages
REVERSE: Head=.50 Hbarrel=1.0000 Vh=.50
REVERSE: Head=.50 Hbarrel=1.0000 Vh=.50
REVERSE: Head=.50 Hbarrel=1.0000 Vh=.50
REVERSE: Head=.50 Hbarrel=1.0000 Vh=.50
REVERSE: Head=.50 Hbarrel=1.0000 Vh=.50
REVERSE: Head=.50 Hbarrel=1.0000 Vh=.50
REVERSE: Head=.50 Hbarrel=1.0000 Vh=.50
REVERSE: Head=.50 Hbarrel=1.0000 Vh=.50
FULLY CHARGED RISER: ADJUSTED TO WEIR: H =0.5ft
FULLY CHARGED RISER: ADJUSTED TO WEIR: H =1.1ft
FULLY CHARGED RISER: Orifice Equation Control to Crest; H=1.50

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	-75.72	1,268.42	0.00
1,264.22	-75.72	1,268.42	0.00
1,264.82	-75.72	1,268.42	0.00
1,265.42	-75.72	1,268.42	0.00
1,266.02	-75.72	1,268.42	0.00
1,266.62	-75.72	1,268.42	0.00
1,267.22	-75.72	1,268.42	0.00
1,267.32	-75.72	1,268.42	0.00
1,267.82	-55.92	1,268.42	0.00
1,268.42	41.53	1,268.42	0.00
1,268.82	53.05	1,268.42	0.00

Computation Messages
REVERSE: Head=1.10 Hbarrel=1.0000 Vh=1.10
REVERSE: Head=1.10 Hbarrel=1.0000 Vh=1.10
REVERSE: Head=1.10 Hbarrel=1.0000 Vh=1.10
REVERSE: Head=1.10 Hbarrel=1.0000 Vh=1.10
REVERSE: Head=1.10 Hbarrel=1.0000 Vh=1.10
REVERSE: Head=1.10 Hbarrel=1.0000 Vh=1.10
REVERSE: Head=1.10 Hbarrel=1.0000 Vh=1.10
REVERSE: Head=1.10 Hbarrel=1.0000 Vh=1.10
REVERSE: Head=.60 Hbarrel=1.0000 Vh=.60
FULLY CHARGED RISER: ADJUSTED TO WEIR: H =1.1ft
FULLY CHARGED RISER: Orifice Equation Control to Crest; H=1.50

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	-88.42	1,268.82	0.00
1,264.22	-88.42	1,268.82	0.00
1,264.82	-88.42	1,268.82	0.00
1,265.42	-88.42	1,268.82	0.00
1,266.02	-88.42	1,268.82	0.00
1,266.62	-88.42	1,268.82	0.00
1,267.22	-88.42	1,268.82	0.00
1,267.32	-88.42	1,268.82	0.00
1,267.82	-72.20	1,268.82	0.00
1,268.42	-45.66	1,268.82	0.00
1,268.82	53.05	1,268.82	0.00

Computation Messages
REVERSE: Head=1.50 Hbarrel=1.0000 Vh=1.50
REVERSE: Head=1.50 Hbarrel=1.0000 Vh=1.50
REVERSE: Head=1.50 Hbarrel=1.0000 Vh=1.50
REVERSE: Head=1.50 Hbarrel=1.0000 Vh=1.50
REVERSE: Head=1.50 Hbarrel=1.0000 Vh=1.50
REVERSE: Head=1.50 Hbarrel=1.0000 Vh=1.50
REVERSE: Head=1.50 Hbarrel=1.0000 Vh=1.50
REVERSE: Head=1.50 Hbarrel=1.0000 Vh=1.50
REVERSE: Head=1.00 Hbarrel=1.0000 Vh=1.00
REVERSE: Head=.40 Hbarrel=1.0000 Vh=.40
FULLY CHARGED RISER: Orifice Equation Control to Crest; H=1.50

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	-93.58	1,269.00	0.00
1,264.22	-93.58	1,269.00	0.00
1,264.82	-93.58	1,269.00	0.00
1,265.42	-93.58	1,269.00	0.00
1,266.02	-93.58	1,269.00	0.00
1,266.62	-93.58	1,269.00	0.00
1,267.22	-93.58	1,269.00	0.00
1,267.32	-93.58	1,269.00	0.00
1,267.82	-78.42	1,269.00	0.00
1,268.42	-54.98	1,269.00	0.00
1,268.82	-30.63	1,269.00	0.00

Computation Messages
REVERSE: Head=1.68 Hbarrel=1.0000 Vh=1.68
REVERSE: Head=1.68 Hbarrel=1.0000 Vh=1.68
REVERSE: Head=1.68 Hbarrel=1.0000 Vh=1.68
REVERSE: Head=1.68 Hbarrel=1.0000 Vh=1.68
REVERSE: Head=1.68 Hbarrel=1.0000 Vh=1.68
REVERSE: Head=1.68 Hbarrel=1.0000 Vh=1.68
REVERSE: Head=1.68 Hbarrel=1.0000 Vh=1.68
REVERSE: Head=1.68 Hbarrel=1.0000 Vh=1.68
REVERSE: Head=1.18 Hbarrel=1.0000 Vh=1.18
REVERSE: Head=.58 Hbarrel=1.0000 Vh=.58
REVERSE: Head=.18 Hbarrel=1.0000 Vh=.18

Composite Outlet Structures Detailed Report: Outlet to Basin B

Composite Rating Table
TW Elev. = 1,263.60 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,263.60	0.00
1,264.22	0.00	1,263.60	0.00
1,264.82	0.00	1,263.60	0.00
1,265.42	0.00	1,263.60	0.00
1,266.02	0.00	1,263.60	0.00
1,266.62	0.00	1,263.60	0.00
1,267.22	0.00	1,263.60	0.00
1,267.32	0.00	1,263.60	0.00
1,267.82	12.73	1,263.60	0.00
1,268.42	41.53	1,263.60	0.00
1,268.82	53.05	1,263.60	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
Riser - 1
Riser - 1
Riser - 1
Riser - 1

Composite Rating Table
TW Elev. = 1,263.62 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,263.62	0.00
1,264.22	0.00	1,263.62	0.00
1,264.82	0.00	1,263.62	0.00
1,265.42	0.00	1,263.62	0.00
1,266.02	0.00	1,263.62	0.00
1,266.62	0.00	1,263.62	0.00
1,267.22	0.00	1,263.62	0.00
1,267.32	0.00	1,263.62	0.00
1,267.82	12.73	1,263.62	0.00
1,268.42	41.53	1,263.62	0.00
1,268.82	53.05	1,263.62	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing

Composite Outlet Structures Detailed Report: Outlet to Basin B

Composite Rating Table
TW Elev. = 1,263.62 ft (Outlet to Basin B)

Contributing Structures
None Contributing
None Contributing
Riser - 1
Riser - 1
Riser - 1
Riser - 1

Composite Rating Table
TW Elev. = 1,264.22 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,264.22	0.00
1,264.22	0.00	1,264.22	0.00
1,264.82	0.00	1,264.22	0.00
1,265.42	0.00	1,264.22	0.00
1,266.02	0.00	1,264.22	0.00
1,266.62	0.00	1,264.22	0.00
1,267.22	0.00	1,264.22	0.00
1,267.32	0.00	1,264.22	0.00
1,267.82	12.73	1,264.22	0.00
1,268.42	41.53	1,264.22	0.00
1,268.82	53.05	1,264.22	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
Riser - 1
Riser - 1
Riser - 1
Riser - 1

Composite Rating Table
TW Elev. = 1,264.82 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,264.82	0.00
1,264.22	0.00	1,264.82	0.00
1,264.82	0.00	1,264.82	0.00
1,265.42	0.00	1,264.82	0.00
1,266.02	0.00	1,264.82	0.00
1,266.62	0.00	1,264.82	0.00
1,267.22	0.00	1,264.82	0.00
1,267.32	0.00	1,264.82	0.00

Composite Outlet Structures Detailed Report: Outlet to Basin B

Composite Rating Table
TW Elev. = 1,264.82 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,267.82	12.73	1,264.82	0.00
1,268.42	41.53	1,264.82	0.00
1,268.82	53.05	1,264.82	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
Riser - 1
Riser - 1
Riser - 1
Riser - 1

Composite Rating Table
TW Elev. = 1,265.42 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,265.42	0.00
1,264.22	0.00	1,265.42	0.00
1,264.82	0.00	1,265.42	0.00
1,265.42	0.00	1,265.42	0.00
1,266.02	0.00	1,265.42	0.00
1,266.62	0.00	1,265.42	0.00
1,267.22	0.00	1,265.42	0.00
1,267.32	0.00	1,265.42	0.00
1,267.82	12.73	1,265.42	0.00
1,268.42	41.53	1,265.42	0.00
1,268.82	53.05	1,265.42	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
Riser - 1
Riser - 1
Riser - 1
Riser - 1

Composite Rating Table
TW Elev. = 1,266.02 ft (Outlet to Basin B)

Composite Outlet Structures Detailed Report: Outlet to Basin B

Composite Rating Table
TW Elev. = 1,266.02 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,266.02	0.00
1,264.22	0.00	1,266.02	0.00
1,264.82	0.00	1,266.02	0.00
1,265.42	0.00	1,266.02	0.00
1,266.02	0.00	1,266.02	0.00
1,266.62	0.00	1,266.02	0.00
1,267.22	0.00	1,266.02	0.00
1,267.32	0.00	1,266.02	0.00
1,267.82	12.73	1,266.02	0.00
1,268.42	41.53	1,266.02	0.00
1,268.82	53.05	1,266.02	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
Riser - 1
Riser - 1
Riser - 1
Riser - 1

Composite Rating Table
TW Elev. = 1,266.62 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,266.62	0.00
1,264.22	0.00	1,266.62	0.00
1,264.82	0.00	1,266.62	0.00
1,265.42	0.00	1,266.62	0.00
1,266.02	0.00	1,266.62	0.00
1,266.62	0.00	1,266.62	0.00
1,267.22	0.00	1,266.62	0.00
1,267.32	0.00	1,266.62	0.00
1,267.82	12.73	1,266.62	0.00
1,268.42	41.53	1,266.62	0.00
1,268.82	53.05	1,266.62	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing

Composite Outlet Structures Detailed Report: Outlet to Basin B

Composite Rating Table
TW Elev. = 1,266.62 ft (Outlet to Basin B)

Contributing Structures
None Contributing
None Contributing
Riser - 1
Riser - 1
Riser - 1
Riser - 1

Composite Rating Table
TW Elev. = 1,267.22 ft (Outlet to Basin B)

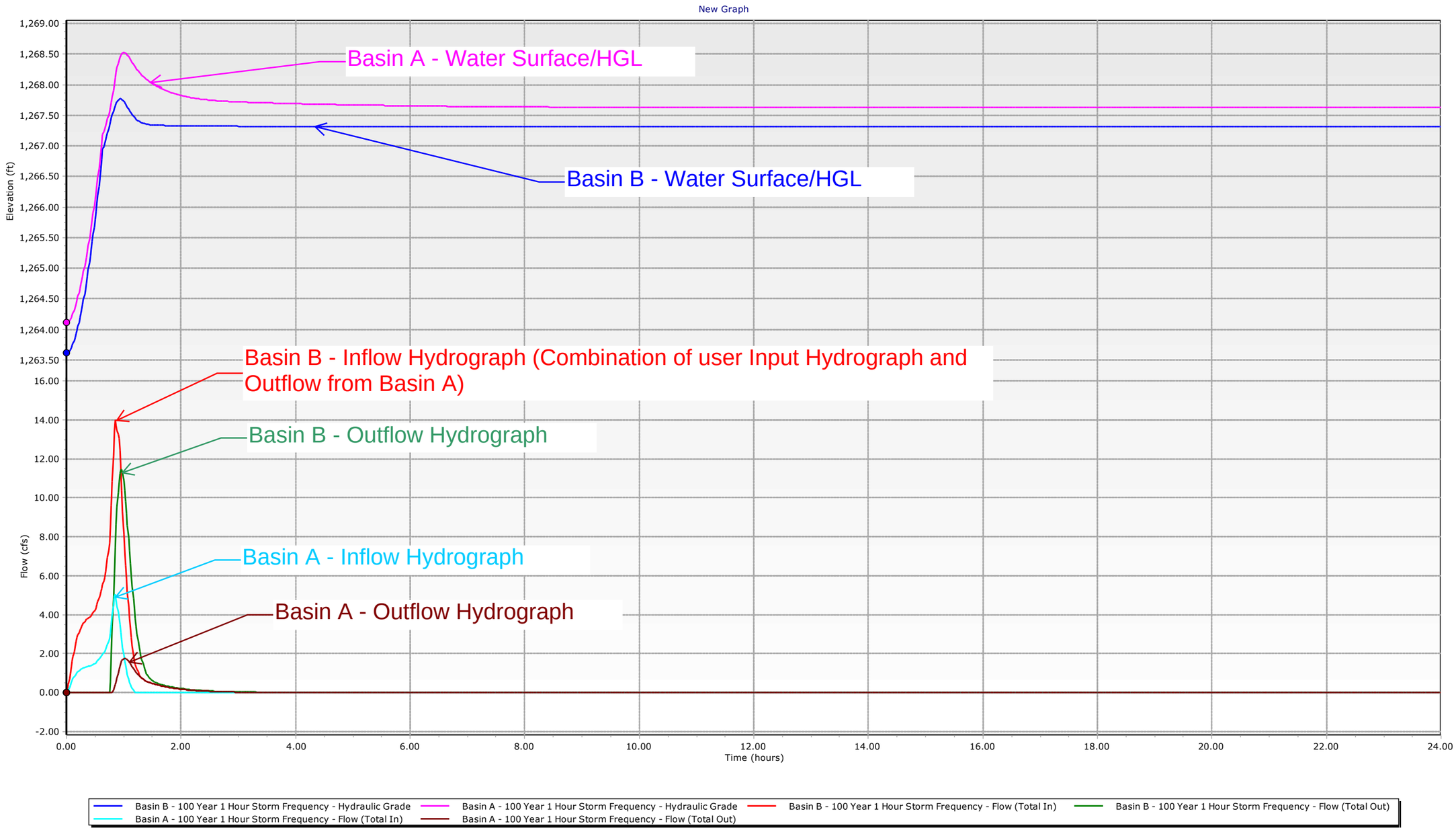
Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,267.22	0.00
1,264.22	0.00	1,267.22	0.00
1,264.82	0.00	1,267.22	0.00
1,265.42	0.00	1,267.22	0.00
1,266.02	0.00	1,267.22	0.00
1,266.62	0.00	1,267.22	0.00
1,267.22	0.00	1,267.22	0.00
1,267.32	0.00	1,267.22	0.00
1,267.82	12.73	1,267.22	0.00
1,268.42	41.53	1,267.22	0.00
1,268.82	53.05	1,267.22	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
Riser - 1
Riser - 1
Riser - 1
Riser - 1

Composite Rating Table
TW Elev. = 1,267.32 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,267.32	0.00
1,264.22	0.00	1,267.32	0.00
1,264.82	0.00	1,267.32	0.00
1,265.42	0.00	1,267.32	0.00
1,266.02	0.00	1,267.32	0.00
1,266.62	0.00	1,267.32	0.00
1,267.22	0.00	1,267.32	0.00
1,267.32	0.00	1,267.32	0.00

Hydraulic Routing Output (Graph) - 10 Year 1 Hour Storm



Hydraulic Routing Output (Tabulated)
100 Year 1 Hour Storm

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Ave.
Temecula, CA 92590
Suite 220

Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	Max: 5.07	Max: 1.76	Max: 14.01	Max: 11.46	Max: 1268.53	Max: 1267.77	Max: 1.76
0	0	0	0	0	1264.12	1263.62	0
0.02	0.02	0	0.12	0	1264.12	1263.62	0
0.03	0.12	0	0.41	0	1264.13	1263.63	0
0.05	0.25	0	0.72	0	1264.14	1263.65	0
0.07	0.4	0	1.01	0	1264.16	1263.67	0
0.08	0.53	0	1.31	0	1264.19	1263.7	0
0.1	0.64	0	1.59	0	1264.23	1263.73	0
0.12	0.73	0	1.85	0	1264.27	1263.77	0
0.13	0.81	0	2.11	0	1264.32	1263.82	0
0.15	0.89	0	2.38	0	1264.37	1263.87	0
0.17	0.97	0	2.64	0	1264.42	1263.93	0
0.18	1.03	0	2.83	0	1264.48	1263.99	0
0.2	1.08	0	2.95	0	1264.54	1264.05	0
0.22	1.12	0	3.07	0	1264.6	1264.12	0
0.23	1.16	0	3.19	0	1264.67	1264.19	0
0.25	1.2	0	3.31	0	1264.74	1264.26	0
0.27	1.23	0	3.4	0	1264.81	1264.33	0
0.28	1.25	0	3.48	0	1264.88	1264.41	0
0.3	1.27	0	3.56	0	1264.95	1264.49	0
0.32	1.29	0	3.63	0	1265.02	1264.57	0
0.33	1.31	0	3.71	0	1265.1	1264.65	0
0.35	1.32	0	3.76	0	1265.17	1264.76	0
0.37	1.34	0	3.8	0	1265.27	1264.87	0
0.38	1.35	0	3.83	0	1265.37	1264.98	0
0.4	1.36	0	3.87	0	1265.48	1265.09	0
0.42	1.37	0	3.9	0	1265.58	1265.2	0
0.43	1.39	0	3.96	0	1265.69	1265.32	0
0.45	1.42	0	4.03	0	1265.79	1265.43	0
0.47	1.44	0	4.1	0	1265.9	1265.55	0
0.48	1.47	0	4.18	0	1266.01	1265.68	0
0.5	1.5	0	4.25	0	1266.13	1265.8	0
0.52	1.54	0	4.37	0	1266.24	1265.93	0
0.53	1.6	0	4.52	0	1266.36	1266.06	0
0.55	1.66	0	4.68	0	1266.49	1266.19	0
0.57	1.72	0	4.83	0	1266.62	1266.33	0
0.58	1.79	0	4.99	0	1266.75	1266.48	0
0.6	1.85	0	5.16	0	1266.89	1266.63	0

Hydraulic Routing Output (Tabulated)
100 Year 1 Hour Storm

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Ave.
Temecula, CA 92590
Suite 220

Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	Max: 5.07	Max: 1.76	Max: 14.01	Max: 11.46	Max: 1268.53	Max: 1267.77	Max: 1.76
0.62	1.91	0	5.35	0	1267.04	1266.78	0
0.63	1.98	0	5.54	0	1267.19	1266.94	0
0.65	2.05	0	5.74	0	1267.23	1266.99	0
0.67	2.11	0	5.93	0	1267.28	1267.04	0
0.68	2.21	0	6.21	0	1267.33	1267.1	0
0.7	2.34	0	6.57	0	1267.38	1267.16	0
0.72	2.49	0	6.93	0	1267.44	1267.22	0
0.73	2.63	0	7.3	0	1267.5	1267.28	0
0.75	2.78	0	7.67	0	1267.56	1267.34	0
0.77	3.06	0	8.44	0.56	1267.63	1267.4	0
0.78	3.51	0	9.62	1.97	1267.71	1267.45	0
0.8	3.99	0.02	10.83	3.38	1267.8	1267.51	0.02
0.82	4.47	0.14	12.14	4.75	1267.9	1267.56	0.14
0.83	4.95	0.28	13.47	6.11	1268	1267.61	0.28
0.85	**5.07**	0.44	**14.01**	7.46	1268.11	1267.66	0.44
0.87	4.77	0.54	13.69	8.63	1268.2	1267.69	0.54
0.88	4.45	0.75	13.47	9.53	1268.28	1267.72	0.75
0.9	4.14	0.98	13.27	10.24	1268.34	1267.74	0.98
0.92	3.83	1.19	13.04	10.8	1268.4	1267.76	1.19
0.93	3.48	1.37	12.43	11.25	1268.45	**1267.77**	1.37
0.95	3.09	1.52	11.42	**11.46**	1268.48	**1267.77**	1.52
0.97	2.71	1.63	10.36	**11.46**	1268.51	1267.76	1.63
0.98	2.32	1.71	9.27	11.28	1268.52	1267.75	1.71
1	1.94	1.75	8.14	10.89	**1268.53**	1267.73	1.75
1.02	1.62	**1.76**	7.23	10.4	1268.52	1267.71	**1.76**
1.03	1.38	1.75	6.54	9.81	1268.51	1267.68	1.75
1.05	1.14	1.73	5.85	9.2	1268.5	1267.66	1.73
1.07	0.9	1.68	5.13	8.57	1268.48	1267.63	1.68
1.08	0.66	1.63	4.41	7.92	1268.46	1267.6	1.63
1.1	0.49	1.56	3.8	7.25	1268.44	1267.58	1.56
1.12	0.4	1.48	3.32	6.6	1268.41	1267.56	1.48
1.13	0.31	1.41	2.85	5.99	1268.39	1267.53	1.41
1.15	0.22	1.33	2.37	5.4	1268.36	1267.51	1.33
1.17	0.13	1.25	1.89	4.84	1268.34	1267.49	1.25
1.18	0.05	1.18	1.58	4.3	1268.31	1267.47	1.18
1.2	0.02	1.1	1.44	3.81	1268.29	1267.45	1.1
1.22	0.02	1.04	1.31	3.4	1268.27	1267.44	1.04

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Ave.
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Suite 220

Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	**Max: 5.07**	**Max: 1.76**	**Max: 14.01**	**Max: 11.46**	**Max: 1268.53**	**Max: 1267.77**	**Max: 1.76**
1.23	0.02	0.98	1.18	2.99	1268.25	1267.42	0.98
1.25	0.02	0.93	1.06	2.65	1268.23	1267.41	0.93
1.27	0.02	0.87	0.93	2.35	1268.21	1267.4	0.87
1.28	0.02	0.82	0.83	2.09	1268.19	1267.39	0.82
1.3	0.02	0.78	0.78	1.87	1268.17	1267.39	0.78
1.32	0.02	0.73	0.74	1.68	1268.15	1267.38	0.73
1.33	0.02	0.69	0.69	1.53	1268.14	1267.37	0.69
1.35	0.02	0.65	0.66	1.35	1268.13	1267.37	0.65
1.37	0.02	0.62	0.62	1.19	1268.11	1267.36	0.62
1.38	0.01	0.59	0.59	1.07	1268.1	1267.36	0.59
1.4	0.01	0.57	0.57	0.96	1268.09	1267.35	0.57
1.42	0.01	0.56	0.56	0.88	1268.07	1267.35	0.56
1.43	0.01	0.54	0.54	0.8	1268.06	1267.35	0.54
1.45	0.01	0.52	0.52	0.75	1268.05	1267.35	0.52
1.47	0.01	0.5	0.51	0.7	1268.04	1267.35	0.5
1.48	0.01	0.49	0.49	0.65	1268.03	1267.34	0.49
1.5	0.01	0.47	0.47	0.62	1268.02	1267.34	0.47
1.52	0.01	0.46	0.46	0.58	1268.01	1267.34	0.46
1.53	0.01	0.44	0.44	0.56	1268	1267.34	0.44
1.55	0.01	0.43	0.43	0.53	1267.99	1267.34	0.43
1.57	0.01	0.42	0.42	0.51	1267.98	1267.34	0.42
1.58	0.01	0.4	0.4	0.49	1267.97	1267.34	0.4
1.6	0.01	0.39	0.39	0.47	1267.96	1267.34	0.39
1.62	0.01	0.38	0.38	0.45	1267.96	1267.34	0.38
1.63	0.01	0.37	0.37	0.44	1267.95	1267.34	0.37
1.65	0.01	0.35	0.35	0.42	1267.94	1267.34	0.35
1.67	0.01	0.34	0.34	0.4	1267.93	1267.34	0.34
1.68	0.01	0.33	0.33	0.39	1267.92	1267.33	0.33
1.7	0.01	0.32	0.32	0.38	1267.92	1267.33	0.32
1.72	0.01	0.31	0.31	0.37	1267.91	1267.33	0.31
1.73	0.01	0.3	0.3	0.35	1267.9	1267.33	0.3
1.75	0.01	0.29	0.29	0.34	1267.9	1267.33	0.29
1.77	0.01	0.28	0.28	0.33	1267.89	1267.33	0.28
1.78	0.01	0.27	0.27	0.32	1267.89	1267.33	0.27
1.8	0.01	0.27	0.27	0.31	1267.88	1267.33	0.27
1.82	0.01	0.26	0.26	0.3	1267.87	1267.33	0.26
1.83	0.01	0.25	0.25	0.3	1267.87	1267.33	0.25

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Ave.
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Suite 220

Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	**Max: 5.07**	**Max: 1.76**	**Max: 14.01**	**Max: 11.46**	**Max: 1268.53**	**Max: 1267.77**	**Max: 1.76**
1.85	0.01	0.24	0.24	0.29	1267.86	1267.33	0.24
1.87	0.01	0.23	0.23	0.28	1267.86	1267.33	0.23
1.88	0.01	0.23	0.23	0.27	1267.85	1267.33	0.23
1.9	0.01	0.22	0.22	0.26	1267.85	1267.33	0.22
1.92	0.01	0.21	0.21	0.25	1267.84	1267.33	0.21
1.93	0	0.21	0.21	0.24	1267.84	1267.33	0.21
1.95	0	0.2	0.2	0.23	1267.83	1267.33	0.2
1.97	0	0.19	0.19	0.23	1267.83	1267.33	0.19
1.98	0	0.19	0.19	0.22	1267.83	1267.33	0.19
2	0	0.18	0.18	0.21	1267.82	1267.33	0.18
2.02	0	0.18	0.18	0.21	1267.82	1267.33	0.18
2.03	0	0.17	0.17	0.2	1267.82	1267.33	0.17
2.05	0	0.16	0.16	0.2	1267.81	1267.33	0.16
2.07	0	0.16	0.16	0.19	1267.81	1267.33	0.16
2.08	0	0.15	0.15	0.18	1267.8	1267.33	0.15
2.1	0	0.15	0.15	0.18	1267.8	1267.33	0.15
2.12	0	0.14	0.14	0.17	1267.8	1267.33	0.14
2.13	0	0.14	0.14	0.16	1267.8	1267.33	0.14
2.15	0	0.14	0.14	0.16	1267.79	1267.33	0.14
2.17	0	0.13	0.13	0.15	1267.79	1267.33	0.13
2.18	0	0.13	0.13	0.15	1267.79	1267.33	0.13
2.2	0	0.12	0.12	0.14	1267.78	1267.33	0.12
2.22	0	0.12	0.12	0.14	1267.78	1267.33	0.12
2.23	0	0.12	0.12	0.14	1267.78	1267.33	0.12
2.25	0	0.11	0.11	0.13	1267.78	1267.32	0.11
2.27	0	0.11	0.11	0.13	1267.77	1267.32	0.11
2.28	0	0.11	0.11	0.12	1267.77	1267.32	0.11
2.3	0	0.1	0.1	0.12	1267.77	1267.32	0.1
2.32	0	0.1	0.1	0.12	1267.77	1267.32	0.1
2.33	0	0.1	0.1	0.11	1267.77	1267.32	0.1
2.35	0	0.09	0.09	0.11	1267.76	1267.32	0.09
2.37	0	0.09	0.09	0.11	1267.76	1267.32	0.09
2.38	0	0.09	0.09	0.11	1267.76	1267.32	0.09
2.4	0	0.08	0.08	0.1	1267.76	1267.32	0.08
2.42	0	0.08	0.08	0.1	1267.76	1267.32	0.08
2.43	0	0.08	0.08	0.1	1267.75	1267.32	0.08
2.45	0	0.08	0.08	0.09	1267.75	1267.32	0.08

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Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	**Max: 5.07**	**Max: 1.76**	**Max: 14.01**	**Max: 11.46**	**Max: 1268.53**	**Max: 1267.77**	**Max: 1.76**
2.47	0	0.07	0.07	0.09	1267.75	1267.32	0.07
2.48	0	0.07	0.07	0.09	1267.75	1267.32	0.07
2.5	0	0.07	0.07	0.08	1267.75	1267.32	0.07
2.52	0	0.07	0.07	0.08	1267.75	1267.32	0.07
2.53	0	0.06	0.06	0.08	1267.74	1267.32	0.06
2.55	0	0.06	0.06	0.07	1267.74	1267.32	0.06
2.57	0	0.06	0.06	0.07	1267.74	1267.32	0.06
2.58	0	0.06	0.06	0.07	1267.74	1267.32	0.06
2.6	0	0.06	0.06	0.07	1267.74	1267.32	0.06
2.62	0	0.06	0.06	0.06	1267.74	1267.32	0.06
2.63	0	0.05	0.05	0.06	1267.74	1267.32	0.05
2.65	0	0.05	0.05	0.06	1267.74	1267.32	0.05
2.67	0	0.05	0.05	0.06	1267.73	1267.32	0.05
2.68	0	0.05	0.05	0.06	1267.73	1267.32	0.05
2.7	0	0.05	0.05	0.05	1267.73	1267.32	0.05
2.72	0	0.05	0.05	0.05	1267.73	1267.32	0.05
2.73	0	0.04	0.04	0.05	1267.73	1267.32	0.04
2.75	0	0.04	0.04	0.05	1267.73	1267.32	0.04
2.77	0	0.04	0.04	0.05	1267.73	1267.32	0.04
2.78	0	0.04	0.04	0.05	1267.73	1267.32	0.04
2.8	0	0.04	0.04	0.05	1267.73	1267.32	0.04
2.82	0	0.04	0.04	0.04	1267.73	1267.32	0.04
2.83	0	0.04	0.04	0.04	1267.73	1267.32	0.04
2.85	0	0.04	0.04	0.04	1267.73	1267.32	0.04
2.87	0	0.03	0.03	0.04	1267.72	1267.32	0.03
2.88	0	0.03	0.03	0.04	1267.72	1267.32	0.03
2.9	0	0.03	0.03	0.04	1267.72	1267.32	0.03
2.92	0	0.03	0.03	0.04	1267.72	1267.32	0.03
2.93	0	0.03	0.03	0.04	1267.72	1267.32	0.03
2.95	0	0.03	0.03	0.03	1267.72	1267.32	0.03
2.97	0	0.03	0.03	0.03	1267.72	1267.32	0.03
2.98	0	0.03	0.03	0.03	1267.72	1267.32	0.03
3	0	0.03	0.03	0.03	1267.72	1267.32	0.03
3.02	0	0.03	0.03	0.03	1267.72	1267.32	0.03
3.03	0	0.03	0.03	0.03	1267.72	1267.32	0.03
3.05	0	0.03	0.03	0.03	1267.72	1267.32	0.03
3.07	0	0.03	0.03	0.03	1267.72	1267.32	0.03

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Max: 4.28	**Max: 5.07**	**Max: 1.76**	**Max: 14.01**	**Max: 11.46**	**Max: 1268.53**	**Max: 1267.77**	**Max: 1.76**
3.08	0	0.03	0.03	0.03	1267.72	1267.32	0.03
3.1	0	0.03	0.03	0.03	1267.72	1267.32	0.03
3.12	0	0.03	0.03	0.03	1267.71	1267.32	0.03
3.13	0	0.03	0.03	0.03	1267.71	1267.32	0.03
3.15	0	0.03	0.03	0.03	1267.71	1267.32	0.03
3.17	0	0.03	0.03	0.03	1267.71	1267.32	0.03
3.18	0	0.02	0.02	0.03	1267.71	1267.32	0.02
3.2	0	0.02	0.02	0.03	1267.71	1267.32	0.02
3.22	0	0.02	0.02	0.03	1267.71	1267.32	0.02
3.23	0	0.02	0.02	0.03	1267.71	1267.32	0.02
3.25	0	0.02	0.02	0.03	1267.71	1267.32	0.02
3.27	0	0.02	0.02	0.03	1267.71	1267.32	0.02
3.28	0	0.02	0.02	0.03	1267.71	1267.32	0.02
3.3	0	0.02	0.02	0.03	1267.71	1267.32	0.02
3.32	0	0.02	0.02	0.03	1267.71	1267.32	0.02
3.33	0	0.02	0.02	0.03	1267.71	1267.32	0.02
3.35	0	0.02	0.02	0.03	1267.71	1267.32	0.02
3.37	0	0.02	0.02	0.03	1267.71	1267.32	0.02
3.38	0	0.02	0.02	0.03	1267.71	1267.32	0.02
3.4	0	0.02	0.02	0.03	1267.71	1267.32	0.02
3.42	0	0.02	0.02	0.03	1267.71	1267.32	0.02
3.43	0	0.02	0.02	0.03	1267.71	1267.32	0.02
3.45	0	0.02	0.02	0.03	1267.7	1267.32	0.02
3.47	0	0.02	0.02	0.03	1267.7	1267.32	0.02
3.48	0	0.02	0.02	0.03	1267.7	1267.32	0.02
3.5	0	0.02	0.02	0.03	1267.7	1267.32	0.02
3.52	0	0.02	0.02	0.03	1267.7	1267.32	0.02
3.53	0	0.02	0.02	0.03	1267.7	1267.32	0.02
3.55	0	0.02	0.02	0.03	1267.7	1267.32	0.02
3.57	0	0.02	0.02	0.03	1267.7	1267.32	0.02
3.58	0	0.02	0.02	0.03	1267.7	1267.32	0.02
3.6	0	0.02	0.02	0.03	1267.7	1267.32	0.02
3.62	0	0.02	0.02	0.03	1267.7	1267.32	0.02
3.63	0	0.02	0.02	0.03	1267.7	1267.32	0.02
3.65	0	0.02	0.02	0.03	1267.7	1267.32	0.02
3.67	0	0.02	0.02	0.03	1267.7	1267.32	0.02
3.68	0	0.02	0.02	0.03	1267.7	1267.32	0.02

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Suite 220

Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	**Max: 5.07**	**Max: 1.76**	**Max: 14.01**	**Max: 11.46**	**Max: 1268.53**	**Max: 1267.77**	**Max: 1.76**
3.7	0	0.02	0.02	0.03	1267.7	1267.32	0.02
3.72	0	0.02	0.02	0.02	1267.7	1267.32	0.02
3.73	0	0.02	0.02	0.02	1267.7	1267.32	0.02
3.75	0	0.02	0.02	0.02	1267.7	1267.32	0.02
3.77	0	0.02	0.02	0.02	1267.7	1267.32	0.02
3.78	0	0.02	0.02	0.02	1267.69	1267.32	0.02
3.8	0	0.02	0.02	0.02	1267.69	1267.32	0.02
3.82	0	0.02	0.02	0.02	1267.69	1267.32	0.02
3.83	0	0.02	0.02	0.02	1267.69	1267.32	0.02
3.85	0	0.02	0.02	0.02	1267.69	1267.32	0.02
3.87	0	0.02	0.02	0.02	1267.69	1267.32	0.02
3.88	0	0.02	0.02	0.02	1267.69	1267.32	0.02
3.9	0	0.02	0.02	0.02	1267.69	1267.32	0.02
3.92	0	0.02	0.02	0.02	1267.69	1267.32	0.02
3.93	0	0.02	0.02	0.02	1267.69	1267.32	0.02
3.95	0	0.02	0.02	0.02	1267.69	1267.32	0.02
3.97	0	0.02	0.02	0.02	1267.69	1267.32	0.02
3.98	0	0.02	0.02	0.02	1267.69	1267.32	0.02
4	0	0.02	0.02	0.02	1267.69	1267.32	0.02
4.02	0	0.02	0.02	0.02	1267.69	1267.32	0.02
4.03	0	0.02	0.02	0.02	1267.69	1267.32	0.02
4.05	0	0.02	0.02	0.02	1267.69	1267.32	0.02
4.07	0	0.02	0.02	0.02	1267.69	1267.32	0.02
4.08	0	0.02	0.02	0.02	1267.69	1267.32	0.02
4.1	0	0.02	0.02	0.02	1267.69	1267.32	0.02
4.12	0	0.02	0.02	0.02	1267.69	1267.32	0.02
4.13	0	0.02	0.02	0.02	1267.69	1267.32	0.02
4.15	0	0.02	0.02	0.02	1267.69	1267.32	0.02
4.17	0	0.02	0.02	0.02	1267.69	1267.32	0.02
4.18	0	0.02	0.02	0.02	1267.69	1267.32	0.02
4.2	0	0.02	0.02	0.02	1267.69	1267.32	0.02
4.22	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.23	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.25	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.27	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.28	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.3	0	0.02	0.02	0.02	1267.68	1267.32	0.02

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Time (hours)	Basin A - Inflow (cfs)	Basin A Outflow (cfs)	Basin B - Inflow (cfs)	Basin B - Outflow (cfs)	Basin A - Watersurface / HGL (ft)	Basin B - Watersurface / HGL (ft)	CO-1 (Culvert) - Flow (cfs)
Max: 4.28	**Max: 5.07**	**Max: 1.76**	**Max: 14.01**	**Max: 11.46**	**Max: 1268.53**	**Max: 1267.77**	**Max: 1.76**
4.32	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.33	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.35	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.37	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.38	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.4	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.42	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.43	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.45	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.47	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.48	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
4.5	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.52	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.53	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.55	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
4.57	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
4.58	0	0.02	0.02	0.02	1,267.68	1,267.32	0.02
4.6	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.62	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.63	0	0.02	0.02	0.02	1267.68	1267.32	0.02
4.65	0	0.01	0.01	0.02	1267.68	1267.32	0.01
4.67	0	0.01	0.01	0.02	1267.67	1267.32	0.01
4.68	0	0.01	0.01	0.02	1267.67	1267.32	0.01
4.7	0	0.01	0.01	0.02	1267.67	1267.32	0.01
4.72	0	0.01	0.01	0.02	1267.67	1267.32	0.01
4.73	0	0.01	0.01	0.02	1267.67	1267.32	0.01
4.75	0	0.01	0.01	0.02	1267.67	1267.32	0.01
4.77	0	0.01	0.01	0.02	1267.67	1267.32	0.01
4.78	0	0.01	0.01	0.02	1267.67	1267.32	0.01
4.8	0	0.01	0.01	0.02	1267.67	1267.32	0.01
4.82	0	0.01	0.01	0.02	1267.67	1267.32	0.01
4.83	0	0.01	0.01	0.02	1267.67	1267.32	0.01
4.85	0	0.01	0.01	0.02	1267.67	1267.32	0.01
4.87	0	0.01	0.01	0.02	1267.67	1267.32	0.01
4.88	0	0.01	0.01	0.02	1267.67	1267.32	0.01
4.9	0	0.01	0.01	0.02	1267.67	1267.32	0.01

Hydraulic Routing Analysis:

Conduit Hydraulic Results At 57.00 Minutes (Time of Maximum Outflow at Point of Connection)

100 Year 1 Hour Design Storm

DAVID EVANS AND ASSOCIATES INC
41951 Remington Ave.
Temecula, CA 92590
Suite 220

ID	Label	Start Node	Stop Node	Invert (Start) (ft)	Invert (Stop) (ft)	Length (ft)	Slope (Calculated) (ft/ft)	Section Type	Diameter (in)	Manning's n	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Finished Surface (In) (ft)	Finished Surface (Out) (ft)	Time (Maximum Flow) (min)	Flow (Maximum) (cfs)	Time (Maximum Calculated Velocity) (min)	Velocity (Maximum Calculated) (ft/s)	Time to Maximum Hydraulic Grade (min)	Hydraulic Grade (Maximum) (ft)
43	CO-1	Overflow Culvert - Basin A	O-1	1,267.62	1,266.82	79.2	0.01	Circle	12	0.013	1,267.94	1,267.77	1,269.00	1,269.00	61	1.76	61	1.71	59	1,267.86
57	CO-2	Overflow - Basin B	MH-1	1,263.62	1,262.36	314.2	0.004	Circle	24	0.02	1,265.73	1,265.73	1,271.66	1,274.36	57	11.46	57	3.65	53	1,265.73
59	CO-3	MH-1	Point of Connection	1,262.36	1,262.00	90	0.004	Circle	24	0.02	1,265.73	1,265.73	1,274.36	1,269.43	57	11.46	57	3.65	53	1,265.73
93	CO-4	CB-1	O-3	1,266.84	1,266.82	5.5	0.004	Circle	24	0.02	1,268.10	1,268.05	1,271.75	1,269.00	51	13.58	51	5.62	51	1,268.27
97	CO-6	CB-3	O-4	1,267.31	1,267.12	50.5	0.004	Circle	18	0.02	1,268.55	1,268.49	1,271.12	1,270.89	51	5.1	51	3.66	60	1,268.54

Interpretation: Hydraulic Routing for conduit CO-4 demonstrates that the system outflow at the point of connection is 11.46 cfs, which is below the existing condition project flow rate of 15.85 cfs. Therefore, storm water mitigation for the 100 Year design storm is achieved. Although this is not the design criteria for this storm event, this flow rate demonstrates that the offsite RCB box storm drain on Collier Ave has the capacity to carry the 100 year flow, since it was design to account for a 100 year flow rate of 21 cfs. Refer to Appendix H, Storm Drain Improvement Plans for Collier Ave. Refer to Appendix G for Hydraulic Calculations used to sized pipes.

Composite Outlet Structures Detailed Report: Culvert to Basin A

Element Details			
Label	Culvert to Basin A	Notes	

Headwater Range			
Headwater Type	Use Pond for Headwater Range	Increment (Headwater)	0.60 ft
Pond	Basin A	Maximum (Headwater)	1,269.62 ft
Minimum (Headwater)	1,264.12 ft		
Spot Elevation (ft)			

Tailwater Setup			
Tailwater Type	Interconnected Ponds	Increment (Tailwater)	0.50 ft
Minimum (Tailwater)	1,267.62 ft	Maximum (Tailwater)	1,269.62 ft
Spot Elevation (ft)			

Tailwater Tolerances			
Maximum Iterations	30	Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft	Flow Tolerance (Minimum)	0.001 ft³/s
Headwater Tolerance (Maximum)	0.50 ft	Flow Tolerance (Maximum)	10.000 ft³/s
Tailwater Tolerance (Minimum)	0.01 ft		

Outlet Structure			
Outlet Structure Type	Culvert	Culvert Type	Circular
Flow Direction	Forward and Reverse Flow		

Outlet Structure (IDs and Direction)			
Outlet ID	Culvert - 1	Notes	
Downstream ID	Tailwater		

Outlet Structure (Advanced)			
Elevation (On)	0.00 ft	Elevation (Off)	0.00 ft

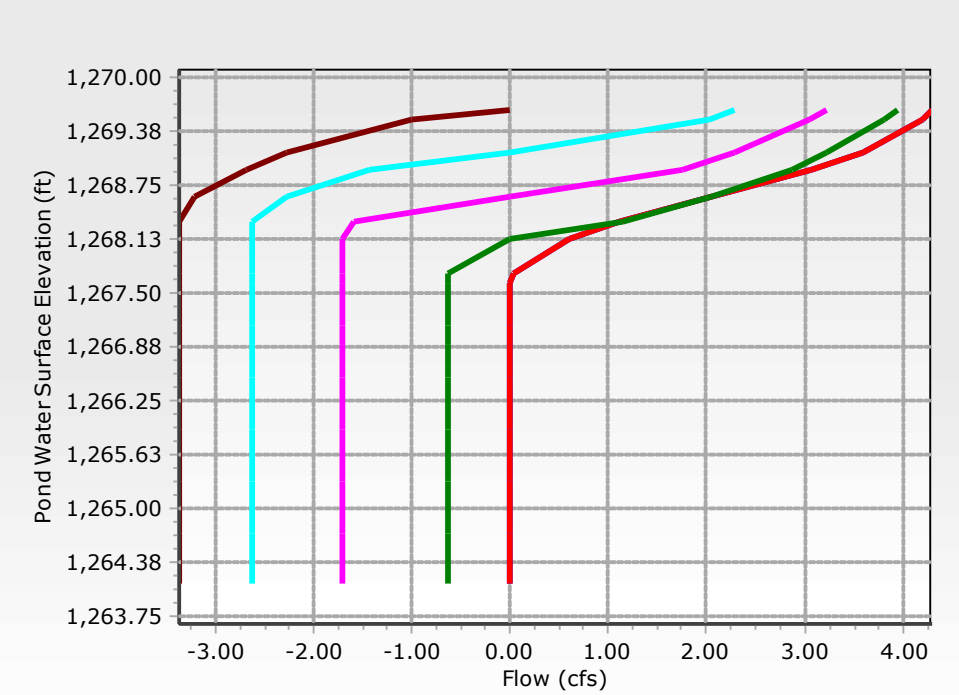
Culvert Data			
Number of Barrels	1	Downstream Invert	1,266.90 ft
Length	74.5 ft	Diameter	12.0 in
Upstream Invert	1,267.62 ft		

Composite Outlet Structures Detailed Report: Culvert to Basin A

Unsubmerged->Submerged			
Specify Transitions	False	Compute Inlet Control Only	False

Culvert Coefficients			
Inlet Description	Concrete - Square edge w/ headwall	C	0.0398
Chart	Chart 1	Y	0.6700
Nomograph	Nomograph 1	Manning's n	0.013
Equation Form	Form 1	Ke	0.500
K	0.0098	Kr	0.000
M	2.0000	Slope Correction Factor	-0.500

Culvert (Advanced)			
Convergence Tolerance	0.00 ft	Specify Number of Backwater Sections?	False



RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,264.12	0.00	1,266.90	0.00
1,264.72	0.00	1,266.90	0.00
1,265.32	0.00	1,266.90	0.00
1,265.92	0.00	1,266.90	0.00
1,266.52	0.00	1,266.90	0.00
1,266.90	0.00	1,266.90	0.00
1,267.12	0.00	1,266.90	0.00
1,267.62	0.00	1,266.90	0.00
1,267.72	0.03	1,266.90	0.00
1,268.12	0.60	1,266.90	0.00
1,268.32	1.12	1,266.90	0.00
1,268.62	2.05	1,266.90	0.00
1,268.92	3.07	1,266.90	0.00
1,269.12	3.60	1,266.90	0.00
1,269.52	4.20	1,266.90	0.00
1,269.62	4.30	1,266.90	0.00

Computation Messages
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
Upstream HW & DNstream TW < Inv.El
Upstream HW & DNstream TW < Inv.El
Upstream HW & DNstream TW < Inv.El
CRIT.DEPTH CONTROL Vh= .022ft Dcr= .066ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .118ft Dcr= .324ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .170ft Dcr= .445ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .258ft Dcr= .612ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .366ft Dcr= .751ft CRIT.DEPTH Hev= .00ft

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
INLET CONTROL... Submerged: HW =1.50
FULL FLOW...Lfull=55.72ft Vh=.444ft HL=1.439ft Hev= .00ft
FULL FLOW...Lfull=60.87ft Vh=.466ft HL=1.587ft Hev= .00ft

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,264.12	0.00	1,267.62	0.00
1,264.72	0.00	1,267.62	0.00
1,265.32	0.00	1,267.62	0.00
1,265.92	0.00	1,267.62	0.00
1,266.52	0.00	1,267.62	0.00
1,266.90	0.00	1,267.62	0.00
1,267.12	0.00	1,267.62	0.00
1,267.62	0.00	1,267.62	0.00
1,267.72	0.03	1,267.62	0.00
1,268.12	0.60	1,267.62	0.00
1,268.32	1.12	1,267.62	0.00
1,268.62	2.05	1,267.62	0.00
1,268.92	3.07	1,267.62	0.00
1,269.12	3.60	1,267.62	0.00
1,269.52	4.20	1,267.62	0.00
1,269.62	4.30	1,267.62	0.00

Computation Messages
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
REVERSE BACKWATER.. Vh= .000ft twDi= .728ft Lbw= 74.5ft Hev= .00ft
Upstream HW & DNstream TW < Inv.El
CRIT.DEPTH CONTROL Vh= .022ft Dcr= .066ft H.JUMP IN PIPE Hev= .00ft
CRIT.DEPTH CONTROL Vh= .118ft Dcr= .324ft H.JUMP IN PIPE Hev= .00ft
CRIT.DEPTH CONTROL Vh= .170ft Dcr= .445ft H.JUMP IN PIPE Hev= .00ft
CRIT.DEPTH CONTROL Vh= .258ft Dcr= .612ft H.JUMP IN PIPE Hev= .00ft
CRIT.DEPTH CONTROL Vh= .366ft Dcr= .751ft CRIT.DEPTH Hev= .00ft
INLET CONTROL... Submerged: HW =1.50
FULL FLOW...Lfull=55.72ft Vh=.444ft HL=1.439ft Hev= .00ft
FULL FLOW...Lfull=60.87ft Vh=.466ft HL=1.587ft Hev= .00ft

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,264.12	-0.63	1,268.12	0.00
1,264.72	-0.63	1,268.12	0.00
1,265.32	-0.63	1,268.12	0.00
1,265.92	-0.63	1,268.12	0.00
1,266.52	-0.63	1,268.12	0.00

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,266.90	-0.63	1,268.12	0.00
1,267.12	-0.63	1,268.12	0.00
1,267.62	-0.63	1,268.12	0.00
1,267.72	-0.63	1,268.12	0.00
1,268.12	0.00	1,268.12	0.00
1,268.32	1.15	1,268.12	0.00
1,268.62	2.05	1,268.12	0.00
1,268.92	2.88	1,268.12	0.00
1,269.12	3.22	1,268.12	0.00
1,269.52	3.81	1,268.12	0.00
1,269.62	3.94	1,268.12	0.00

Computation Messages
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
REVERSE FULL: Lfull=20.59ft Vh=.010ft HL=.021ft Hev= .00ft
HW = TW elev
BACKWATER CONTROL.. Vh= .131ft hwDi= .503ft Lbw= 49.0ft Hev= .00ft
CRIT.DEPTH CONTROL Vh= .258ft Dcr= .612ft H.JUMP IN PIPE Hev= .00ft
BACKWATER CONTROL.. Vh= .211ft hwDi= .985ft Lbw= 4.0ft Hev= .00ft
FULL FLOW...Lfull=74.50ft Vh=.261ft HL=.999ft Hev= .00ft

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
FULL FLOW...Lfull=74.50ft Vh=.365ft HL=1.400ft Hev= .00ft
FULL FLOW...Lfull=74.50ft Vh=.392ft HL=1.501ft Hev= .00ft

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,264.12	-1.71	1,268.62	0.00
1,264.72	-1.71	1,268.62	0.00
1,265.32	-1.71	1,268.62	0.00
1,265.92	-1.71	1,268.62	0.00
1,266.52	-1.71	1,268.62	0.00
1,266.90	-1.71	1,268.62	0.00
1,267.12	-1.71	1,268.62	0.00
1,267.62	-1.71	1,268.62	0.00
1,267.72	-1.71	1,268.62	0.00
1,268.12	-1.71	1,268.62	0.00
1,268.32	-1.60	1,268.62	0.00
1,268.62	0.00	1,268.62	0.00
1,268.92	1.76	1,268.62	0.00
1,269.12	2.28	1,268.62	0.00
1,269.52	3.05	1,268.62	0.00
1,269.62	3.22	1,268.62	0.00

Computation Messages
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=50.83ft Vh=.074ft HL=.229ft Hev= .00ft
REVERSE FULL: Lfull=53.25ft Vh=.065ft HL=.205ft Hev= .00ft
HW = TW elev
FULL FLOW...Lfull=74.50ft Vh=.078ft HL=.300ft Hev= .00ft
FULL FLOW...Lfull=74.50ft Vh=.131ft HL=.500ft Hev= .00ft
FULL FLOW...Lfull=74.50ft Vh=.235ft HL=.900ft Hev= .00ft
FULL FLOW...Lfull=74.50ft Vh=.261ft HL=1.000ft Hev= .00ft

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,264.12	-2.63	1,269.12	0.00
1,264.72	-2.63	1,269.12	0.00
1,265.32	-2.63	1,269.12	0.00
1,265.92	-2.63	1,269.12	0.00
1,266.52	-2.63	1,269.12	0.00
1,266.90	-2.63	1,269.12	0.00
1,267.12	-2.63	1,269.12	0.00
1,267.62	-2.63	1,269.12	0.00
1,267.72	-2.63	1,269.12	0.00
1,268.12	-2.63	1,269.12	0.00
1,268.32	-2.63	1,269.12	0.00

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,268.62	-2.28	1,269.12	0.00
1,268.92	-1.44	1,269.12	0.00
1,269.12	0.00	1,269.12	0.00
1,269.52	2.03	1,269.12	0.00
1,269.62	2.28	1,269.12	0.00

Computation Messages
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.605ft Hev= .00ft
REVERSE FULL: Lfull=63.52ft Vh=.174ft HL=.606ft Hev= .00ft
REVERSE FULL: Lfull=74.50ft Vh=.131ft HL=.500ft Hev= .00ft
REVERSE FULL: Lfull=74.50ft Vh=.052ft HL=.201ft Hev= .00ft
HW = TW elev
FULL FLOW...Lfull=74.50ft Vh=.104ft HL=.399ft Hev= .00ft
FULL FLOW...Lfull=74.50ft Vh=.131ft HL=.501ft Hev= .00ft

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,264.12	-3.38	1,269.62	0.00
1,264.72	-3.38	1,269.62	0.00
1,265.32	-3.38	1,269.62	0.00
1,265.92	-3.38	1,269.62	0.00
1,266.52	-3.38	1,269.62	0.00
1,266.90	-3.38	1,269.62	0.00
1,267.12	-3.38	1,269.62	0.00
1,267.62	-3.38	1,269.62	0.00
1,267.72	-3.38	1,269.62	0.00
1,268.12	-3.38	1,269.62	0.00
1,268.32	-3.38	1,269.62	0.00
1,268.62	-3.22	1,269.62	0.00
1,268.92	-2.69	1,269.62	0.00
1,269.12	-2.28	1,269.62	0.00
1,269.52	-1.01	1,269.62	0.00
1,269.62	0.00	1,269.62	0.00

Computation Messages
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=69.10ft Vh=.287ft HL=1.052ft Hev= .00ft
REVERSE FULL: Lfull=74.50ft Vh=.261ft HL=1.000ft Hev= .00ft

Composite Outlet Structures Detailed Report: Culvert to Basin A

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 3.77 cfs
Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
REVERSE FULL: Lfull=74.50ft Vh=.183ft HL=.700ft Hev= .00ft
REVERSE FULL: Lfull=74.50ft Vh=.131ft HL=.500ft Hev= .00ft
REVERSE FULL: Lfull=74.50ft Vh=.026ft HL=.099ft Hev= .00ft
HW = TW elev

Composite Outlet Structures Detailed Report: Outlet to Basin B

Element Details			
Label	Outlet to Basin B	Notes	

Headwater Range			
Headwater Type	Use Pond for Headwater Range	Increment (Headwater)	0.60 ft
Pond	Basin B	Maximum (Headwater)	1,268.82 ft
Minimum (Headwater)	1,263.62 ft		
Spot Elevation (ft)			

Tailwater Setup			
Tailwater Type	Interconnected Ponds	Increment (Tailwater)	0.60 ft
Minimum (Tailwater)	1,263.60 ft	Maximum (Tailwater)	1,269.00 ft
Spot Elevation (ft)			

Tailwater Tolerances			
Maximum Iterations	30	Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft	Flow Tolerance (Minimum)	0.001 ft³/s
Headwater Tolerance (Maximum)	0.50 ft	Flow Tolerance (Maximum)	10.000 ft³/s
Tailwater Tolerance (Minimum)	0.01 ft		

Outlet Structure			
Outlet Structure Type	Riser	Orifice Coefficient	0.600
Flow Direction	Forward and Reverse Flow	Transition Elevation	0.00 ft
Riser Type	Inlet Box	Transition Height	0.0 ft
Elevation	1,267.32 ft	K Reverse	1.000
Weir Coefficient	3.00 ft^(1/2)/s		

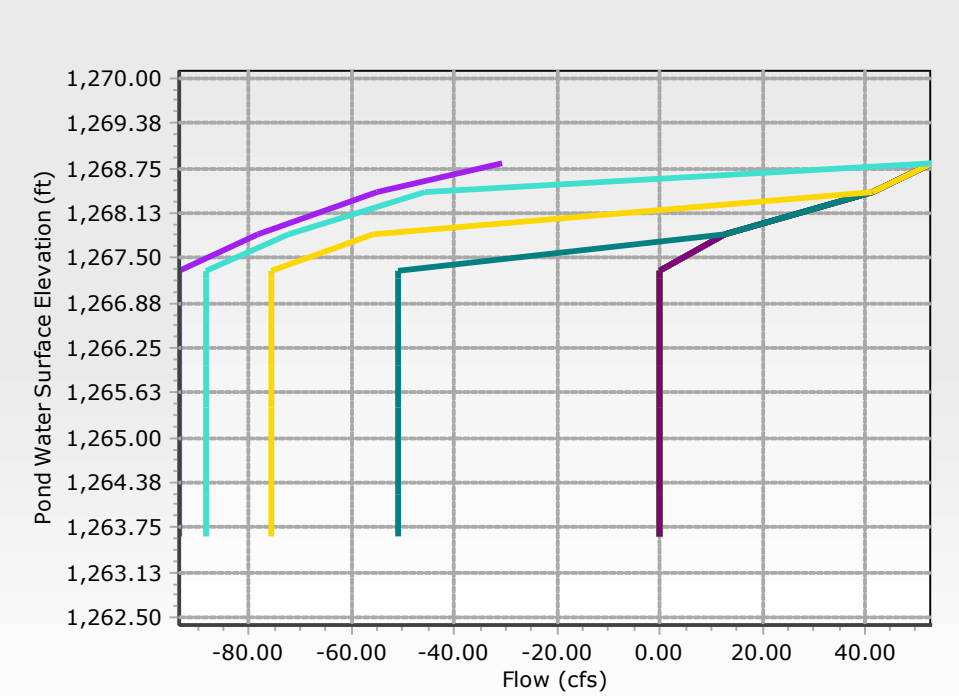
Outlet Structure (IDs and Direction)			
Outlet ID	Riser - 1	Notes	
Downstream ID	Tailwater		

Outlet Structure (Advanced)			
Elevation (On)	0.00 ft	Elevation (Off)	0.00 ft

Outlet Structure (Riser)			
Weir Length	12.0 ft	Orifice Area	9.0 ft²

Composite Outlet Structures Detailed Report: Outlet to Basin B

Outlet Structure (Riser, Advanced)			
Use Orifice Depth to Crest?	True	Use Submerged Weir Equation?	False



RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,263.60	0.00
1,264.22	0.00	1,263.60	0.00
1,264.82	0.00	1,263.60	0.00
1,265.42	0.00	1,263.60	0.00
1,266.02	0.00	1,263.60	0.00
1,266.62	0.00	1,263.60	0.00
1,267.22	0.00	1,263.60	0.00
1,267.32	0.00	1,263.60	0.00
1,267.82	12.73	1,263.60	0.00
1,268.42	41.53	1,263.60	0.00
1,268.82	53.05	1,263.60	0.00

Computation Messages
HW & TW < Inv.El.=1267.320

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
Weir: H =0ft
Weir: H =0.5ft
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,263.62	0.00
1,264.22	0.00	1,263.62	0.00
1,264.82	0.00	1,263.62	0.00
1,265.42	0.00	1,263.62	0.00
1,266.02	0.00	1,263.62	0.00
1,266.62	0.00	1,263.62	0.00
1,267.22	0.00	1,263.62	0.00
1,267.32	0.00	1,263.62	0.00
1,267.82	12.73	1,263.62	0.00
1,268.42	41.53	1,263.62	0.00
1,268.82	53.05	1,263.62	0.00

Computation Messages
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
Weir: H =0ft
Weir: H =0.5ft

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,264.22	0.00
1,264.22	0.00	1,264.22	0.00
1,264.82	0.00	1,264.22	0.00
1,265.42	0.00	1,264.22	0.00
1,266.02	0.00	1,264.22	0.00
1,266.62	0.00	1,264.22	0.00
1,267.22	0.00	1,264.22	0.00
1,267.32	0.00	1,264.22	0.00
1,267.82	12.73	1,264.22	0.00
1,268.42	41.53	1,264.22	0.00
1,268.82	53.05	1,264.22	0.00

Computation Messages
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
Weir: H =0ft
Weir: H =0.5ft
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,264.82	0.00
1,264.22	0.00	1,264.82	0.00
1,264.82	0.00	1,264.82	0.00
1,265.42	0.00	1,264.82	0.00
1,266.02	0.00	1,264.82	0.00
1,266.62	0.00	1,264.82	0.00
1,267.22	0.00	1,264.82	0.00
1,267.32	0.00	1,264.82	0.00
1,267.82	12.73	1,264.82	0.00
1,268.42	41.53	1,264.82	0.00
1,268.82	53.05	1,264.82	0.00

Computation Messages
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
Weir: H =0ft
Weir: H =0.5ft
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,265.42	0.00
1,264.22	0.00	1,265.42	0.00
1,264.82	0.00	1,265.42	0.00
1,265.42	0.00	1,265.42	0.00
1,266.02	0.00	1,265.42	0.00
1,266.62	0.00	1,265.42	0.00

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,267.22	0.00	1,265.42	0.00
1,267.32	0.00	1,265.42	0.00
1,267.82	12.73	1,265.42	0.00
1,268.42	41.53	1,265.42	0.00
1,268.82	53.05	1,265.42	0.00

Computation Messages
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
Weir: H =0ft
Weir: H =0.5ft
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,266.02	0.00
1,264.22	0.00	1,266.02	0.00
1,264.82	0.00	1,266.02	0.00
1,265.42	0.00	1,266.02	0.00
1,266.02	0.00	1,266.02	0.00
1,266.62	0.00	1,266.02	0.00
1,267.22	0.00	1,266.02	0.00
1,267.32	0.00	1,266.02	0.00
1,267.82	12.73	1,266.02	0.00
1,268.42	41.53	1,266.02	0.00
1,268.82	53.05	1,266.02	0.00

Computation Messages

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
Weir: H =0ft
Weir: H =0.5ft
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,266.62	0.00
1,264.22	0.00	1,266.62	0.00
1,264.82	0.00	1,266.62	0.00
1,265.42	0.00	1,266.62	0.00
1,266.02	0.00	1,266.62	0.00
1,266.62	0.00	1,266.62	0.00
1,267.22	0.00	1,266.62	0.00
1,267.32	0.00	1,266.62	0.00
1,267.82	12.73	1,266.62	0.00
1,268.42	41.53	1,266.62	0.00
1,268.82	53.05	1,266.62	0.00

Computation Messages
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
Weir: H =0ft

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Computation Messages
Weir: H =0.5ft
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,267.22	0.00
1,264.22	0.00	1,267.22	0.00
1,264.82	0.00	1,267.22	0.00
1,265.42	0.00	1,267.22	0.00
1,266.02	0.00	1,267.22	0.00
1,266.62	0.00	1,267.22	0.00
1,267.22	0.00	1,267.22	0.00
1,267.32	0.00	1,267.22	0.00
1,267.82	12.73	1,267.22	0.00
1,268.42	41.53	1,267.22	0.00
1,268.82	53.05	1,267.22	0.00

Computation Messages
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
HW & TW < Inv.El.=1267.320
Weir: H =0ft
Weir: H =0.5ft
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,267.32	0.00
1,264.22	0.00	1,267.32	0.00
1,264.82	0.00	1,267.32	0.00
1,265.42	0.00	1,267.32	0.00
1,266.02	0.00	1,267.32	0.00
1,266.62	0.00	1,267.32	0.00
1,267.22	0.00	1,267.32	0.00
1,267.32	0.00	1,267.32	0.00
1,267.82	12.73	1,267.32	0.00
1,268.42	41.53	1,267.32	0.00
1,268.82	53.05	1,267.32	0.00

Computation Messages
REVERSE: Head=.00 Hbarrel=1.0000 Vh=.00
REVERSE: Head=.00 Hbarrel=1.0000 Vh=.00
REVERSE: Head=.00 Hbarrel=1.0000 Vh=.00
REVERSE: Head=.00 Hbarrel=1.0000 Vh=.00
REVERSE: Head=.00 Hbarrel=1.0000 Vh=.00
REVERSE: Head=.00 Hbarrel=1.0000 Vh=.00
REVERSE: Head=.00 Hbarrel=1.0000 Vh=.00
Weir: H =0ft
Weir: H =0.5ft
Weir: H =1.1ft
Orifice: H =1.50; Riser orifice equation controlling.

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	-51.05	1,267.82	0.00
1,264.22	-51.05	1,267.82	0.00
1,264.82	-51.05	1,267.82	0.00
1,265.42	-51.05	1,267.82	0.00
1,266.02	-51.05	1,267.82	0.00
1,266.62	-51.05	1,267.82	0.00
1,267.22	-51.05	1,267.82	0.00
1,267.32	-51.05	1,267.82	0.00
1,267.82	12.73	1,267.82	0.00
1,268.42	41.53	1,267.82	0.00
1,268.82	53.05	1,267.82	0.00

Computation Messages
REVERSE: Head=.50 Hbarrel=1.0000 Vh=.50
REVERSE: Head=.50 Hbarrel=1.0000 Vh=.50
REVERSE: Head=.50 Hbarrel=1.0000 Vh=.50
REVERSE: Head=.50 Hbarrel=1.0000 Vh=.50
REVERSE: Head=.50 Hbarrel=1.0000 Vh=.50
REVERSE: Head=.50 Hbarrel=1.0000 Vh=.50
REVERSE: Head=.50 Hbarrel=1.0000 Vh=.50
REVERSE: Head=.50 Hbarrel=1.0000 Vh=.50
FULLY CHARGED RISER: ADJUSTED TO WEIR: H =0.5ft
FULLY CHARGED RISER: ADJUSTED TO WEIR: H =1.1ft
FULLY CHARGED RISER: Orifice Equation Control to Crest; H=1.50

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	-75.72	1,268.42	0.00
1,264.22	-75.72	1,268.42	0.00
1,264.82	-75.72	1,268.42	0.00
1,265.42	-75.72	1,268.42	0.00
1,266.02	-75.72	1,268.42	0.00
1,266.62	-75.72	1,268.42	0.00
1,267.22	-75.72	1,268.42	0.00
1,267.32	-75.72	1,268.42	0.00
1,267.82	-55.92	1,268.42	0.00
1,268.42	41.53	1,268.42	0.00
1,268.82	53.05	1,268.42	0.00

Computation Messages
REVERSE: Head=1.10 Hbarrel=1.0000 Vh=1.10
REVERSE: Head=1.10 Hbarrel=1.0000 Vh=1.10
REVERSE: Head=1.10 Hbarrel=1.0000 Vh=1.10
REVERSE: Head=1.10 Hbarrel=1.0000 Vh=1.10
REVERSE: Head=1.10 Hbarrel=1.0000 Vh=1.10
REVERSE: Head=1.10 Hbarrel=1.0000 Vh=1.10
REVERSE: Head=1.10 Hbarrel=1.0000 Vh=1.10
REVERSE: Head=1.10 Hbarrel=1.0000 Vh=1.10
REVERSE: Head=.60 Hbarrel=1.0000 Vh=.60
FULLY CHARGED RISER: ADJUSTED TO WEIR: H =1.1ft
FULLY CHARGED RISER: Orifice Equation Control to Crest; H=1.50

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	-88.42	1,268.82	0.00
1,264.22	-88.42	1,268.82	0.00
1,264.82	-88.42	1,268.82	0.00
1,265.42	-88.42	1,268.82	0.00
1,266.02	-88.42	1,268.82	0.00
1,266.62	-88.42	1,268.82	0.00
1,267.22	-88.42	1,268.82	0.00
1,267.32	-88.42	1,268.82	0.00
1,267.82	-72.20	1,268.82	0.00
1,268.42	-45.66	1,268.82	0.00
1,268.82	53.05	1,268.82	0.00

Computation Messages
REVERSE: Head=1.50 Hbarrel=1.0000 Vh=1.50
REVERSE: Head=1.50 Hbarrel=1.0000 Vh=1.50
REVERSE: Head=1.50 Hbarrel=1.0000 Vh=1.50
REVERSE: Head=1.50 Hbarrel=1.0000 Vh=1.50
REVERSE: Head=1.50 Hbarrel=1.0000 Vh=1.50
REVERSE: Head=1.50 Hbarrel=1.0000 Vh=1.50
REVERSE: Head=1.50 Hbarrel=1.0000 Vh=1.50
REVERSE: Head=1.50 Hbarrel=1.0000 Vh=1.50
REVERSE: Head=1.00 Hbarrel=1.0000 Vh=1.00
REVERSE: Head=.40 Hbarrel=1.0000 Vh=.40
FULLY CHARGED RISER: Orifice Equation Control to Crest; H=1.50

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Composite Outlet Structures Detailed Report: Outlet to Basin B

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	-93.58	1,269.00	0.00
1,264.22	-93.58	1,269.00	0.00
1,264.82	-93.58	1,269.00	0.00
1,265.42	-93.58	1,269.00	0.00
1,266.02	-93.58	1,269.00	0.00
1,266.62	-93.58	1,269.00	0.00
1,267.22	-93.58	1,269.00	0.00
1,267.32	-93.58	1,269.00	0.00
1,267.82	-78.42	1,269.00	0.00
1,268.42	-54.98	1,269.00	0.00
1,268.82	-30.63	1,269.00	0.00

Computation Messages
REVERSE: Head=1.68 Hbarrel=1.0000 Vh=1.68
REVERSE: Head=1.68 Hbarrel=1.0000 Vh=1.68
REVERSE: Head=1.68 Hbarrel=1.0000 Vh=1.68
REVERSE: Head=1.68 Hbarrel=1.0000 Vh=1.68
REVERSE: Head=1.68 Hbarrel=1.0000 Vh=1.68
REVERSE: Head=1.68 Hbarrel=1.0000 Vh=1.68
REVERSE: Head=1.68 Hbarrel=1.0000 Vh=1.68
REVERSE: Head=1.68 Hbarrel=1.0000 Vh=1.68
REVERSE: Head=1.18 Hbarrel=1.0000 Vh=1.18
REVERSE: Head=.58 Hbarrel=1.0000 Vh=.58
REVERSE: Head=.18 Hbarrel=1.0000 Vh=.18

Composite Outlet Structures Detailed Report: Outlet to Basin B

Composite Rating Table
TW Elev. = 1,263.60 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,263.60	0.00
1,264.22	0.00	1,263.60	0.00
1,264.82	0.00	1,263.60	0.00
1,265.42	0.00	1,263.60	0.00
1,266.02	0.00	1,263.60	0.00
1,266.62	0.00	1,263.60	0.00
1,267.22	0.00	1,263.60	0.00
1,267.32	0.00	1,263.60	0.00
1,267.82	12.73	1,263.60	0.00
1,268.42	41.53	1,263.60	0.00
1,268.82	53.05	1,263.60	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
Riser - 1
Riser - 1
Riser - 1
Riser - 1

Composite Rating Table
TW Elev. = 1,263.62 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,263.62	0.00
1,264.22	0.00	1,263.62	0.00
1,264.82	0.00	1,263.62	0.00
1,265.42	0.00	1,263.62	0.00
1,266.02	0.00	1,263.62	0.00
1,266.62	0.00	1,263.62	0.00
1,267.22	0.00	1,263.62	0.00
1,267.32	0.00	1,263.62	0.00
1,267.82	12.73	1,263.62	0.00
1,268.42	41.53	1,263.62	0.00
1,268.82	53.05	1,263.62	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing

Composite Outlet Structures Detailed Report: Outlet to Basin B

Composite Rating Table
TW Elev. = 1,263.62 ft (Outlet to Basin B)

Contributing Structures
None Contributing
None Contributing
Riser - 1
Riser - 1
Riser - 1
Riser - 1

Composite Rating Table
TW Elev. = 1,264.22 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,264.22	0.00
1,264.22	0.00	1,264.22	0.00
1,264.82	0.00	1,264.22	0.00
1,265.42	0.00	1,264.22	0.00
1,266.02	0.00	1,264.22	0.00
1,266.62	0.00	1,264.22	0.00
1,267.22	0.00	1,264.22	0.00
1,267.32	0.00	1,264.22	0.00
1,267.82	12.73	1,264.22	0.00
1,268.42	41.53	1,264.22	0.00
1,268.82	53.05	1,264.22	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
Riser - 1
Riser - 1
Riser - 1
Riser - 1

Composite Rating Table
TW Elev. = 1,264.82 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,264.82	0.00
1,264.22	0.00	1,264.82	0.00
1,264.82	0.00	1,264.82	0.00
1,265.42	0.00	1,264.82	0.00
1,266.02	0.00	1,264.82	0.00
1,266.62	0.00	1,264.82	0.00
1,267.22	0.00	1,264.82	0.00
1,267.32	0.00	1,264.82	0.00

Composite Outlet Structures Detailed Report: Outlet to Basin B

Composite Rating Table
TW Elev. = 1,264.82 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,267.82	12.73	1,264.82	0.00
1,268.42	41.53	1,264.82	0.00
1,268.82	53.05	1,264.82	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
Riser - 1
Riser - 1
Riser - 1
Riser - 1

Composite Rating Table
TW Elev. = 1,265.42 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,265.42	0.00
1,264.22	0.00	1,265.42	0.00
1,264.82	0.00	1,265.42	0.00
1,265.42	0.00	1,265.42	0.00
1,266.02	0.00	1,265.42	0.00
1,266.62	0.00	1,265.42	0.00
1,267.22	0.00	1,265.42	0.00
1,267.32	0.00	1,265.42	0.00
1,267.82	12.73	1,265.42	0.00
1,268.42	41.53	1,265.42	0.00
1,268.82	53.05	1,265.42	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
Riser - 1
Riser - 1
Riser - 1
Riser - 1

Composite Rating Table
TW Elev. = 1,266.02 ft (Outlet to Basin B)

Composite Outlet Structures Detailed Report: Outlet to Basin B

Composite Rating Table
TW Elev. = 1,266.02 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,266.02	0.00
1,264.22	0.00	1,266.02	0.00
1,264.82	0.00	1,266.02	0.00
1,265.42	0.00	1,266.02	0.00
1,266.02	0.00	1,266.02	0.00
1,266.62	0.00	1,266.02	0.00
1,267.22	0.00	1,266.02	0.00
1,267.32	0.00	1,266.02	0.00
1,267.82	12.73	1,266.02	0.00
1,268.42	41.53	1,266.02	0.00
1,268.82	53.05	1,266.02	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
Riser - 1
Riser - 1
Riser - 1
Riser - 1

Composite Rating Table
TW Elev. = 1,266.62 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,266.62	0.00
1,264.22	0.00	1,266.62	0.00
1,264.82	0.00	1,266.62	0.00
1,265.42	0.00	1,266.62	0.00
1,266.02	0.00	1,266.62	0.00
1,266.62	0.00	1,266.62	0.00
1,267.22	0.00	1,266.62	0.00
1,267.32	0.00	1,266.62	0.00
1,267.82	12.73	1,266.62	0.00
1,268.42	41.53	1,266.62	0.00
1,268.82	53.05	1,266.62	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing

Composite Outlet Structures Detailed Report: Outlet to Basin B

Composite Rating Table
TW Elev. = 1,266.62 ft (Outlet to Basin B)

Contributing Structures
None Contributing
None Contributing
Riser - 1
Riser - 1
Riser - 1
Riser - 1

Composite Rating Table
TW Elev. = 1,267.22 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,267.22	0.00
1,264.22	0.00	1,267.22	0.00
1,264.82	0.00	1,267.22	0.00
1,265.42	0.00	1,267.22	0.00
1,266.02	0.00	1,267.22	0.00
1,266.62	0.00	1,267.22	0.00
1,267.22	0.00	1,267.22	0.00
1,267.32	0.00	1,267.22	0.00
1,267.82	12.73	1,267.22	0.00
1,268.42	41.53	1,267.22	0.00
1,268.82	53.05	1,267.22	0.00

Contributing Structures
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
Riser - 1
Riser - 1
Riser - 1
Riser - 1

Composite Rating Table
TW Elev. = 1,267.32 ft (Outlet to Basin B)

Water Surface Elevation (ft)	Flow (cfs)	Tailwater Elevation (ft)	Convergence Error (ft)
1,263.62	0.00	1,267.32	0.00
1,264.22	0.00	1,267.32	0.00
1,264.82	0.00	1,267.32	0.00
1,265.42	0.00	1,267.32	0.00
1,266.02	0.00	1,267.32	0.00
1,266.62	0.00	1,267.32	0.00
1,267.22	0.00	1,267.32	0.00
1,267.32	0.00	1,267.32	0.00

Elevation-Volume - Basin A (Pond)

Elevation (ft)	Volume (ft³)	Percent Void Space (%)
1,264.12	0.0	100.0
1,265.12	1,058.4	100.0
1,267.12	2,646.0	100.0
1,267.62	3,969.0	100.0
1,268.12	5,292.0	100.0
1,268.62	6,615.0	100.0
1,269.12	7,938.0	100.0
1,269.62	9,261.0	100.0

Gravel Layer (Void Ration = 0.40)

Soil Layer (Void Ratio = 0.30)

*Volume for soil and gravel layer already calculated in Volume Column.

Elevation-Volume - Basin B (Pond)

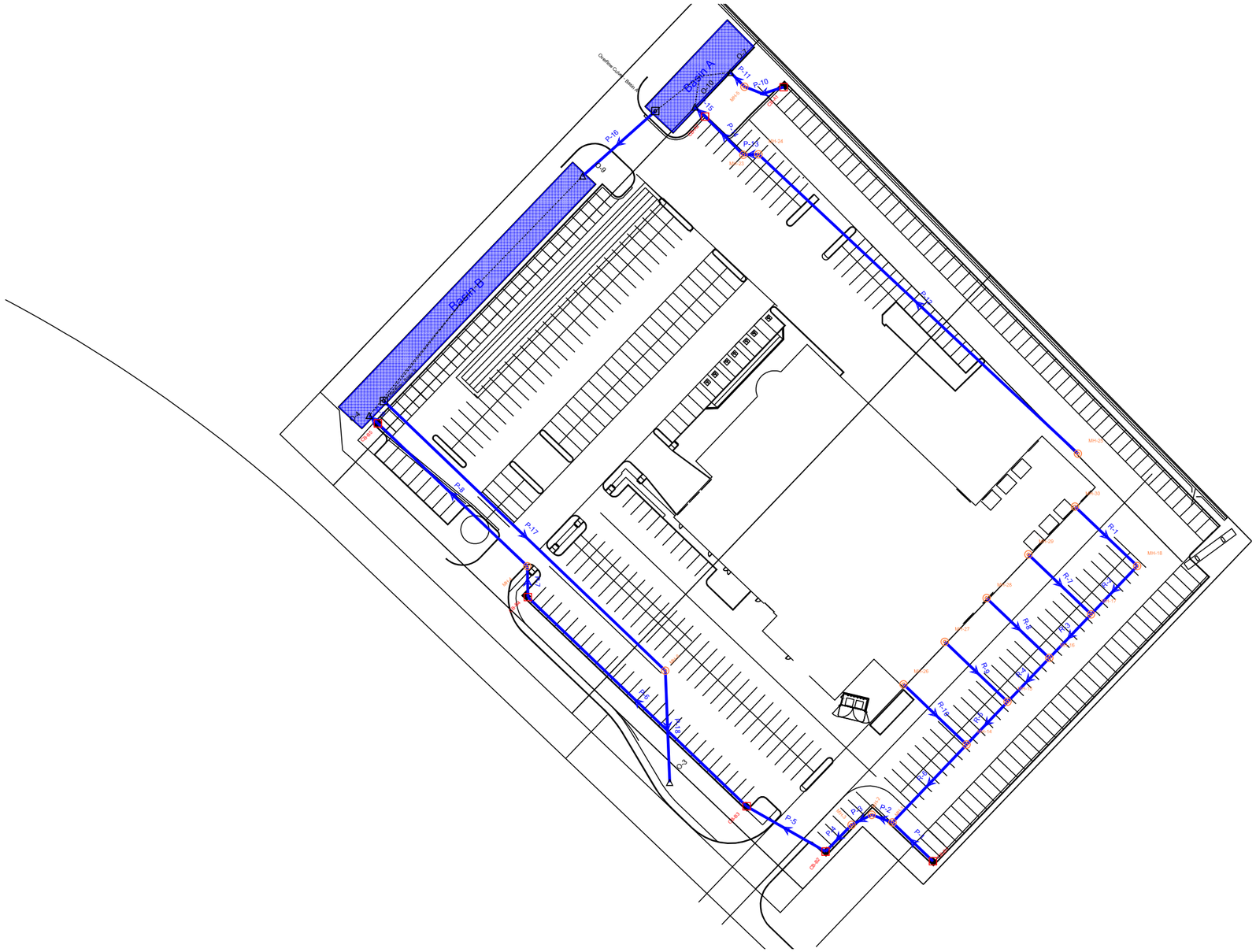
Elevation (ft)	Volume (ft³)	Percent Void Space (%)
1,263.62	0.0	100.0
1,264.62	2,754.4	100.0
1,266.82	7,299.2	100.0
1,267.32	10,742.2	100.0
1,267.82	14,185.2	100.0
1,268.32	17,628.2	100.0
1,268.82	21,071.2	100.0

*Volume for soil and gravel layer already calculated in Volume Column.

Appendix G: Onsite Storm Drain Hydraulics

- Storm Drain Hydraulics Exhibit
- 10 Year Onsite Storm Drain Analysis
- 100 Year Onsite Storm Drain Analysis
- Flow Rate Distribution
- 4.5’ Rectangular Channel Capacity Analysis
- Onsite Inlet Analysis

StormcadV8i: Hydraulic Exhibit



Bentley StormCAD V8i (SELECT series 3) - Storm Drain Analysis (10 Year Storm Event)

	Pipe Properties										Hydraulic Properties				Surface Properties		Other
	Label	Start Node	Stop Node	Invert (Stop) (ft)	Invert (Start) (ft)	Diameter (in)	User Defined Length (ft)	Section Type	Slope (Calculated) (ft/ft)	Manning's n	Capacity (Design) (cfs)	Flow (cfs)	Velocity (fps)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Elevation Ground (Start) (ft)	Elevation Ground (Stop) (ft)	Notes
Tributary to Basin A	P-10	CB-A1	MH-5	1,267.32	1,267.18	18	35.9	Circle	0.004	0.02	4.27	2.78	2.57	1,268.17	1,267.97	1,271.12	1,271.96	
	P-11	MH-5	O-7	1,267.18	1,267.12	18	15.5	Circle	0.004	0.02	4.24	2.78	2.56	1,267.97	1,267.76	1,271.96	1,272.11	
	P-12	MH-25	MH-24	1,269.75	1,267.97	6	355.6	Circle	0.005	0.015	0.34	0.28	1.95	1,270.09	1,268.29	1,275.61	1,272.08	
	P-13	MH-24	MH-23	1,267.96	1,267.90	6	12.3	Circle	0.005	0.015	0.35	0.28	1.96	1,268.29	1,268.17	1,272.08	1,272.12	
	P-14	MH-23	CB-A2	1,267.39	1,267.18	12	44	Circle	0.005	0.018	1.79	0.28	1.66	1,267.78	1,267.77	1,272.12	1,271.94	
	P-15	CB-A2	O-10	1,267.18	1,267.12	12	11.5	Circle	0.005	0.018	1.81	0.58	2.05	1,267.77	1,267.76	1,271.94	1,272.56	
	P-16	Overflow Culver - Basin A	O-9	1,267.62	1,266.82	12	74.3	Circle	0.011	0.013	3.7	0.1	2.06	1,267.75	1,267.43	1,273.70	1,273.13	
Tributary to Basin B	R-7	MH-29	MH-17	1,273.00	1,270.81	6	70.4	Circle	0.031	0.015	0.86	0.46	4.44	1,273.35	1,271.34	1,276.00	1,276.00	Refer to Appendix 'H' for Tailwater Calculation used hereon.
	R-8	MH-28	MH-16	1,273.39	1,270.57	6	70.4	Circle	0.04	0.015	0.97	0.46	4.89	1,273.73	1,271.20	1,276.00	1,275.55	
	R-9	MH-27	MH-15	1,273.00	1,270.32	6	70.5	Circle	0.038	0.015	0.95	0.46	4.8	1,273.35	1,270.56	1,276.00	1,275.06	
	R-10	MH-26	MH-14	1,273.00	1,269.58	6	70.8	Circle	0.048	0.015	1.07	0.46	5.24	1,273.35	1,270.32	1,276.00	1,274.57	
	R-1	MH-30	MH-18	1,273.00	1,271.08	6	69.9	Circle	0.028	0.015	0.81	0.46	4.24	1,273.35	1,271.44	1,276.00	1,276.00	
	R-2	MH-18	MH-17	1,271.08	1,270.81	12	54.2	Circle	0.005	0.018	1.8	0.46	1.92	1,271.44	1,271.34	1,276.00	1,276.00	
	R-3	MH-17	MH-16	1,270.81	1,270.57	12	49.1	Circle	0.005	0.018	1.78	0.92	2.29	1,271.34	1,271.20	1,276.00	1,275.55	
	R-4	MH-16	MH-15	1,270.55	1,270.32	12	49.1	Circle	0.005	0.018	1.78	1.38	2.5	1,271.20	1,270.82	1,275.55	1,275.06	
	R-5	MH-15	MH-14	1,269.81	1,269.58	18	48.1	Circle	0.005	0.02	4.74	1.84	2.51	1,270.48	1,270.32	1,275.06	1,274.57	
	R-6	MH-14	MH-1	1,269.57	1,269.14	18	87.3	Circle	0.005	0.02	4.8	2.3	2.69	1,270.32	1,270.05	1,274.57	1,273.65	
	P-1	CB-B1	MH-1	1,270.40	1,270.22	12	42.6	Circle	0.004	0.018	1.66	1.45	2.38	1,271.09	1,270.73	1,272.78	1,273.65	
	P-2	MH-1	MH-2	1,269.14	1,269.08	24	15.7	Circle	0.004	0.02	9.25	3.75	2.79	1,270.05	1,269.99	1,273.65	1,274.38	
	P-3	MH-2	MH-3	1,269.08	1,269.02	24	15.7	Circle	0.004	0.02	9.32	3.75	2.81	1,269.99	1,269.94	1,274.38	1,273.86	
	P-4	MH-3	CB-B2	1,269.02	1,268.89	24	30.5	Circle	0.004	0.02	9.37	3.75	2.82	1,269.94	1,269.86	1,273.86	1,273.54	
	P-5	CB-B2	CB-B3	1,268.88	1,268.59	24	73.5	Circle	0.004	0.02	9.27	4.3	2.9	1,269.86	1,269.63	1,273.54	1,273.51	
	P-6	CB-B3	CB-B4	1,268.58	1,267.60	24	245	Circle	0.004	0.02	9.3	5.07	3.02	1,269.63	1,268.73	1,273.51	1,271.98	
	P-7	CB-B4	MH-4	1,267.60	1,267.51	24	22.5	Circle	0.004	0.02	9.19	5.71	3.08	1,268.73	1,268.65	1,271.98	1,272.37	
	P-8	MH-4	CB-B5	1,267.51	1,266.84	24	166.1	Circle	0.004	0.02	9.3	5.71	3.11	1,268.65	1,268.03	1,272.37	1,271.18	
	P-9	CB-B5	O-4	1,266.84	1,266.82	24	5.5	Circle	0.004	0.02	9.3	8.67	3.36	1,268.03	1,267.87	1,271.18	1,271.58	
	P-17	Overflow - Basin B	MH-6	1,263.62	1,262.36	24	314.2	Circle	0.004	0.02	9.31	4.46	1.42	1,266.10	1,265.81	1,271.66	1,274.36	
	P-18	MH-6	O-3	1,262.36	1,262.00	24	90	Circle	0.004	0.02	9.27	4.46	1.42	1,265.81	1,265.73	1,274.36	1,269.43	

Notes:

Final flow rate reflects the mitigated flow rate using the rating table from the Hydraulic Routing Analysis. Value produced hereon (4.46 cfs) is slightly higher then the routing analysis (2.92 cfs) and reflects a more conservative design approach for the purpose of storm drain sizing.

Bentley StormCAD V8i (SELECT series 3) - Storm Drain Analysis (100 Year Storm Event)

	Pipe Properties											Hydraulic Properties				Surface Properties		Other
	Label	Start Node	Stop Node	Invert (Stop) (ft)	Invert (Start) (ft)	Diameter (in)	User Defined Length (ft)	Section Type	Slope (Calculated) (ft/ft)	Manning's n	Capacity (Design) (cfs)	Flow (cfs)	Velocity (fps)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Elevation Ground (Start) (ft)	Elevation Ground (Stop) (ft)	Notes
Tributary to Basin A	P-10	CB-A1	MH-5	1,267.32	1,267.18	18	35.9	Circle	0.004	0.02	4.27	4.35	2.75	1,268.71	1,268.58	1,271.12	1,271.96	
	P-11	MH-5	O-7	1,267.18	1,267.12	18	15.5	Circle	0.004	0.02	4.24	4.35	2.73	1,268.58	1,268.53	1,271.96	1,272.11	
	P-12	MH-25	MH-24	1,269.75	1,267.97	6	355.6	Circle	0.005	0.015	0.34	0.44	2.24	1,271.57	1,268.66	1,275.61	1,272.08	
	P-13	MH-24	MH-23	1,267.96	1,267.90	6	12.3	Circle	0.005	0.015	0.35	0.44	2.24	1,268.66	1,268.56	1,272.08	1,272.12	
	P-14	MH-23	CB-A2	1,267.39	1,267.18	12	44	Circle	0.005	0.018	1.79	0.44	0.56	1,268.56	1,268.54	1,272.12	1,271.94	
	P-15	CB-A2	O-10	1,267.18	1,267.12	12	11.5	Circle	0.005	0.018	1.81	0.91	1.16	1,268.54	1,268.53	1,271.94	1,272.56	
	P-16	Overflow Culver - Basin A	O-9	1,267.62	1,266.82	12	74.3	Circle	0.011	0.013	3.7	1.8	4.68	1,268.19	1,267.77	1,273.70	1,273.13	
Tributary to Basin B	R-7	MH-29	MH-17	1,273.00	1,270.81	6	70.4	Circle	0.031	0.015	0.86	0.72	4.89	1,273.43	1,271.59	1,276.00	1,276.00	
	R-8	MH-28	MH-16	1,273.39	1,270.57	6	70.4	Circle	0.04	0.015	0.97	0.72	5.42	1,273.81	1,271.45	1,276.00	1,275.55	
	R-9	MH-27	MH-15	1,273.00	1,270.32	6	70.5	Circle	0.038	0.015	0.95	0.72	5.31	1,273.43	1,270.64	1,276.00	1,275.06	
	R-10	MH-26	MH-14	1,273.00	1,269.58	6	70.8	Circle	0.048	0.015	1.07	0.72	5.84	1,273.43	1,270.61	1,276.00	1,274.57	
	R-1	MH-30	MH-18	1,273.00	1,271.08	6	69.9	Circle	0.028	0.015	0.81	0.72	4.64	1,273.43	1,271.64	1,276.00	1,276.00	Refer to Appendix 'H' for Tailwater Calculation used hereon.
	R-2	MH-18	MH-17	1,271.08	1,270.81	12	54.2	Circle	0.005	0.018	1.8	0.72	2.16	1,271.64	1,271.59	1,276.00	1,276.00	
	R-3	MH-17	MH-16	1,270.81	1,270.57	12	49.1	Circle	0.005	0.018	1.78	1.44	2.52	1,271.59	1,271.45	1,276.00	1,275.55	
	R-4	MH-16	MH-15	1,270.55	1,270.32	12	49.1	Circle	0.005	0.018	1.78	2.16	2.75	1,271.45	1,270.95	1,275.55	1,275.06	
	R-5	MH-15	MH-14	1,269.81	1,269.58	18	48.1	Circle	0.005	0.02	4.74	2.88	2.81	1,270.74	1,270.61	1,275.06	1,274.57	
	R-6	MH-14	MH-1	1,269.57	1,269.14	18	87.3	Circle	0.005	0.02	4.8	3.6	2.98	1,270.61	1,270.34	1,274.57	1,273.65	
	P-1	CB-B1	MH-1	1,270.40	1,270.22	12	42.6	Circle	0.004	0.018	1.66	2.27	2.89	1,271.34	1,270.87	1,272.78	1,273.65	
	P-2	MH-1	MH-2	1,269.14	1,269.08	24	15.7	Circle	0.004	0.02	9.25	5.87	3.12	1,270.34	1,270.29	1,273.65	1,274.38	
	P-3	MH-2	MH-3	1,269.08	1,269.02	24	15.7	Circle	0.004	0.02	9.32	5.87	3.14	1,270.29	1,270.24	1,274.38	1,273.86	
	P-4	MH-3	CB-B2	1,269.02	1,268.89	24	30.5	Circle	0.004	0.02	9.37	5.87	3.15	1,270.24	1,270.15	1,273.86	1,273.54	
	P-5	CB-B2	CB-B3	1,268.88	1,268.59	24	73.5	Circle	0.004	0.02	9.27	6.24	3.16	1,270.15	1,269.94	1,273.54	1,273.51	
	P-6	CB-B3	CB-B4	1,268.58	1,267.60	24	245	Circle	0.004	0.02	9.3	7.45	3.29	1,269.94	1,269.09	1,273.51	1,271.98	
	P-7	CB-B4	MH-4	1,267.60	1,267.51	24	22.5	Circle	0.004	0.02	9.19	8.45	3.32	1,269.09	1,269.00	1,271.98	1,272.37	
	P-8	MH-4	CB-B5	1,267.51	1,266.84	24	166.1	Circle	0.004	0.02	9.3	8.45	3.36	1,269.00	1,268.33	1,272.37	1,271.18	
	P-9	CB-B5	O-4	1,266.84	1,266.82	24	5.5	Circle	0.004	0.02	9.3	13.07	4.16	1,268.33	1,268.12	1,271.18	1,271.58	
	P-17	Overflow - Basin B	MH-6	1,263.62	1,262.36	24	314.2	Circle	0.004	0.02	9.31	11.67	3.71	1,268.28	1,266.30	1,271.66	1,274.36	
	P-18	MH-6	O-3	1,262.36	1,262.00	24	90	Circle	0.004	0.02	9.27	11.67	3.71	1,266.30	1,265.73	1,274.36	1,269.43	

Notes:

Final flow rate reflects the mitigated flow rate using the rating table from the Hydraulic Routing Analysis. Value produced hereon (11.67 cfs) is slightly higher then the routing analysis (11.46 cfs) and reflects a more conservative design approach for the purpose of storm drain sizing.

Inlet Tributary Flow/Areas

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Ave. Suite 220
Temecula, Ca
92590

Catch Basin Type	Inlet ID	Sub-Area (Ac)	Q10 (cfs)	Q Tributary to Inlet
Area A				
Sump	A1	1.38	3.36	2.78
Sump	A2	0.15		0.30
Sump	A3 (Roof)	0.10		0.20
Sump	A4 (Roof)	0.04		0.08
Total Area:		1.67	-	
Area B				
Sump	B1 (Roof)	1.25	8.81	2.29
Sump	B2	0.13		0.24
Sump	B3	0.42		0.77
Sump	B4	0.35		0.64
Sump	B5	1.61		2.96
Sump	B6	0.79		1.45
Basin B	-	0.25		0.46
Total Area:		4.80		

Catch Basin Type	Inlet ID	Sub-Area (Ac)	Q100 (cfs)	Q Tributary to Inlet
Area A				
Sump	A1	1.38	5.26	4.35
Sump	A2	0.15		0.47
Sump	A3 (Roof)	0.10		0.31
Sump	A4 (Roof)	0.04		0.13
Total Area:		1.67	-	
Area B				
Sump	B1 (Roof)	1.25	13.78	3.59
Sump	B2	0.13		0.37
Sump	B3	0.42		1.21
Sump	B4	0.35		1.00
Sump	B5	1.61		4.62
Sump	B6	0.79		2.27
Basin B	-	0.25		0.72
Total Area:		4.80		

Worksheet for Proposed 3.5' Rectangular Channel

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00500	ft/ft
Normal Depth	3.50	ft
Bottom Width	3.00	ft

Results

Discharge	87.67	ft^3/s
Flow Area	10.50	ft^2
Wetted Perimeter	10.00	ft
Hydraulic Radius	1.05	ft
Top Width	3.00	ft
Critical Depth	2.98	ft
Critical Slope	0.00736	ft/ft
Velocity	8.35	ft/s
Velocity Head	1.08	ft
Specific Energy	4.58	ft
Froude Number	0.79	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	3.50	ft
Critical Depth	2.98	ft
Channel Slope	0.00500	ft/ft
Critical Slope	0.00736	ft/ft

Onsite Inlet Analysis

Project Description

Solve For	Spread

Input Data

Discharge		4.62	ft³/s
Gutter Width		2.00	ft
Gutter Cross Slope		0.01	ft/ft
Road Cross Slope		0.01	ft/ft
Grate Width		2.00	ft
Grate Length		2.00	ft
Local Depression		0.00	in
Local Depression Width		0.00	ft
Grate Type	P-50 mm (P-1-7/8")		
Clogging		0.00	%

Results

Spread	81.44	ft
Depth	0.42	ft
Gutter Depression	0.01	ft
Total Depression	0.01	ft
Open Grate Area	3.60	ft²
Active Grate Weir Length	6.00	ft

Messages

Notes

Design flow rate used is based on the tributary flow for Inlet B5 (Q=4.62 CFS)
Ponding depth (0.42 ft) is less then curb height of 6 inches.

Therefore, all onsite inlets (proposed to be 2'x'2) are adequate.

Appendix H: References

- USDA Soil Survey
- NOAA Point Precipitation Report
- Storm Drain Improvement Plans TPM 37284 Collier Ave
- Preliminary Third Street Storm Drain Stage 2 Plans

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Western Riverside Area, California

November 1, 2017

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:2,150 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Western Riverside Area, California
Survey Area Data: Version 10, Sep 12, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 24, 2015—Feb 26, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AlD	Arbuckle gravelly loam, 8 to 15 percent slopes	0.1	1.6%
GdA	Garretson gravelly very fine sandy loam, 0 to 2 percent slopes	7.9	97.5%
GdC	Garretson gravelly very fine sandy loam, 2 to 8 percent slopes	0.1	0.9%
Totals for Area of Interest		**8.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Western Riverside Area, California

AID—Arbuckle gravelly loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: hcqs
Elevation: 100 to 1,600 feet
Mean annual precipitation: 12 to 35 inches
Mean annual air temperature: 57 to 64 degrees F
Frost-free period: 200 to 280 days
Farmland classification: Not prime farmland

Map Unit Composition

Arbuckle and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arbuckle

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Alluvium derived from metasedimentary rock

Typical profile

H1 - 0 to 26 inches: gravelly loam
H2 - 26 to 45 inches: gravelly clay loam
H3 - 45 to 68 inches: stratified very gravelly sandy loam to very gravelly sandy clay loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: LOAMY (1975) (R019XD029CA)
Hydric soil rating: No

Minor Components

Perkins

Percent of map unit: 5 percent
Hydric soil rating: No

Garretson
Percent of map unit: 5 percent
Hydric soil rating: No

Cortina
Percent of map unit: 5 percent
Hydric soil rating: No

GdA—Garretson gravelly very fine sandy loam, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: hcv4
Elevation: 50 to 3,000 feet
Mean annual precipitation: 12 to 25 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 250 to 350 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Garretson and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Garretson

Setting
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from metasedimentary rock

Typical profile
H1 - 0 to 10 inches: gravelly very fine sandy loam
H2 - 10 to 53 inches: gravelly loam
H3 - 53 to 72 inches: loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.4 inches)

Interpretive groups
Land capability classification (irrigated): 2s

Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: LOAMY (1975) (R019XD029CA)
Hydric soil rating: No

Minor Components

Arbuckle
Percent of map unit: 5 percent
Hydric soil rating: No

Perkins
Percent of map unit: 5 percent
Hydric soil rating: No

Cortina
Percent of map unit: 5 percent
Hydric soil rating: No

GdC—Garretson gravelly very fine sandy loam, 2 to 8 percent slopes

Map Unit Setting
National map unit symbol: hcv5
Elevation: 50 to 3,000 feet
Mean annual precipitation: 12 to 25 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 250 to 350 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Garretson and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Garretson

Setting
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from metasedimentary rock

Typical profile
H1 - 0 to 10 inches: gravelly very fine sandy loam
H2 - 10 to 53 inches: gravelly loam
H3 - 53 to 72 inches: loam

Properties and qualities
Slope: 2 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained

Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: LOAMY (1975) (R019XD029CA)
Hydric soil rating: No

Minor Components

Cortina

Percent of map unit: 5 percent
Hydric soil rating: No

Arbuckle

Percent of map unit: 5 percent
Hydric soil rating: No

Perkins

Percent of map unit: 5 percent
Hydric soil rating: No

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NOAA Atlas 14, Volume 6, Version 2
Location name: Lake Elsinore, California, USA*
Latitude: 33.6878°, Longitude: -117.3408°
Elevation: 1259.88 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.082 (0.069-0.099)	0.112 (0.093-0.135)	0.151 (0.126-0.183)	0.185 (0.153-0.225)	0.231 (0.185-0.292)	0.268 (0.209-0.347)	0.307 (0.233-0.407)	0.348 (0.257-0.475)	0.405 (0.286-0.578)	0.450 (0.307-0.667)
10-min	0.118 (0.099-0.142)	0.160 (0.134-0.193)	0.217 (0.181-0.262)	0.265 (0.219-0.323)	0.331 (0.265-0.419)	0.384 (0.300-0.497)	0.440 (0.335-0.584)	0.498 (0.368-0.681)	0.580 (0.410-0.828)	0.645 (0.440-0.956)
15-min	0.143 (0.119-0.172)	0.193 (0.162-0.233)	0.262 (0.219-0.317)	0.320 (0.265-0.391)	0.401 (0.320-0.507)	0.465 (0.363-0.601)	0.532 (0.405-0.706)	0.602 (0.445-0.824)	0.701 (0.496-1.00)	0.780 (0.532-1.16)
30-min	0.220 (0.185-0.265)	0.299 (0.250-0.361)	0.405 (0.338-0.490)	0.494 (0.409-0.603)	0.619 (0.494-0.783)	0.718 (0.561-0.929)	0.821 (0.625-1.09)	0.931 (0.688-1.27)	1.08 (0.766-1.55)	1.21 (0.822-1.79)
60-min	0.351 (0.294-0.423)	0.476 (0.398-0.574)	0.645 (0.538-0.781)	0.787 (0.651-0.961)	0.986 (0.787-1.25)	1.14 (0.893-1.48)	1.31 (0.995-1.74)	1.48 (1.10-2.03)	1.73 (1.22-2.46)	1.92 (1.31-2.84)
2-hr	0.539 (0.452-0.649)	0.700 (0.586-0.845)	0.920 (0.768-1.11)	1.11 (0.914-1.35)	1.37 (1.09-1.73)	1.57 (1.23-2.04)	1.79 (1.36-2.38)	2.02 (1.50-2.77)	2.35 (1.66-3.35)	2.61 (1.78-3.86)
3-hr	0.673 (0.564-0.811)	0.866 (0.725-1.05)	1.13 (0.942-1.37)	1.35 (1.12-1.65)	1.66 (1.33-2.10)	1.91 (1.49-2.46)	2.16 (1.65-2.87)	2.44 (1.80-3.33)	2.82 (1.99-4.03)	3.13 (2.13-4.63)
6-hr	0.968 (0.811-1.17)	1.25 (1.05-1.51)	1.63 (1.36-1.98)	1.95 (1.61-2.38)	2.39 (1.91-3.02)	2.73 (2.13-3.53)	3.09 (2.35-4.10)	3.46 (2.56-4.73)	3.98 (2.81-5.68)	4.39 (2.99-6.50)
12-hr	1.25 (1.05-1.51)	1.71 (1.43-2.06)	2.30 (1.92-2.78)	2.77 (2.29-3.38)	3.40 (2.72-4.30)	3.89 (3.03-5.02)	4.37 (3.33-5.80)	4.86 (3.59-6.65)	5.52 (3.91-7.89)	6.03 (4.11-8.93)
24-hr	1.65 (1.46-1.91)	2.42 (2.13-2.79)	3.38 (2.98-3.92)	4.14 (3.62-4.83)	5.13 (4.34-6.18)	5.86 (4.86-7.21)	6.58 (5.33-8.29)	7.30 (5.76-9.44)	8.24 (6.24-11.1)	8.94 (6.55-12.5)
2-day	1.97 (1.74-2.28)	3.00 (2.65-3.47)	4.30 (3.79-4.98)	5.32 (4.65-6.22)	6.66 (5.64-8.03)	7.66 (6.35-9.42)	8.64 (7.00-10.9)	9.62 (7.59-12.4)	10.9 (8.26-14.7)	11.9 (8.70-16.5)
3-day	2.15 (1.90-2.48)	3.32 (2.93-3.84)	4.82 (4.24-5.58)	6.00 (5.24-7.01)	7.56 (6.40-9.12)	8.73 (7.24-10.7)	9.90 (8.02-12.5)	11.1 (8.73-14.3)	12.6 (9.55-17.0)	13.8 (10.1-19.2)
4-day	2.32 (2.05-2.68)	3.62 (3.19-4.18)	5.28 (4.65-6.11)	6.60 (5.77-7.71)	8.37 (7.08-10.1)	9.70 (8.04-11.9)	11.0 (8.93-13.9)	12.4 (9.76-16.0)	14.2 (10.7-19.1)	15.5 (11.4-21.7)
7-day	2.64 (2.33-3.04)	4.09 (3.61-4.72)	6.00 (5.28-6.95)	7.56 (6.60-8.82)	9.68 (8.19-11.7)	11.3 (9.39-13.9)	13.0 (10.5-16.4)	14.7 (11.6-19.0)	17.1 (12.9-23.0)	18.9 (13.9-26.3)
10-day	2.79 (2.47-3.22)	4.30 (3.80-4.97)	6.32 (5.57-7.32)	8.00 (6.99-9.34)	10.3 (8.73-12.4)	12.1 (10.1-14.9)	14.0 (11.4-17.7)	16.0 (12.6-20.7)	18.7 (14.2-25.2)	20.9 (15.3-29.1)
20-day	3.34 (2.95-3.85)	5.08 (4.49-5.87)	7.50 (6.60-8.69)	9.56 (8.35-11.2)	12.5 (10.6-15.1)	14.9 (12.3-18.3)	17.4 (14.1-21.9)	20.1 (15.9-26.1)	24.0 (18.2-32.3)	27.2 (19.9-37.8)
30-day	3.94 (3.48-4.55)	5.92 (5.22-6.84)	8.69 (7.66-10.1)	11.1 (9.70-13.0)	14.6 (12.4-17.6)	17.5 (14.5-21.5)	20.6 (16.7-26.0)	24.0 (18.9-31.1)	28.9 (21.9-39.0)	33.0 (24.2-46.0)
45-day	4.63 (4.10-5.35)	6.79 (6.00-7.85)	9.88 (8.70-11.5)	12.6 (11.0-14.7)	16.7 (14.1-20.1)	20.0 (16.6-24.7)	23.7 (19.2-29.9)	27.8 (22.0-36.0)	33.9 (25.7-45.6)	39.0 (28.6-54.3)
60-day	5.37 (4.75-6.20)	7.68 (6.79-8.88)	11.0 (9.72-12.8)	14.0 (12.3-16.4)	18.5 (15.7-22.3)	22.3 (18.5-27.5)	26.5 (21.5-33.4)	31.3 (24.6-40.4)	38.3 (29.0-51.6)	44.3 (32.4-61.7)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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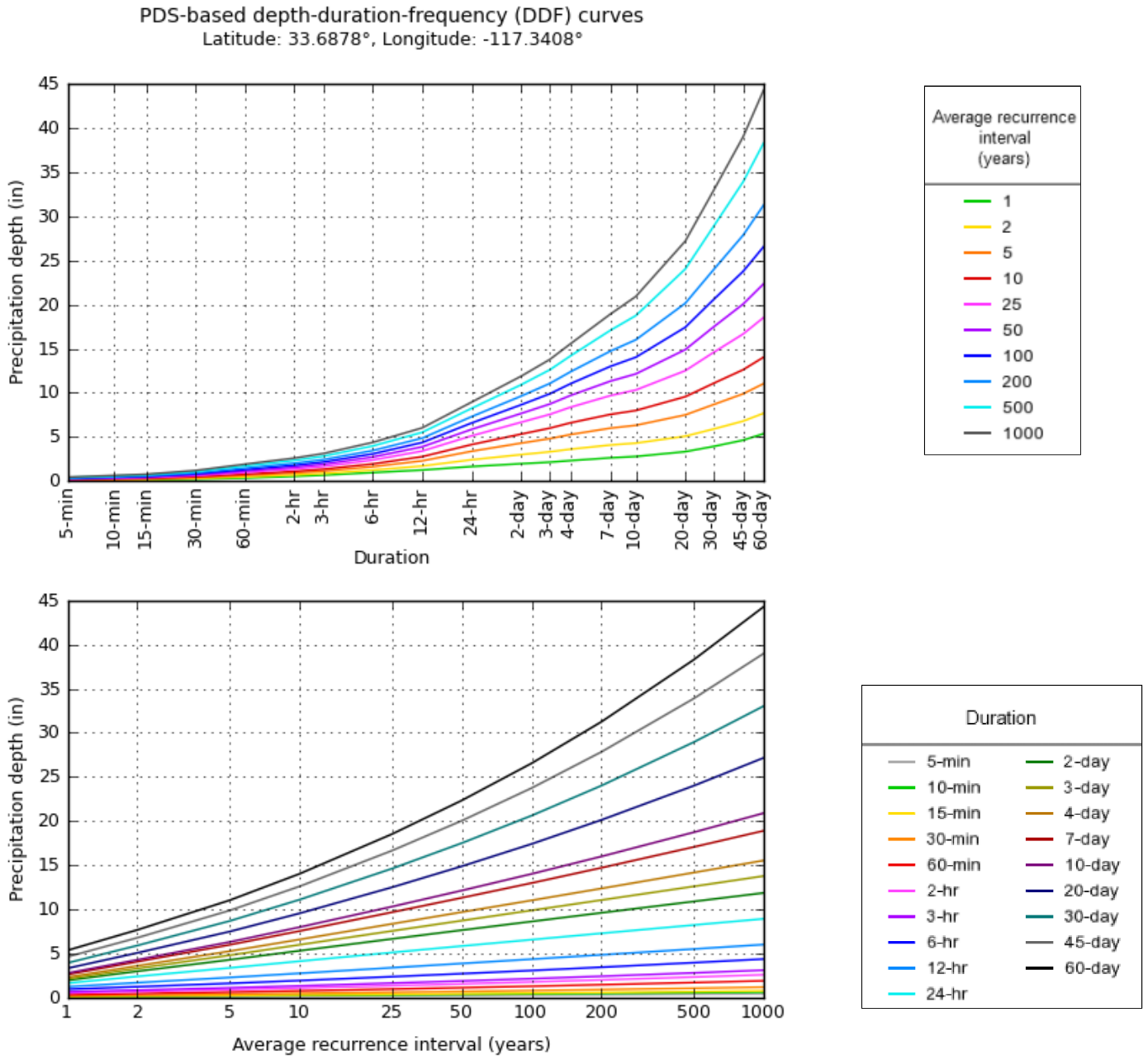
PF graphical



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Created (GMT): Wed Oct 25 22:00:47 2017

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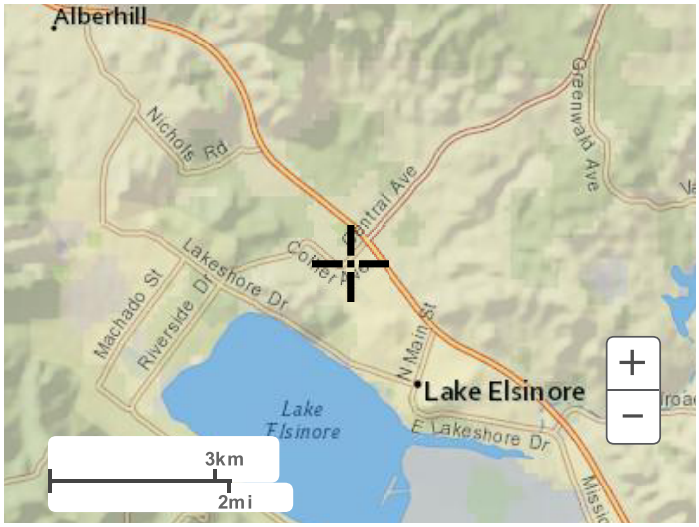
Maps & aerials

Small scale terrain



Large scale terrain

Large scale map

Large scale aerial

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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

STORM DRAIN IMPROVEMENT PLANS

FOR TPM 37284

COLLIER AVENUE

CITY OF LAKE ELSINORE GENERAL NOTES:

1. NOTE TO CONTRACTORS: THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. APPROVAL OF THESE PLANS BY THE CITY OF LAKE ELSINORE DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OR COMPLETENESS OF THE LOCATION, NOR THE EXISTENCE OR NON-EXISTENCE OF ANY UNDERGROUND UTILITY, PIPE OR STRUCTURE WITHIN THE LIMITS OF THE PROJECT. THE CONTRACTOR IS REQUIRED TO TAKE ALL DUE PRECAUTIONARY MEASURES FOR THE PROTECTION OF ALL UTILITIES, PIPES OR STRUCTURES, WHETHER SHOWN ON THESE PLANS OR NOT. ANY UTILITY(IES) DAMAGED DURING THE PERFORMANCE OF THE WORK SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE GOVERNING AGENCY BY THE CONTRACTOR, AT HIS EXPENSE.
2. ALL WORK SHALL CONFORM TO CITY CODES, STANDARD SPECIFICATIONS FOR PUBLIC WORKS (LATEST EDITION), AND STANDARD DRAWING OF THE COUNTY OF RIVERSIDE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THESE STANDARDS AND CODES AT ALL TIMES.
3. THE CONTRACTOR SHALL NOTIFY THE CITY PUBLIC WORKS INSPECTOR, FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING ANY WORK. CALL FOR INSPECTION AT (951) 674-3124, EXTENSION 247, BETWEEN THE HOURS OF 9:00 AM AND 4:00 PM, MONDAY THROUGH THURSDAY.
4. CONTRACTOR SHALL MAINTAIN TRAFFIC CONTROL IN ACCORDANCE WITH CALTRANS TRAFFIC MANUAL AND WATCH MANUAL AT ALL TIMES DURING CONSTRUCTION, AS APPROVED BY THE CITY ENGINEER OR HIS REPRESENTATIVE. FAILURE TO DO SO SHALL REQUIRE IMMEDIATE WORK STOPPAGE.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE A DEPENDABLE REPRESENTATIVE AT THE JOB SITE, AT ALL TIMES DURING CONSTRUCTION.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ARRANGE FOR THE NECESSARY RELOCATION OF ANY UTILITIES. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES INVOLVED, AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL ALSO CONTACT UNDERGROUND SERVICE ALERT (U.S.A.) AT 1-800422-4133,AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING WORK.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEARING OF THE PROPOSED WORK AREA AND RELOCATION AND COST OF ALL EXISTING UTILITIES. SUBDIVIDER MUST INFORM THE CITY OF LAKE ELSINORE OF CONSTRUCTION SCHEDULE, PRIOR TO BEGINNING CONSTRUCTION.
8. ALL UNDERGROUND FACILITIES AND LATERALS INCLUDING BUT NOT LIMITED TO SEWER, WATER, TELEPHONE, ELECTRICITY, GAS AND DRAINAGE FACILITIES, SHALL BE IN PLACE PRIOR TO PAVING THE STREET SECTION.
9. ALL STREET SECTIONS ARE TENTATIVE. ADDITIONAL SOIL TESTS WILL BE TAKEN AFTER ROUGH GRADING, TO DETERMINE THE EXACT SECTION REQUIRED. SECTION THICKNESSES SHOWN ARE FOR BONDING PURPOSES ONLY.
10. ALL EXISTING UNDERGROUND UTILITIES AND STRUCTURES MUST BE POTHOLED AND ELEVATIONS VERIFIED PRIOR TO CONSTRUCTION. THE ENGINEER OF RECORD SHALL BE NOTIFIED OF ANY NECESSARY REVISIONS TO THE APPROVED PLANS. THE REVISIONS SHALL BE IN THE FORM OF "AS BUILT" PLANS SUBMITTED TO THE CITY ENGINEER FOR APPROVAL PRIOR TO THE FINAL ACCEPTANCE OF THE PROJECT.
11. ALL EXISTING MONUMENTATION DISTURBED OR DESTROYED DURING CONSTRUCTION SHALL BE REPLACED TO CITY STANDARDS, AS APPROVED BY THE CITY ENGINEER. CENTERLINE TIES ARE TO BE FURNISHED TO THE CITY ENGINEER UPON COMPLETION OF THE PROJECT AND BEFORE ACCEPTANCE IS GRANTED.
12. AN ENCROACHMENT PERMIT SHALL BE REQUIRED FOR ALL CONSTRUCTION WORK DONE WITHIN PUBLIC RIGHTS-OF-WAY. BEFORE ISSUANCE OF SAID PERMIT, THE CONTRACTOR/DEVELOPER MUST PROVIDE THE CITY ENGINEER WITH CERTIFICATE OF INSURANCE AND REQUIRED BONDING FOR PUBLIC IMPROVEMENTS. THE ENCROACHMENT PERMIT MUST BE PRESENT AT THE JOB SITE DURING THE TOTAL TIME OF THE PROJECT CONSTRUCTION ALONG WITH AN APPROVED SET OF IMPROVEMENT PLANS.
13. AN ENCROACHMENT PERMIT SHALL BE REQUIRED THROUGH THE DISTRICT NO. 8 OFFICE OF CALTRANS FOR IMPROVEMENTS ON CENTRAL AVE.

ENGINEER'S NOTICE TO CONTRACTOR:

THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITY PLANS OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THE CONTRACTOR SHALL TAKE DUE PRECAUTIONS OF THE RECORDED UTILITIES AS WELL AS ANY NOT SHOWN AND SHALL COMFIRM ALL ALIGNMENTS AND GRADES BY FIELD INVESTIGATIONS.

BENCHMARK:

CITY OF LAKE ELSINORE BM B-95-55: CHISLED SUARE ON TOP OF HEADWALL APPROXIMATELY 45' SW'LY ALONG THE CENTERLINE OF COLLIER AVENUE AND 45' SW'LY TO THE SOUTHERLY END OF HEADWALL. ELEV.: 1270.68 (NAVD 29)

BASIS OF BEARING:

THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF CENTRAL AVENUE AS SHOWN ON RECORD OF SURVEY RSB. 116/85, BEING NORTH 43°42'50" EAST.

OWNER/DEVELOPER

HFC-PRP ELSINORE, LLC
417 29TH STREET
NEWPORT BEACH, CA 92663

GREG LUKOSKY
949-723-9500
949-433-8595

ARCHITECT

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656

GLENN PIERCE, AIA
949-344-2710

ENGINEER

DAVID EVANS AND ASSOCIATES
4141 E. INLAND EMPIRE BLVD
SUITE 250
ONTARIO, CA 91764
GABRIEL RODRIGUEZ, PE
909-481-5750
909-481-5757 FAX

SOILS ENGINEER

SALEM ENGINEERING GROUP, INC.
11650 MISSION PARK DRIVE, SUITE 108
RANCHO CUCAMONGA, CALIFORNIA

CLARENCE JIANG, GE
909-980-6455

WATER/SEWER

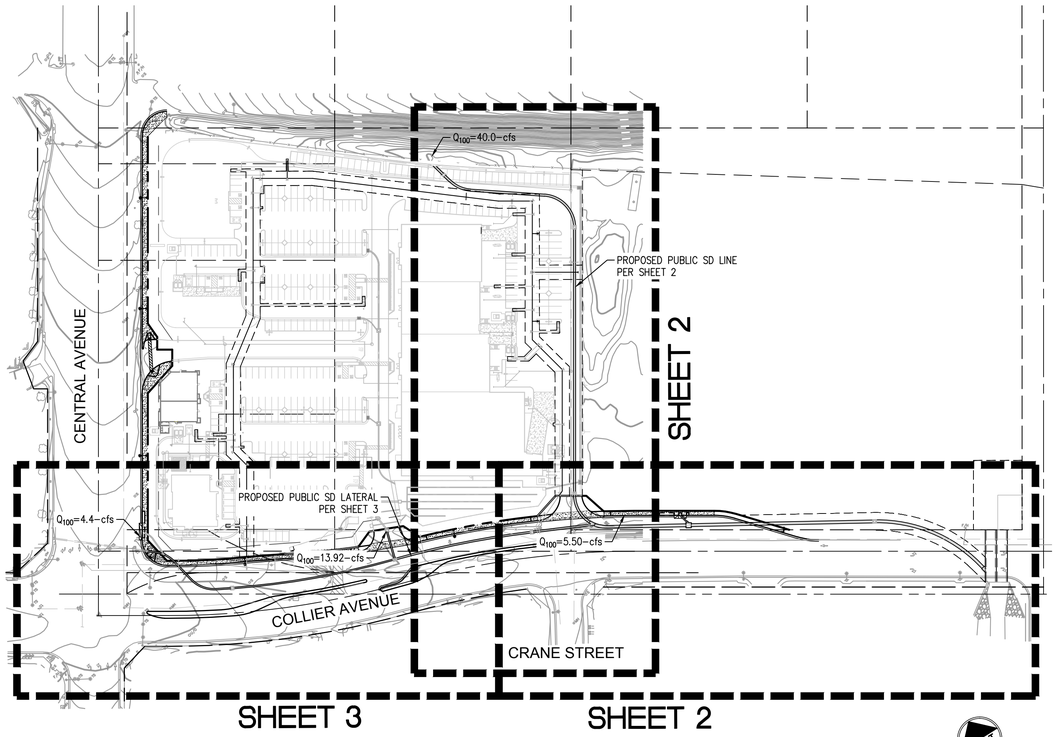
E.V.M.W.D
P.O. BOX 3000
LAKE ELSINORE, CA 92531
951-674-3146

ELECTRICITY

SOUTHERN CALIFORNIA EDISON
(800) 655-4555

GAS

SOUTHERN CALIFORNIA
GAS COMPANY
(800) 427-2200



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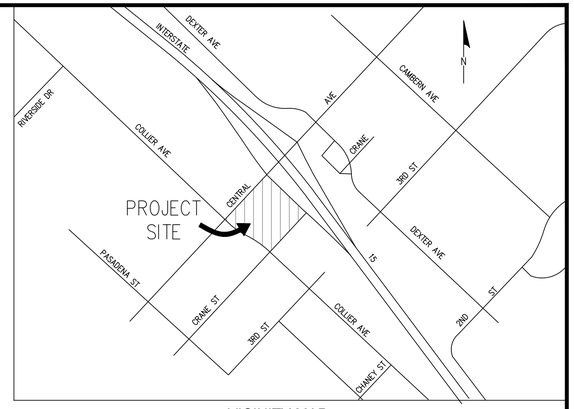

VICINITY MAP
NOT TO SCALE

CITY OF LAKE ELSINORE STORM DRAIN CONSTRUCTION NOTES AND QUANTITIES

ITEM	DESCRIPTION	QUANTITY	
(30)	INSTALL 24" RCP STORM DRAIN	400	LF
(31)	INSTALL 30" RCP STORM DRAIN	500	LF
(32)	INSTALL 36" RCP STORM DRAIN	417	LF
(33)	INSTALL 18" RCP STORM DRAIN	55	LF
(34)	CONSTRUCT CONCRETE COLLAR PER R.C.F.C. STD DWG M803	1	EA
(35)	INSTALL STORM DRAIN MANHOLE NO.1 PER R.C.F.C. STD DWG MH251	6	EA
(36)	INSTALL STORM DRAIN MANHOLE NO.2 PER R.C.F.C. STD DWG MH252	3	EA
(37)	INSTALL STORM DRAIN MANHOLE NO.3 PER R.C.F.C. STD DWG MH253	–	EA
(38)	INSTALL STORM DRAIN MANHOLE NO.4 PER R.C.F.C. STD DWG MH254	1	EA
(39)	INSTALL STORM DRAIN JUNCTION STRUCTURE NO.3 PER R.C.F.C. STD DWG JS228	1	EA
(40)	INSTALL STORM DRAIN JUNCTION STRUCTURE NO.4 PER R.C.F.C. STD DWG JS229	–	EA
(41)	NOT USED	–	EA
(42)	INSTALL 48" RCP STORM DRAIN	565	LF
(43)	INSTALL CONCRETE WINGWALL TYPE A PER CALTRANS DETAIL D90	1	EA
(44)	REMOVE EXISTING HEADWALL	1	EA
(45)	ABANDON EXISTING 30" RCP PIPE AND INSTALL BULKHEAD PER R.C.F.C. STD DWG M816	1	EA
(46)	INSTALL STORM DRAIN JUNCTION STRUCTURE NO.1 PER R.C.F.C. STD DWG JS226	1	EA

INDEX OF DRAWINGS

LEGEND OF ABBREVIATIONS AND SYMBOLS

BC	BEGIN CURVE	PCC	POINT OF COMPOUND CURVE
BCR	BEGIN CURVE RADIUS	℄ OR P/L OR PL	PROPERTY LINE
BNDY	BOUNDARY	PRC	POINT OF REVERSE CURVE
CB	CATCH BASIN	RCFC	RIVERSIDE COUNTY FLOOD CONTROL
℄ OR C/L OR CL	CENTERLINE	RT	RIGHT
EC	END CURVE	RW	RECLAIMED WATER
ECR	END CURVE RADIUS	R/W	RIGHT OF WAY
EP	EDGE OF PAVEMENT	SL	STREET LIGHT
EX, EXIST.	EXISTING	STA	STATION
FH	FIRE HYDRANT	TC	TOP OF CURB
FL	FLOW LINE	TYP	TYPICAL
FS	FINISHED SURFACE	SD	STORM DRAIN LINE
GB	GRADE BREAK	SPPWC	STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION
IMP	IMPROVEMENT(S)	SS	SANITARY SEWER LINE
JS	JUNCTION STRUCTURE	SWALK	SIDEWALK
LT	LEFT	TS	TRANSITION STRUCTURE
LP	LOW POINT	W	WATER LINE
MH	MANHOLE		

CENTERLINE
FIRE HYDRANT
STOP SIGN
STREET LIGHT
BOUNDARY LINE
GRIND AND OVERLAY
CONSTRUCT AC PAVEMENT
REMOVE EXISTING PAVEMENT

Know what's below. Call 811 before you dig

MARK	REVISIONS	APPR.	DATE

THESE PLANS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPROPRIATE CONDITIONS OF DEVELOPMENT AND/OR CITY AND STATE LAWS AND A PERMIT MAY BE ISSUED.

BRAD FAGRELL, RCE 43920
CITY ENGINEER
CITY OF LAKE ELSINORE
DATE

DAVID EVANS AND ASSOCIATES INC.
4141 E. Inland Empire Blvd, Suite 250
Ontario California 91764
Phone: 909.481.5750 Fax: 909.481.5757

PREPARED UNDER THE SUPERVISION OF:
GABRIEL RODRIGUEZ RCE 69948 DATE:

REGISTERED PROFESSIONAL ENGINEER GABRIEL RODRIGUEZ No. 69948 Exp. 09/30/18 CIVIL STATE OF CALIFORNIA

CENTRAL PLAZA

SCALE: AS SHOWN ON PLANS
DATE:

BENCH MARK:
CITY OF LAKE ELSINORE BM B-95-55: CHISLED SQUARE ON TOP OF HEADWALL APPROXIMATELY 45' SW'LY ALONG THE CENTERLINE OF COLLIER AVENUE AND 45' SW'LY TO THE SOUTHERLY END OF HEADWALL. ELEV.: 1270.68 (NAVD 29)

CITY OF LAKE ELSINORE

PARCEL 1-8 OF TPM 37284
TPM 37284
STORM DRAIN IMPROVEMENT PLANS
TITLE SHEET

SHEET 1 OF 3 SHEETS
FILE No. SD

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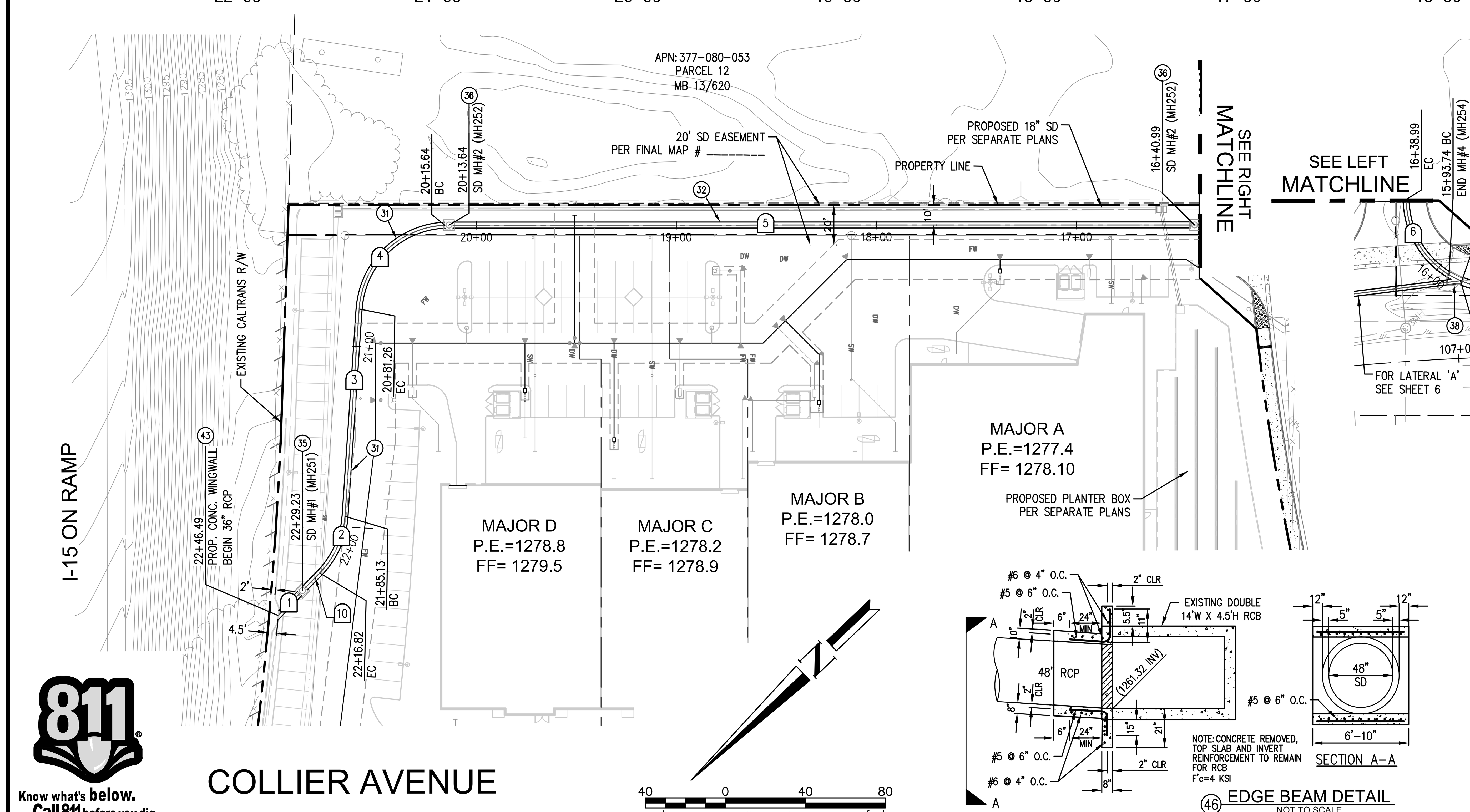
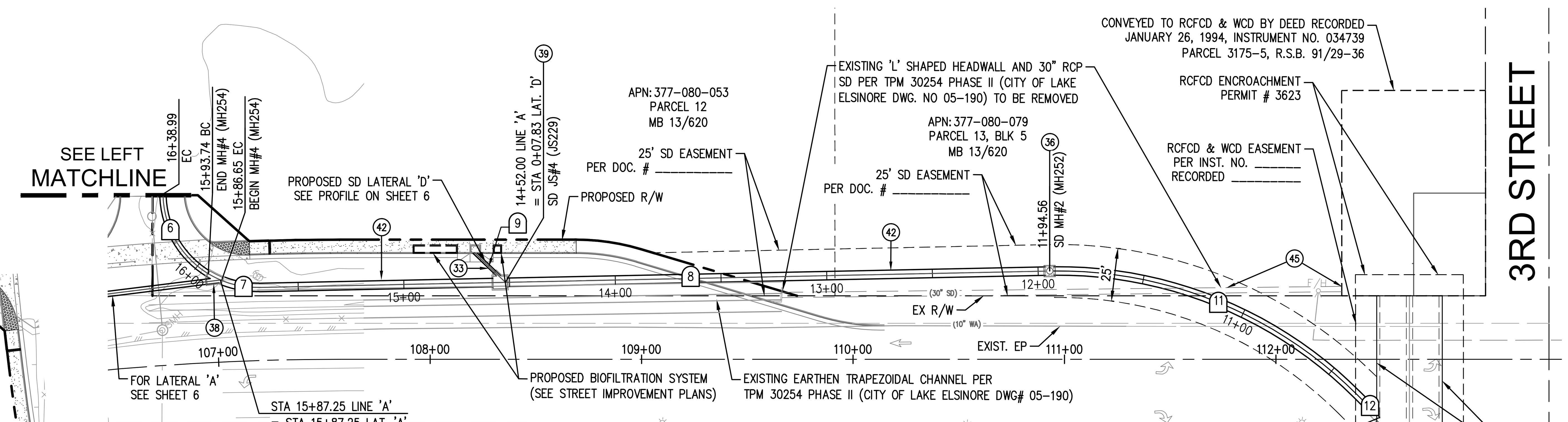
Last Opened: Sep 21, 2017 - 3:22pm by: mxgo





STORM DRAIN DATA (PUBLIC)

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	N2°02'14"W		15.26'	30" RCP
2	40°21'20"	45.00'	31.70'	30" RCP
3	N42°23'35"W		103.87'	30" RCP
4	83°32'56"	45.00'	65.61'	30" RCP
5	S43°42'12"W		368.65'	36" RCP
6	58°16'14"	44.50'	45.25'	36" RCP
7	23°21'22"	44.50'	18.14'	48" RCP
8	N47°28'13"W		371.95'	48" RCP
9	S2°28'13"E		16.10'	18" RCP
10	N2°02'14"W		10.40'	36" RCP
11	45°35'23"	200.00'	159.14'	48" RCP
12	S1°18'27"E		15.10'	48" RCP

COLLIER AVENUE

CONSTRUCTION NOTES

(31) INSTALL 30" RCP STORM DRAIN
(32) INSTALL 36" RCP STORM DRAIN
(33) INSTALL 18" RCP STORM DRAIN
(35) INSTALL STORM DRAIN MANHOLE NO.1 PER R.C.F.C. STD DWG MH251
(36) INSTALL STORM DRAIN MANHOLE NO.2 PER R.C.F.C. STD DWG MH252
(38) INSTALL STORM DRAIN MANHOLE NO.4 PER R.C.F.C. STD DWG MH254
A=30°, B=30", C=6.15', D1=36", D2=36",
ELEVATION R=1264.64, ELEVATION S =1264.62
(39) INSTALL STORM DRAIN JUNCTION STRUCTURE NO.3 PER R.C.F.C. STD DWG JS228
(42) INSTALL 48" RCP STORM DRAIN
(43) INSTALL CONCRETE WINGWALL TYPE A PER CALTRANS DETAIL D90
(45) ABANDON EXISTING 30" RCP PIPE AND INSTALL BULKHEAD PER R.C.F.C. STD DWG M816
(46) INSTALL STORM DRAIN JUNCTION STRUCTURE NO.1 PER R.C.F.C. STD DWG JS226.
INSTALL EDGE BEAM PER DETAIL ON THIS SHEET HEREON.
A=45°, B=48", C=11'
ELEVATION R=1261.34, ELEVATION S =1261.32

40 0 40 80 scale 1"= 40' feet

MARK	REVISIONS	APPR.	DATE

THESE PLANS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPROPRIATE CONDITIONS OF DEVELOPMENT AND/OR CITY AND STATE LAWS AND A PERMIT MAY BE ISSUED.

BRAD FAGRELL, RCE 43920 DATE
CITY ENGINEER
CITY OF LAKE ELSINORE

DAVID EVANS AND ASSOCIATES INC.
4141 E. Inland Empire Blvd, Suite 250
Ontario California 91764
Phone: 909.481.5750 Fax: 909.481.5757

PREPARED UNDER THE SUPERVISION OF:

GABRIEL RODRIGUEZ RCE 69948 DATE:

REGISTERED PROFESSIONAL ENGINEER GABRIEL RODRIGUEZ No. 69948 Exp. 09/30/18 CIVIL STATE OF CALIFORNIA

CENTRAL PLAZA

SCALE: AS SHOWN ON PLANS

DATE:

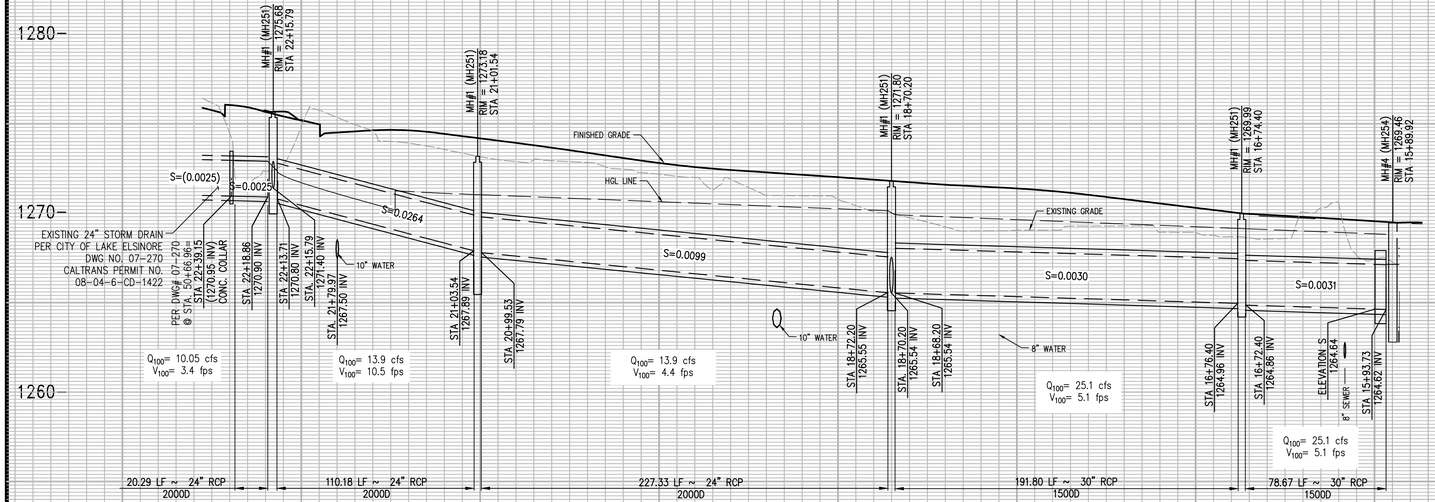
BENCH MARK:
CITY OF LAKE ELSINORE BM B-95-55: CHISLED SQUARE ON TOP OF HEADWALL APPROXIMATELY 45' SW'LY ALONG THE CENTERLINE OF COLLIER AVENUE AND 45' SW'LY TO THE SOUTHERLY END OF HEADWALL. ELEV.: 1270.68 (NAVD 29)

CITY OF LAKE ELSINORE

PARCEL 1-8 OF TPM 37284
TPM 37284
STORM DRAIN IMPROVEMENT PLANS
PUBLIC STORM DRAIN LINE 'A'
STA 10+00 - 21+95.79

SHEET 2 OF 3 SHEETS

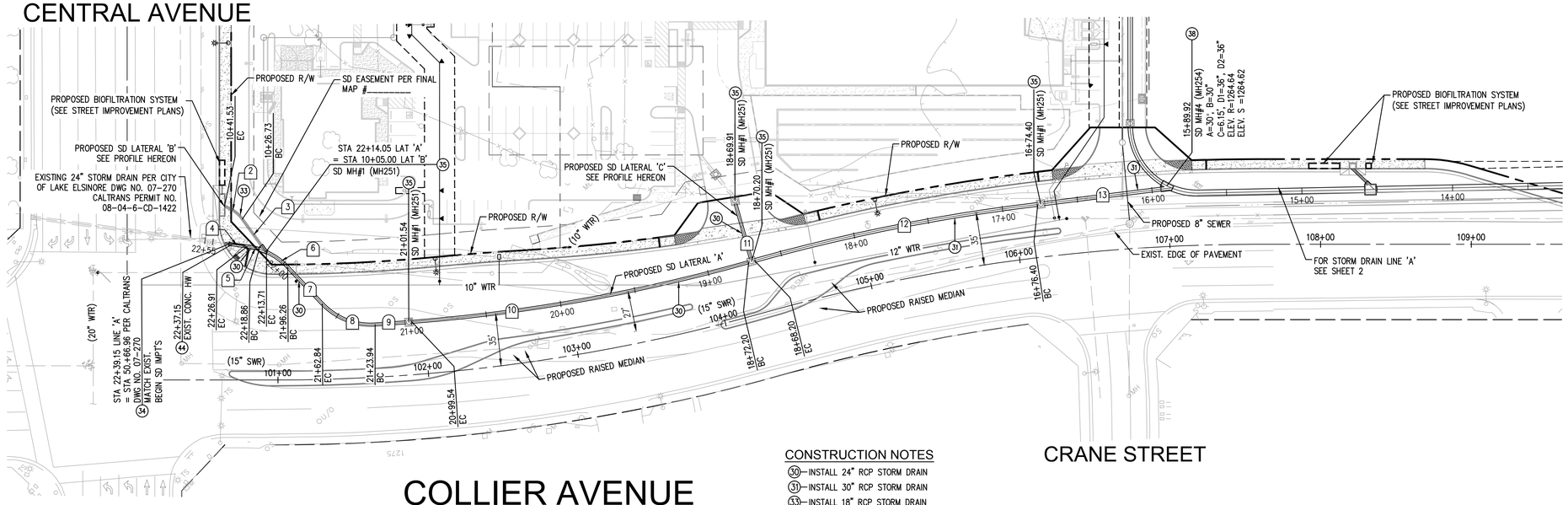
FILE No. SD



PROFILE SCALES
HORIZ. 1"=40'
VERT. 1"=4'

22+00 21+00 20+00 19+00 18+00 17+00 16+00

CENTRAL AVENUE



COLLIER AVENUE

CRANE STREET

STORM DRAIN DATA (PUBLIC)				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
2	37°41'19"	22.50'	14.80'	18" RCP
3	S7°45'01"W		21.73'	18" RCP
4	N38°37'34"W		12.24'	24" RCP
5	10°14'48"	45.00'	8.05'	24" RCP
6	22°13'39"	45.00'	17.46'	24" RCP
7	S0°24'23"W		33.42'	24" RCP
8	50°38'50"	44.00'	38.89'	24" RCP
9	S50°14'27"E		20.41'	24" RCP
10	11°10'50"	1165.00'	227.33'	24" RCP
11	S28°08'01"W		37.55'	24" RCP
12	8°53'54"	1235.00'	191.80'	30" RCP
13	S53°21'00"E		78.67'	30" RCP

CONSTRUCTION NOTES

(30) INSTALL 24" RCP STORM DRAIN
(31) INSTALL 30" RCP STORM DRAIN
(33) INSTALL 18" RCP STORM DRAIN
(34) CONSTRUCT CONCRETE COLLAR PER R.C.F.C. STD DWG M803
(35) INSTALL STORM DRAIN MANHOLE NO.1 PER R.C.F.C. STD DWG MH251
(36) INSTALL STORM DRAIN MANHOLE NO.2 PER R.C.F.C. STD DWG MH252
(38) INSTALL STORM DRAIN MANHOLE NO.4 PER R.C.F.C. STD DWG MH254
(44) REMOVE EXISTING HEADWALL

40 0 40 80
scale 1"= 40' feet

Know what's below. Call 811 before you dig

MARK	REVISIONS	APPR.	DATE

THESE PLANS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPROPRIATE CONDITIONS OF DEVELOPMENT AND/OR CITY AND STATE LAWS AND A PERMIT MAY BE ISSUED.

BRAD FAGRELL, RCE 43920
CITY ENGINEER
CITY OF LAKE ELSINORE

DATE

DAVID EVANS AND ASSOCIATES INC.
4141 E. Inland Empire Blvd, Suite 250
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Phone: 909.481.5750 Fax: 909.481.5757

PREPARED UNDER THE SUPERVISION OF:

GABRIEL RODRIGUEZ RCE 69948 DATE:

REGISTERED PROFESSIONAL ENGINEER
GABRIEL RODRIGUEZ
No. 69948
Exp. 09/30/18
CIVIL
STATE OF CALIFORNIA

CENTRAL PLAZA

SCALE: AS SHOWN ON PLANS

DATE:

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CITY OF LAKE ELSINORE

PARCEL 1-8 OF TPM 37284
TPM 37284
STORM DRAIN IMPROVEMENT PLANS
PUBLIC STORM DRAIN
LATERAL 'A', 'B', 'C' AND 'D'
STA 10+00 - 22+32.00

SHEET 3 OF 3 SHEETS

FILE No. SD

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Last Opened: Sep 21, 2017 - 3:26pm by: mvgo

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

GENERAL NOTES

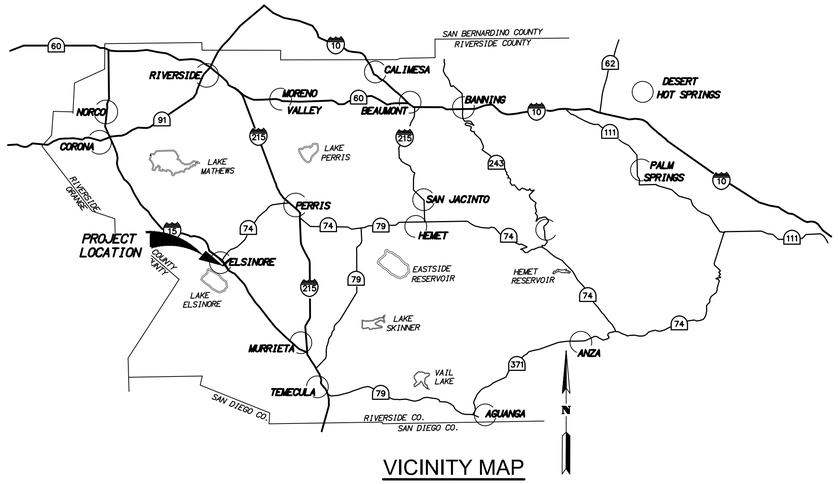
1. THE CONTRACTOR SHALL CONSTRUCT THE FLOOD CONTROL IMPROVEMENTS SHOWN ON THE DRAWINGS IN CONFORMANCE WITH THE REQUIREMENTS OF THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT'S M.O.U. STANDARD SPECIFICATIONS DATED JUNE 24, 2008, AND THE RCFC&WCD STANDARD MANUAL. FOR THE LATEST DRAWINGS OF THE STANDARD MANUAL, PLEASE REFER TO THE "PUBLICATIONS AND RECORDS" PAGE FOUND ON THE DISTRICT'S WEBSITE.
2. (IF) AN ENCROACHMENT PERMIT IS REQUIRED FROM THE RIVERSIDE COUNTY FLOOD CONTROL, CONTACT PERMIT ENGINEER AT 951/955-1266. AFTER THE PERMIT IS ISSUED THE DISTRICT MUST BE NOTIFIED ONE WEEK PRIOR TO CONSTRUCTION.
3. CONSTRUCTION INSPECTION WILL BE PERFORMED BY RIVERSIDE COUNTY FLOOD CONTROL. CONTACT CONTRACT ADMINISTRATOR AT 951/955-1288. THE DISTRICT MUST BE NOTIFIED TWENTY DAYS (20) PRIOR TO CONSTRUCTION.
4. ALL STATIONING REFERS TO CENTERLINE OF CONSTRUCTION UNLESS OTHERWISE NOTED.
5. STATIONING FOR LATERALS AND CONNECTOR PIPE REFER TO THE CENTERLINE INTERSECTION STATIONS.
6. FORTY-EIGHT HOURS BEFORE EXCAVATION, CALL UNDERGROUND SERVICE ALERT 1-800-227-2600.
7. ALL ELEVATIONS SHOWN ARE IN FEET AND DECIMALS THEREOF BASED ON THE NATIONAL GEODETIC VERTICAL DATUM (NGVD 29). TO CONVERT TO THE NORTH AMERICAN VERTICAL DATUM (NAVD 88) ADD 2.24 FEET TO THE ELEVATIONS SHOWN.
8. ALL COORDINATES ARE SHOWN IN FEET AND DECIMALS THEREOF BASED ON THE NORTH AMERICAN DATUM (NAD 83), CALIFORNIA COORDINATE SYSTEM (CCS), ZONE 6 AND EPOCH 2007.00.
9. ALL CROSS SECTIONS ARE TAKEN LOOKING DOWNSTREAM.
10. ELEVATIONS OF UTILITIES ARE APPROXIMATE UNLESS OTHERWISE NOTED.
11. UNLESS OTHERWISE SPECIFIED, MINIMUM STREET RECONSTRUCTION SHALL BE 4.5" TYPE "B" HOT MIX ASPHALT OVER 8.5" CLASS 2 AGGREGATE BASE (PER ARAGON GEOTECHNICAL REPORT DATED 09-18-2015) OR AS SPECIFIED BY THE ENGINEER.
12. OPENINGS RESULTING FROM THE CUTTING OR PARTIAL REMOVAL OF EXISTING CULVERTS, PIPES OR SIMILAR STRUCTURES TO BE ABANDONED SHALL BE SEALED WITH 6" OF CLASS "B" CONCRETE.
13. PIPE CONNECTED TO THE MAINLINE PIPE SHALL CONFORM TO JUNCTION STRUCTURE NO.4 (JS 229) UNLESS OTHERWISE NOTED.
14. PIPE AND RCB BEDDING SHALL CONFORM TO RCFC&WCD STD. DWG. NO. M815 EXCEPT FOR COVER<2 FEET. FOR COVER<2 FEET, CONCRETE SLURRY (2000 PSI) SHALL BE USED. THE ENTIRE TRENCH SHALL BE SLURRY EXTENDING 4 INCHES MINIMUM AND 12 INCHES MAXIMUM ABOVE THE TOP OF THE PIPE OR RCB.
15. APPENDIX B INDICATES SOIL BORING LOCATIONS BASED ON THE SOILS REPORT DATED 09-18-2015. LOCATIONS SHOWN ARE APPROXIMATE.
16. "V" IS THE DEPTH OF CATCH BASINS MEASURED FROM THE TOP OF CURB TO INVERT OF CONNECTOR PIPE.
17. CATCH BASINS SHALL BE LOCATED SO THAT LOCAL DEPRESSION SHALL BEGIN AT EXISTING CURB RETURN JOINT, UNLESS OTHERWISE SPECIFIED.
18. ALL CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS AND OTHER EXISTING IMPROVEMENTS TO BE RECONSTRUCTED IN KIND AND AT THE SAME ELEVATION AND LOCATION AS THE EXISTING IMPROVEMENTS UNLESS OTHERWISE NOTED.
19. STANDARD DRAWINGS CALLED FOR ON THE PLAN AND PROFILE SHALL CONFORM TO DISTRICT STANDARD DRAWINGS UNLESS NOTED OTHERWISE.

GENERAL NOTES (CONT)

20. THE CONTRACTOR IS REQUIRED TO CALL ALL UTILITY AGENCIES REGARDING TEMPORARY SHORING AND SUPPORT REQUIREMENTS FOR THE VARIOUS UTILITY LINES SHOWN ON THESE PLANS
21. DURING ROUGH GRADING OPERATIONS AND PRIOR TO CONSTRUCTION OF PERMANENT DRAINAGE STRUCTURES, TEMPORARY DRAINAGE CONTROL SHOULD BE PROVIDED TO PREVENT PONDING WATER AND DAMAGE TO ADJACENT PROPERTIES.
22. APPROVAL OF THESE PLANS BY THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT DOES NOT RELIEVE THE DEVELOPER'S ENGINEER OF RESPONSIBILITY FOR THE ENGINEERING DESIGN. IF FIELD CHANGES ARE REQUIRED, IT WILL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER TO MAKE THE NECESSARY CORRECTIONS.
23. THE CONTRACTOR OR DEVELOPER SHALL SECURE ALL THE REQUIRED ENCROACHMENT AND/OR STATE AND FEDERAL REGULATORY PERMITS PRIOR TO THE COMMENCEMENT OF ANY WORK.
24. THE CONCRETE COATING ON THE INSIDE OF ALL REINFORCED CONCRETE PIPES MUST BE INCREASED TO PROVIDE A MINIMUM OF 1-1/2 INCHES OVER THE REINFORCING AND INCREASED TO A MINIMUM OF 3-1/2 INCHES OVER REINFORCING FOR BOX CULVERTS WHEN DESIGN VELOCITIES EXCEED 20 FEET PER SECOND. THE CONCRETE DESIGN STRENGTH IN THESE REACHES SHALL BE F'C=5,000 PSI FOR VELOCITIES EXCEEDING 20 FEET PER SECOND AND F'C=6,000 PSI FOR VELOCITIES EXCEEDING 30 FEET PER SECOND.
25. CONSTRUCTION JOINT FOR CALTRANS STANDARD REINFORCED CONCRETE BOX SHALL BE ACCORDING TO RCFC&WCD STD. DWG. NO. BX401.

RCB NOTE

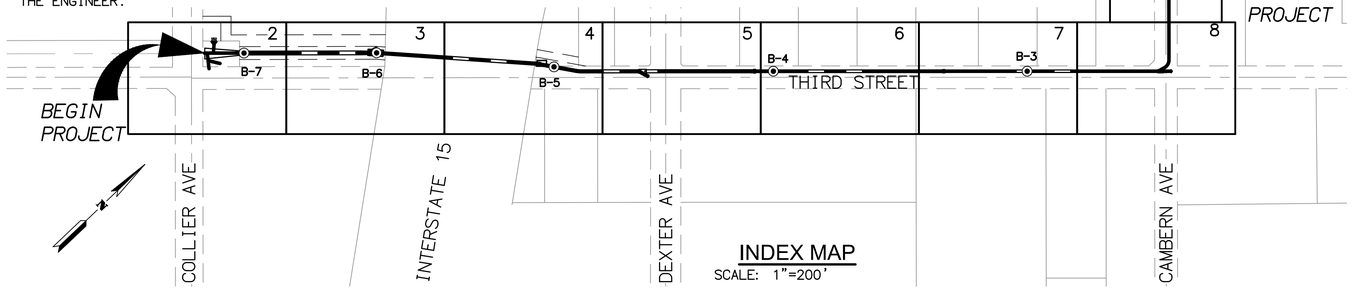
THE CONCRETE BOX STORM DRAIN SHALL BE PRE-CAST REINFORCED CONCRETE BOX PER CALTRANS STANDARD D83A AND D83B, CONFORMING TO AASHTO M273 (OR EQUIVALENT ASTM C850) WITH LESS THAN 2 FEET OF COVER SUBJECT TO HS20 LIVE LOADING, TABLE 1. ALTERNATIVELY, THE CAST-IN-PLACE METHOD OF CONSTRUCTION CONFORMING TO THE 2015 EDITION OF CALTRANS STANDARD D80 WITH FLAT INVERT MAY BE USED IF APPROVED BY THE ENGINEER.



VICINITY MAP
N.T.S.

LEGEND

- ⊙ BORING LOCATION PER GEOTECHNICAL REPORT DATED 9-18-2015.
- B-3 BORING I.D.



INDEX MAP
SCALE: 1"=200'

INDEX

CALTRANS NOTES TO CONTRACTOR:

1. IT IS THE PERMITTEE/CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE UNDERGROUND SERVICE ALERT IN ORDER TO CLEAR ANY POSSIBLE CONFLICTS PRIOR TO CONSTRUCTION.
2. WHERE DAMAGE IS CAUSED BY THE CONTRACTOR'S OPERATION, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, REPAIR OR REPLACE DAMAGED FACILITIES PROMPTLY IN ACCORDANCE WITH 2015 STATE SPECIFICATIONS AND/OR AS DIRECTED BY THE STATE REPRESENTATIVE.
3. ALL WORK PERFORMED WITHIN THE STATE RIGHT OF WAY SHALL MEET THE REQUIREMENTS OF CALTRANS STANDARD SPECIFICATIONS, LATEST EDITION.

MONITORING REQUIREMENTS:

4. THE OFFICE OF GEOTECHNICAL DESIGN SOUTH (OGDS) OF CALTRANS RECOMMENDS INSTALLING A MINIMUM OF 3 ROWS OF SETTLEMENT MONUMENTS WITH ONE ROW LOCATED DIRECTLY ABOVE THE ALIGNMENT OF THE PIPELINE TO MONITOR ANY POTENTIAL SETTLEMENTS OF THE PAVEMENT. THE REMAINING ROWS SHOULD BE LOCATED ON EITHER SIDE OF THE PIPELINE. BASE READINGS SHOULD BE TAKEN FOR ALL SETTLEMENT POINTS PRIOR TO THE CONSTRUCTION WORK. DEPENDING ON THE SETTLEMENTS OBSERVED IN THE FIRST ROUND OF READINGS (TAKEN AFTER THE CONSTRUCTION HAS BEGUN), OGDS MAY RECOMMEND INSTALLING ADDITIONAL ROWS OF MONITORING POINTS TO DETERMINE THE AREA AFFECTED. AT LEAST 1 OF THE SETTLEMENT MONUMENTS ON EACH LINE SHOULD CONSIST OF A "GROUND MOVEMENT MONITORING POINT" SHOWN IN THE CALTRANS DESIGN BULLETIN 83-04. THE REMAINING POINTS MAY CONSIST OF MONUMENTS EMBEDDED IN THE PAVEMENT. THE SPACING BETWEEN 2 CONSECUTIVE SETTLEMENT POINTS IN A ROW SHOULD NOT EXCEED 10 FEET.
5. CONTRACTOR SHALL PROVIDE A PLAN FOR MONITORING GROUND SURFACE AND MUST INCLUDE THE LOCATION OF ALL SETTLEMENT POINTS.
6. THE ACCURACY OF SETTLEMENT MONITORING SHOULD BE 0.005 FEET PER CALTRANS DESIGN BULLETIN 83-04. THE THRESHOLDS IN THE SUBJECT BULLETIN SHOULD NOT BE EXCEEDED DURING OR UP TO A 6-MONTH LONG PERIOD FOLLOWING THE CONSTRUCTION.
7. FREQUENCY OF MONITORING: SURFACE SETTLEMENT MUST BE MEASURED DAILY OR HOURLY WHEN THE HEADING IS WITHIN 25 FEET OF THE SURFACE.
8. CONTINGENCY PLAN: PROVIDE A PLAN WITH ACTIONS TO BE TAKEN IN THE CASE OF EXCEEDANCE OF THE THRESHOLDS IN DESIGN BULLETIN 83-04. ACTION ITEMS SHOULD INCLUDE THE IMMEDIATE NOTIFICATION OF CALTRANS STAFF OF THE OBSERVATIONS, ANY CHANGES TO THE CONSTRUCTION METHODS AND REMEDIAL WORK.
9. POST CONSTRUCTION SETTLEMENT OBSERVATIONS: IN THE EVENT OF CONTINUED POST-CONSTRUCTION SETTLEMENT OBSERVATIONS, CALTRANS MAY EXTEND THE POST CONSTRUCTION MONITORING PERIOD AND REQUIRE THE CONTRACTOR TO MONITOR SETTLEMENTS AT 2-MONTH INTERVALS. THE POST CONSTRUCTION MONITORING PERIOD SHALL BE NO LONGER THAN 6 MONTHS.
10. ALL APPLICABLE REQUIREMENTS OF SECTIONS 500 AND 600 OF CALTRANS PERMIT MANUAL MUST BE FOLLOWED FOR THE WORK WITHIN CALTRANS RIGHT-OF-WAY AND THE ADJACENT AREAS THAT COULD IMPACT CALTRANS FACILITIES.

SHORING NOTE:

CONTRACTOR TO PROVIDE SHORING DESIGN PRIOR TO CONSTRUCTION.

R.C.F.C. & W.C.D. STANDARD DRAWINGS

MH 252	MANHOLE NO. 2
MH 254	MANHOLE NO. 4
TS 301	TRANSITION STRUCTURE NO. 1
CB108	INLET TYPE X
CB 110	CONCRETE DROP INLET
JS 226	JUNCTION STRUCTURE NO. 1
JS 227	JUNCTION STRUCTURE NO. 2
M816	CONCRETE BULKHEAD
M803	CONCRETE COLLAR

CALTRANS STANDARDS

D83A	PRECAST REINFORCED CONCRETE-BOX CULVERT
D83B	PRECAST REINFORCED CONCRETE-BOX CULVERT MISC. DETAILS
D81	CAST-IN-PLACE REINFORCED CONCRETE DOUBLE BOX CULVERT
D86B	PIPE CULVERT HEADWALLS, ENDWALLS AND WARPED WINGWALLS

A.P.W.A. STANDARD DRAWINGS

361-2	TRASH RACK (INCLINED)

CITY OF LAKE ELSINORE
DREAM EXTREME™

THESE PLANS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPROPRIATE CONDITIONS OF DEVELOPMENT AND/OR CITY AND STATE LAWS AND HAVE BEEN FOUND ACCEPTABLE

BRADLEY FAGRELL, RCE No. 43920 — DATE
CITY ENGINEER
CITY OF LAKE ELSINORE

★ PRELIMINARY ★
SUBJECT TO REVISION

CALTRANS PERMIT NO. 08-16-N-TN-0291

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600
for the location of buried utility lines.
Don't disrupt vital services.
BURIED CABLE
TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
B.M. NO. EL-37-80
A 1 1/2" ALUM. CAP IN 6" CONC. COLLAR, FROM INTER. OF RIVERSIDE DR. AND LAKESHORE DR, SE 1.7 MI. TO THE INTER. OF MOHR ST. AND LAKESHORE DR; 40'± SW FROM ABOVE INTER; 16'± SW OF PP #46330; 1'± S OF SURVEY MARKER POST.
1264.85 EL.

REVISIONS			
REF.	DESCRIPTION	APPR.	DATE

DESIGNED BY: C. MORLOK
DRAWN BY: C. MORLOK
DATE DRAWN: 11-2015
CHECKED BY: J. TANNER

Michael Baker INTERNATIONAL
40810 COUNTY CENTER DR., SUITE 200
TEMECULA, CA 92591
PHONE: (951) 676-8042
MBAKERINTL.COM

REGISTERED PROFESSIONAL ENGINEER — JOHN D. TANNER III — No. 60132 — CIVIL — STATE OF CALIFORNIA

JOHN D. TANNER III, RCE 60132 — DATE:

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY:
PLANNING ENGINEER
DATE:

APPROVED BY:
CHIEF ENGINEER
DATE:

THIRD STREET
STORM DRAIN
STAGE 2
TITLE SHEET

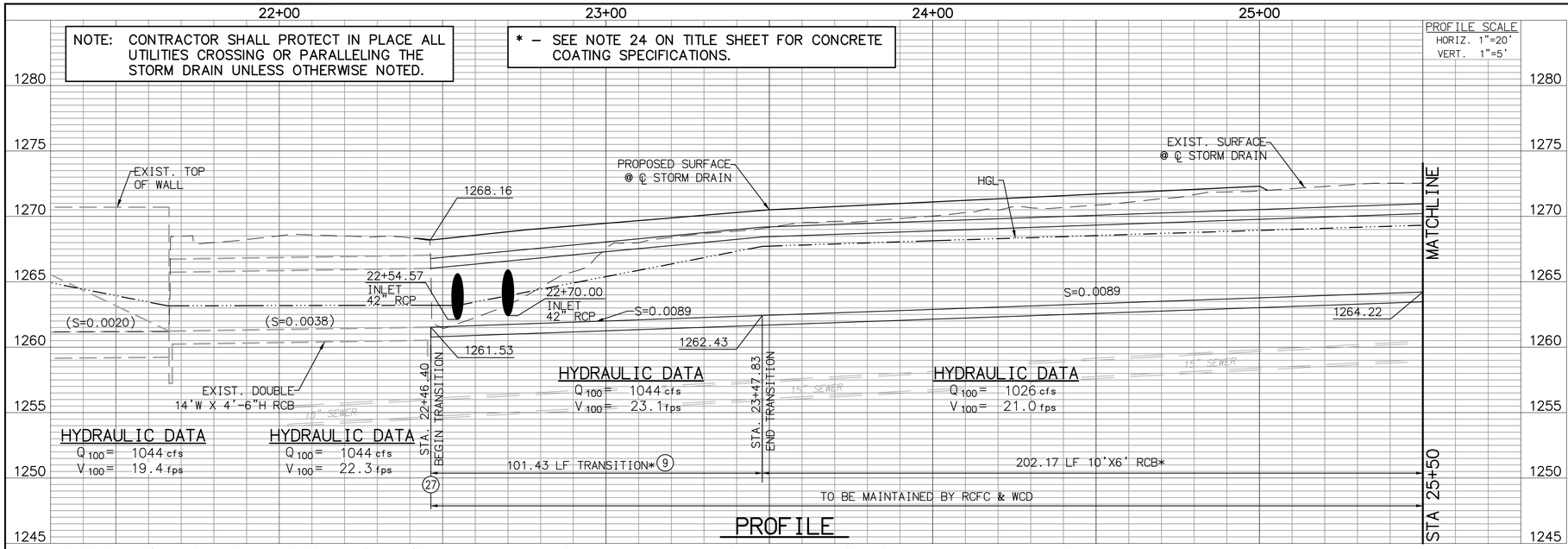
PROJECT NO. 0-0-0000
DRAWING NO. 0-000
SHEET NO. 1 OF 13

FIFTH PLAN CHECK

H:\PDATA\148215\CADD\STRMWATER\DLV\STORMDV\148215-SD-RCFCWCD-001.DWG XOCHITL.LOZANO 10/17/2017 12:30 PM

NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES CROSSING OR PARALLELING THE STORM DRAIN UNLESS OTHERWISE NOTED.

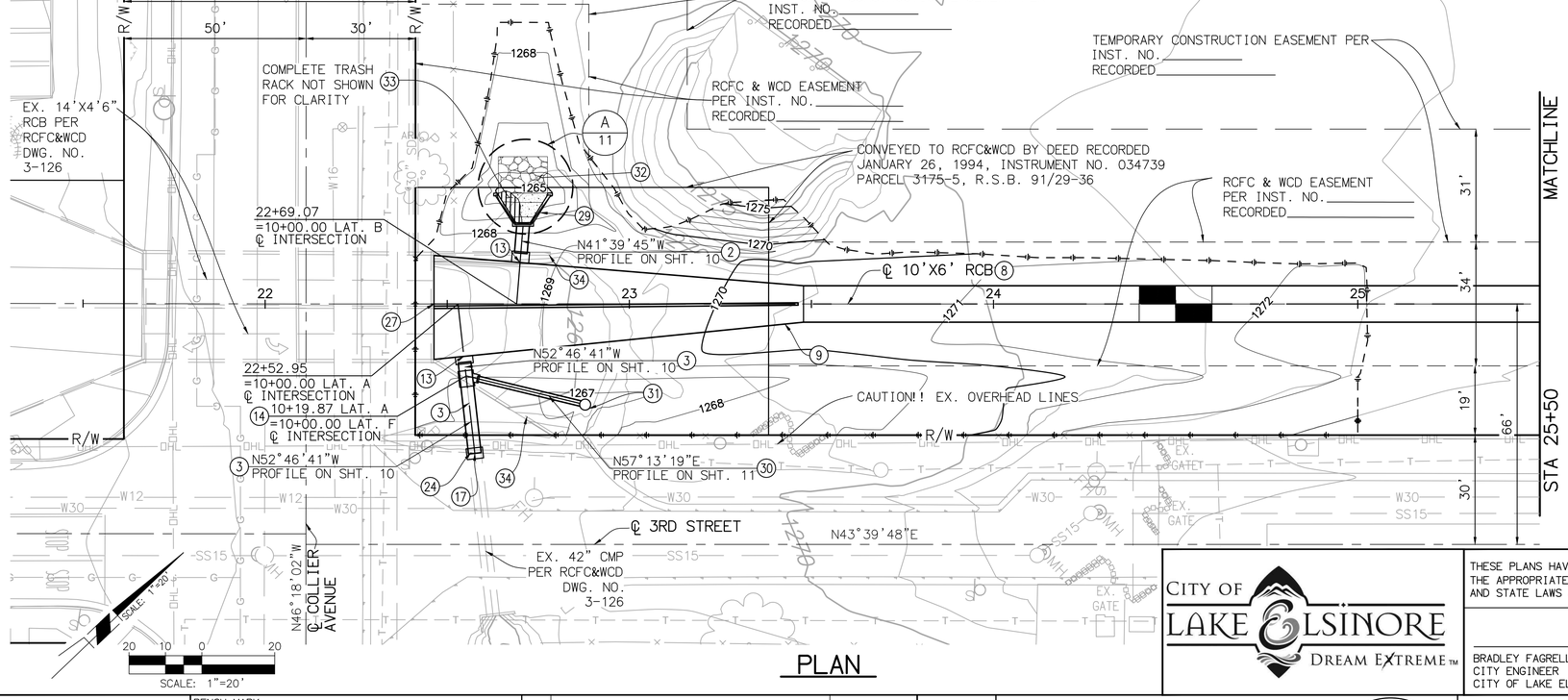
* – SEE NOTE 24 ON TITLE SHEET FOR CONCRETE COATING SPECIFICATIONS.

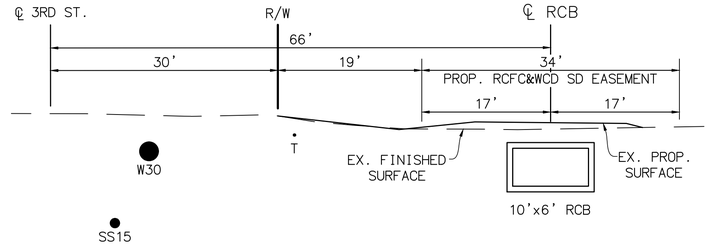


PROFILE SCALE
HORIZ. 1"=20'
VERT. 1"=5'

CONSTRUCTION NOTES

(2) INSTALL 42" RCP STORM DRAIN PIPE, D-LOAD PER PLAN.
(3) INSTALL 42" RCP STORM DRAIN PIPE TO CONNECT TO DISTRICT STRUCTURE.
(8) CONSTRUCT 10' X 6' (SPAN X RISE) PRE-CAST REINFORCED CONCRETE BOX (RCB) PER CALTRANS STD. D83A AND D83B.
(9) CONSTRUCT TRANSITION STRUCTURE PER DETAILS ON SHEET 12.
(13) CONSTRUCT JUNCTION STRUCTURE NO. 1 PER RCFC&WCD STD. DWG. NO. JS226.
(14) CONSTRUCT JUNCTION STRUCTURE NO. 2 PER RCFC&WCD STD. DWG. NO. JS227.
(17) CONSTRUCT CONCRETE COLLAR PER RCFC&WCD STD. DWG. NO. M803.
(24) INTERFERING TELEPHONE LINE ABANDONED IN PLACE BY UTILITY OWNER (FRONTIER). CONFLICTING STRUCTURES AND CONDUITS TO BE REMOVED AND DISPOSED BY CONTRACTOR. REFER TO FRONTIER RELOCATION PLANS.
(27) CONNECT TRANSITION STRUCTURE TO EXISTING DOUBLE RCB PER SHEET 12 AND 13.
(29) CONSTRUCT PIPE CULVERT WING WALL PER CALTRANS STD DWG D86B AND DETAIL ON SHEET 11.
(30) INSTALL 18" RCP STORM DRAIN PIPE, D-LOAD PER PLAN.
(31) CONSTRUCT MODIFIED INLET TYPE X PER RCFC&WCD STD. DWG. NO. CB108 WITH OPTIONAL OPENINGS AND OPENING HEIGHT EQUAL TO 0.75'.
(32) INSTALL 1/4 TON RIP RAP, 2.7' THICK WITH 9" THICK FILTER BLANKET OF 3/4" ROCK OVER SAND. USE MIRAFI 1100-N FOR FILTER BLANKET (OR APPROVED EQUAL). SEE DETAIL ON SHEET 11.
(33) CONSTRUCT TRASH RACK (INCLINED) PER APWA STD 361-2.
(34) REMOVE EXISTING WINGWALL AND ASSOCIATED RIP RAP.





SECTION AT STA 24+50

SCALE 1"=10'

10' 0 10'

INFORMATIONAL NOTE

ALL X-SECTIONS TAKEN LOOKING DOWN STREAM

JUNCTION STRUCTURE No.1 TABLE (LAT. A)	
℄ INT. STA.	22+52.95
CALLOUT	VALUE
A	83°33'31"
B	42"
C	16.51'
ELEV R	1262.16
ELEV S	1262.12

JUNCTION STRUCTURE No.1 TABLE (LAT. B)	
℄ INT. STA.	22+69.07
CALLOUT	VALUE
A	85°19'32"
B	42"
C	14.40'
ELEV R	1262.46
ELEV S	1262.41

JUNCTION STRUCTURE NO. 2 TABLE (LAT. F)	
LAT. A ℄ STA. 10+19.87	
CALLOUT	VALUE
A	70°
B	18"
C	3.62'
D	42"
E	1.84'
F	1.90'
G	1.56'
L	2.41'
ELEV. R	1263.28
ELEV. S	1263.27

CITY OF LAKE ELSINORE DREAM EXTREME™

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BRADLEY FAGRELL, RCE No. 43920
CITY ENGINEER
CITY OF LAKE ELSINORE

DATE

★ PRELIMINARY ★
SUBJECT TO REVISION

CALTRANS PERMIT NO. 08-16-N-TN-0291

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1264.85 EL.

REVISIONS			
REF.	DESCRIPTION	APPR.	DATE

DESIGNED BY: C. MORLOK
DRAWN BY: C. MORLOK
DATE DRAWN: 11-2015
CHECKED BY: J. TANNER

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40810 COUNTY CENTER DR., SUITE 200
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REGISTERED PROFESSIONAL ENGINEER JOHN D. TANNER III No. 60132 CIVIL STATE OF CALIFORNIA

JOHN D. TANNER III, RCE 60132 DATE:

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: DATE:

APPROVED BY: DATE:

THIRD STREET STORM DRAIN STAGE 2

STA 22+46.40 TO STA 25+50

PROJECT NO. 0-0-0000
DRAWING NO. 0-000
SHEET NO. 2 OF 13

FIFTH PLAN CHECK

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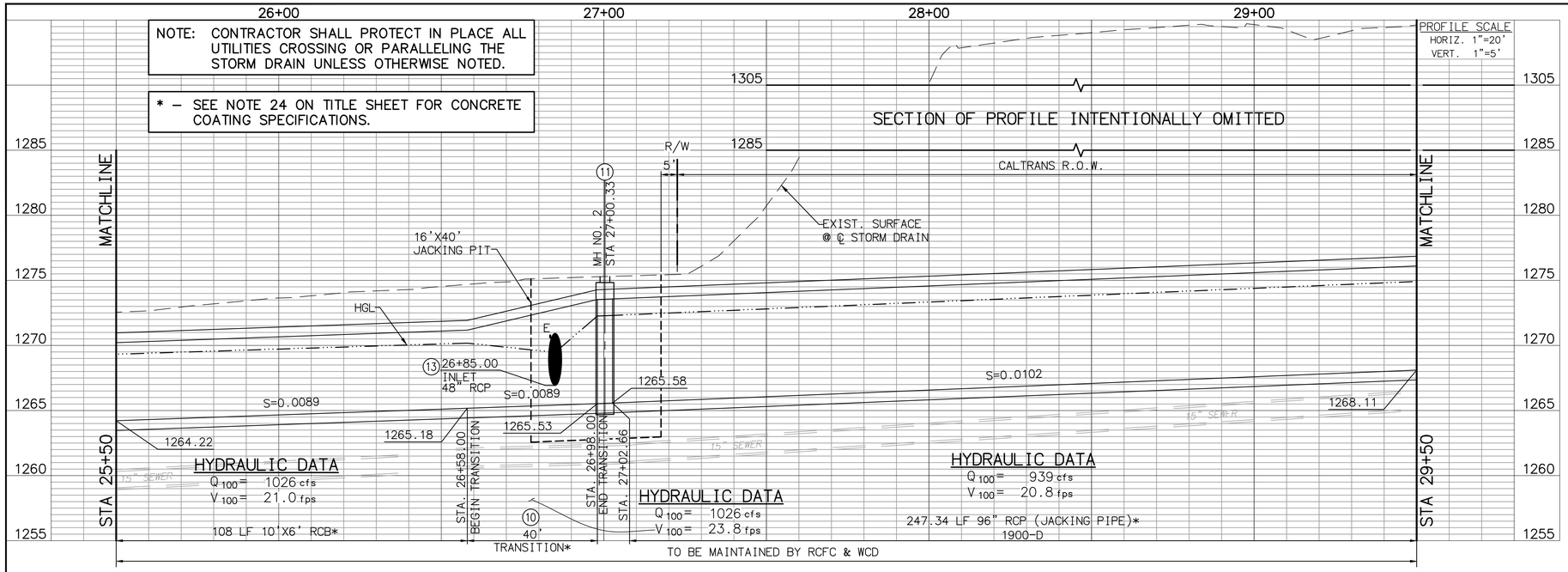
NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES CROSSING OR PARALLELING THE STORM DRAIN UNLESS OTHERWISE NOTED.

* – SEE NOTE 24 ON TITLE SHEET FOR CONCRETE COATING SPECIFICATIONS.

PROFILE



CONSTRUCTION NOTES

(8) CONSTRUCT 10' X 6' (SPAN X RISE) PRE-CAST REINFORCED CONCRETE BOX (RCB) PER CALTRANS STD. D83A AND D83B.

(10) CONSTRUCT TRANSITION STRUCTURE NO. 1 PER RCFC&WCD STD. DWG. NO. TS301.

(11) CONSTRUCT MANHOLE NO. 2 PER RCFC&WCD STD. DWG. NO. MH252. INCLUDE A 6' X 6' X 6" THICK CONCRETE PAD WITH #4 @ 12" O.C. E.W. REINFORCEMENT AROUND ALL MANHOLES LOCATED IN UNPAVED AREAS.

(13) CONSTRUCT JUNCTION STRUCTURE NO. 1 PER RCFC&WCD STD. DWG. NO. JS226.

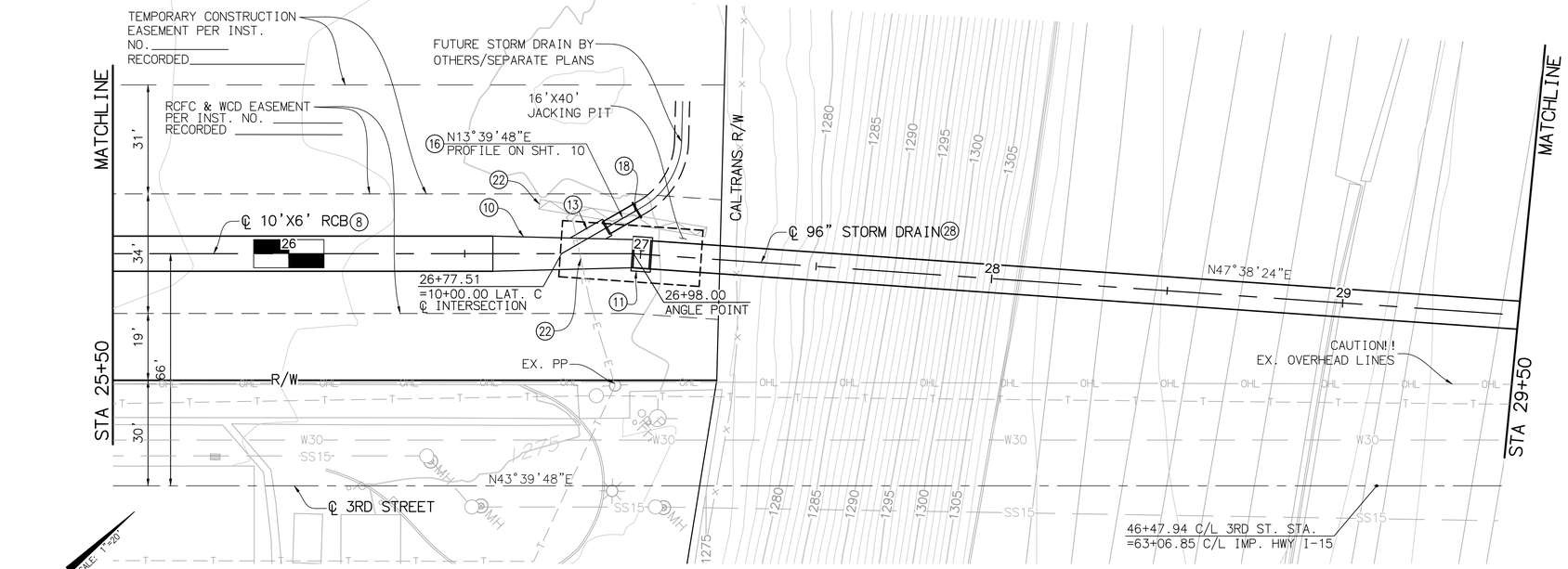
(16) INSTALL 48" RCP STORM DRAIN PIPE, D-LOAD PER PLAN.

(18) CONSTRUCT CONCRETE BULKHEAD PER RCFC&WCD STD. DWG. NO. M816.

(22) EXISTING BILLBOARD AND ELECTRICAL CONDUIT TO BE RELOCATED OUT OF PROPOSED EASEMENT BY PROPERTY OWNER.

(28) INSTALL 96" RCP JACKING PIPE STORM DRAIN. D-LOAD PER PLAN.

JUNCTION STRUCTURE No.1 TABLE (LAT. C)	
℄ INT. STA.	26+77.51
CALLOUT	VALUE
A	30"
B	48"
C	14.98'
ELEV R	1266.93
ELEV S	1266.99



PLAN

SECTION AT STA 26+00

SCALE 1"=10'

10' 0 10'

INFORMATIONAL NOTE

ALL X-SECTIONS TAKEN LOOKING DOWN STREAM

★ PRELIMINARY ★
SUBJECT TO REVISION

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1264.85 EL.

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DRAWN BY: C. MORLOK
DATE DRAWN: 11-2015
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REGISTERED PROFESSIONAL ENGINEER JOHN D. TANNER III No. 60132 CIVIL STATE OF CALIFORNIA

JOHN D. TANNER III, RCE 60132 DATE:

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: DATE:

APPROVED BY: DATE:

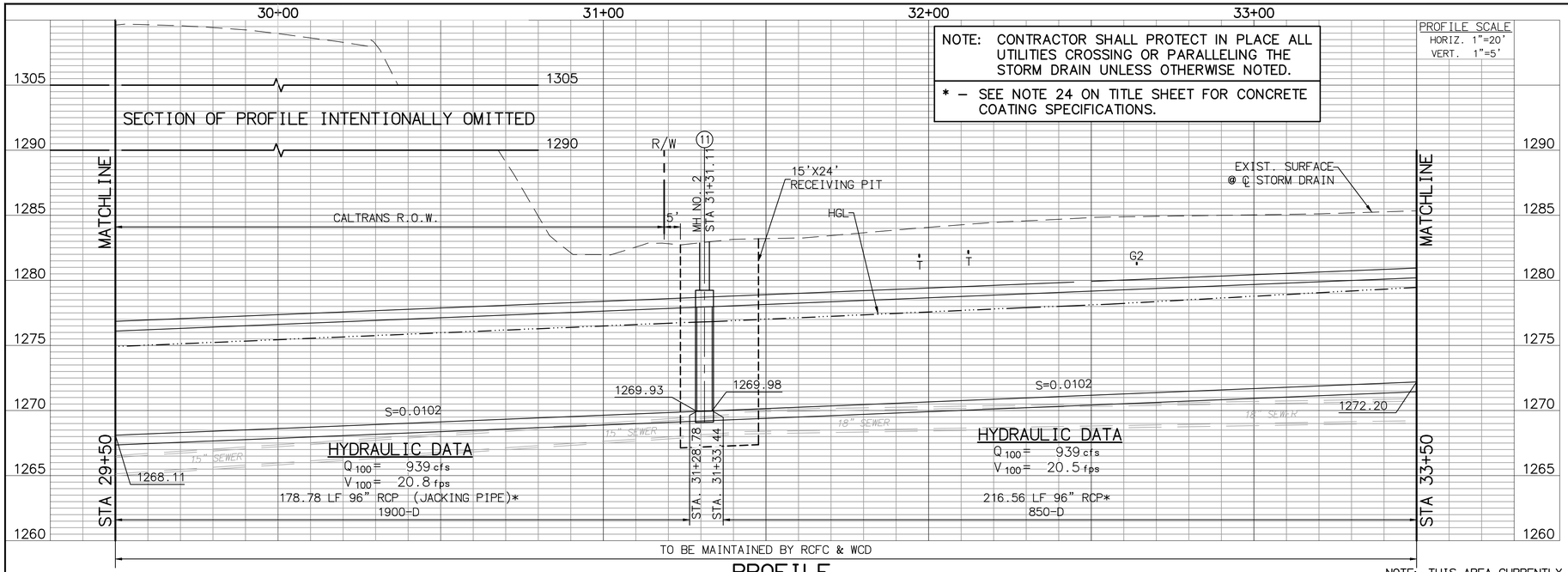
THIRD STREET STORM DRAIN STAGE 2

STA 25+50 TO STA 29+50

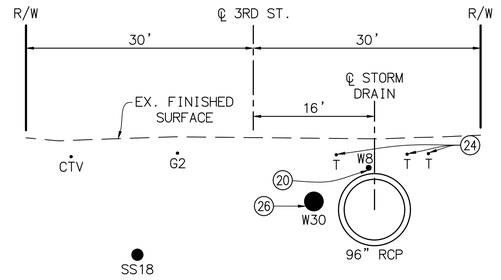
PROJECT NO. 0-0-0000
DRAWING NO. 0-000
SHEET NO. 3 OF 13

FIFTH PLAN CHECK

H:\PDATA\148215\CADD\STRMWATER\DLV\STORMD\148215-SD-RCFCWCD-003.DWG XCOHITL.LOZANO 10/17/2017 12:35 PM



PROFILE



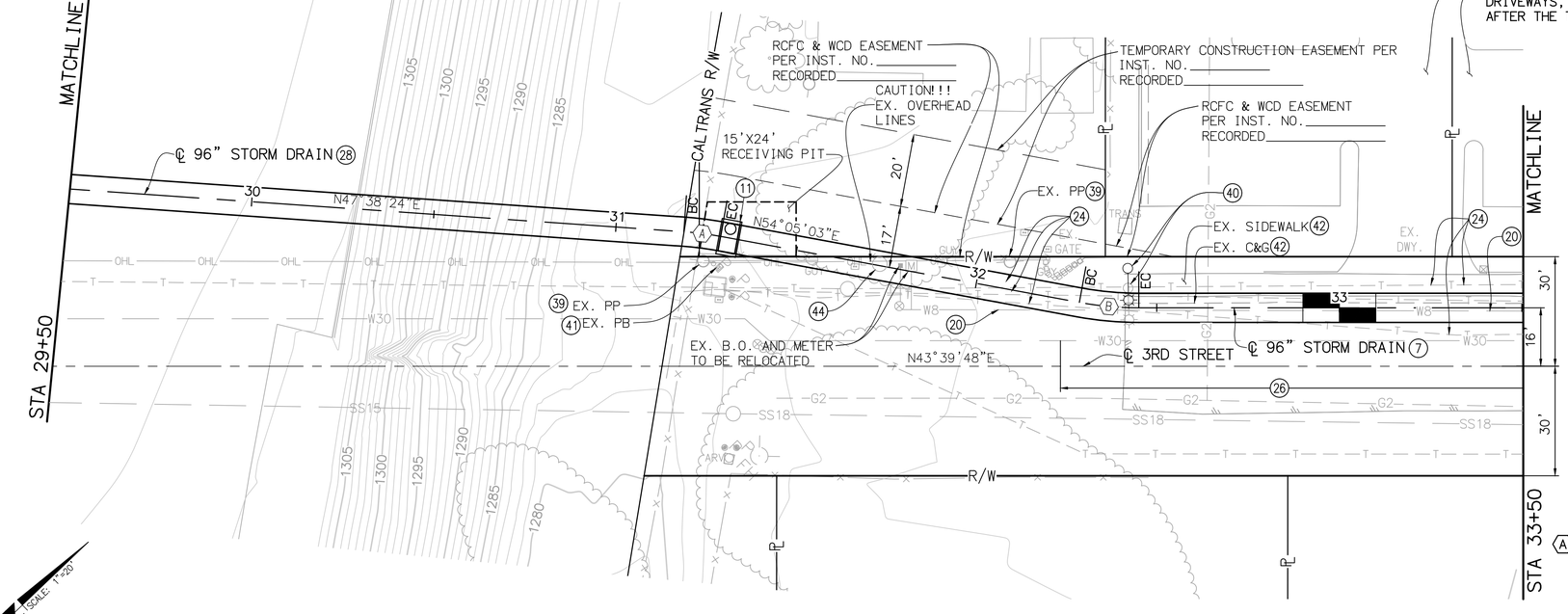
SECTION AT STA 33+00

SCALE 1"=10'

10' 0 10'

INFORMATIONAL NOTE

ALL X-SECTIONS TAKEN LOOKING DOWN STREAM



PLAN

NOTE: THIS AREA CURRENTLY INCLUDES A RESTAURANT, PARKING LOT AND DRIVEWAYS, WHICH WERE CONSTRUCTED AFTER THE TOPO WAS FLOWN.

CONSTRUCTION NOTES

(7) INSTALL 96" RCP STORM DRAIN PIPE, D-LOAD PER PLAN.

(11) CONSTRUCT MANHOLE NO. 2 PER RCFC&WCD STD. DWG. NO. MH252. INCLUDE A 6' X 6' X 6" THICK CONCRETE PAD WITH #4 @ 12" O.C. E.W. REINFORCEMENT AROUND ALL MANHOLES LOCATED IN UNPAVED AREAS.

(20) INTERFERING 8" WATER ABANDONED IN PLACE. CONFLICTING STRUCTURES AND PIPE TO BE REMOVED AND DISPOSED BY CONTRACTOR. REFER TO EVMWD RELOCATION PLANS.

(24) INTERFERING TELEPHONE LINE ABANDONED IN PLACE BY UTILITY OWNER (FRONTIER). CONFLICTING STRUCTURES AND CONDUITS TO BE REMOVED AND DISPOSED BY CONTRACTOR. REFER TO FRONTIER RELOCATION PLANS.

(26) INTERFERING 30" WATER ABANDONED IN PLACE. CONFLICTING STRUCTURES AND PIPE TO BE REMOVED AND DISPOSED BY CONTRACTOR. REFER TO EVMWD RELOCATION PLANS.

(28) INSTALL 96" RCP JACKING PIPE STORM DRAIN. D-LOAD PER PLAN.

(39) EXISTING POWER POLES TO BE PROTECTED IN PLACE. CONFLICTING GUY WIRES TO BE RELOCATED BY UTILITY OWNER (SCE).

(40) EXISTING STREET LIGHT TO BE RELOCATED BEHIND SIDEWALK (PER PLAN) BY CONTRACTOR.

(41) EXISTING ELECTRICAL PULL BOX TO BE PROTECTED IN PLACE.

(42) EXISTING STREET IMPROVEMENTS TO BE REMOVED AND REPLACED IN-KIND BY CONTRACTOR.

(44) REMOVE CONFLICTING TREE AND PROPERLY DISPOSE.

(A) ℄ CURVE DATA
Δ = 06°26'39"
R = 90.00'
T = 5.07'
L = 10.12'
BC = STA. 31+18.65
EC = STA. 31+28.78
PI = N 2196208.162
E 6231844.892

(B) ℄ CURVE DATA
Δ = 10°25'15"
R = 90.00'
T = 8.21'
L = 16.37'
BC = STA. 32+28.71
EC = STA. 32+45.07
PI = N 2196412.589
E 6231820.237

★ PRELIMINARY ★
SUBJECT TO REVISION

CALTRANS PERMIT NO. 08-16-N-TN-0291

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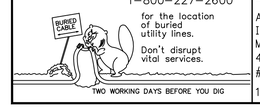

TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
B.M. NO. EL-37-80
A 1 1/2" ALUM. CAP IN 6" CONC. COLLAR, FROM INTER. OF RIVERSIDE DR. AND LAKESHORE DR, SE 1.7 MI. TO THE INTER. OF MOHR ST. AND LAKESHORE DR; 40'± SW FROM ABOVE INTER; 16'± SW OF PP #46330; 1'± S OF SURVEY MARKER POST.
1264.85 EL.

REF.	REVISIONS	APPR.	DATE

DESIGNED BY: C. MORLOK
DRAWN BY: C. MORLOK
DATE DRAWN: 11-2015
CHECKED BY: J. TANNER

Michael Baker INTERNATIONAL
40810 COUNTY CENTER DR., SUITE 200
TEMECULA, CA 92591
PHONE: (951) 676-8042
MBAKERINTL.COM
JOHN D. TANNER III, RCE 60132
DATE:

REGISTERED PROFESSIONAL ENGINEER JOHN D. TANNER III No. 60132 CIVIL STATE OF CALIFORNIA

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

THIRD STREET STORM DRAIN STAGE 2

STA 29+50 TO STA 33+50

PROJECT NO. 0-0-0000
DRAWING NO. 0-000
SHEET NO. 4 OF 13

FIFTH PLAN CHECK

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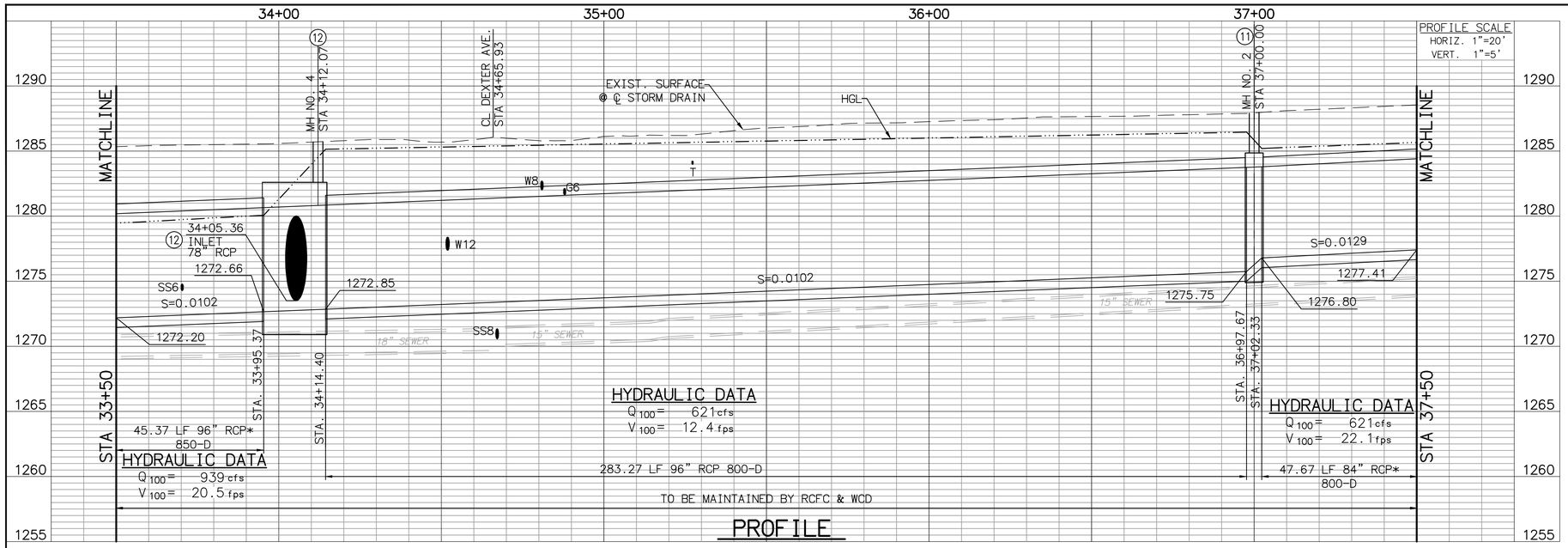
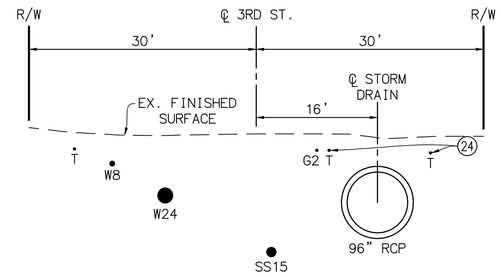


PROFILE



SECTION AT STA 35+50

SCALE 1"=10'

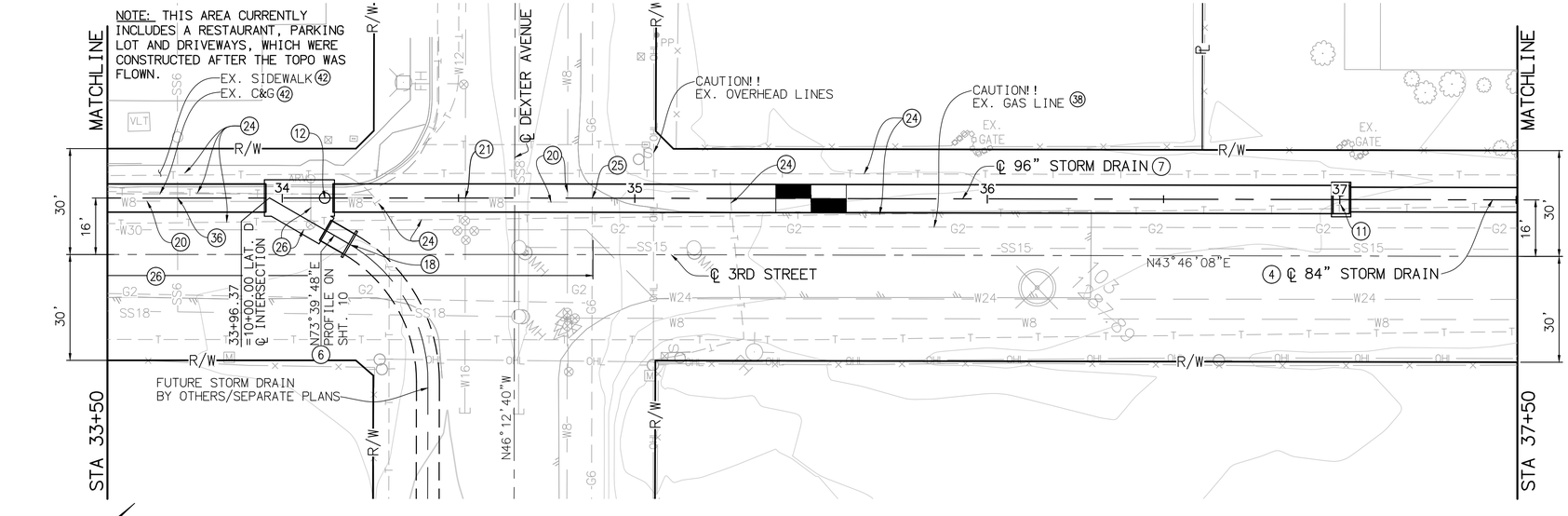
10' 0 10'

INFORMATIONAL NOTE

ALL X-SECTIONS TAKEN LOOKING DOWN STREAM

NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES CROSSING OR PARALLELING THE STORM DRAIN UNLESS OTHERWISE NOTED.

* – SEE NOTE 24 ON TITLE SHEET FOR CONCRETE COATING SPECIFICATIONS.



PLAN

CONSTRUCTION NOTES

(4) INSTALL 84" RCP STORM DRAIN PIPE, D-LOAD PER PLAN.
(6) INSTALL 78" RCP STORM DRAIN PIPE, D-LOAD PER PLAN.
(7) INSTALL 96" RCP STORM DRAIN PIPE, D-LOAD PER PLAN.
(11) CONSTRUCT MANHOLE NO. 2 PER RCFC&WCD STD. DWG. NO. MH252. INCLUDE A 6' X 6' X 6" THICK CONCRETE PAD WITH #4 @ 12" O.C. E.W. REINFORCEMENT AROUND ALL MANHOLES LOCATED IN UNPAVED AREAS.
(12) CONSTRUCT MANHOLE NO. 4 PER RCFC&WCD STD. DWG. NO. MH254. INCLUDE A 6' X 6' X 6" THICK CONCRETE PAD WITH #4 @ 12" O.C. E.W. REINFORCEMENT AROUND ALL MANHOLES LOCATED IN UNPAVED AREAS.
(18) CONSTRUCT CONCRETE BULKHEAD PER RCFC&WCD STD. DWG. NO. M816.
(20) INTERFERING 8" WATER ABANDONED IN PLACE. CONFLICTING STRUCTURES AND PIPE TO BE REMOVED AND DISPOSED BY CONTRACTOR. REFER TO EVMWD RELOCATION PLANS.
(21) INTERFERING 12" WATER TO BE RELOCATED PER EVMWD RELOCATION PLANS, SPECIFICATIONS AND STANDARDS.
(24) INTERFERING TELEPHONE LINE ABANDONED IN PLACE BY UTILITY OWNER (FRONTIER). CONFLICTING STRUCTURES AND CONDUITS TO BE REMOVED AND DISPOSED BY CONTRACTOR. REFER TO FRONTIER RELOCATION PLANS.
(25) INTERFERING 6" GAS TO BE RELOCATED BY UTILITY OWNER (SO. CAL. GAS).
(26) INTERFERING 30" WATER ABANDONED IN PLACE. CONFLICTING STRUCTURES AND PIPE TO BE REMOVED AND DISPOSED BY CONTRACTOR. REFER TO EVMWD RELOCATION PLANS.
(36) INTERFERING 6" SEWER TO BE RELOCATED PER EVMWD RELOCATION PLANS, SPECIFICATIONS AND STANDARDS.
(38) EXISTING 2" GAS TO BE PROTECTED IN PLACE. DO NOT EXPOSE.
(42) EXISTING STREET IMPROVEMENTS TO BE REMOVED AND REPLACED IN-KIND BY CONTRACTOR.

MANHOLE NO. 4 TABLE (LAT. D)	
STA.	34+12.07
CALLOUT	VALUE
A	30"
B	78"
C	18.71'
D1	96"
D2	96"
ELEV. R	1273.55
ELEV. S	1273.51

★ PRELIMINARY ★

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1264.85 EL.

REF.	REVISIONS	APPR.	DATE

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DRAWN BY: C. MORLOK
DATE DRAWN: 11-2015
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REGISTERED PROFESSIONAL ENGINEER JOHN D. TANNER III No. 60132 CIVIL STATE OF CALIFORNIA

JOHN D. TANNER III, RCE 60132 DATE:

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: DATE:

APPROVED BY: DATE:

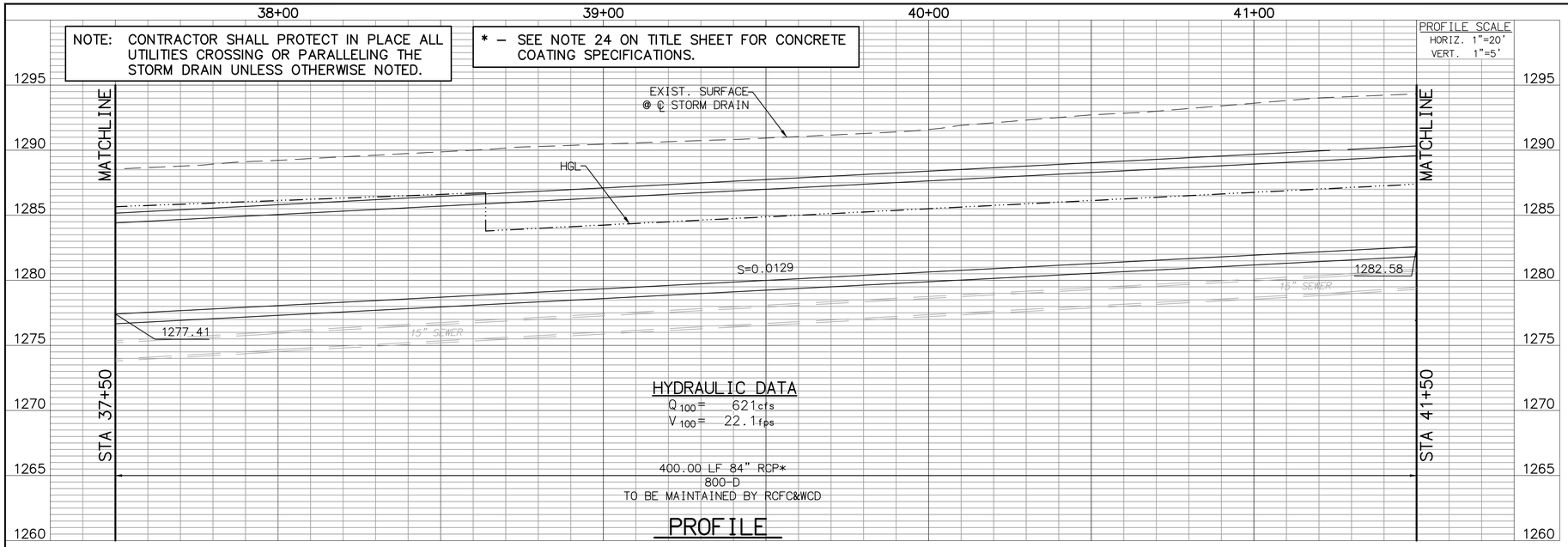
THIRD STREET STORM DRAIN STAGE 2

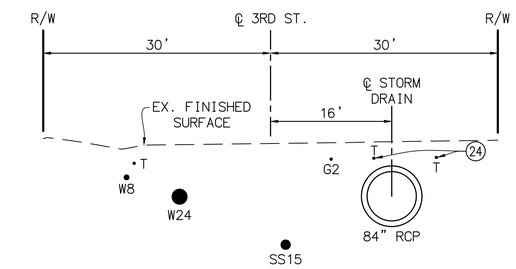
STA 33+50 TO STA 37+50

PROJECT NO. 0-0-0000
DRAWING NO. 0-000
SHEET NO. 5 OF 13

H:\PDATA\148215\CADD\STRMWATER\DLV\STGRAD\148215-SD-RCFCWCD-005.DWG XOCHITL.LOZANO 10/17/2017 1:32 PM

FIFTH PLAN CHECK



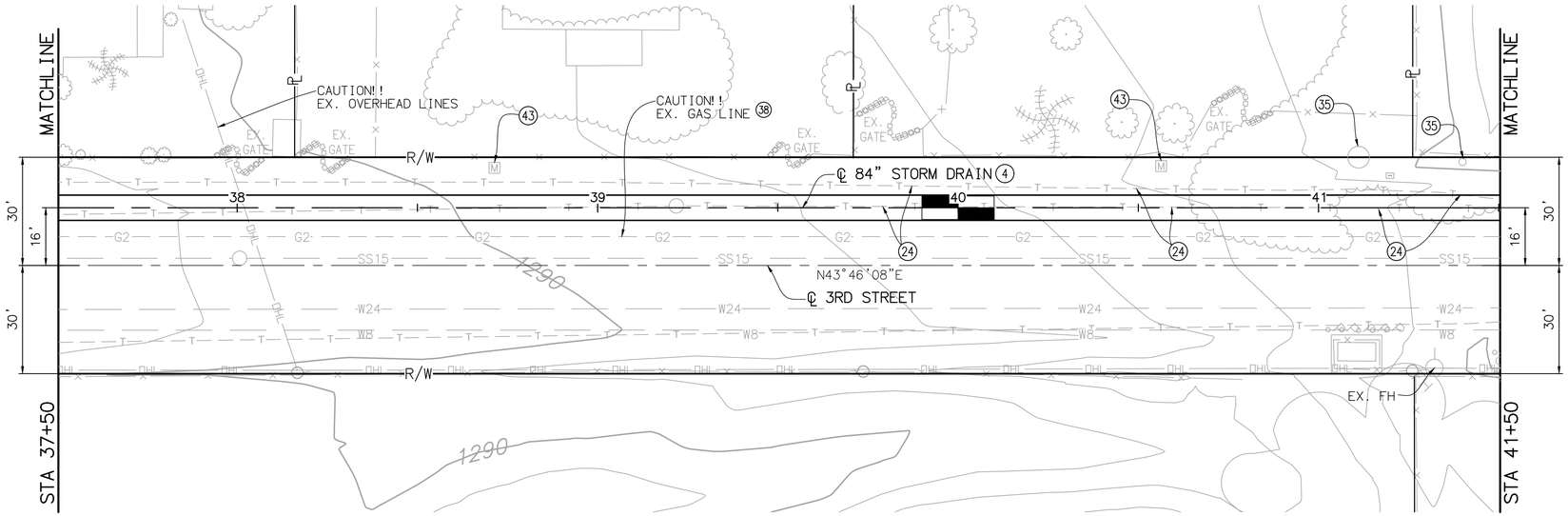


SECTION AT STA 40+00
SCALE 1"=10'

10' 0 10'

INFORMATIONAL NOTE

ALL X-SECTIONS TAKEN LOOKING DOWN STREAM



CONSTRUCTION NOTES

4. INSTALL 84" RCP STORM DRAIN PIPE, D-LOAD PER PLAN.
24. INTERFERING TELEPHONE LINE ABANDONED IN PLACE BY UTILITY OWNER (FRONTIER). CONFLICTING STRUCTURES AND CONDUITS TO BE REMOVED AND DISPOSED BY CONTRACTOR. REFER TO FRONTIER RELOCATION PLANS.
35. PROTECT IN PLACE EXISTING TREE. CONTRACTOR TO INFORM ENGINEER IF TREE POSES AN ISSUE FOR CONSTRUCTION.
38. EXISTING 2" GAS TO BE PROTECTED IN PLACE. DO NOT EXPOSE.
43. EXISTING WATER METER TO BE PROTECTED IN PLACE. CONTRACTOR TO NOTIFY ENGINEER OF ANY CONFLICTS.

SCALE: 1"=20'

20 10 0 20

SCALE: 1"=20'

PLAN

★ PRELIMINARY ★

SUBJECT TO REVISION

CALTRANS PERMIT NO. 08-16-N-TN-0291

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services. TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK

B.M. NO. EL-37-80

A 1 1/2" ALUM. CAP IN 6" CONC. COLLAR, FROM INTER. OF RIVERSIDE DR. AND LAKESHORE DR, SE 1.7 MI. TO THE INTER. OF MOHR ST. AND LAKESHORE DR; 40'± SW FROM ABOVE INTER; 16'± SW OF PP #46330; 1'± S OF SURVEY MARKER POST.

1264.85 EL.

REVISIONS			
REF.	DESCRIPTION	APPR.	DATE

DESIGNED BY: C. MORLOK
DRAWN BY: C. MORLOK
DATE DRAWN: 11-2015
CHECKED BY: J. TANNER

Michael Baker INTERNATIONAL
40810 COUNTY CENTER DR., SUITE 200
TEMECULA, CA 92591
PHONE: (951) 676-8042
MBAKERINTL.COM

REGISTERED PROFESSIONAL ENGINEER JOHN D. TANNER III No. 60132 CIVIL STATE OF CALIFORNIA

JOHN D. TANNER III, RCE 60132 DATE:

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: DATE:

APPROVED BY: DATE:

THIRD STREET STORM DRAIN STAGE 2

STA 37+50 TO STA 41+50

PROJECT NO. 0-0-0000
DRAWING NO. 0-000
SHEET NO. 6 OF 13

FIFTH PLAN CHECK

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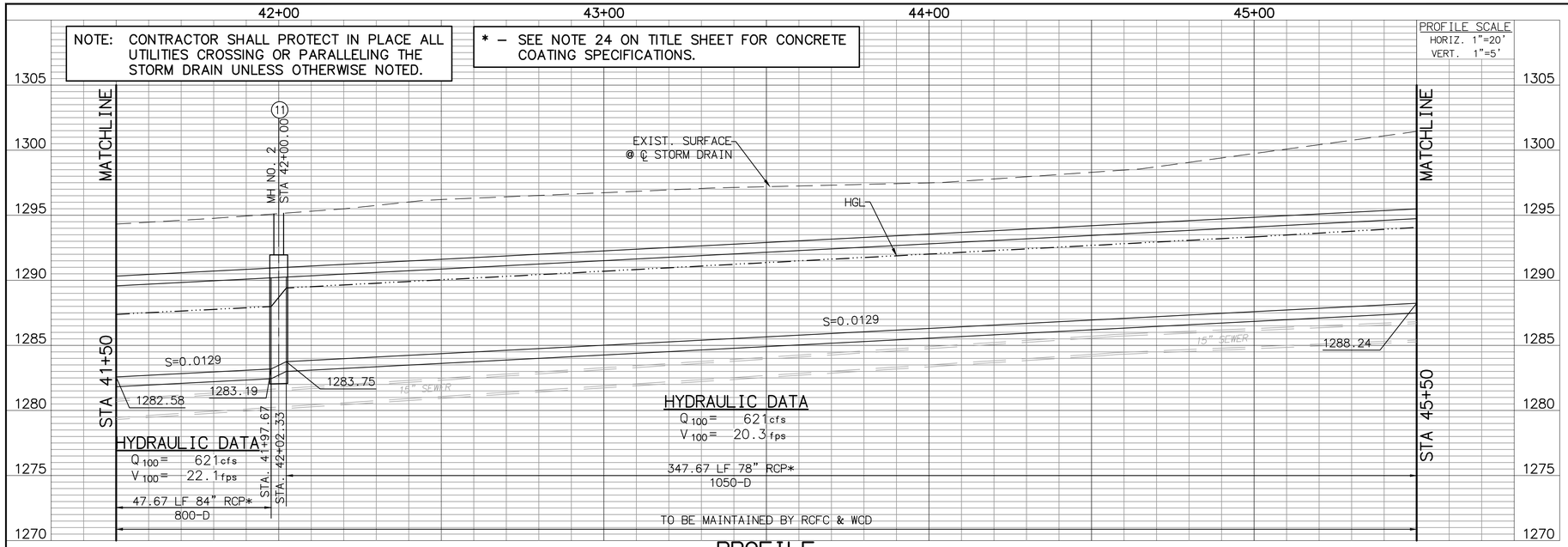
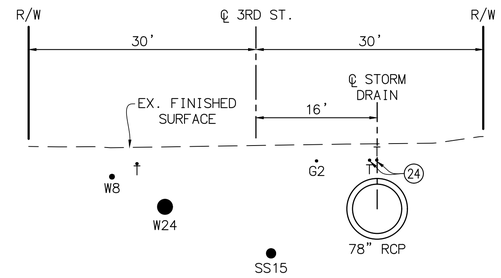
NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES CROSSING OR PARALLELING THE STORM DRAIN UNLESS OTHERWISE NOTED.

* – SEE NOTE 24 ON TITLE SHEET FOR CONCRETE COATING SPECIFICATIONS.

PROFILE SCALE
HORIZ. 1"=20'
VERT. 1"=5'



PROFILE

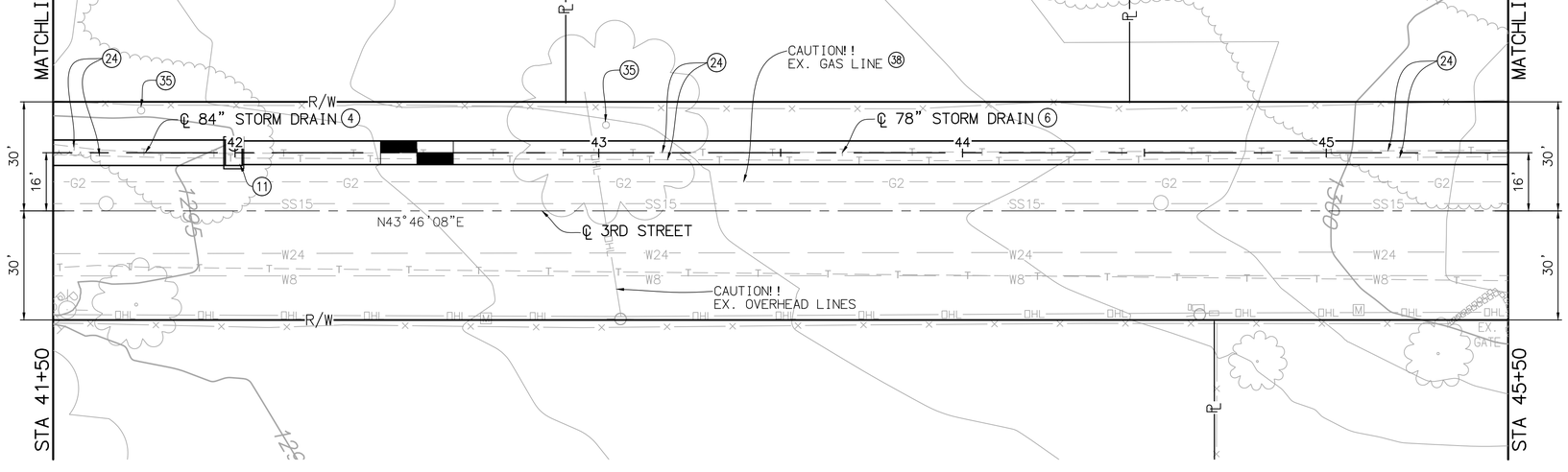


SECTION AT STA 42+50
SCALE 1"=10'

10' 0 10'

INFORMATIONAL NOTE

ALL X-SECTIONS TAKEN LOOKING DOWN STREAM



PLAN

20 10 0 20
SCALE: 1"=20'

CONSTRUCTION NOTES

(4) INSTALL 84" RCP STORM DRAIN PIPE, D-LOAD PER PLAN.

(6) INSTALL 78" RCP STORM DRAIN PIPE, D-LOAD PER PLAN.

(11) CONSTRUCT MANHOLE NO. 2 PER RCFC&WCD STD. DWG. NO. MH252. INCLUDE A 6' X 6' X 6" THICK CONCRETE PAD WITH #4 @ 12" O.C. E.W. REINFORCEMENT AROUND ALL MANHOLES LOCATED IN UNPAVED AREAS.

(24) INTERFERING TELEPHONE LINE ABANDONED IN PLACE BY UTILITY OWNER (FRONTIER). CONFLICTING STRUCTURES AND CONDUITS TO BE REMOVED AND DISPOSED BY CONTRACTOR. REFER TO FRONTIER RELOCATION PLANS.

(35) PROTECT IN PLACE EXISTING TREE. CONTRACTOR TO INFORM ENGINEER IF TREE POSES AN ISSUE FOR CONSTRUCTION.

(38) EXISTING 2" GAS TO BE PROTECTED IN PLACE. DO NOT EXPOSE.

★ PRELIMINARY ★
SUBJECT TO REVISION

CALTRANS PERMIT NO. 08-16-N-TN-0291

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
B.M. NO. EL-37-80
A 1 1/2" ALUM. CAP IN 6" CONC. COLLAR, FROM INTER. OF RIVERSIDE DR. AND LAKESHORE DR, SE 1.7 MI. TO THE INTER. OF MOHR ST. AND LAKESHORE DR; 40'± SW FROM ABOVE INTER; 16'± SW OF PP #46330; 1'± S OF SURVEY MARKER POST.
1264.85 EL.

REF.	REVISIONS	APPR.	DATE

DESIGNED BY: C. MORLOK
DRAWN BY: C. MORLOK
DATE DRAWN: 11-2015
CHECKED BY: J. TANNER

Michael Baker INTERNATIONAL
40810 COUNTY CENTER DR., SUITE 200
TEMECULA, CA 92591
PHONE: (951) 676-8042
MBAKERINTL.COM

REGISTERED PROFESSIONAL ENGINEER JOHN D. TANNER III No. 60132 CIVIL STATE OF CALIFORNIA

JOHN D. TANNER III, RCE 60132 DATE:

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL: DATE:

APPROVED BY: DATE:

THIRD STREET STORM DRAIN STAGE 2

STA 41+50 TO STA 45+50

PROJECT NO. 0-0-0000
DRAWING NO. 0-000
SHEET NO. 7 OF 13

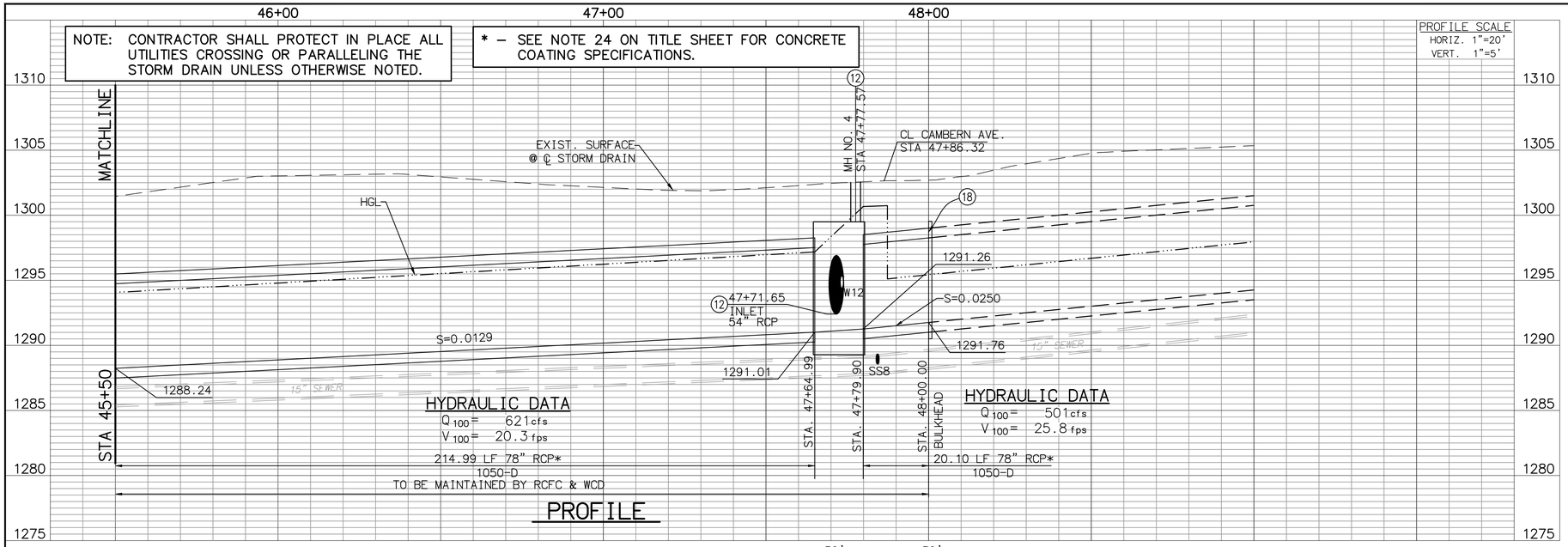
FIFTH PLAN CHECK

H:\PDATA\148215\CADD\STRMWATER\DLV\STORMD\148215-SD-RCFCWCD-007.DWG XOCHITL.LOZANO 10/17/2017 12:47 PM

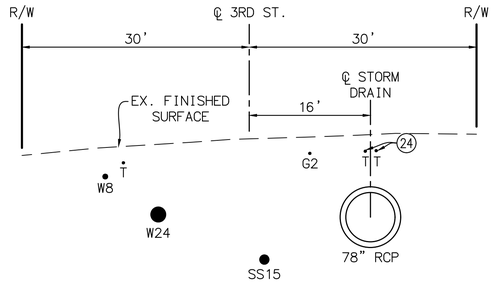
NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES CROSSING OR PARALLELING THE STORM DRAIN UNLESS OTHERWISE NOTED.

* – SEE NOTE 24 ON TITLE SHEET FOR CONCRETE COATING SPECIFICATIONS.

PROFILE SCALE
HORIZ. 1"=20'
VERT. 1"=5'



PROFILE



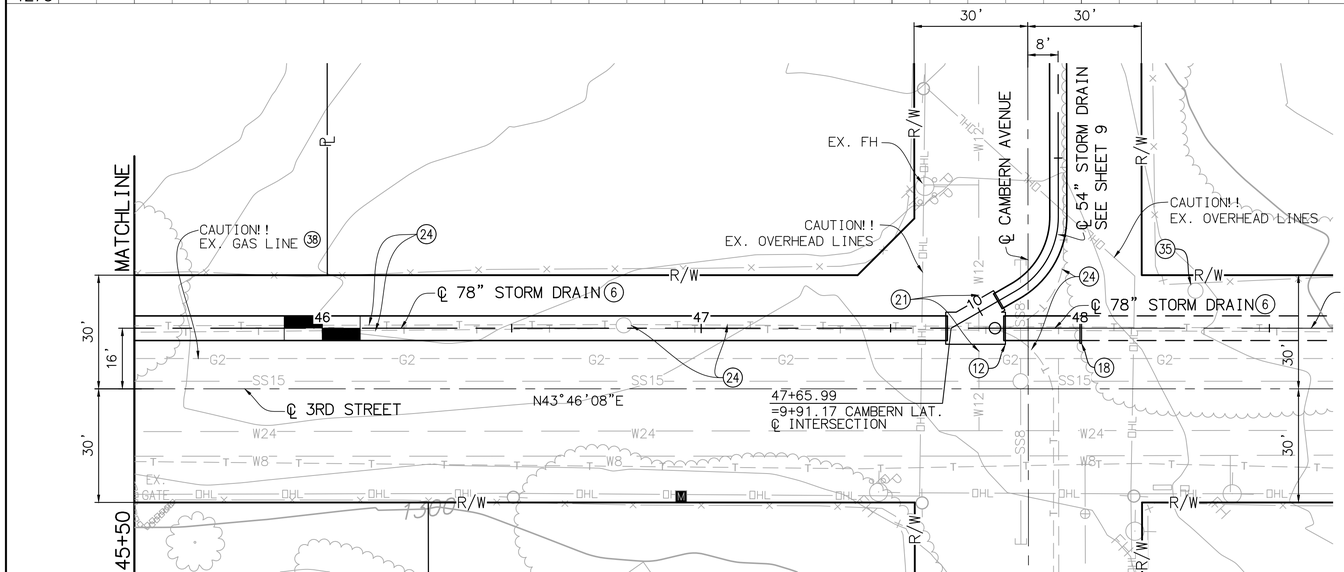
SECTION AT STA 46+00

SCALE 1"=10'

10' 0 10'

INFORMATIONAL NOTE

ALL X-SECTIONS TAKEN LOOKING DOWN STREAM



PLAN

MANHOLE NO. 4 TABLE CAMBERN ST. LATERAL	
STA.	47+77.57
CALLOUT	VALUE
A	30"
B	54"
C	14.66'
D1	78"
D2	78"
ELEV. R	1292.49
ELEV. S	1292.41

CONSTRUCTION NOTES

(6) INSTALL 78" RCP STORM DRAIN PIPE, D-LOAD PER PLAN.

(12) CONSTRUCT MANHOLE NO. 4 PER RCFC&WCD STD. DWG. NO. MH254. INCLUDE A 6' X 6' X 6" THICK CONCRETE PAD WITH #4 @ 12" O.C. E.W. REINFORCEMENT AROUND ALL MANHOLES LOCATED IN UNPAVED AREAS.

(18) CONSTRUCT CONCRETE BULKHEAD PER RCFC&WCD STD. DWG. NO. M816.

(21) INTERFERING 12" WATER TO BE RELOCATED PER EVMWD RELOCATION PLANS, SPECIFICATIONS AND STANDARDS.

(24) INTERFERING TELEPHONE LINE ABANDONED IN PLACE BY UTILITY OWNER (FRONTIER). CONFLICTING STRUCTURES AND CONDUITS TO BE REMOVED AND DISPOSED BY CONTRACTOR. REFER TO FRONTIER RELOCATION PLANS.

(35) PROTECT IN PLACE EXISTING TREE. CONTRACTOR TO INFORM ENGINEER IF TREE POSES AN ISSUE FOR CONSTRUCTION.

(38) EXISTING 2" GAS TO BE PROTECTED IN PLACE. DO NOT EXPOSE.

★ PRELIMINARY ★
SUBJECT TO REVISION

CALTRANS PERMIT NO. 08-16-N-TN-0291

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600
for the location of buried utility lines.
Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
B.M. NO. EL-37-80
A 1 1/2" ALUM. CAP IN 6" CONC. COLLAR, FROM INTER. OF RIVERSIDE DR. AND LAKESHORE DR, SE 1.7 MI. TO THE INTER. OF MOHR ST. AND LAKESHORE DR; 40'± SW FROM ABOVE INTER; 16'± SW OF PP #46330; 1'± S OF SURVEY MARKER POST.
1264.85 EL.

REVISIONS			
REF.	DESCRIPTION	APPR.	DATE

DESIGNED BY: C. MORLOK
DRAWN BY: C. MORLOK
DATE DRAWN: 11-2015
CHECKED BY: J. TANNER

Michael Baker INTERNATIONAL
40810 COUNTY CENTER DR., SUITE 200
TEMECULA, CA 92591
PHONE: (951) 676-8042
MBAKERINTL.COM
JOHN D. TANNER III, RCE 60132 DATE:

REGISTERED PROFESSIONAL ENGINEER JOHN D. TANNER III No. 60132 CIVIL STATE OF CALIFORNIA

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: DATE:

APPROVED BY: DATE:

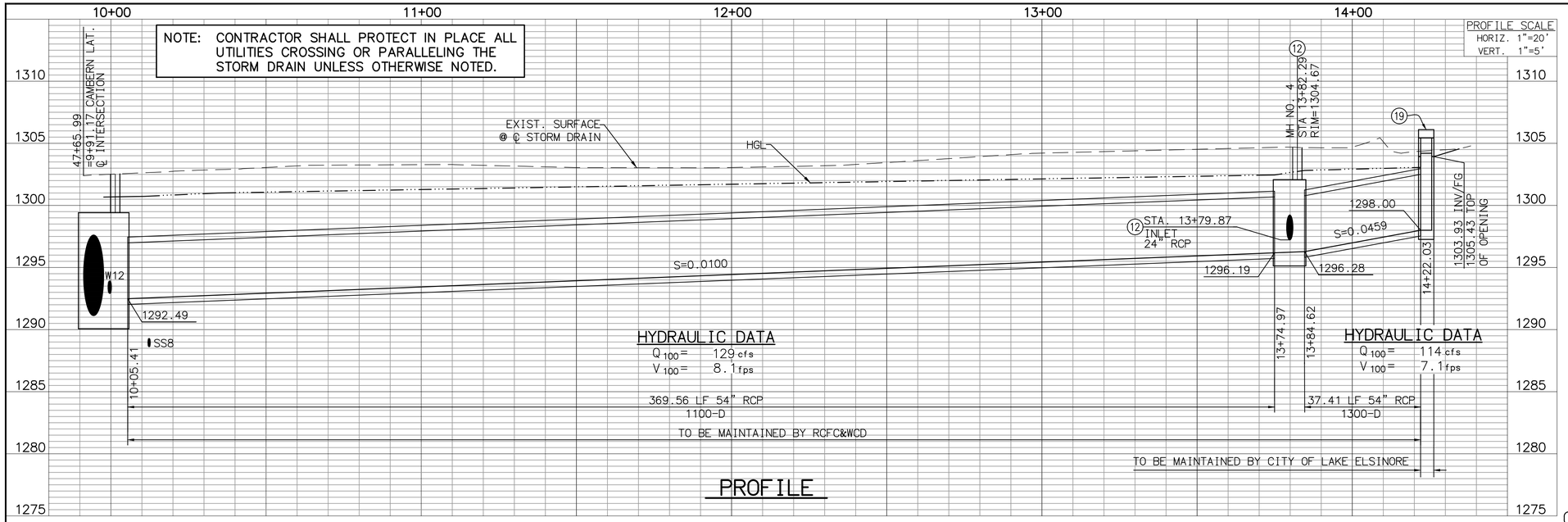
THIRD STREET STORM DRAIN STAGE 2

STA 45+50 TO STA 48+00

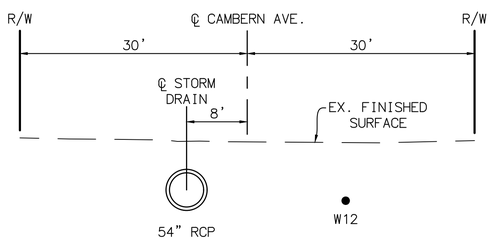
PROJECT NO. 0-0-0000
DRAWING NO. 0-000
SHEET NO. 8 OF 13

FIFTH PLAN CHECK

H:\PDATA\148215\CADD\STORMWATER\DLV\STORMD\148215-SD-RCFCWCD-008.DWG XOCHITL.LOZANO 10/17/2017 12:49 PM



PROFILE

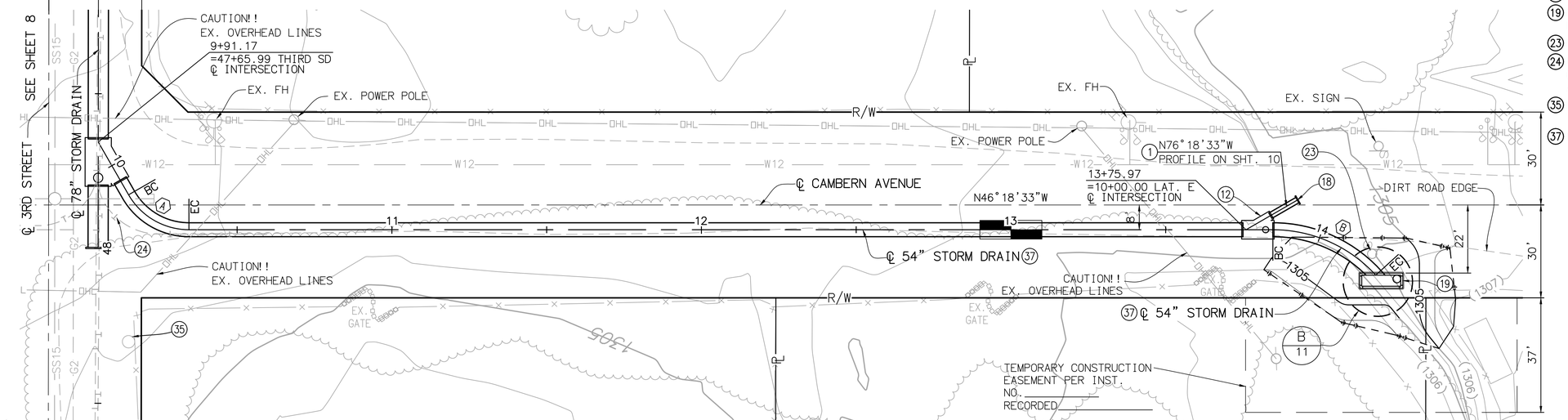


SECTION AT STA 13+00
SCALE 1"=10'

10' 0 10'

INFORMATIONAL NOTE

ALL X-SECTIONS TAKEN LOOKING DOWN STREAM



PLAN

SCALE: 1"=20'

CONSTRUCTION NOTES

1. INSTALL 24" RCP STORM DRAIN PIPE, D-LOAD PER PLAN.
12. CONSTRUCT MANHOLE NO. 4 PER RCFC&WCD STD. DWG. NO. MH254. INCLUDE A 6' X 6' X 6" THICK CONCRETE PAD WITH #4 @ 12" O.C. E.W. REINFORCEMENT AROUND ALL MANHOLES LOCATED IN UNPAVED AREAS.
18. CONSTRUCT CONCRETE BULKHEAD PER RCFC&WCD STD. DWG. NO. M816.
19. CONSTRUCT CONCRETE DROP INLET/OUTLET CONTROL PER RCFC&WCD STD. DWG. NO. CB110 AS MODIFIED PER DETAIL ON SHEET 11.
23. EXISTING SIGN TO BE REMOVED AND RELOCATED BY CONTRACTOR.
24. INTERFERING TELEPHONE LINE ABANDONED IN PLACE BY UTILITY OWNER (FRONTIER). CONFLICTING STRUCTURES AND CONDUITS TO BE REMOVED AND DISPOSED BY CONTRACTOR. REFER TO FRONTIER RELOCATION PLANS.
35. PROTECT IN PLACE EXISTING TREE. CONTRACTOR TO INFORM ENGINEER IF TREE POSES AN ISSUE FOR CONSTRUCTION.
37. INSTALL 54" RCP STORM DRAIN PIPE, D-LOAD PER PLAN.

(A) ℄ CURVE DATA
Δ = 60°04'41"
R = 22.50'
T = 13.01'
L = 23.59'
BC = STA. 10+10.85
EC = STA. 10+34.44
PI = N 2197480.75
E 6232944.93

(B) ℄ CURVE DATA
Δ = 47°37'25"
R = 45.00'
T = 19.86'
L = 37.40'
BC = STA. 13+84.62
EC = STA. 14+22.03
PI = N 2197764.17
E 6232713.39

MANHOLE NO. 4 TABLE (LAT. E)	
STA.	13+82.29
CALLOUT	VALUE
A	30"
B	24"
C	9.49'
D1	54"
D2	54"
ELEV. R	1297.28
ELEV. S	1297.23

CITY OF LAKE ELSINORE DREAM EXTREME™

THESE PLANS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPROPRIATE CONDITIONS OF DEVELOPMENT AND/OR CITY AND STATE LAWS AND HAVE BEEN FOUND ACCEPTABLE

BRADLEY FAGRELL, RCE No. 43920 — DATE
CITY ENGINEER
CITY OF LAKE ELSINORE

★ PRELIMINARY ★
SUBJECT TO REVISION

CALTRANS PERMIT NO. 08-16-N-TN-0291

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services.

TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
B.M. NO. EL-37-80
A 1 1/2" ALUM. CAP IN 6" CONC. COLLAR, FROM INTER. OF RIVERSIDE DR. AND LAKESHORE DR, SE 1.7 MI. TO THE INTER. OF MOHR ST. AND LAKESHORE DR; 40'± SW FROM ABOVE INTER; 16'± SW OF PP #46330; 1'± S OF SURVEY MARKER POST.
1264.85 EL.

REF.	REVISIONS	APPR.	DATE

DESIGNED BY: C. MORLOK
DRAWN BY: C. MORLOK
DATE DRAWN: 11-2015
CHECKED BY: J. TANNER

Michael Baker INTERNATIONAL
40810 COUNTY CENTER DR., SUITE 100
TEMECULA, CA 92591
PHONE: (951) 676-8042
MBAKERINTL.COM

REGISTERED PROFESSIONAL ENGINEER JOHN D. TANNER III No. 60132 CIVIL STATE OF CALIFORNIA

JOHN D. TANNER III, RCE 60132 — DATE:

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

THIRD STREET STORM DRAIN STAGE 2

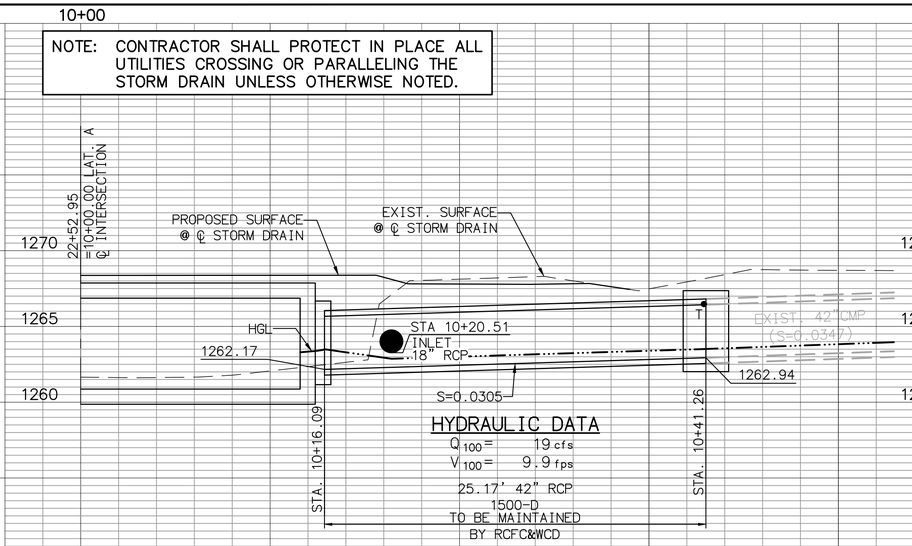
STA 9+91.17 TO STA 14+22.03

PROJECT NO. 0-0-0000
DRAWING NO. 0-000
SHEET NO. 9 OF 13

FIFTH PLAN CHECK

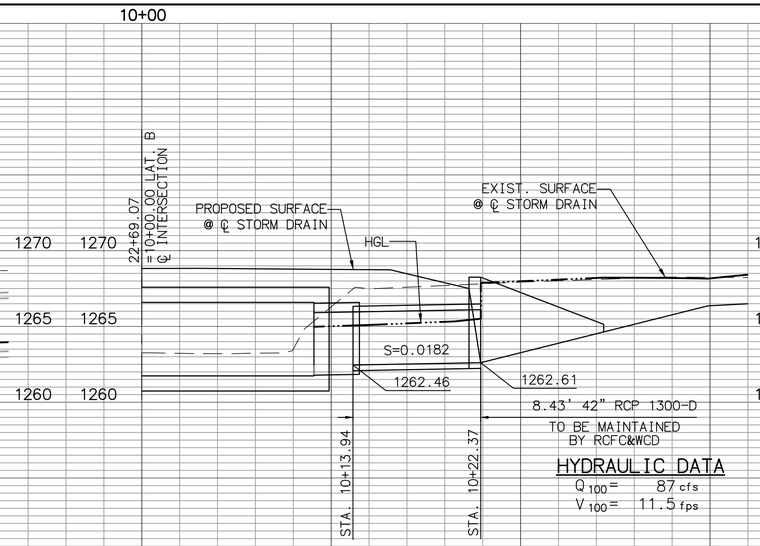
H:\PDATA\148215\CADD\STRMWATER\DLV\STORMD\148215-SD-RCFCWCD-009.DWG XOCH\TL.LOZANO 10/17/2017 12:51 PM

NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES CROSSING OR PARALLELING THE STORM DRAIN UNLESS OTHERWISE NOTED.



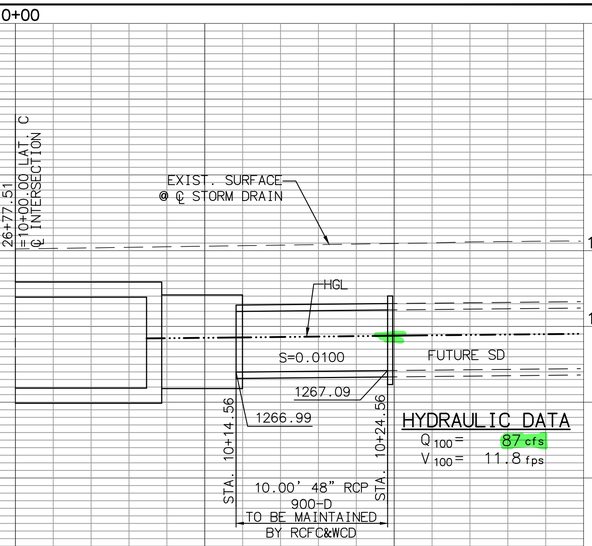
LAT. A

SEE PLAN AND PROFILE SHEET 2



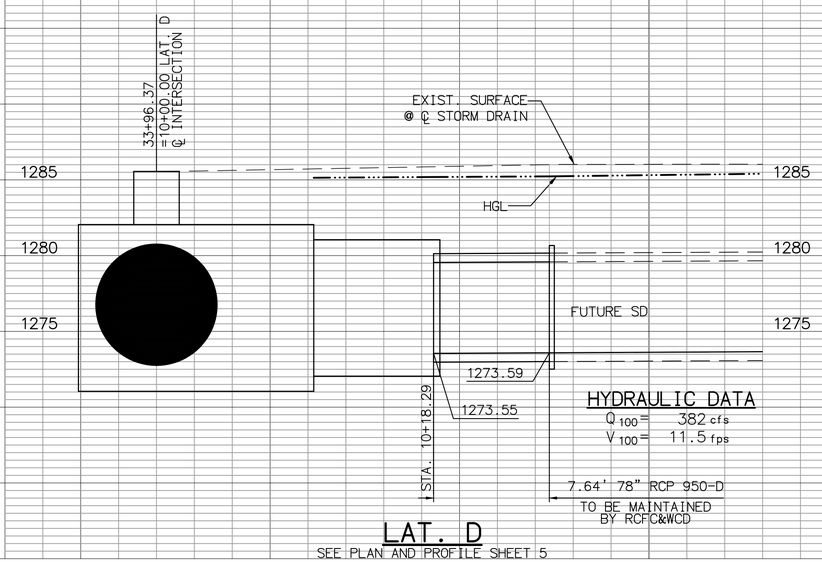
LAT. B

SEE PLAN AND PROFILE SHEET 2



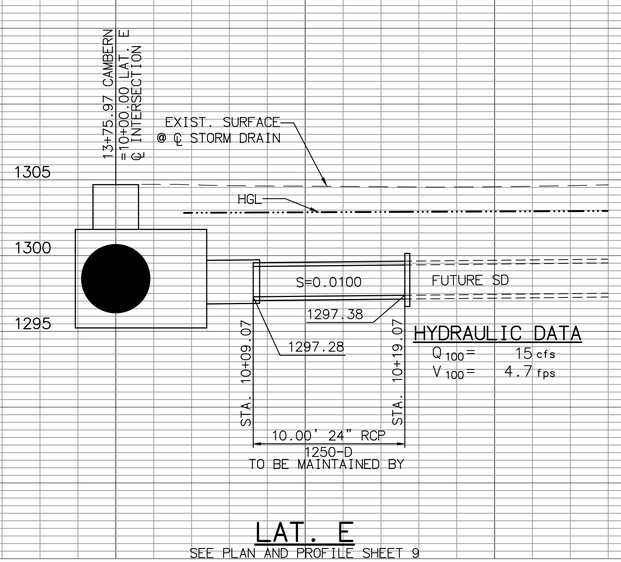
LAT. C

SEE PLAN AND PROFILE SHEET 3



LAT. D

SEE PLAN AND PROFILE SHEET 5



LAT. E

SEE PLAN AND PROFILE SHEET 9

PROFILE SCALE
HORIZ. 1"=5'
VERT. 1"=5'

FIFTH PLAN CHECK

H:\PDATA\148215\CADD\STRMWATER\DLVISTORMD\148215-SD-RCFCWCD-010.DWG KOCHITL.LOZANO 10/17/2017 12:52 PM

CITY OF LAKE ELSINORE
DREAM EXTREME™

THESE PLANS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPROPRIATE CONDITIONS OF DEVELOPMENT AND/OR CITY AND STATE LAWS AND HAVE BEEN FOUND ACCEPTABLE

BRADLEY FAGRELL, RCE No. 43920 — DATE
CITY ENGINEER
CITY OF LAKE ELSINORE

★ PRELIMINARY ★
SUBJECT TO REVISION

CALTRANS PERMIT NO. 08-16-N-TN-0291

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TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
B.M. NO. EL-37-80
A 1 1/2" ALUM. CAP IN 6" CONC. COLLAR, FROM INTER. OF RIVERSIDE DR. AND LAKESHORE DR, SE 1.7 MI. TO THE INTER. OF MOHR ST. AND LAKESHORE DR; 40'± SW FROM ABOVE INTER; 16'± SW OF PP #46330; 1'± S OF SURVEY MARKER POST.
1264.85 EL.

REVISIONS			
REF.	DESCRIPTION	APPR.	DATE

DESIGNED BY: C. MORLOK
DRAWN BY: C. MORLOK
DATE DRAWN: 11-2015
CHECKED BY: J. TANNER

Michael Baker INTERNATIONAL
40810 COUNTY CENTER DR., SUITE 100
TEMECULA, CA 92591
PHONE: (951) 676-8042
MBAKERINTL.COM

JOHN D. TANNER III, RCE 60132 — DATE:

REGISTERED PROFESSIONAL ENGINEER — JOHN D. TANNER III — No. 60132 — CIVIL — STATE OF CALIFORNIA

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

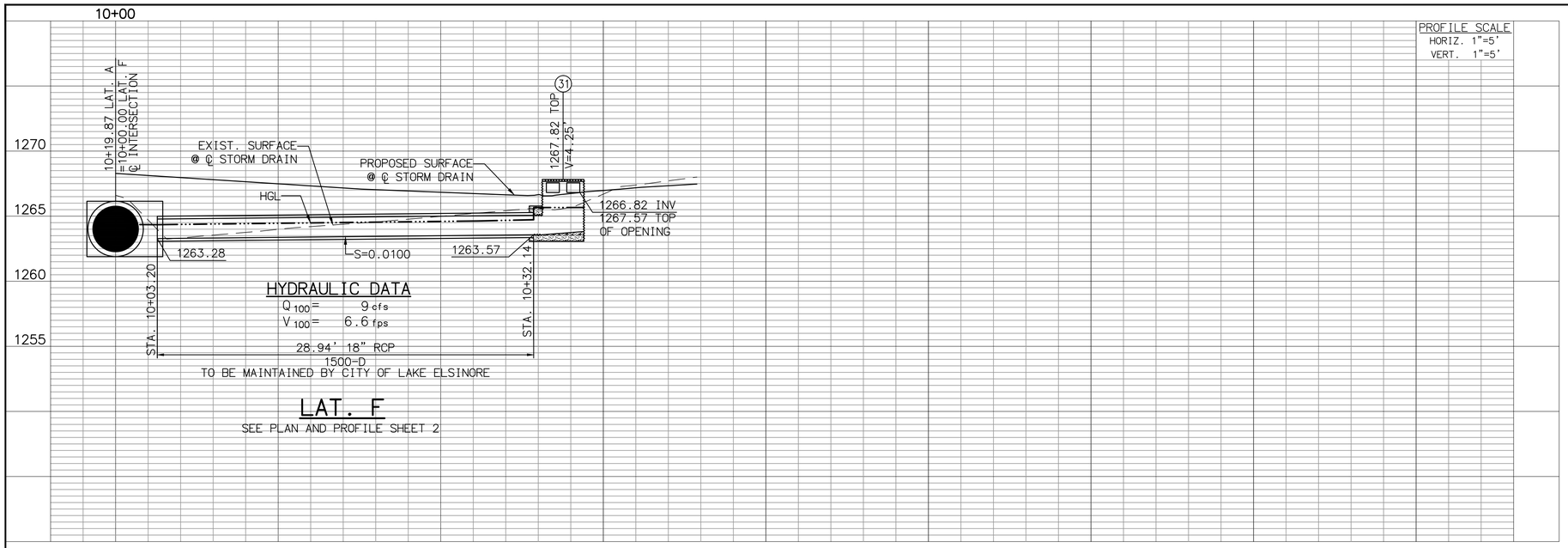
RECOMMENDED FOR APPROVAL BY:
PLANNING ENGINEER
DATE:

APPROVED BY:
CHIEF ENGINEER
DATE:

THIRD STREET STORM DRAIN STAGE 2

CONNECTOR PIPE PROFILES

PROJECT NO. 0-0-0000
DRAWING NO. 0-000
SHEET NO. 10 OF 13



CONSTRUCTION NOTES

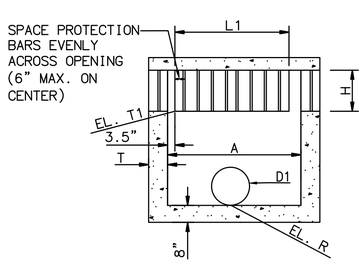
(19) CONSTRUCT CONCRETE DROP INLET/OUTLET CONTROL PER RCFC&WCD STD. DWG. NO. CB110 AS MODIFIED PER DETAIL ON SHEET 11.

(29) CONSTRUCT PIPE CULVERT WING WALL PER CALTRANS STD DWG D86B AND DETAIL ON SHEET 11.

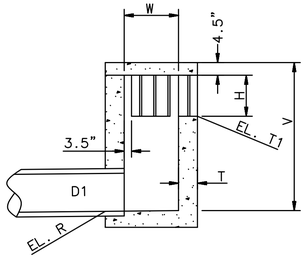
(31) CONSTRUCT MODIFIED INLET TYPE X PER RCFC&WCD STD. DWG. NO. CB108 WITH OPTIONAL OPENINGS AND OPENING HEIGHT EQUAL TO 0.75'.

(32) INSTALL 1/4 TON RIP RAP, 2.7' THICK WITH 9" THICK FILTER BLANKET OF 3/4" ROCK OVER SAND. USE MIRAFI 1100-N FOR FILTER BLANKET (OR APPROVED EQUAL). SEE DETAIL ON SHEET 11.

(33) CONSTRUCT TRASH RACK (INCLINED) PER APWA STD 361-2.

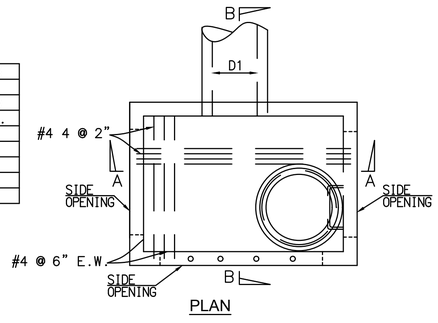


SECTION A-A
NORTH FACE

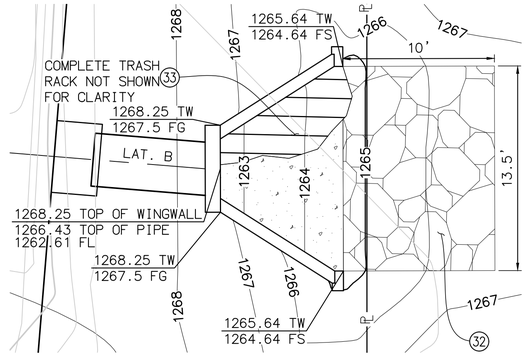


SECTION B-B

EL. T1	1303.93
L1	12'
EL. R	1298.00
D1	48" DIA.
A	12.58'
T	8"
H	1.5'
V	7.81'
W	3.58'



PLAN



29 DETAIL: CALTRANS D86B WINGWALL (A/2)
SCALE: 1"=5'

WING WALL DATA TABLE					
TYPE	L	W	H	ELEV "a"	FLARE ANG.
CALTRANS D86B	9.0'	6.75'	5.7'	1265.64	33°

19 DETAIL: RCFC&WCD CB110 (MODIFIED) (B/9)
N.T.S.

CITY OF LAKE ELSINORE DREAM EXTREME™

THESE PLANS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPROPRIATE CONDITIONS OF DEVELOPMENT AND/OR CITY AND STATE LAWS AND HAVE BEEN FOUND ACCEPTABLE

BRADLEY FAGRELL, RCE No. 43920 — DATE
CITY ENGINEER
CITY OF LAKE ELSINORE

★ PRELIMINARY ★
SUBJECT TO REVISION

CALTRANS PERMIT NO. 08-16-N-TN-0291

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600
for the location of buried utility lines. Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
B.M. NO. EL-37-80
A 1 1/2" ALUM. CAP IN 6" CONC. COLLAR, FROM INTER. OF RIVERSIDE DR. AND LAKESHORE DR, SE 1.7 MI. TO THE INTER. OF MOHR ST. AND LAKESHORE DR; 40'± SW FROM ABOVE INTER; 16'± SW OF PP #46330; 1'± S OF SURVEY MARKER POST.
1264.85 EL.

REVISIONS			
REF.	DESCRIPTION	APPR.	DATE

DESIGNED BY: C. MORLOK
DRAWN BY: C. MORLOK
DATE DRAWN: 11-2015
CHECKED BY: J. TANNER

Michael Baker INTERNATIONAL
40810 COUNTY CENTER DR., SUITE 200
TEMECULA, CA 92591
PHONE: (951) 676-8042
MBAKERINTL.COM

REGISTERED PROFESSIONAL ENGINEER — JOHN D. TANNER III — No. 60132 — CIVIL — STATE OF CALIFORNIA

JOHN D. TANNER III, RCE 60132 — DATE:

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY:
PLANNING ENGINEER
DATE:

APPROVED BY:
CHIEF ENGINEER
DATE:

THIRD STREET STORM DRAIN STAGE 2
DETAILS

PROJECT NO. 0-0-0000
DRAWING NO. 0-000
SHEET NO. 11 OF 13

FIFTH PLAN CHECK

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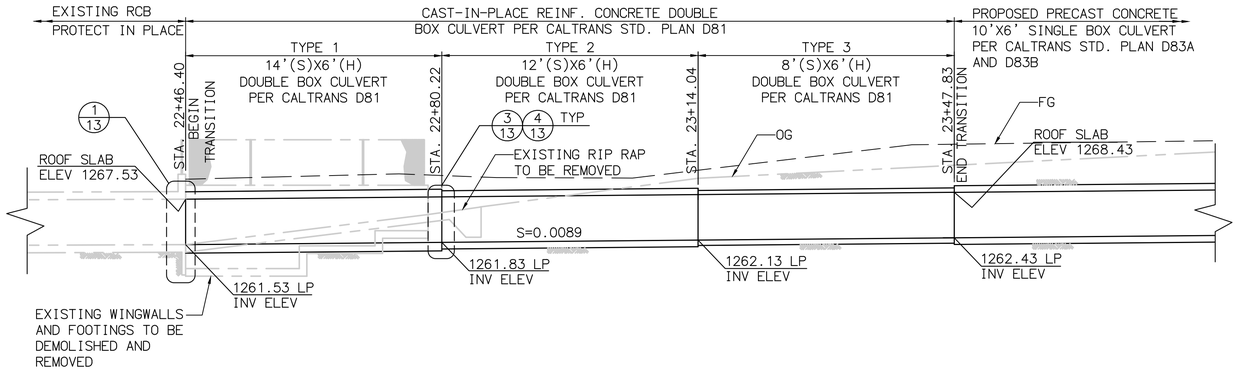
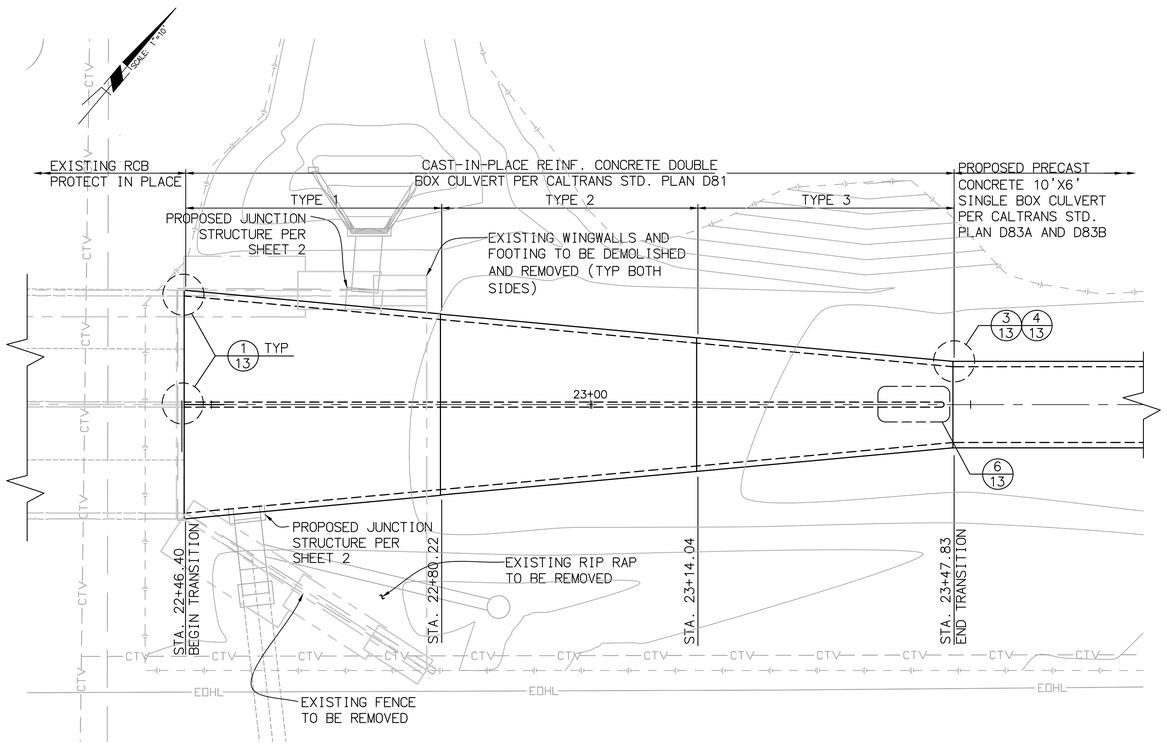


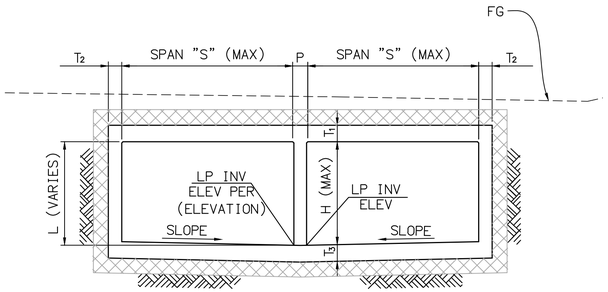
TRANSITION STRUCTURE - ELEVATION

SCALE: 1"=10'



TRANSITION STRUCTURE - PLAN

SCALE: 1"=10'

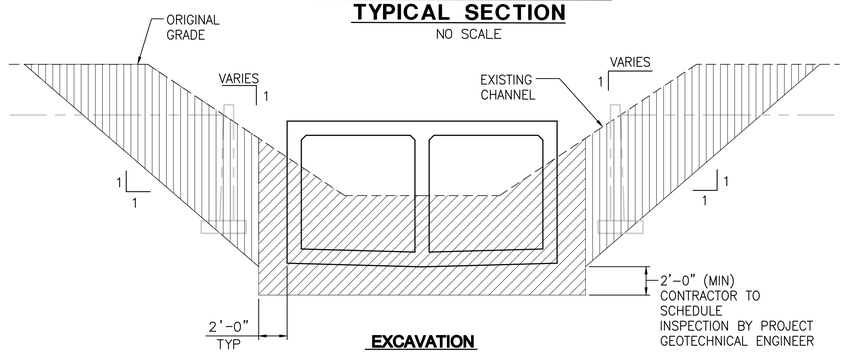


RCB	BEG STATION	END STATION	S (MIN)	S (MAX)	S (MAX)	H (MAX)	T1 (MAX)	T2 (MAX)	T3 (MAX)	P
TYPE 1	22+46.40	22+80.22	10'-10¾"	14'-0"	14'(S) X 6'(H)DOUBLE BOX CULVERT PER CALTRANS D81					
TYPE 2	22+80.22	23+14.04	7'-9⅜"	10'-10¾"	12'(S) X 6'(H)DOUBLE BOX CULVERT PER CALTRANS D81					
TYPE 3	23+14.04	23+47.83	4'-8"	7'-9⅜"	8'(S) X 6'(H)DOUBLE BOX CULVERT PER CALTRANS D81					

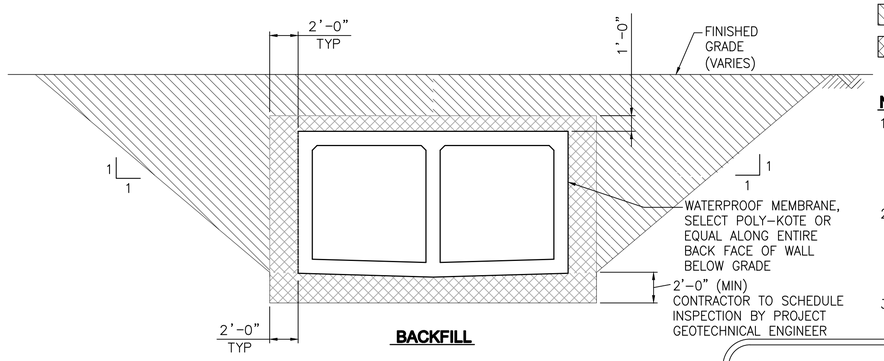
NOTE: CONCRETE DIMENSIONS AND REINFORCING SHALL BE FOR A MAXIMUM EARTH COVER OF 10' AS SHOWN IN CALTRANS STANDARD PLANS D81, D82, D83A AND D83B.

TRANSITION STRUCTURE TYPICAL SECTION

NO SCALE



EXCAVATION



BACKFILL

TRANSITION STRUCTURE EXCAVATION & BACKFILL

NO SCALE

LEGEND:

- STRUCTURE EXCAVATION
- CONSTRUCTION EXCAVATION
- 90% RELATIVE COMPACTION FILL
- 95% RELATIVE COMPACTION STRUCTURE BACKFILL PER CALTRANS STANDARD SPEC SECTION 19-3.02C

NOTES:

1. ALL EARTHWORK SHALL COMPLY WITH THE GEOTECHNICAL REQUIREMENTS PER PROJECT GEOTECHNICAL INVESTIGATION REPORT.
2. SHORED CONSTRUCTION SHALL ONLY BE USED AFTER PROPOSED METHOD AND SPECIFICATIONS ARE REVIEWED AND APPROVED BY THE GEOTECHNICAL ENGINEER.
3. DIMENSIONS SHOWN ARE MINIMUM.

★ PRELIMINARY ★

SUBJECT TO REVISION

CALTRANS PERMIT NO. 08-16-N-TN-0291

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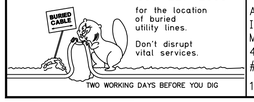

for the location of buried utility lines. Don't disrupt vital services.

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B.M. NO. EL-37-80

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1264.85 EL.

REVISIONS			
REF.	DESCRIPTION	APPR.	DATE

DESIGNED BY: G. PHAN
DRAWN BY: G. PHAN
DATE DRAWN: 07-2017
CHECKED BY: C. STELEA

Michael Baker INTERNATIONAL
40810 COUNTY CENTER DR., SUITE 200
TEMECULA, CA 92591
PHONE: (951) 676-8042
MBAKERINTL.COM

REGISTERED PROFESSIONAL ENGINEER
CIPRIAN STELEA
No. 73379
Exp. 12/31/2018
CIVIL
STATE OF CALIFORNIA

CIPRIAN STELEA P.E., RCE 73379 DATE:

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY:	APPROVED BY:
PLANNING ENGINEER	CHIEF ENGINEER
DATE:	DATE:

THIRD STREET STORM DRAIN STAGE 2

TRANSITION STRUCTURE PLAN, ELEVATION AND TYPICAL SECTION

PROJECT NO. 0-0-0000
DRAWING NO. 0-000
SHEET NO. 12 OF 13

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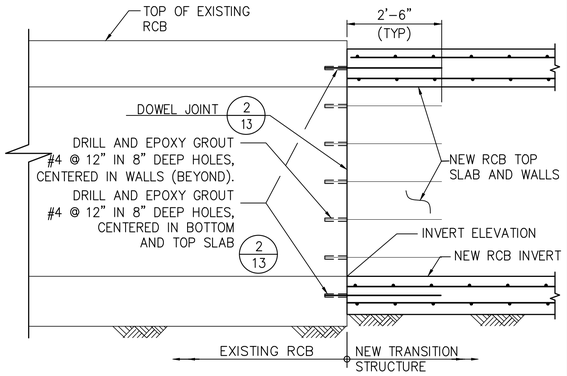
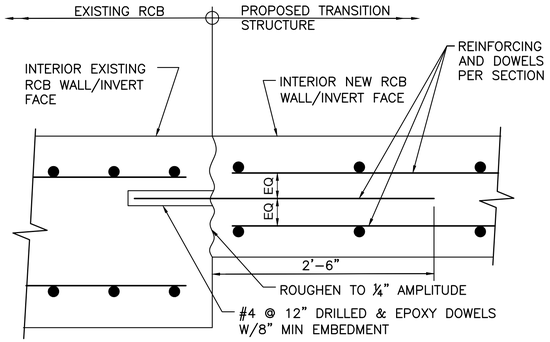
FIFTH PLAN CHECK



NEW TRANSITION STRUCTURE TO EXISTING RCB CONNECTION DETAIL 1

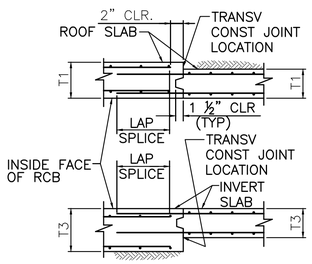
NO SCALE



PLAN / SECTION VIEW

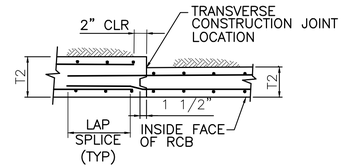
DOWEL CONNECTION DETAIL 2

NO SCALE



NEW ROOF/INVERT SLAB TO NEW ROOF/INVERT SLAB CONNECTION DETAIL 3

NO SCALE



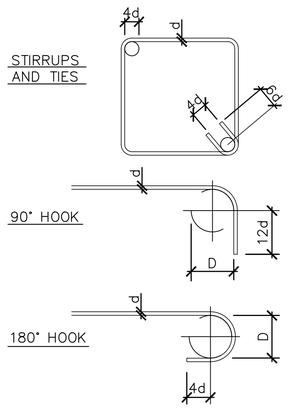
PLAN VIEW

NEW WALL TO NEW WALL CONNECTION DETAIL 4

NO SCALE

NOTE

1. FOR ALL OTHER DETAILS NOT SHOWN REFER TO RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT STANDARD DRAWING BX401.



LAP SCHEDULE

f'c = 4,500 psi
Fy = 60,000 psi

BAR SIZE	TOP BARS	OTHER BARS
#3	2'-7"	2'-0"
#4	3'-8"	2'-9"
#5	4'-6"	3'-6"
#6	5'-4"	4'-1"
#7	7'-7"	5'-10"
#8	8'-8"	6'-8"
#9	9'-10"	7'-6"
#10	11'-0"	8'-6"
#11	12'-2"	9'-4"

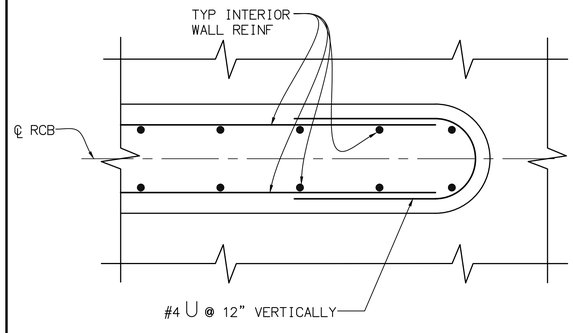
BEND SCHEDULE

BAR SIZES	D
#3 THRU #8	6d
#9 THRU #11	8d

d = DIAMETER OF REINF. BAR

REINFORCEMENT DETAILS 5

NO SCALE



TRANSITION STRUCTURE

BULLNOSE DETAIL 6

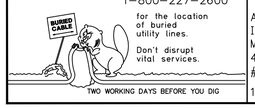
NO SCALE

★PRELIMINARY★

SUBJECT TO REVISION

CALTRANS PERMIT NO. 08-16-N-TN-0291

FIFTH PLAN CHECK



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CIPRIAN STELEA P.E., RCE 73379 DATE:

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: PLANNING ENGINEER DATE:

APPROVED BY: CHIEF ENGINEER DATE:

THIRD STREET STORM DRAIN STAGE 2

TRANSITION STRUCTURE TYPICAL DETAILS

PROJECT NO. 0-0-0000

DRAWING NO. 0-000

SHEET NO. 13 OF 13

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