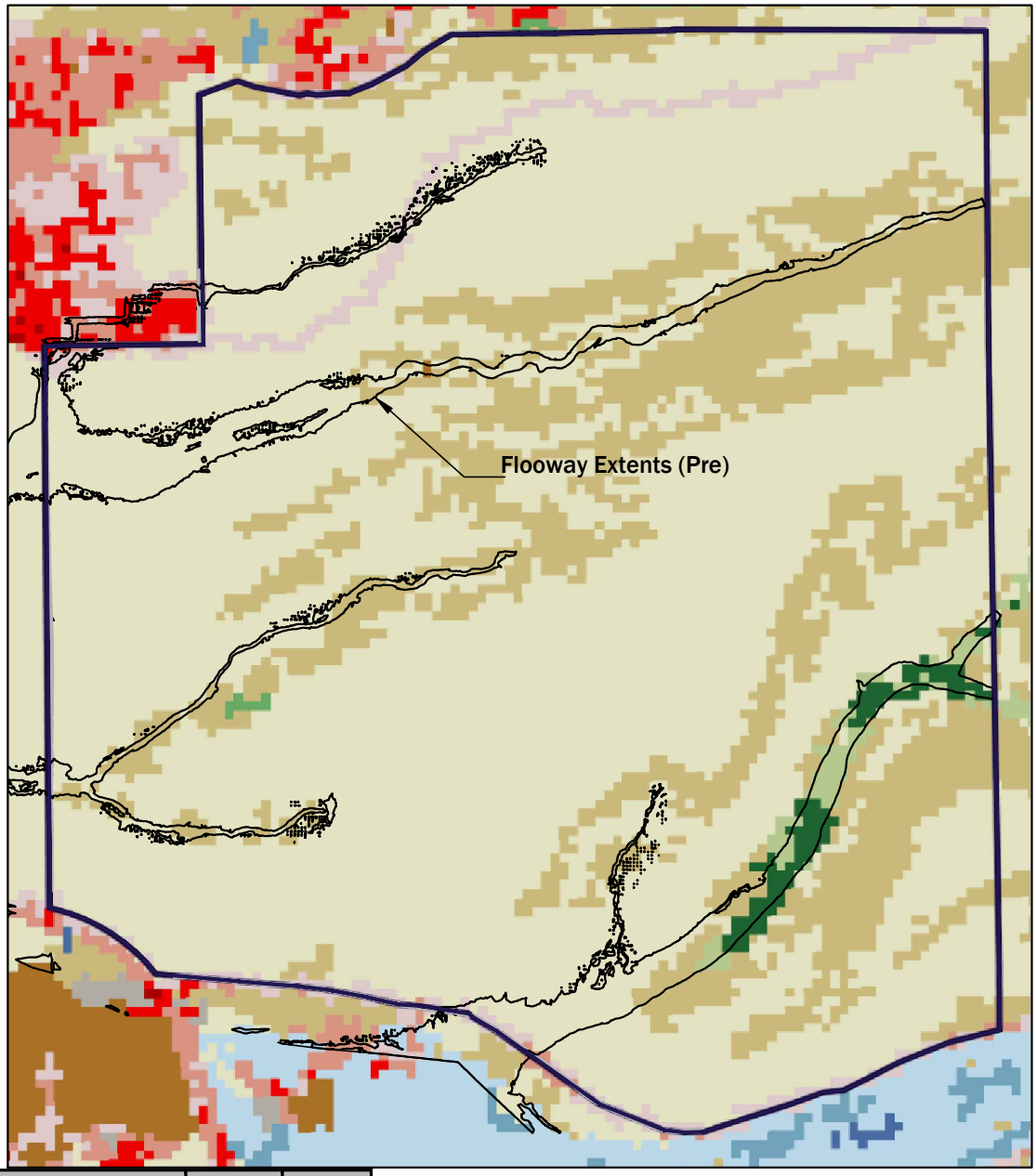
Appendix H

Drainage Report Figures

EXHIBIT A.1.1



Land Cover Name	Manning's	Color
Agricultural, Cultivated Crops	0.035	
Agricultural, Pasture/Hay	0.03	
Developed, High Density	0.15	
Developed, Low Density	0.10	
Developed, Medium Density	0.08	
Developed, Open Space	0.04	
Open Water	0.04	
Undeveloped, Barren Land	0.025	
Undeveloped, Deciduous Forest	0.16	
Undeveloped, Evergreen Forest	0.16	
Undeveloped, Grassland	0.035	
Undeveloped, Mixed Forest	0.16	
Undeveloped, Shrub/Scrub	0.10	
Wetlands, Forested	0.12	

NOTES:

THIS EXHIBIT IS INTENDED TO SERVE "ONLY" AS A VISUAL ILLUSTRATION OF THE ONSITE MANNING'S ROUGHNESS COEFFICIENTS ("n" VALUES) USED IN THE HEC-RAS MODEL.

ALL MANNING'S "n" VALUES WERE OBTAINED FROM THE USGS LAND COVER DATABASE AND APPLIED TO THE HEC-RAS MODEL. THE ACTUAL FILE IN TIF FORMAT CAN BE FOUND IN THE SUBMITTED HEC-RAS PROJECT FOLDER

N
W E
S

FRAYJI DESIGN GROUP
CIVIL ENGINEERING | PLANNING | SURVEYING
1540 Eureka Road Ste. 100 (916) 782-3000 Phone
Roseville, CA 95661 (916) 782-3955 Fax
CIVIL ENGINEERING • PLANNING • SURVEYING

USGS Land Cover Data (HEC-RAS)

Valley's Edge Drainage

CITY OF CHICO, BUTTE COUNTY, CALIFORNIA

DATE: 03-20-2020

SCALE: NTS

28100- Valley's Edge

"DRAFT"

EXHIBIT B.1.1

SHEET: 1 OF 2

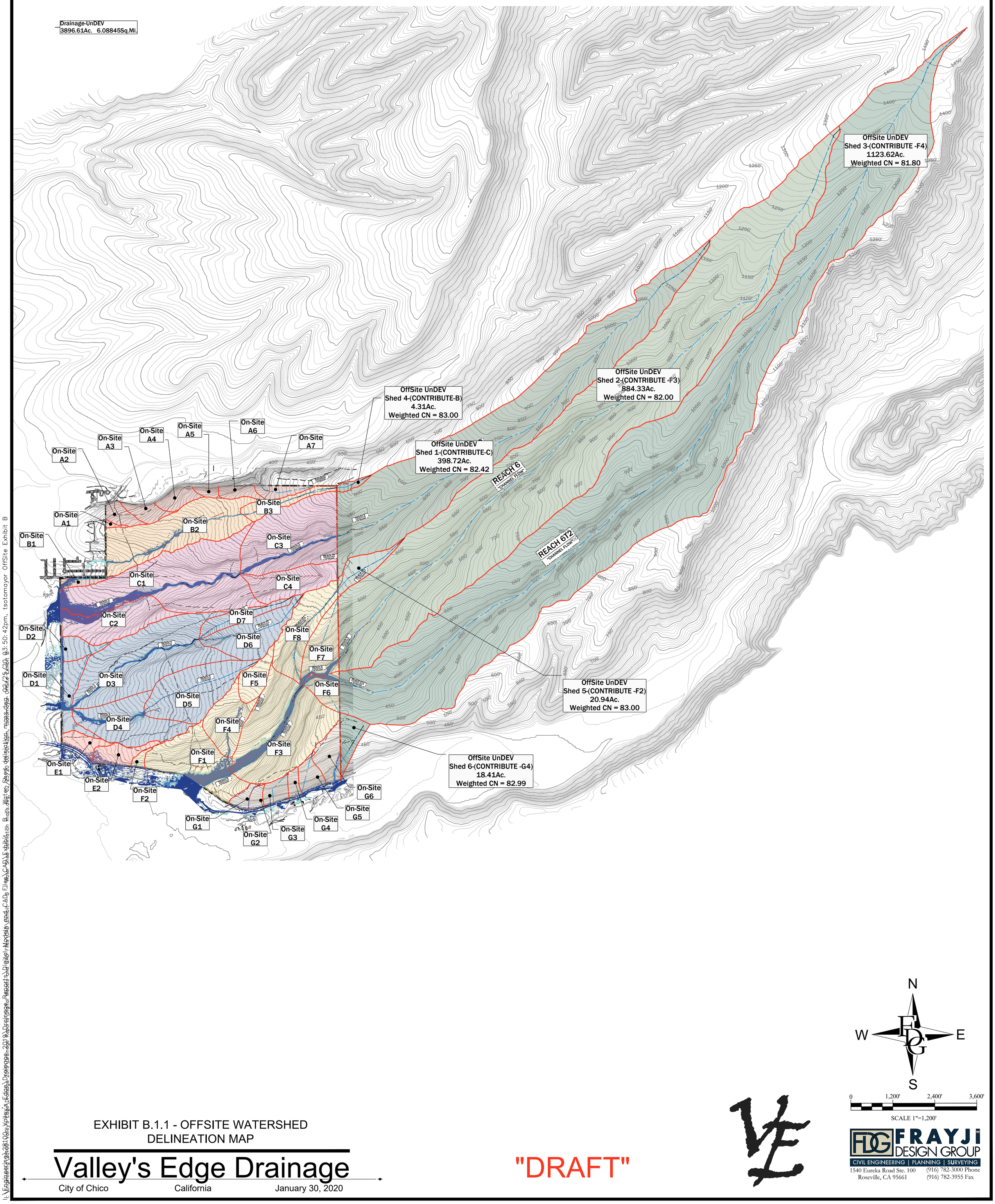


EXHIBIT B.1.1 - OFFSITE WATERSHED DELINEATION MAP

Valley's Edge Drainage

City of Chico California January 30, 2020

"DRAFT"

N

W E

S

0 1,200' 2,400' 3,600'

SCALE 1"=1,200'

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Roseville, CA 95661 (916) 782-3955 Fax

I:\Engineering\2018\2810\Valley's Edge\Drainage\Drainage 2019 Reports\Digital Models\exhibit CAD\ Exhibit B Offsite Watershed Maps.dwg, 2/5/2020 03:50:42pm, tsotomayor

"DRAFT"

EXHIBIT B.1.2
SHEET: 2 OF 2

NOTES;
1. ALL BASINS INDICATE ISOLATED RUNOFF SHEDS FROM RIDGE-LINE TO RIDGE-LINE.
2. TIME OF CONCENTRATION / HYDRAULIC GRADIENT LENGTH IS OVERALL, FOR EACH INDIVIDUAL UNDEVELOPED BASIN RUNOFF CALCULATIONS THE FIRST 300' IS ASSUMED SHEET FLOW, THE FOLLOWING LENGTH OF 1200LF IS ASSUMED COLLECTIVE SHALLOW CONCENTRATED FLOW, WITH THE REMAINING HYDRAULIC LENGTH DESIGNATED CHANNELIZED FLOW.
3. ALL REACHES SHOWN REPRESENT UPSTREAM CONCENTRATED CHANNELIZED FLOWS AND INDICATE DISCHARGE LOCATIONS ALONG WESTERN AND SOUTHERN BOUNDARIES OF PROJECT AREA.

DRAINAGE LEGEND - BASIN MAP

- EXISTING 5' MINOR CONTOUR INTERVAL
- EXISTING 25' MAJOR CONTOUR INTERVAL
- PROPERTY BOUNDARY & CORNER
- WATERSHED/BASIN/SUB-BASIN BOUNDARY
- TIME OF CONCENTRATION FLOW PATH W/ OVERALL LENGTH
- OUTFALL-DISCHARGE NODE WITH "Q-IN-CFS"
- JUNCTION-ADD POINT PEAK INFLOW
- BASIN LABEL

N W E S

0 1,200' 2,400' 3,600'
SCALE 1"=1,200'

EXHIBIT B.1.2 - ON-SITE WATERSHED DELINEATION MAP

Valley's Edge Drainage

City of Chico California January 30, 2020

"DRAFT"

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1540 Eureka Road Ste. 100 Roseville, CA 95661
(916) 782-3000 Phone (916) 782-3955 Fax

I:\Engineering\3881-00\Drawings\Valleys Edge\Drainage Drawings\2019 Reporting\Report Submittal\Digital Models\EXHIBIT C\DP Exhibit\Exhibit B Watershed Maps.dwg, 1/30/2020 3:55:20pm, tsatomayor, OnSite Exhibit C

DRAFT

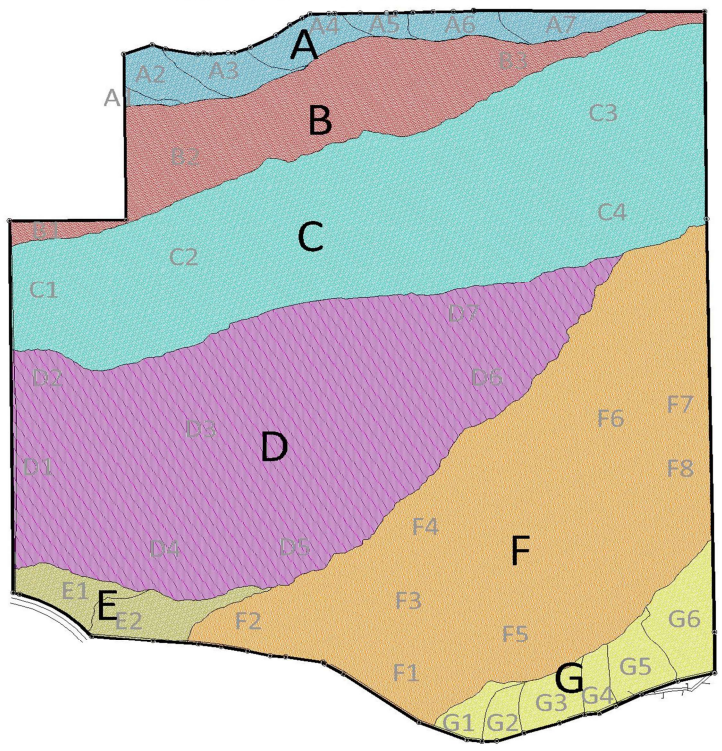
Exhibit B.2.1

Pre-Developed vs. Post-Developed Shed Area

Shed Area	Un-Developed		Developed		Increase or Decrease in Shed Area		Outlet Description
	(SF)	(ACRES)	(SF)	(ACRES)	(SF)	(ACRES)	
A	2606930.332	59.846885	2225623.283	51.09328015	(381307.05)	(8.75)	Shed Area includes six individual outfalls - sheds to the north through adjacent neigboring development, eventually conveying through either: rear yards and roadways to the Little Chico Creek
B	5729450.297	131.53008	3781300.318	86.8067107	(1948149.98)	(44.72)	Shed area terminates at the existing 42" & 54" bypass storm Drainage Pipes that traverse the belvedear subdivision.
C	16721560.9	383.87422	19299629.61	443.058531	2578068.71	59.18	Shed Area Is main contributing basins that establish the existing Storm conveyance REACH 2 - Outfalling across the existing bike path along potter roadway.
D	17194738.27	394.73687	16926693.49	388.5834136	(268044.78)	(6.15)	Shed Area is fully contained onsite and contributes to Reach 4 - outfalling across the existing bikepath along potter roadway
E	1318482.023	30.268182	719982.7094	16.52852868	(598499.31)	(13.74)	shed area drains towards the exisitng 18" culvert that crosses the exisitng Highway/Skyway Ave.
F	16531414.78	379.50906	17009526.98	390.4850088	478112.21	10.98	Shed Area is the main onsite basins that contribute to the exisitng storm water conveyance known as Comanchee Creek / REACH 6 - oufalling across the exisitng honeybun roadway
G	2693008.702	61.822973	2610545.808	59.92988541	(82462.89)	(1.89)	Shed Area includes six individual outfalls - sheds to the south through adjacent neigboring development via. Sub-drainage Culverts along Honey Bun Roadway , eventually conveying through either: rear yards and roadways to the Butte Creek.

WATERSHED CATCHMENTS AREA MAP

EXISTING UN-DEVELOPED



WATERSHED CATCHMENTS AREA MAP

PROPOSED POST DEVELOPMENT

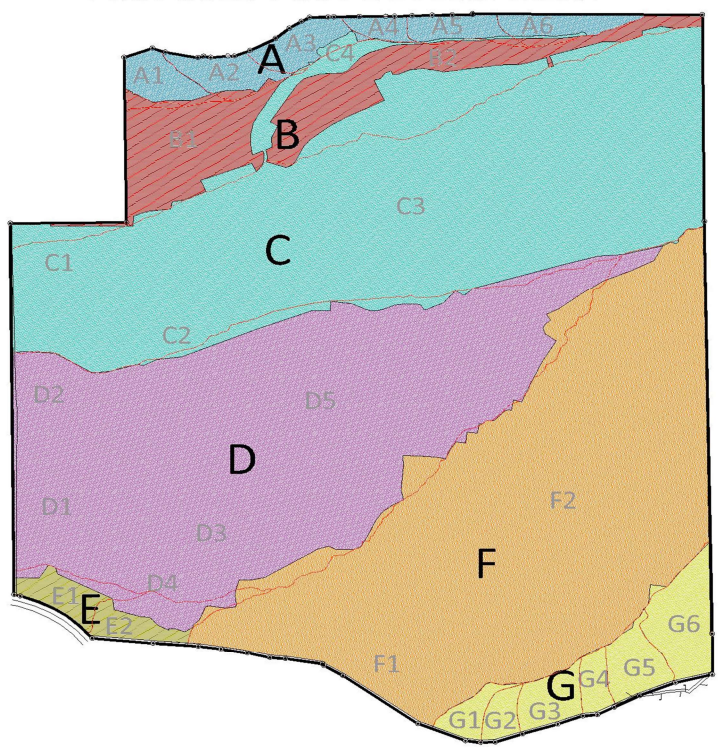


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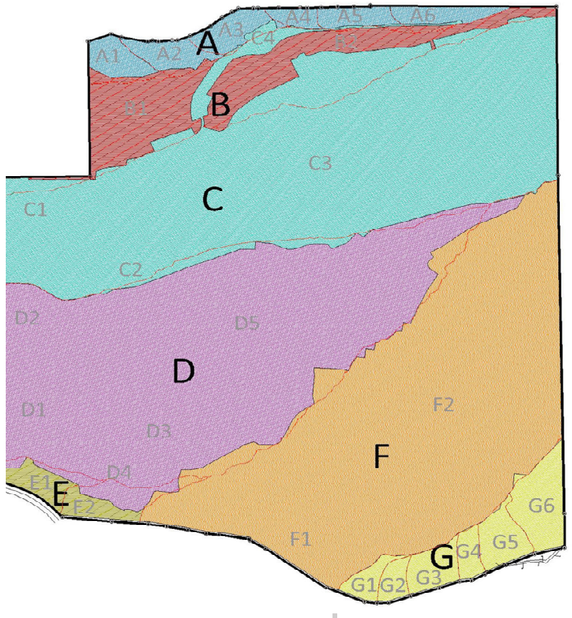
Exhibit B.3.1

Post-Development Impervious Calculations

developed		Basin Shed Data				Ttypical Lot Charicteristics				Total Lot Calculations			Roadway Cross Sectional Impervious Widths											
10yr	100yr	Shed Area	Sub Basin	Sub Basin Acerage	Lot Count	Typical Lot Area	Roof	Drive-pad	Accessory BLDG	Total Lotting AREA	Total Lot Impervious Area	Typical Lot Lawn Area	Major Arterial Roadway Centerline Length	Minor Local Roadway Centerline Length	Major Arterial Driving Surface Width	Minor Local Driving Surface Width	Major Arterial Sidewalk/ Pathway Width	Minor Local Sidewalk/ Pathway Width	TYP. Curb & Gutters Width	Total Roadway Impervious Area (SF)	Total Roadway Impervious Area (ACERAGE)	Total Lotting Impervious Area (SF)	Total Lotting Impervious Area (ACERAGE)	Typical Open Space Remaining (SF)	Typical Open Space Remaining (Acerage)	Calculation Check & Verify
		A	1	9.52	6	6,900	3,000	700	300	41,400	24,000	17,400	0.00	0.00	44.00	36.00	10.00	5.00	6.00	0.00	0.00	24,000	0.55	390,691.20	8.97	0.00
			2	9.99	11	6,900	3,000	700	300	75,900	44,000	31,900	0.00	0.00	44.00	36.00	10.00	5.00	6.00	0.00	0.00	44,000	1.01	391,164.40	8.98	0.00
			3	10.74	11	6,900	3,000	700	300	75,900	44,000	31,900	0.00	0.00	44.00	36.00	10.00	5.00	6.00	0.00	0.00	44,000	1.01	423,834.40	9.73	0.00
			4	4.50	6	6,900	3,000	700	300	41,400	24,000	17,400	0.00	0.00	44.00	36.00	10.00	5.00	6.00	0.00	0.00	24,000	0.55	172,020.00	3.95	0.00
			5	7.56	8	6,900	3,000	700	300	55,200	32,000	23,200	0.00	0.00	44.00	36.00	10.00	5.00	6.00	0.00	0.00	32,000	0.73	297,313.60	6.83	0.00
			6	8.72	8	6,900	3,000	700	300	55,200	32,000	23,200	0.00	0.00	44.00	36.00	10.00	5.00	6.00	0.00	0.00	32,000	0.73	347,843.20	7.99	0.00
		B	1	44.28	187	6,900	3,000	700	300	1,290,300	748,000	542,300	0.00	5,958.00	44.00	36.00	10.00	5.00	6.00	280,026.00	6.43	748,000	17.17	900,810.80	20.68	0.00
			2	42.31	109	6,900	3,000	700	300	752,100	436,000	316,100	0.00	3,746.00	44.00	36.00	10.00	5.00	6.00	176,062.00	4.04	436,000	10.01	1,230,961.60	28.26	0.00
		C	1	100.09	75	6,900	3,000	700	300	517,500	300,000	217,500	3,657.00	3,901.00	44.00	36.00	10.00	5.00	6.00	380,825.00	8.74	300,000	6.89	3,679,095.40	84.46	0.00
			2	24.84	79	6,900	3,000	700	300	545,100	316,000	229,100	1,925.00	2,433.00	44.00	36.00	10.00	5.00	6.00	218,301.00	5.01	316,000	7.25	547,729.40	12.57	0.00
			3	304.25	661	6,900	3,000	700	300	4,560,900	2,644,000	1,916,900	1,521.00	35,957.00	44.00	36.00	10.00	5.00	6.00	1,772,113.00	40.68	2,644,000	60.70	8,837,017.00	202.87	0.00
			4	12.78	38	6,900	3,000	700	300	262,200	152,000	110,200	0.00	6,115.00	44.00	36.00	10.00	5.00	6.00	287,405.00	6.60	152,000	3.49	117,291.80	2.69	0.00
		D	1	58.59	0	6,900	3,000	700	300	0	0	0	3,110.00	0.00	44.00	36.00	10.00	5.00	6.00	167,940.00	3.86	0	0.00	2,384,240.40	54.73	0.00
			2	19.51	0	6,900	3,000	700	300	0	0	0	0.00	0.00	44.00	36.00	10.00	5.00	6.00	0.00	0.00	0	0.00	849,855.60	19.51	0.00
			3	70.72	183	6,900	3,000	700	300	1,262,700	732,000	530,700	4,250.00	6,425.00	44.00	36.00	10.00	5.00	6.00	531,475.00	12.20	36,600	0.84	2,512,488.20	57.68	0.00
			4	30.89	65	6,900	3,000	700	300	448,500	260,000	188,500	3,037.00	2,050.00	44.00	36.00	10.00	5.00	6.00	260,348.00	5.98	260,000	5.97	825,220.40	18.94	0.00
			5	207.90	682	6,900	3,000	700	300	4,705,800	2,728,000	1,977,800	2,549.00	16,838.00	44.00	36.00	10.00	5.00	6.00	929,032.00	21.33	2,728,000	62.63	5,399,092.00	123.95	0.00
		E	1	9.20	0	6,900	3,000	700	300	0	0	0	481.00	0.00	44.00	36.00	10.00	5.00	6.00	25,974.00	0.60	0	0.00	374,778.00	8.60	0.00
			2	7.29	0	6,900	3,000	700	300	0	0	0	0.00	0.00	44.00	36.00	10.00	5.00	6.00	0.00	0.00	0	0.00	317,552.40	7.29	0.00
		F	1	68.24	56	6,900	3,000	700	300	386,400	224,000	162,400	0.00	3,929.00	44.00	36.00	10.00	5.00	6.00	184,663.00	4.24	224,000	5.14	2,563,871.40	58.86	0.00
			2	321.28	312	6,900	3,000	700	300	2,152,800	1,248,000	904,800	0.00	2,311.00	44.00	36.00	10.00	5.00	6.00	108,617.00	2.49	1,248,000	28.65	12,638,339.80	290.14	0.00
		G	1	6.05	0	6,900	3,000	700	300	0	0	0	0.00	0.00	44.00	36.00	10.00	5.00	6.00	0.00	0.00	0	0.00	263,538.00	6.05	0.00
			2	5.22	0	6,900	3,000	700	300	0	0	0	0.00	0.00	44.00	36.00	10.00	5.00	6.00	0.00	0.00	0	0.00	227,383.20	5.22	0.00
			3	10.11	4	6,900	3,000	700	300	27,600	16,000	11,600	0.00	0.00	44.00	36.00	10.00	5.00	6.00	0.00	0.00	16,000	0.37	424,391.60	9.74	0.00
			4	5.60	3	6,900	3,000	700	300	20,700	12,000	8,700	0.00	0.00	44.00	36.00	10.00	5.00	6.00	0.00	0.00	12,000	0.28	231,936.00	5.32	0.00
			5	11.63	0	6,900	3,000	700	300	0	0	0	0.00	0.00	44.00	36.00	10.00	5.00	6.00	0.00	0.00	0	0.00	506,602.80	11.63	0.00
			6	21.09	5	6,900	3,000	700	300	34,500	20,000	14,500	0.00	0.00	44.00	36.00	10.00	5.00	6.00	0.00	0.00	20,000	0.46	898,680.40	20.63	0.00
		OFFSITE	1	398.61						0	0	0								0.00	0.00	0	0.00	17,363,451.60	398.61	0.00
			2	884.32						0	0	0								0.00	0.00	0	0.00	38,520,979.20	884.32	0.00
			3	1123.62						0	0	0								0.00	0.00	0	0.00	48,944,887.20	1,123.62	0.00
			4	4.31						0	0	0								0.00	0.00	0	0.00	187,743.60	4.31	0.00
			5	20.91						0	0	0								0.00	0.00	0	0.00	910,839.60	20.91	0.00
			6	18.30						0	0	0								0.00	0.00	0	0.00	797,148.00	18.30	0.00

WATERSHED CATCHMENTS AREA MAP
PROPOSED POST DEVELOPMENT



										17,312,100.00	397		20,530.00	89,663.00						coefficent rating curve number	98.00	coefficent rating curve number	79.00	coefficent rating curve number	82.00	
										17,312,100.00	0		47.13039486	205.8379247						5,322,781.00	122.19	9,340,600.00	214.43	154,478,792.20	3,546.35	3,882.97
																				5,322,781.00	122.19	9,340,600.00	214.43	47,753,743.00	1,096.28	1,432.90
													Acreage of major roadways	Acreage of minor locals						total roadway impervioous	9%	total lotting impervious	15%			100%
														110,193.00 acres of all roads								7,971,500.00	183.00	17,312,100.00	397.00	1,432.90
																						total lotting lawn area	13%	total lot area	28%	100%
																								27,863,083.00	639.65	1,432.90
																								total open space	45%	100%
																							total offsite area	106,725,049.20	2,450.07	
																									81%	
																							1,433.33		19%	landscape corridors
																									274.06	
																					total developed footprint	794	55%	1.00	check and verify	

DRAFT

EXHIBIT C.1.1

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was California State Plane II FIPS 0402. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from multiple sources. Street centerlines and political boundaries were provided by Butte County Development Services – GIS Division. This information was derived at a scale of 1:24,000 and was adjusted to fit digital orthophotos created by Butte County Association of Governments in 2002 and 2004 respectively. Additional information was derived from Federal Emergency Management Agency FIRM maps dated 1998 or later.

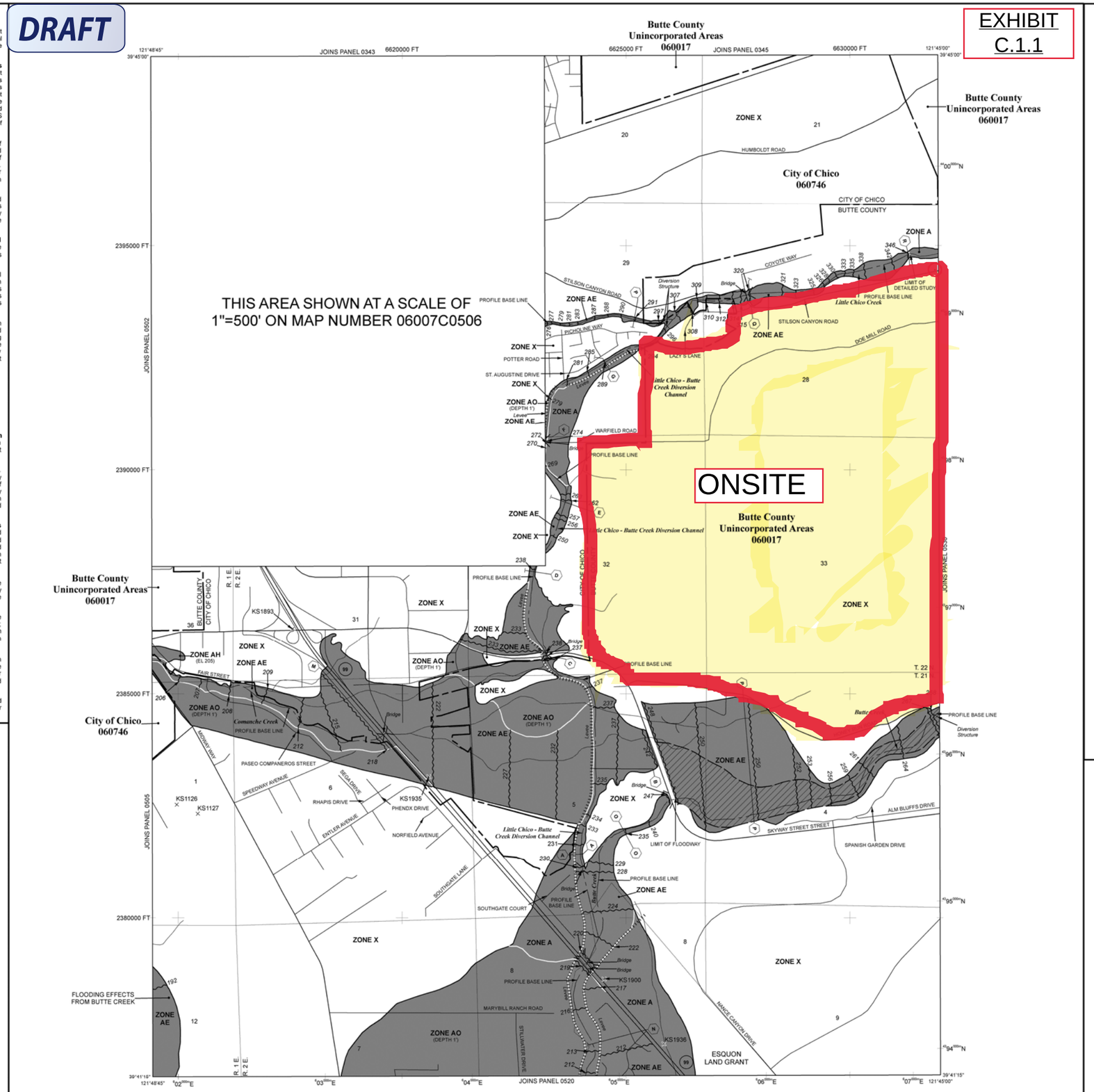
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to confirm to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Limit of Moderate Wave Action
- 513 (EL 987) — Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- Cross section Line
- Transect line
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- °76000mN — 1000-meter Universal Transverse Mercator grid values, zone NAD 1983 UTM Zone 10N
- 600000 FT — 5000-foot grid values: California State Plane coordinate system, zone II (FIPSZONE 0402), Lambert Conformal Conic projection
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
June 8, 1998

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

April 20, 2000 -
January 6, 2011 - to change Base Flood Elevations, to add Base Flood Elevations, to add Special Flood Hazard Areas, to change Special Flood Hazards Areas, to change zone designations, to add roads and road names, to incorporate previously issued Letters of Map Revision

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0510E

FIRM

FLOOD INSURANCE RATE MAP

BUTTE COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 510 OF 1200
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BUTTE COUNTY	060017	0510	E
CHICO, CITY OF	060746	0510	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 06007C0510E

MAP REVISED JANUARY 6, 2011

Federal Emergency Management Agency

DRAFT

EXHIBIT C.1.2

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was California State Plane II FIPS 0402. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from multiple sources. Street centerlines and political boundaries were provided by Butte County Development Services – GIS Division. This information was derived at a scale of 1:24,000 and was adjusted to fit digital orthophotos created by Butte County Association of Governments in 2002 and 2004 respectively. Additional information was derived from Federal Emergency Management Agency FIRM maps dated 1998 or later.

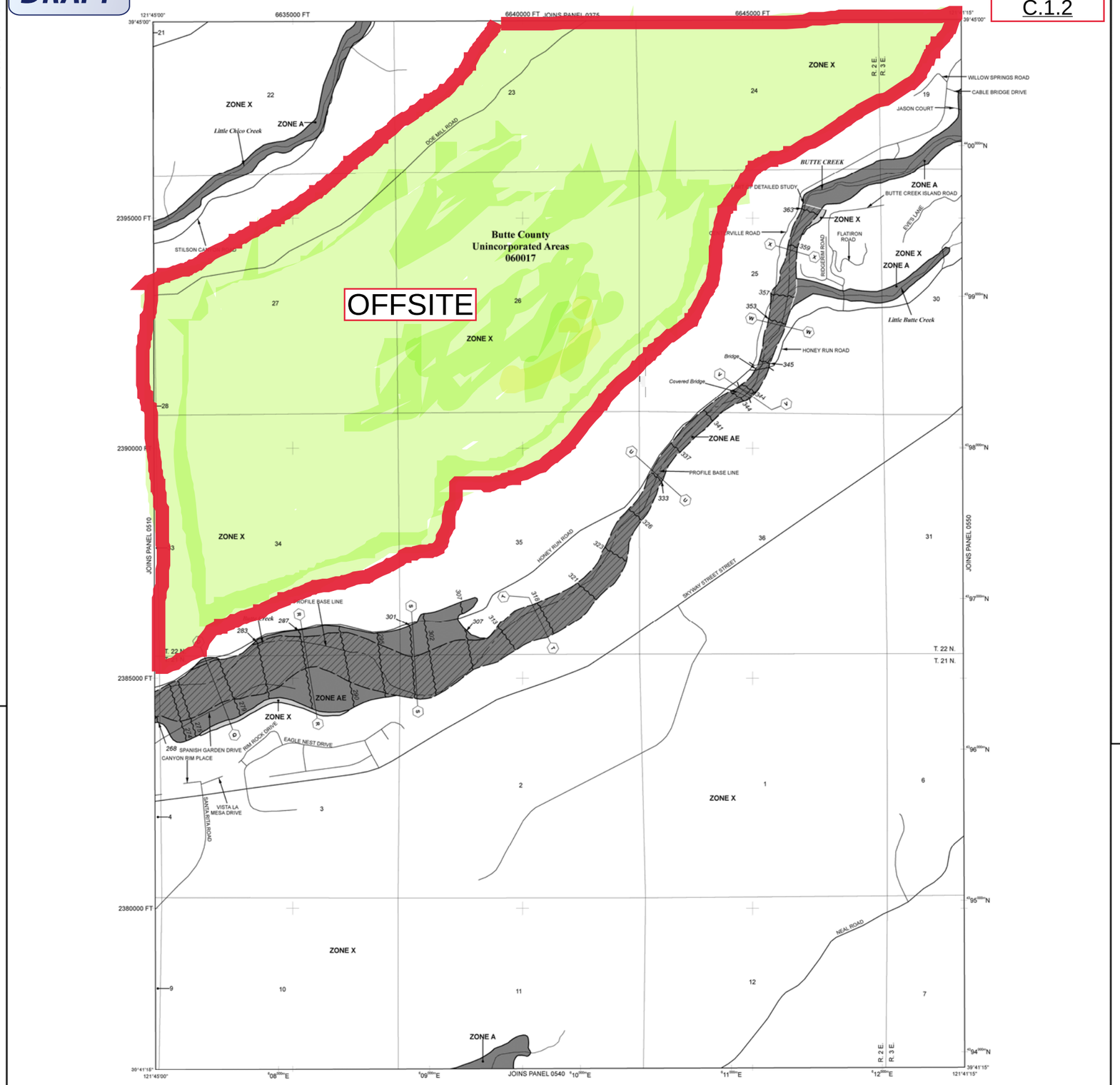
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to confirm to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** — No Base Flood Elevations determined.
- **ZONE AE** — Base Flood Elevations determined.
- **ZONE AH** — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** — Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** — Areas determined to be outside the 0.2% annual chance floodplain.
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COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

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MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
June 8, 1998

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

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MAP SCALE 1" = 1000'
500 0 1000 2000 FEET
300 0 300 600 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0530E

FIRM

FLOOD INSURANCE RATE MAP

BUTTE COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 530 OF 1200
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BUTTE COUNTY	060017	0530	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 06007C0530E

MAP REVISED JANUARY 6, 2011

Federal Emergency Management Agency

DRAFT

EXHIBIT C.1.3

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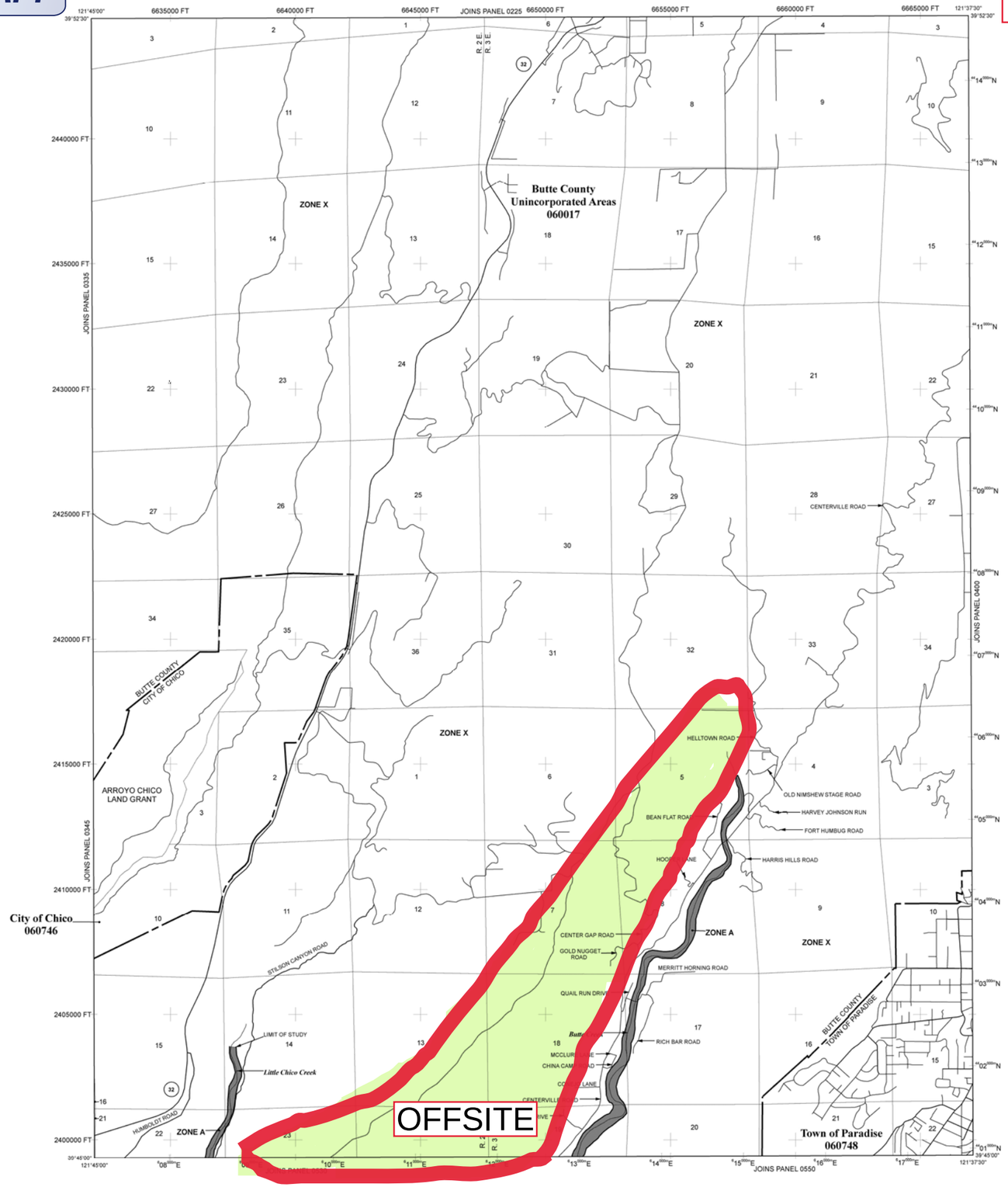

LEGEND

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- Cross section line
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EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
June 8, 1998

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

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MAP SCALE 1" = 2000'

1000 0 2000 4000 FEET
600 0 600 1200 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0375E

FIRM

FLOOD INSURANCE RATE MAP

BUTTE COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 375 OF 1200

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BUTTE COUNTY	060017	0375	E
CHICO, CITY OF	060746	0375	E
PARADISE, TOWN OF	060748	0375	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06007C0375E

MAP REVISED
JANUARY 6, 2011

Federal Emergency Management Agency

EXHIBIT
C.2.1

United States Department of Agriculture

NRCS

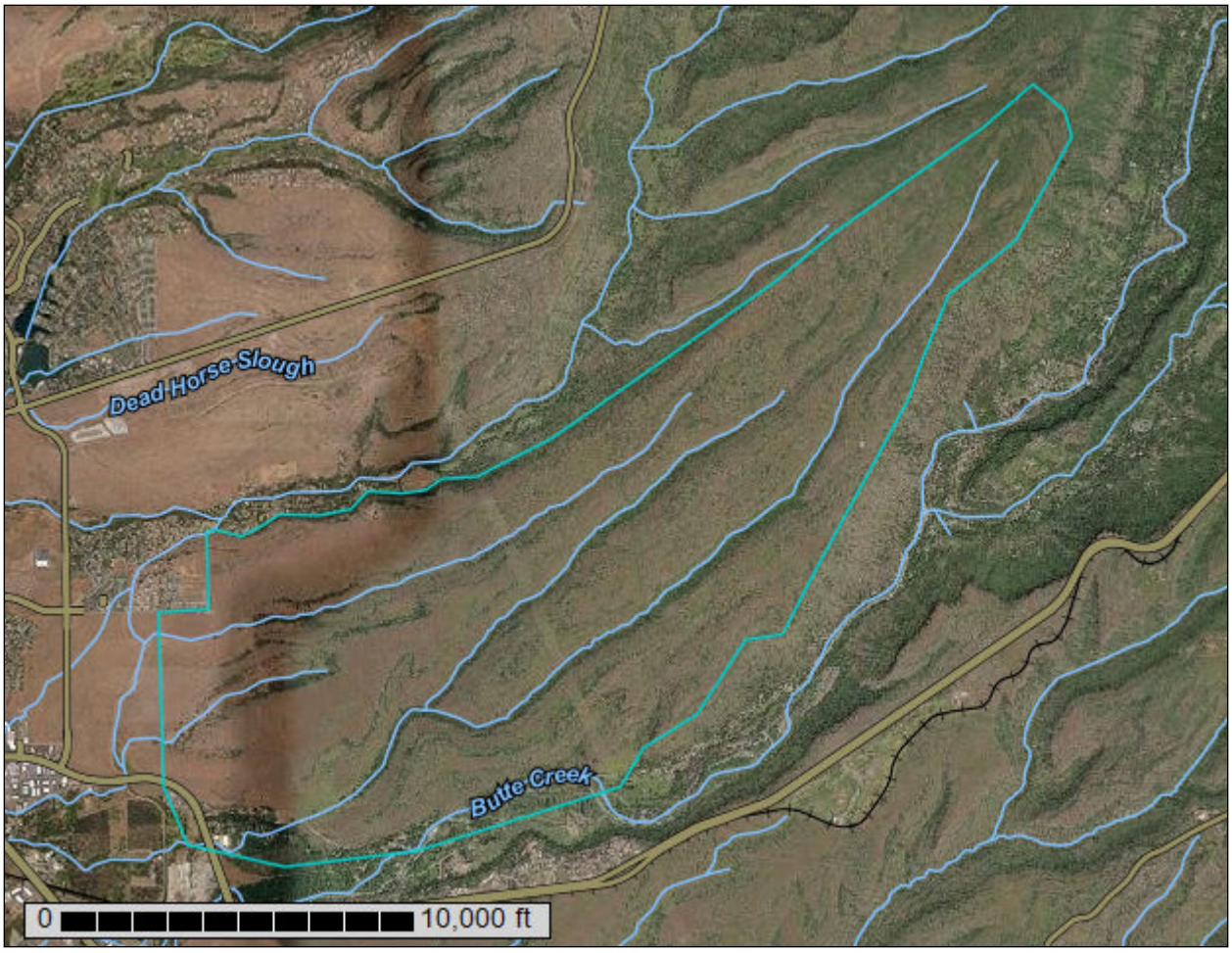
Natural Resources Conservation Service

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 Butte Area, California, Parts of Butte and Plumas Counties

offsite -upstream

DRAFT



October 25, 2019

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.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....8
Soil Map.....9
Legend.....10
Map Unit Legend.....11
Map Unit Descriptions.....12
Butte Area, California, Parts of Butte and Plumas Counties.....14
118—Xerorthents, Tailings and 0 to 50 percent slopes.....14
300—Redsluff gravelly loam, 0 to 2 percent slopes.....15
302—Redtough-Redswale , 0 to 2 percent slopes.....17
447—Charger fine sandy loam, 0 to 1 percent slopes.....19
614—Doemill-Jokerst , 0 to 3 percent slopes.....21
615—Doemill-Jokerst , 3 to 8 percent slopes.....23
616—Jokerst-Doemill-Typic Haploxeralfs , 8 to 15 percent slopes.....25
617—Jokerst-Doemill-Typic Haploxeralfs , 15 to 30 percent slopes.....28
620—Doemill-Jokerst-Ultic Haploxeralfs, thermic complex, 3 to 8 percent slopes.....30
621—Doemill-Jokerst-Ultic Haploxeralfs, thermic complex, 8 to 15 percent slopes.....33
622—Xerorthents, shallow-Typic Haploxeralfs-Rock outrcrop, cliffs complex, 15 to 30 percent slopes.....35
623—Xerorthents, shallow-Typic Haploxeralfs-Rock outcrop, cliffs complex, 30 to 50 percent slopes.....38
624—Ultic Haploxeralfs, mesic-Rockstripe complex, 2 to 15 percent slopes.....40
627—Ultic Haploxeralfs-Rockstripe-Rock outcrop, cliffs , 50 to 70 percent slopes.....42
628—Rockstripe-Ultic Haploxeralfs-Rock outcrop, cliffs , 70 to 100 percent slopes.....45
675—Clearhayes-Hamslough , 0 to 2 percent slopes.....47
677—Tuscan-Fallager-Anita, gravelly duripan, , 0 to 3 percent slopes.....49
References.....54

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.

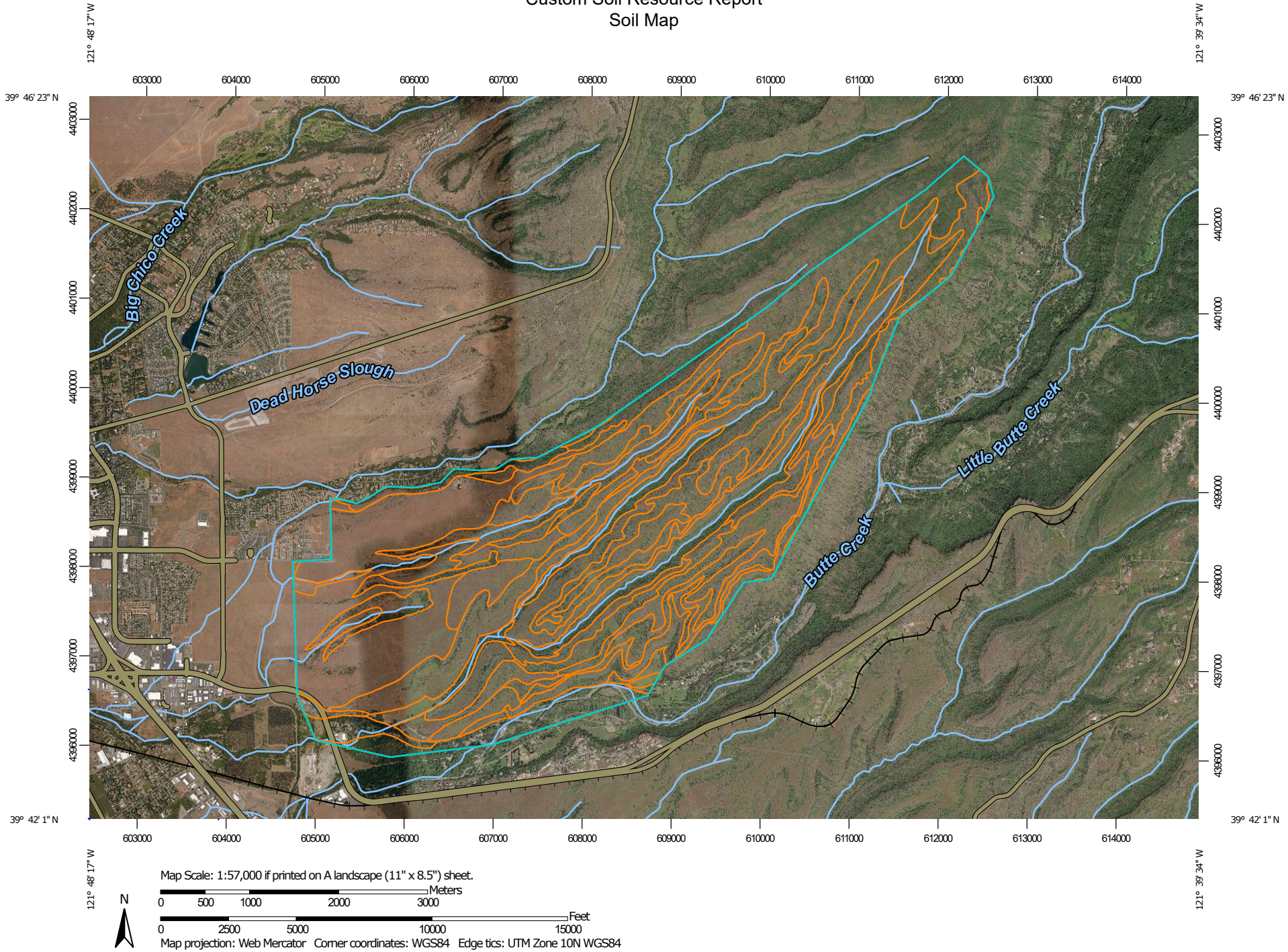
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree 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.


121° 48' 17" W
121° 39' 34" W
39° 46' 23" N
39° 42' 1" N
603000
604000
605000
606000
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4403000
4402000
4401000
4400000
4399000
4398000
4397000
4396000
Big Chico Creek
Dead Horse Slough
Little Butte Creek
Butte Creek
Map Scale: 1:57,000 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 500 1000 2000 3000
Feet
0 2500 5000 10000 15000
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N 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 1:24,000.

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: Butte Area, California, Parts of Butte and Plumas Counties
Survey Area Data: Version 16, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 2, 2012—Nov 4, 2017

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
118	Xerorthents, Tailings and 0 to 50 percent slopes	175.7	3.5%
300	Redsluff gravelly loam, 0 to 2 percent slopes	5.7	0.1%
302	Redtough-Redswale , 0 to 2 percent slopes	20.6	0.4%
447	Charger fine sandy loam, 0 to 1 percent slopes	62.9	1.2%
614	Doemill-Jokerst , 0 to 3 percent slopes	75.6	1.5%
615	Doemill-Jokerst , 3 to 8 percent slopes	888.4	17.6%
616	Jokerst-Doemill-Typic Haploxeralfs , 8 to 15 percent slopes	506.7	10.0%
617	Jokerst-Doemill-Typic Haploxeralfs , 15 to 30 percent slopes	129.5	2.6%
620	Doemill-Jokerst-Ultic Haploxeralfs, thermic complex, 3 to 8 percent slopes	939.1	18.6%
621	Doemill-Jokerst-Ultic Haploxeralfs, thermic complex, 8 to 15 percent slopes	777.8	15.4%
622	Xerorthents, shallow-Typic Haploxeralfs-Rock outrcrop, cliffs complex, 15 to 30 percent slopes	688.6	13.6%
623	Xerorthents, shallow-Typic Haploxeralfs-Rock outcrop, cliffs complex, 30 to 50 percent slopes	463.0	9.2%
624	Ultic Haploxeralfs, mesic-Rockstripe complex, 2 to 15 percent slopes	79.6	1.6%
627	Ultic Haploxeralfs-Rockstripe-Rock outcrop, cliffs , 50 to 70 percent slopes	51.8	1.0%
628	Rockstripe-Ultic Haploxeralfs-Rock outcrop, cliffs , 70 to 100 percent slopes	100.9	2.0%
675	Clearhayes-Hamslough , 0 to 2 percent slopes	71.7	1.4%
677	Tuscan-Fallager-Anita, gravelly duripan, , 0 to 3 percent slopes	7.6	0.2%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Totals for Area of Interest		**5,045.2**	**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.

Butte Area, California, Parts of Butte and Plumas Counties

118—Xerorthents, Tailings and 0 to 50 percent slopes

Map Unit Setting

National map unit symbol: hgxl
Elevation: 90 to 1,340 feet
Mean annual precipitation: 21 to 50 inches
Mean annual air temperature: 57 to 63 degrees F
Frost-free period: 240 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Xerorthents and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Xerorthents

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Dredged spoil piles from gravelly alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile

A - 0 to 3 inches: very gravelly sandy loam
AC - 3 to 8 inches: extremely gravelly sandy loam
C1 - 8 to 21 inches: loamy sand
C2 - 21 to 26 inches: loamy sand
C3 - 26 to 35 inches: loamy sand
C4 - 35 to 48 inches: loamy coarse sand
C5 - 48 to 59 inches: loamy sand
C6 - 59 to 81 inches: loamy sand

Properties and qualities

Slope: 0 to 50 percent
Percent of area covered with surface fragments: 0.0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 4.25 in/hr)
Depth to water table: About 60 to 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A

Hydric soil rating: Yes

Minor Components

Unnamed, riparian areas
Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Pits, water-filled
Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Xeropsamments, tailings
Percent of map unit: 3 percent
Landform: Flood plains
Hydric soil rating: Yes

Xerofluvents, tailings
Percent of map unit: 3 percent
Landform: Flood plains
Hydric soil rating: Yes

Haploxeralfs, terrace
Percent of map unit: 2 percent
Landform: Stream terraces
Hydric soil rating: No

Unnamed, duripan
Percent of map unit: 2 percent
Landform: Terraces
Hydric soil rating: Yes

300—Redsluff gravelly loam, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: hh0t
Elevation: 180 to 400 feet
Mean annual precipitation: 24 to 29 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 250 to 255 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Redsluff, gravelly loam, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Redsluff, Gravelly Loam

Setting

Landform: Fan terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-loamy alluvium derived from igneous, metamorphic and sedimentary rock over gravelly alluvium derived from volcanic rock

Typical profile

Ap - 0 to 2 inches: gravelly loam
Bt1 - 2 to 5 inches: gravelly loam
Bt2 - 5 to 12 inches: gravelly clay loam
Bt3 - 12 to 21 inches: gravelly loam
Bt4 - 21 to 29 inches: gravelly loam
Bt5 - 29 to 37 inches: gravelly loam
Bt6 - 37 to 42 inches: extremely gravelly sandy loam
Cq - 42 to 80 inches: extremely gravelly loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.28 to 0.99 in/hr)
Depth to water table: About 35 to 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 0.5 mmhos/cm)
Available water storage in profile: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Unnamed, weak cementation below 40 inches

Percent of map unit: 4 percent
Landform: Fan terraces
Hydric soil rating: No

Fernandez, sandy loam

Percent of map unit: 4 percent
Landform: Fan terraces
Hydric soil rating: No

Typic haploxeralfs, very deep

Percent of map unit: 3 percent
Landform: Fan terraces
Hydric soil rating: No

Anita, gravelly duripan
Percent of map unit: 3 percent
Landform: Fan terraces
Hydric soil rating: Yes

Redtough
Percent of map unit: 2 percent
Landform: Fan terraces
Hydric soil rating: No

Pachic argixerolls
Percent of map unit: 2 percent
Landform: Fan terraces
Hydric soil rating: No

Munjar
Percent of map unit: 2 percent
Landform: Fan terraces
Hydric soil rating: No

302—Redtough-Redswale , 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: hh0v
Elevation: 200 to 400 feet
Mean annual precipitation: 23 to 28 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 250 to 255 days
Farmland classification: Not prime farmland

Map Unit Composition
Redtough, loam, and similar soils: 50 percent
Redswale, cobbly loam, and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Redtough, Loam

Setting
Landform: Fan terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Microfeatures of landform position: Mounds
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy alluvium over cemented cobbly and gravelly alluvium derived from volcanic rock

Typical profile
A - 0 to 1 inches: loam
Bt1 - 1 to 7 inches: gravelly loam

Bt2 - 7 to 13 inches: very cobbly loam
Bqm - 13 to 23 inches: cemented very gravelly material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 10 to 20 inches to duripan
Natural drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: About 2 to 20 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.6 inches)

Interpretive groups

Land capability classification (irrigated): 7s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Redswale, Cobbly Loam

Setting

Landform: Fan terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Microfeatures of landform position: Swales
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Cobbly and loamy alluvium over cemented cobbly and gravelly alluvium derived from volcanic rock

Typical profile

A - 0 to 1 inches: cobbly loam
Bt - 1 to 7 inches: very cobbly loam
Bqm - 7 to 17 inches: cemented very gravelly material

Properties and qualities

Slope: 0 to 3 percent
Percent of area covered with surface fragments: 0.0 percent
Depth to restrictive feature: 4 to 10 inches to duripan
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water storage in profile: Very low (about 0.7 inches)

Interpretive groups

Land capability classification (irrigated): 8
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Redswale, frequent long flooding
Percent of map unit: 3 percent
Landform: Fan terraces
Microfeatures of landform position: Swales
Hydric soil rating: Yes

Unnamed, frequent long ponding
Percent of map unit: 3 percent
Landform: Fan terraces
Microfeatures of landform position: Vernal pools
Hydric soil rating: Yes

Munjar
Percent of map unit: 2 percent
Landform: Fan terraces
Microfeatures of landform position: Mounds
Hydric soil rating: No

Abruptic durixeralfs
Percent of map unit: 2 percent
Landform: Fan terraces
Microfeatures of landform position: Mounds
Hydric soil rating: No

Anita, gravelly duripan
Percent of map unit: 2 percent
Landform: Fan terraces
Microfeatures of landform position: Swales
Hydric soil rating: Yes

Tuscan
Percent of map unit: 2 percent
Landform: Fan terraces
Microfeatures of landform position: Mounds
Hydric soil rating: No

Unnamed, riser slopes
Percent of map unit: 1 percent
Landform: Fan terraces
Hydric soil rating: No

447—Charger fine sandy loam, 0 to 1 percent slopes

Map Unit Setting
National map unit symbol: hgzf
Elevation: 180 to 600 feet
Mean annual precipitation: 24 to 28 inches
Mean annual air temperature: 61 to 63 degrees F

Frost-free period: 250 to 255 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Charger, fine sandy loam, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charger, Fine Sandy Loam

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy alluvium derived from igneous, metamorphic and sedimentary rock over gravelly alluvium derived from volcanic and metamorphic rock

Typical profile

Ap - 0 to 3 inches: fine sandy loam
A1 - 3 to 7 inches: fine sandy loam
A2 - 7 to 15 inches: fine sandy loam
Bw1 - 15 to 32 inches: sandy loam
Bw2 - 32 to 42 inches: sandy loam
Bw3 - 42 to 53 inches: sandy loam
Bw4 - 53 to 63 inches: sandy loam
C - 63 to 80 inches: extremely gravelly loamy coarse sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.27 to 4.25 in/hr)
Depth to water table: About 40 to 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 0.5 mmhos/cm)
Available water storage in profile: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Vina, fine sandy loam

Percent of map unit: 8 percent
Landform: Alluvial fans
Hydric soil rating: No

Redsluff
Percent of map unit: 5 percent
Landform: Fan terraces
Hydric soil rating: No

Unnamed, sandy-skeletal
Percent of map unit: 2 percent
Landform: Alluvial fans
Hydric soil rating: No

Unnamed, loamy-skeletal
Percent of map unit: 2 percent
Landform: Alluvial fans
Hydric soil rating: No

Almendra
Percent of map unit: 2 percent
Landform: Alluvial fans
Hydric soil rating: No

Wafap
Percent of map unit: 1 percent
Landform: Stream terraces
Hydric soil rating: No

614—Doemill-Jokerst , 0 to 3 percent slopes

Map Unit Setting
National map unit symbol: hgzk
Elevation: 160 to 520 feet
Mean annual precipitation: 25 to 29 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 250 to 255 days
Farmland classification: Not prime farmland

Map Unit Composition
Doemill, gravelly loam, and similar soils: 50 percent
Jokerst, very cobbly loam, and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Doemill, Gravelly Loam

Setting
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Microfeatures of landform position: Mounds
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy residuum weathered from volcanic breccia

Typical profile

A - 0 to 1 inches: gravelly loam
Bt1 - 1 to 5 inches: gravelly loam
Bt2 - 5 to 9 inches: gravelly loam
Bt3 - 9 to 14 inches: gravelly loam
R - 14 to 24 inches: bedrock

Properties and qualities

Slope: 0 to 3 percent
Percent of area covered with surface fragments: 5.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Natural drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.43 to 1.28 in/hr)
Depth to water table: About 2 to 20 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): 6s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Jokerst, Very Cobbly Loam

Setting

Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Microfeatures of landform position: Swales
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy residuum weathered from volcanic breccia

Typical profile

A - 0 to 1 inches: very cobbly loam
Bt - 1 to 4 inches: gravelly loam
R - 4 to 14 inches: bedrock

Properties and qualities

Slope: 0 to 3 percent
Percent of area covered with surface fragments: 17.0 percent
Depth to restrictive feature: 2 to 10 inches to lithic bedrock
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.71 to 1.13 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Available water storage in profile: Very low (about 0.4 inches)

Interpretive groups

Land capability classification (irrigated): 8

Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Rock outcrop, mudflow breccia
Percent of map unit: 5 percent
Landform: Ridges
Hydric soil rating: No

Lithic xerorthents
Percent of map unit: 3 percent
Landform: Ridges
Hydric soil rating: No

Unnamed, frequent long ponding
Percent of map unit: 2 percent
Landform: Ridges
Microfeatures of landform position: Vernal pools
Hydric soil rating: Yes

615—Doemill-Jokerst , 3 to 8 percent slopes

Map Unit Setting
National map unit symbol: hgzm
Elevation: 160 to 1,000 feet
Mean annual precipitation: 25 to 29 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 250 to 255 days
Farmland classification: Not prime farmland

Map Unit Composition
Doemill, gravelly loam, and similar soils: 50 percent
Jokerst, very cobbly loam, and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Doemill, Gravelly Loam

Setting
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Microfeatures of landform position: Mounds
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy residuum weathered from volcanic breccia

Typical profile

A - 0 to 1 inches: gravelly loam
Bt1 - 1 to 5 inches: gravelly loam
Bt2 - 5 to 9 inches: gravelly loam
Bt3 - 9 to 14 inches: gravelly loam
R - 14 to 24 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Percent of area covered with surface fragments: 5.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Natural drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.43 to 1.28 in/hr)
Depth to water table: About 2 to 20 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Jokerst, Very Cobbly Loam

Setting

Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Microfeatures of landform position: Swales
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy residuum weathered from volcanic breccia

Typical profile

A - 0 to 1 inches: very cobbly loam
Bt - 1 to 4 inches: gravelly loam
R - 4 to 14 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Percent of area covered with surface fragments: 17.0 percent
Depth to restrictive feature: 2 to 10 inches to lithic bedrock
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.71 to 1.13 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Available water storage in profile: Very low (about 0.4 inches)

Interpretive groups

Land capability classification (irrigated): 8

Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Rock outcrop, mudflow breccia
Percent of map unit: 6 percent
Landform: Ridges
Hydric soil rating: No

Lithic xerorthents
Percent of map unit: 3 percent
Landform: Ridges
Hydric soil rating: No

Unnamed, frequent long ponding
Percent of map unit: 1 percent
Landform: Ridges
Microfeatures of landform position: Vernal pools
Hydric soil rating: Yes

616—Jokerst-Doemill-Typic Haploxeralfs , 8 to 15 percent slopes

Map Unit Setting
National map unit symbol: hgzj
Elevation: 160 to 1,120 feet
Mean annual precipitation: 25 to 29 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 250 to 255 days
Farmland classification: Not prime farmland

Map Unit Composition
Doemill, gravelly loam, and similar soils: 35 percent
Jokerst, very cobbly loam, and similar soils: 35 percent
Typic haploxeralfs, gravelly loam, and similar soils: 15 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Doemill, Gravelly Loam

Setting
Landform: Ridges
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy residuum weathered from volcanic breccia

Typical profile

A - 0 to 1 inches: gravelly loam
Bt1 - 1 to 5 inches: gravelly loam
Bt2 - 5 to 9 inches: gravelly loam
Bt3 - 9 to 14 inches: gravelly loam
R - 14 to 23 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Percent of area covered with surface fragments: 5.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Natural drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.43 to 1.28 in/hr)
Depth to water table: About 4 to 20 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Jokerst, Very Cobbly Loam

Setting

Landform: Ridges
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy residuum weathered from volcanic breccia

Typical profile

A - 0 to 1 inches: very cobbly loam
Bt - 1 to 4 inches: gravelly loam
R - 4 to 14 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Percent of area covered with surface fragments: 17.0 percent
Depth to restrictive feature: 2 to 10 inches to lithic bedrock
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.71 to 1.13 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 0.4 inches)

Interpretive groups

Land capability classification (irrigated): 8
Land capability classification (nonirrigated): 8

Hydrologic Soil Group: D
Hydric soil rating: No

Description of Typic Haploxeralfs, Gravelly Loam

Setting

Landform: Ridges
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Loamy colluvium derived from volcanic rock

Typical profile

A - 0 to 2 inches: gravelly loam
Bt1 - 2 to 8 inches: gravelly clay loam
Bt2 - 8 to 16 inches: very gravelly clay loam
Bt3 - 16 to 27 inches: very gravelly clay loam
Bt4 - 27 to 40 inches: very gravelly clay loam
2Cr - 40 to 50 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Percent of area covered with surface fragments: 4.0 percent
Depth to restrictive feature: 20 to 60 inches to paralithic bedrock; 20 to 60 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 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: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Rock outcrop, mudflow breccia

Percent of map unit: 10 percent
Landform: Ridges
Hydric soil rating: No

Lithic xerorthents

Percent of map unit: 5 percent
Landform: Ridges
Hydric soil rating: No

617—Jokerst-Doemill-Typic Haploxeralfs , 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hgym
Elevation: 260 to 800 feet
Mean annual precipitation: 25 to 29 inches
Mean annual air temperature: 61 degrees F
Frost-free period: 250 to 255 days
Farmland classification: Not prime farmland

Map Unit Composition

Doemill, gravelly loam, and similar soils: 35 percent
Jokerst, very cobbly loam, and similar soils: 30 percent
Typic haploxeralfs, gravelly loam, and similar soils: 20 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Doemill, Gravelly Loam

Setting

Landform: Ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy residuum weathered from volcanic breccia

Typical profile

A - 0 to 1 inches: gravelly loam
Bt1 - 1 to 5 inches: gravelly loam
Bt2 - 5 to 9 inches: gravelly loam
Bt3 - 9 to 14 inches: gravelly loam
R - 14 to 24 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Percent of area covered with surface fragments: 5.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Natural drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.43 to 1.28 in/hr)
Depth to water table: About 6 to 20 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Jokerst, Very Cobbly Loam

Setting

Landform: Ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Loamy residuum weathered from volcanic breccia

Typical profile

A - 0 to 1 inches: very cobbly loam
Bt - 1 to 4 inches: gravelly loam
R - 4 to 14 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Percent of area covered with surface fragments: 17.0 percent
Depth to restrictive feature: 2 to 10 inches to lithic bedrock
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.71 to 1.13 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 0.4 inches)

Interpretive groups

Land capability classification (irrigated): 8
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Typic Haploxeralfs, Gravelly Loam

Setting

Landform: Ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Loamy colluvium derived from volcanic rock

Typical profile

A - 0 to 2 inches: gravelly loam
Bt1 - 2 to 8 inches: gravelly clay loam
Bt2 - 8 to 16 inches: very gravelly clay loam
Bt3 - 16 to 27 inches: very gravelly clay loam
Bt4 - 27 to 40 inches: very gravelly clay loam
2Cr - 40 to 50 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Percent of area covered with surface fragments: 4.0 percent
Depth to restrictive feature: 20 to 60 inches to paralithic bedrock; 20 to 60 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 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: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Rock outcrop, mudflow breccia

Percent of map unit: 10 percent
Landform: Ridges
Hydric soil rating: No

Lithic xerorthents

Percent of map unit: 5 percent
Landform: Ridges
Hydric soil rating: No

620—Doemill-Jokerst-Ultic Haploxeralfs, thermic complex, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: hh4q
Elevation: 400 to 1,700 feet
Mean annual precipitation: 28 to 40 inches
Mean annual air temperature: 61 degrees F
Frost-free period: 255 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Doemill, gravelly loam, and similar soils: 40 percent
Jokerst, very cobbly loam, and similar soils: 25 percent
Ultic haploxeralfs, thermic gravelly loam, and similar soils: 20 percent

Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Doemill, Gravelly Loam

Setting

Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy residuum weathered from volcanic breccia

Typical profile

A - 0 to 1 inches: gravelly loam
Bt1 - 1 to 5 inches: gravelly loam
Bt2 - 5 to 9 inches: gravelly loam
Bt3 - 9 to 14 inches: gravelly loam
R - 14 to 24 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Percent of area covered with surface fragments: 5.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Natural drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.43 to 1.28 in/hr)
Depth to water table: About 2 to 20 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Jokerst, Very Cobbly Loam

Setting

Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy residuum weathered from volcanic breccia

Typical profile

A - 0 to 1 inches: very cobbly loam
Bt - 1 to 4 inches: gravelly loam
R - 4 to 14 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Percent of area covered with surface fragments: 17.0 percent
Depth to restrictive feature: 2 to 10 inches to lithic bedrock

Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.71 to 1.13 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water storage in profile: Very low (about 0.4 inches)

Interpretive groups
Land capability classification (irrigated): 8
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Ultic Haploxeralfs, Thermic Gravelly Loam

Setting
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy residuum weathered from volcanic rock

Typical profile
A - 0 to 2 inches: gravelly loam
Bt1 - 2 to 6 inches: very cobbly clay loam
Bt2 - 6 to 13 inches: very cobbly clay loam
Bt3 - 13 to 21 inches: very cobbly clay loam
Bt4 - 21 to 31 inches: very cobbly clay loam
R - 31 to 41 inches: bedrock

Properties and qualities
Slope: 3 to 8 percent
Percent of area covered with surface fragments: 4.0 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock; 20 to 40 inches to paralithic bedrock
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.85 in/hr)
Depth to water table: About 18 to 40 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 3.0 inches)

Interpretive groups
Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Rock outcrop, mudflow breccia
Percent of map unit: 10 percent

Landform: Ridges
Hydric soil rating: No

Lithic xerorthents

Percent of map unit: 5 percent
Landform: Ridges
Hydric soil rating: No

621—Doemill-Jokerst-Ultic Haploxeralfs, thermic complex, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: hh4k
Elevation: 400 to 1,700 feet
Mean annual precipitation: 28 to 40 inches
Mean annual air temperature: 61 degrees F
Frost-free period: 255 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Doemill, gravelly loam, and similar soils: 30 percent
Jokerst, very cobbly loam, and similar soils: 30 percent
Ultic haploxeralfs, thermic gravelly loam, and similar soils: 20 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Doemill, Gravelly Loam

Setting

Landform: Ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy residuum weathered from volcanic breccia

Typical profile

A - 0 to 1 inches: gravelly loam
Bt1 - 1 to 5 inches: gravelly loam
Bt2 - 5 to 9 inches: gravelly loam
Bt3 - 9 to 14 inches: gravelly loam
R - 14 to 24 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Percent of area covered with surface fragments: 5.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Natural drainage class: Somewhat poorly drained

Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.43 to 1.28 in/hr)
Depth to water table: About 4 to 20 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.1 inches)

Interpretive groups
Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Jokerst, Very Cobbly Loam

Setting
Landform: Ridges
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy residuum weathered from volcanic breccia

Typical profile
A - 0 to 1 inches: very cobbly loam
Bt - 1 to 4 inches: gravelly loam
R - 4 to 14 inches: bedrock

Properties and qualities
Slope: 8 to 15 percent
Percent of area covered with surface fragments: 17.0 percent
Depth to restrictive feature: 2 to 10 inches to lithic bedrock
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.71 to 1.13 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 0.4 inches)

Interpretive groups
Land capability classification (irrigated): 8
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Ultic Haploxeralfs, Thermic Gravelly Loam

Setting
Landform: Ridges
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Loamy residuum weathered from volcanic rock

Typical profile

A - 0 to 2 inches: gravelly loam
Bt1 - 2 to 6 inches: very cobbly clay loam
Bt2 - 6 to 13 inches: very cobbly clay loam
Bt3 - 13 to 21 inches: very cobbly clay loam
Bt4 - 21 to 31 inches: very cobbly clay loam
R - 31 to 41 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Percent of area covered with surface fragments: 4.0 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock; 20 to 40 inches to paralithic bedrock
Natural drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.85 in/hr)
Depth to water table: About 19 to 40 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Rock outcrop, mudflow breccia

Percent of map unit: 12 percent
Landform: Ridges
Hydric soil rating: No

Lithic xerorthents

Percent of map unit: 8 percent
Landform: Ridges
Hydric soil rating: No

622—Xerorthents, shallow-Typic Haploxeralfs-Rock outrcrop, cliffs complex, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hh5m
Elevation: 200 to 1,500 feet
Mean annual precipitation: 26 to 38 inches
Mean annual air temperature: 59 to 63 degrees F

Frost-free period: 250 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Xerorthents, shallow, and similar soils: 40 percent
Typic haploxeralfs, gravelly loam, and similar soils: 30 percent
Rock outcrop, mudflow breccia cliffs: 15 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Xerorthents, Shallow

Setting

Landform: Canyons
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Loamy residuum and/or colluvium derived from volcanic rock

Typical profile

A - 0 to 2 inches: gravelly clay loam
Bt1 - 2 to 5 inches: gravelly clay loam
Bt2 - 5 to 8 inches: very cobbly clay loam
2R - 8 to 18 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Percent of area covered with surface fragments: 5.0 percent
Depth to restrictive feature: 2 to 20 inches to paralithic bedrock; 2 to 20 inches to lithic bedrock
Natural drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.71 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.1 inches)

Interpretive groups

Land capability classification (irrigated): 7s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Typic Haploxeralfs, Gravelly Loam

Setting

Landform: Canyons
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Loamy residuum and/or colluvium derived from volcanic rock

Typical profile

A - 0 to 2 inches: gravelly loam
Bt1 - 2 to 8 inches: gravelly clay loam
Bt2 - 8 to 16 inches: very gravelly clay loam
Bt3 - 16 to 27 inches: very gravelly clay loam
Bt4 - 27 to 40 inches: very gravelly clay loam
2Cr - 40 to 50 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Percent of area covered with surface fragments: 4.0 percent
Depth to restrictive feature: 20 to 60 inches to paralithic bedrock; 20 to 60 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 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: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Rock Outcrop, Mudflow Breccia Cliffs

Setting

Landform: Canyons

Interpretive groups

Land capability classification (irrigated): 8
Land capability classification (nonirrigated): 8
Hydric soil rating: No

Minor Components

Rock outcrop, mudflow breccia

Percent of map unit: 8 percent
Landform: Canyons
Hydric soil rating: No

Lithic haploxeralfs

Percent of map unit: 5 percent
Landform: Canyons
Hydric soil rating: No

Aquic durixeralfs

Percent of map unit: 2 percent
Landform: Canyons
Hydric soil rating: Yes

623—Xerorthents, shallow-Typic Haploxeralfs-Rock outcrop, cliffs complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: hh5l
Elevation: 300 to 1,500 feet
Mean annual precipitation: 26 to 38 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 250 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Xerorthents, shallow, and similar soils: 40 percent
Typic haploxeralfs, gravelly loam, and similar soils: 25 percent
Rock outcrop, mudfow breccia cliffs: 20 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Xerorthents, Shallow

Setting

Landform: Canyons
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Loamy residuum and/or colluvium derived from volcanic rock

Typical profile

A - 0 to 2 inches: gravelly clay loam
Bt1 - 2 to 5 inches: gravelly clay loam
Bt2 - 5 to 8 inches: very cobbly clay loam
2R - 8 to 18 inches: bedrock

Properties and qualities

Slope: 30 to 50 percent
Percent of area covered with surface fragments: 5.0 percent
Depth to restrictive feature: 2 to 20 inches to paralithic bedrock; 2 to 20 inches to lithic bedrock
Natural drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.71 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.1 inches)

Interpretive groups

Land capability classification (irrigated): 7s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Typic Haploxeralfs, Gravelly Loam

Setting

Landform: Canyons
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Loamy residuum and/or colluvium derived from volcanic rock

Typical profile

A - 0 to 2 inches: gravelly loam
Bt1 - 2 to 8 inches: gravelly clay loam
Bt2 - 8 to 16 inches: very gravelly clay loam
Bt3 - 16 to 27 inches: very gravelly clay loam
Bt4 - 27 to 40 inches: very gravelly clay loam
2Cr - 40 to 50 inches: bedrock

Properties and qualities

Slope: 30 to 50 percent
Percent of area covered with surface fragments: 4.0 percent
Depth to restrictive feature: 20 to 60 inches to paralithic bedrock; 20 to 60 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 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: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Rock Outcrop, Mudfow Breccia Cliffs

Setting

Landform: Canyons

Interpretive groups

Land capability classification (irrigated): 8
Land capability classification (nonirrigated): 8
Hydric soil rating: No

Minor Components

Rock outcrop, mudflow breccia
Percent of map unit: 10 percent
Landform: Canyons
Hydric soil rating: No

Lithic haploxeralfs
Percent of map unit: 4 percent
Landform: Canyons
Hydric soil rating: No

Aquic durixeralfs
Percent of map unit: 1 percent
Landform: Canyons
Hydric soil rating: Yes

624—Ultic Haploxeralfs, mesic-Rockstripe complex, 2 to 15 percent slopes

Map Unit Setting
National map unit symbol: hh5k
Elevation: 900 to 2,200 feet
Mean annual precipitation: 35 to 55 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 235 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition
Ultic haploxeralfs, mesic gravelly loam, and similar soils: 60 percent
Rockstripe, very gravelly loam, and similar soils: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ultic Haploxeralfs, Mesic Gravelly Loam

Setting
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy residuum weathered from volcanic breccia

Typical profile
Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 4 inches: gravelly loam
Bt1 - 4 to 9 inches: cobbly loam

Bt2 - 9 to 23 inches: very stony clay loam
Bt3 - 23 to 32 inches: very cobbly clay loam
Bt4 - 32 to 42 inches: extremely stony clay loam
Cr - 42 to 52 inches: bedrock

Properties and qualities

Slope: 2 to 15 percent
Percent of area covered with surface fragments: 1.0 percent
Depth to restrictive feature: 20 to 60 inches to lithic bedrock; 20 to 60 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.28 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Rockstripe, Very Gravelly Loam

Setting

Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy residuum weathered from volcanic breccia

Typical profile

A - 0 to 2 inches: very gravelly loam
Bt1 - 2 to 6 inches: very cobbly loam
Bt2 - 6 to 9 inches: cobbly loam
R - 9 to 19 inches: bedrock

Properties and qualities

Slope: 2 to 15 percent
Percent of area covered with surface fragments: 7.0 percent
Depth to restrictive feature: 2 to 10 inches to lithic bedrock
Natural drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 2.83 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.1 inches)

Interpretive groups

Land capability classification (irrigated): 7s
Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Rock outcrop, mudflow breccia
Percent of map unit: 8 percent
Landform: Ridges
Hydric soil rating: No

Lithic haploxeralfs
Percent of map unit: 2 percent
Landform: Ridges
Hydric soil rating: No

Paradiso
Percent of map unit: 2 percent
Landform: Ridges
Hydric soil rating: No

Schott
Percent of map unit: 2 percent
Landform: Ridges
Hydric soil rating: No

Lithic dystroxerepts
Percent of map unit: 1 percent
Landform: Ridges
Hydric soil rating: No

627—Ultic Haploxeralfs-Rockstripe-Rock outcrop, cliffs , 50 to 70 percent slopes

Map Unit Setting
National map unit symbol: hh5g
Elevation: 250 to 2,600 feet
Mean annual precipitation: 26 to 55 inches
Mean annual air temperature: 55 to 61 degrees F
Frost-free period: 200 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition
Ultic haploxeralfs, gravelly loam, and similar soils: 40 percent
Rockstripe, very gravelly loam, and similar soils: 35 percent
Rock outcrop, mudflow breccia cliffs: 15 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ultic Haploxeralfs, Gravelly Loam

Setting

Landform: Canyons
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Loamy colluvium derived from volcanic rock

Typical profile

A - 0 to 4 inches: gravelly loam
Bt1 - 4 to 10 inches: gravelly loam
Bt2 - 10 to 18 inches: gravelly clay loam
Bt3 - 18 to 35 inches: gravelly clay loam
Bt4 - 35 to 48 inches: gravelly clay
Crt - 48 to 58 inches: bedrock

Properties and qualities

Slope: 50 to 70 percent
Percent of area covered with surface fragments: 2.0 percent
Depth to restrictive feature: 20 to 60 inches to paralithic bedrock; 20 to 60 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.28 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 7.5 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Rockstripe, Very Gravelly Loam

Setting

Landform: Canyons
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Loamy residuum weathered from volcanic breccia

Typical profile

A - 0 to 2 inches: very gravelly loam
Bt1 - 2 to 6 inches: very cobbly loam
Bt2 - 6 to 9 inches: cobbly loam
R - 9 to 19 inches: bedrock

Properties and qualities

Slope: 50 to 70 percent
Percent of area covered with surface fragments: 7.0 percent

Depth to restrictive feature: 2 to 10 inches to lithic bedrock
Natural drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 2.83 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.1 inches)

Interpretive groups

Land capability classification (irrigated): 7s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Rock Outcrop, Mudflow Breccia Cliffs

Setting

Landform: Canyons

Interpretive groups

Land capability classification (irrigated): 8
Land capability classification (nonirrigated): 8
Hydric soil rating: No

Minor Components

Tusccoll

Percent of map unit: 3 percent
Landform: Canyons
Hydric soil rating: No

Schott

Percent of map unit: 3 percent
Landform: Canyons
Hydric soil rating: No

Lithic haploxeralfs

Percent of map unit: 2 percent
Landform: Canyons
Hydric soil rating: No

Lithic dystroxerepts

Percent of map unit: 2 percent
Landform: Canyons
Hydric soil rating: No

628—Rockstripe-Ultic Haploxeralfs-Rock outcrop, cliffs , 70 to 100 percent slopes

Map Unit Setting

National map unit symbol: hh5f
Elevation: 300 to 2,400 feet
Mean annual precipitation: 26 to 60 inches
Mean annual air temperature: 55 to 61 degrees F
Frost-free period: 215 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Rockstripe, very gravelly loam, and similar soils: 40 percent
Ultic haploxeralfs, gravelly loam, and similar soils: 35 percent
Rock outcrop, mudflow breccia cliffs: 20 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rockstripe, Very Gravelly Loam

Setting

Landform: Canyons
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Loamy residuum weathered from volcanic breccia

Typical profile

A - 0 to 2 inches: very gravelly loam
Bt1 - 2 to 6 inches: very cobbly loam
Bt2 - 6 to 9 inches: cobbly loam
R - 9 to 19 inches: bedrock

Properties and qualities

Slope: 70 to 100 percent
Percent of area covered with surface fragments: 7.0 percent
Depth to restrictive feature: 2 to 10 inches to lithic bedrock
Natural drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 2.83 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.1 inches)

Interpretive groups

Land capability classification (irrigated): 8
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Ultic Haploxeralfs, Gravelly Loam

Setting

Landform: Canyons
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Loamy colluvium derived from volcanic rock

Typical profile

A - 0 to 4 inches: gravelly loam
Bt1 - 4 to 10 inches: gravelly loam
Bt2 - 10 to 18 inches: gravelly clay loam
Bt3 - 18 to 35 inches: gravelly clay loam
Bt4 - 35 to 48 inches: gravelly clay
Crt - 48 to 58 inches: bedrock

Properties and qualities

Slope: 70 to 100 percent
Percent of area covered with surface fragments: 2.0 percent
Depth to restrictive feature: 20 to 60 inches to paralithic bedrock; 20 to 60 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.28 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 7.5 inches)

Interpretive groups

Land capability classification (irrigated): 8
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Rock Outcrop, Mudflow Breccia Cliffs

Setting

Landform: Canyons

Interpretive groups

Land capability classification (irrigated): 8
Land capability classification (nonirrigated): 8
Hydric soil rating: No

Minor Components

Tusccoll
Percent of map unit: 3 percent
Landform: Canyons
Hydric soil rating: No

Lithic dystroxerepts
Percent of map unit: 1 percent
Landform: Canyons
Hydric soil rating: No

Lithic haploxeralfs
Percent of map unit: 1 percent
Landform: Canyons
Hydric soil rating: No

675—Clearhayes-Hamslough , 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: hh6n
Elevation: 140 to 400 feet
Mean annual precipitation: 25 to 29 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 250 to 255 days
Farmland classification: Not prime farmland

Map Unit Composition
Clearhayes, sandy clay loam, and similar soils: 70 percent
Hamslough, clay, and similar soils: 15 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Clearhayes, Sandy Clay Loam

Setting
Landform: Strath terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-loamy alluvium derived from volcanic rock over gravelly alluvium derived from andesite

Typical profile
A - 0 to 2 inches: sandy clay loam
Bt1 - 2 to 10 inches: gravelly sandy clay loam
Bt2 - 10 to 19 inches: gravelly sandy clay loam

C1 - 19 to 28 inches: extremely gravelly sandy loam
C2 - 28 to 38 inches: extremely gravelly loamy coarse sand
C3 - 38 to 46 inches: extremely gravelly sandy clay loam
2Cr - 46 to 56 inches: bedrock

Properties and qualities

Slope: 0 to 2 percent
Percent of area covered with surface fragments: 0.0 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Natural drainage class: Somewhat poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.02 to 1.98 in/hr)
Depth to water table: About 13 to 60 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline (0.0 to 0.5 mmhos/cm)
Available water storage in profile: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): 5w
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Hydric soil rating: No

Description of Hamslough, Clay

Setting

Landform: Strath terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Clayey over gravelly alluvium derived from volcanic rock

Typical profile

A1 - 0 to 3 inches: clay
A2 - 3 to 14 inches: cobbly clay
Bw - 14 to 19 inches: extremely gravelly clay
Bg - 19 to 27 inches: extremely gravelly sandy clay
2Bqm - 27 to 37 inches: cemented material

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 20 to 40 inches to duripan; 44 to 88 inches to paralithic bedrock
Natural drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 80 inches
Frequency of flooding: Occasional
Frequency of ponding: Frequent
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 5.0 mmhos/cm)
Available water storage in profile: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): 5w
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: D
Hydric soil rating: Yes

Minor Components

Unnamed, bedrock less than 40 inches

Percent of map unit: 3 percent
Landform: Strath terraces
Hydric soil rating: No

Redsluff taxadjunct

Percent of map unit: 3 percent
Landform: Strath terraces
Hydric soil rating: No

Unnamed, bedrock (lithic) 40 to 60 inches

Percent of map unit: 2 percent
Landform: Strath terraces
Hydric soil rating: No

Anita, gravelly duripan

Percent of map unit: 2 percent
Landform: Strath terraces
Hydric soil rating: Yes

Typic haploxeralfs, very stony

Percent of map unit: 2 percent
Landform: Canyons
Hydric soil rating: No

Unnamed, frequently flooded

Percent of map unit: 2 percent
Landform: Flood plains
Hydric soil rating: No

Unnamed, frequent long ponding

Percent of map unit: 1 percent
Landform: Strath terraces
Microfeatures of landform position: Channels, vernal pools
Hydric soil rating: Yes

677—Tuscan-Fallager-Anita, gravelly duripan, , 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: hh6l
Elevation: 140 to 540 feet
Mean annual precipitation: 24 to 35 inches
Mean annual air temperature: 61 to 63 degrees F

Frost-free period: 250 to 255 days
Farmland classification: Not prime farmland

Map Unit Composition

Tuscan, gravelly loam, and similar soils: 40 percent
Fallager, loam, and similar soils: 25 percent
Anita, gravelly duripan, and similar soils: 15 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tuscan, Gravelly Loam

Setting

Landform: Strath terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Microfeatures of landform position: Mounds
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy over clayey over cemented gravelly alluvium derived from volcanic rock

Typical profile

A - 0 to 2 inches: gravelly loam
Bt1 - 2 to 4 inches: clay loam
Bt2 - 4 to 7 inches: gravelly clay
Bt3 - 7 to 11 inches: cobbly clay
2Bqm - 11 to 21 inches: cemented gravelly material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 10 to 20 inches to duripan; 11 to 56 inches to paralithic bedrock
Natural drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: About 2 to 20 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 0.5 mmhos/cm)
Available water storage in profile: Very low (about 1.5 inches)

Interpretive groups

Land capability classification (irrigated): 7s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Fallager, Loam

Setting

Landform: Strath terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Microfeatures of landform position: Swales
Down-slope shape: Linear

Across-slope shape: Linear
Parent material: Loamy over clayey over cemented gravelly alluvium derived from volcanic rock

Typical profile

A - 0 to 1 inches: loam
Bt1 - 1 to 3 inches: gravelly clay loam
2Bt2 - 3 to 7 inches: gravelly clay
3Bqm - 7 to 17 inches: cemented gravelly material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 4 to 10 inches to duripan; 5 to 46 inches to paralithic bedrock
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Salinity, maximum in profile: Nonsaline (0.0 to 0.5 mmhos/cm)
Available water storage in profile: Very low (about 0.9 inches)

Interpretive groups

Land capability classification (irrigated): 8
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Anita, Gravelly Duripan

Setting

Landform: Strath terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Microfeatures of landform position: Swales
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Clayey over cemented gravelly alluvium derived from volcanic rock

Typical profile

A - 0 to 3 inches: gravelly clay
Bss1 - 3 to 8 inches: gravelly clay
Bss2 - 8 to 15 inches: gravelly clay
2Bkqm - 15 to 25 inches: cemented gravelly material

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: 10 to 20 inches to duripan; 11 to 56 inches to paralithic bedrock
Natural drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: About 0 to 20 inches

Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline (0.0 to 0.5 mmhos/cm)
Available water storage in profile: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): 7w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: D
Hydric soil rating: Yes

Minor Components

Redtough

Percent of map unit: 10 percent
Landform: Strath terraces
Microfeatures of landform position: Mounds
Hydric soil rating: No

Unnamed, frequent long ponding

Percent of map unit: 3 percent
Landform: Strath terraces
Microfeatures of landform position: Vernal pools
Hydric soil rating: Yes

Unnamed, no duripan, bedrock 10 to 20 inches

Percent of map unit: 2 percent
Landform: Strath terraces
Microfeatures of landform position: Mounds
Hydric soil rating: No

Unnamed, no duripan, bedrock 2 to 10 inches

Percent of map unit: 2 percent
Landform: Strath terraces
Microfeatures of landform position: Swales
Hydric soil rating: No

Unnamed, bedrock (lithic) 2 to 20 inches

Percent of map unit: 1 percent
Landform: Strath terraces
Hydric soil rating: No

Unnamed, riser slopes

Percent of map unit: 1 percent
Landform: Strath terraces
Hydric soil rating: No

Carhart

Percent of map unit: 1 percent
Landform: Strath terraces
Hydric soil rating: Yes

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DRAFT

EXHIBIT D.1.0
SHEET: 1 OF 1

UD-OF-SHED-4
UD-OS-BASIN-A6-
UD-OS-BASIN-A7-
UD-OS-BASIN-A3-
UD-OS-BASIN-A5-
UD-OS-BASIN-A4-
UD-OS-BASIN-A2-
UD-OS-BASIN-B3-
UD-OS-BASIN-A1-
R1
UD-OS-BASIN-B2-
UD-OF-SHED-1
UD-OS-BASIN-C3-
DAWNCREST DR
PIPE C1B (PVC)
Circular 42" (3.5')
Length: 1517.5 ft
Invert: 306.21 ft (Inlet)
275.77 ft (outlet)
RD(Dawncrest)C1B
BELVEDERE SUBDIVISION
UD-OS-BASIN-B1-
RDC1A
PIPE C1A (PVC)
Circular 54" (4.5')
Length: 1082.6 ft
Invert: 306.14 ft (Inlet)
281.78 ft (outlet)
UD-OS-BASIN-C1-
E 20TH ST
DOE MILL RD
UD-OF-SHED-5
CULVERT C1E (CMP)
Pipe Arch 48"x66" (4'x5.5')
Length: 50.99 ft
Invert: 268.57 ft (Inlet)
268.23 ft (outlet)
UD-OS-BASIN-C4-
CULVERT C2A AND C2B
Pipe Arch 45"x72" (3.75'x6.0')
Length: 40.86 ft
Invert: 266.48 ft (Inlet)
266.29 ft (outlet)
R2
UD-OS-BASIN-F8-
R3
UD-OS-BASIN-D7-
CULVERT C3A (CMP)
Circular 12" (1.0')
Length: 36.42 ft
Invert: 267.92 ft (Inlet)
267.45 ft (outlet)
RD(PotterN)C1-C3
UD-OS-BASIN-C2-
UD-OF-SHED-2
POTTER RD
UD-OS-BASIN-D6-
(BUTTE CREEK DIVERSION CHANNEL)
UD-OS-BASIN-D2-
RD(PotterMid)CA
R4
UD-OS-BASIN-F7-
CULVERT CA (CMP)
Pipe Arch 12"x18" (1.0'x1.5')
Length: 41.24 ft
Invert: 269.32 ft (Inlet)
268.47 ft (outlet)
UD-OS-BASIN-D1-
UD-OS-BASIN-D3-
UD-OS-BASIN-F4-
UD-OS-BASIN-F6-
RD(PotterS)C4
CULVERT C4B (CMP)
Circular 36" (3.0')
Length: 46.3 ft
Invert: 241.97 ft (Inlet)
239.9 ft (outlet)
UD-OF-SHED-3
UD-OS-BASIN-D5-
CULVERT C4A (RCP)
Circular 48" (4.0')
Length: 41.08 ft
Invert: 242.07 ft (Inlet)
241.54 ft (outlet)
R4T
UD-OS-BASIN-F3-
UD-OS-BASIN-F5-
R5
CULVERT CB1 (PVC)
Circular 12" (1')
Length: 20.66 ft
Invert: 255.65 ft (Inlet)
254.85 ft (outlet)
UD-OF-SHED-6
UD-OS-BASIN-E1-
UD-OS-BASIN-E2-
RD(Skyway)CB1
CULVERT CC2 (PVC)
Circular 12" (1')
Length: 21.04 ft
Invert: 260.84 ft (Inlet)
259.92 ft (outlet)
UD-OS-BASIN-F1-
R6
(Comanche Creek)
RD(Skyway)CB2
CULVERT CC1 (CMP)
Pipe Arch 18"x24" (1.5'x2.0')
Length: 40.39 ft
Invert: 260.61 ft (Inlet)
259.73 ft (outlet)
UD-OS-BASIN-F2-
UD-OS-BASIN-G6-
CULVERT CB2 (CMP)
Circular 18" (1.5')
Length: 49.71 ft
Invert: 253.82 ft (Inlet)
251.55 ft (outlet)
SKYWAY RD
RD(Skyway)CC1-CC2
RD(Humbug)CD
RD(Humbug)C5C6CE
RD(Humbug)CC3
RD(Humbug)CC4
UD-OS-BASIN-G4-
UD-OS-BASIN-G1-
UD-OS-BASIN-G3-
UD-OS-BASIN-G2-
UD-OS-BASIN-G5-
CULVERT CB3 (PVC)
(PLUGGED)
Circular 12" (1')
HUMBUG RD
CULVERT CC4 (RCP)
Circular 24" (2')
Length: 78.49 ft
Invert: 257.12 ft (Inlet)
256.53 ft (outlet)
CULVERT CC3 (CMP)
Pipe Arch 18"x24" (1.5'x2.0')
Length: 20.66 ft
Invert: 258.62 ft (Inlet)
257.84 ft (outlet)
CULVERT CD (CMP)
Circular 12" (1')
Length: 40.65 ft
Invert: 279.23 ft (Inlet)
277.91 ft (outlet)
CULVERT C5A AND C5B (CMP)
Pipe Arch 36"x58" (3'x4.8')
Length: 41.05 ft
Invert: 252.98 ft (Inlet)
252.78 ft (outlet)
CULVERT C6A,B,C (CMP)
Pipe Arch 40"x65" (3.3'x5.4')
Length: 40.97 ft
Invert: 253.86 ft (Inlet)
253.69 ft (outlet)
CULVERT C6D (CMP)
Circular 84" (7')
Length: 48.52 ft
Invert: 253.73 ft (Inlet)
253.0 ft (outlet)
CULVERT CG (RCP)
Circular 12' (1')
Length: 36.49 ft
Invert: 265.33 ft (Inlet)
263.75 ft (outlet)
CULVERT CI (CMP)
Circular 12" (1')
Length: 41.06 ft
Invert: 267.93 ft (Inlet)
267.24 ft (outlet)
RD(Humbug)CI
RD(Humbug)CK
CULVERT CK (CMP)
Circular 24" (2')
Length: 40.83 ft
Invert: 272.54 ft (Inlet)
271.90 ft (outlet)
RD(Humbug)CJ
RD(Humbug)CG
RD(Humbug)CF
RD(Humbug)CH
CULVERT CJ (CMP)
Circular 12" (1') ft
Length: 40.05 ft
Invert: 267.93 ft (Inlet)
263.88 ft (outlet)
CULVERT CH (RCP)
Circular 12" (1') ft
Length: 37.81 ft
Invert: 265.33 ft (Inlet)
264.02 ft (outlet)
CULVERT CF (RCP)
Circular 12" (1') ft
Length: 29.68 ft
Invert: 264.11 ft (Inlet)
263.56 ft (outlet)
(CROUGH DITCH)
CULVERT CE (CMP)
(PLUGGED)

LEGEND:

- EXISTING CULVERT
- EXISTING UNDERGROUND PIPE
- CHANNELS AND RIVULETS (REACHES)
- DELINEATED BASINS
- PLUGGED CULVERTS
- R4 REACH NUMBER
- EXISTING ROAD CONNECTION (CULVERT GROUP)
- UD-OS-BASIN-B2 UNDEVELOPED ONSITE BASIN B2
- UD-OF-SHED-6 UNDEVELOPED OFFSITE SHED 6

NOTES:

MAIN CHANNELS AND TRIBUTARY REACHES ARE SHOWN AND SPECIFIED AS REACH 1 THROUGH REACH 6 (R1-R6).

ROAD CONNECTIONS ARE DEPICTED TO DEMONSTRATE THE CULVERT GROUPS AND ROADWAY REGIONS THAT WERE ANALYZED. CONNECTIONS WERE NAMED BY THE ROADWAY AND CULVERTS ASSOCIATED WITH THEM. FOR EXAMPLE, RD(POTTERS)C4 REPRESENTS THE SOUTH SIDE OF POTTER RD WITH CULVERTS C4A AND C4B RUNNING THROUGH IT.

CULVERTS ARE NOT DRAWN TO SCALE. SOME CULVERT SIZES THAT WERE INPUT INTO HEC-RAS MAY VARY FROM THE SIZES LISTED ON THIS EXHIBIT. FOR PIPE ARCH CULVERTS HEC-RAS LIMITS THE ABILITY TO SPECIFY ALL DIMENSIONS, SO THE SPAN OF THE CULVERT IS DEPENDENT ON THE RISE. BEST ENGINEERING JUDGEMENT WAS USED WHEN INPUTTING THE DATA.

CULVERT LENGTHS THAT ARE SHOWN ON THIS EXHIBIT ARE APPROXIMATIONS AND WERE OBTAINED BY MEASURING HORIZONTAL DISTANCES BETWEEN THE INLET AND OUTLET.

FIELD INVESTIGATIONS SHOWED THAT CULVERTS CB3 AND CE ARE PLUGGED. AN INVERT VALUE AT THE INLET OF CB3 AND THE APPROXIMATE LENGTH ARE SHOWN FOR CULVERT CB3. NO DATA WAS OBTAINED FOR CULVERT CE BECAUSE IT IS COMPLETELY BURIED UNDERGROUND.

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0 400' 800' 1200'
SCALE 1"=400'

Channels and Hydraulic Features (Pre-Developed)

Valley's Edge Drainage

City of Chico, Butte County, California March 20, 2020

FRAYJI DESIGN GROUP
CIVIL ENGINEERING | PLANNING | SURVEYING
1540 Eureka Road Ste. 100 (916) 782-3000 Phone
Roseville, CA 95661 (916) 782-3955 Fax
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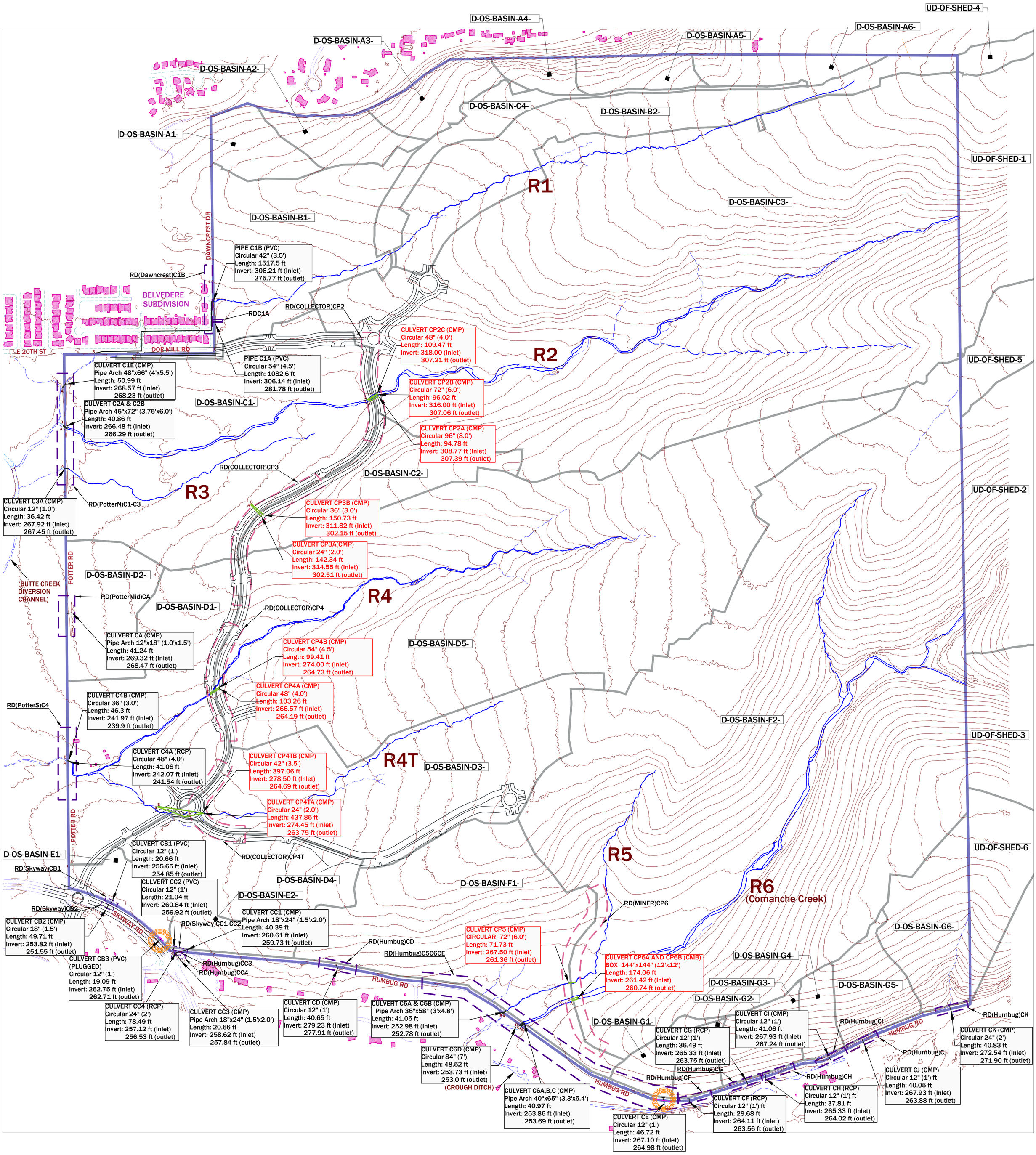
EXHIBIT D.1.1
SHEET: 1 OF 1



LEGEND:

- PROPERTY BOUNDARY
- EXISTING CULVERT
- PROPOSED CULVERT
- UNDERGROUND PIPE
- CHANNELS AND RIVULETS (REACHES)
- DELINEATED PROPOSED BASINS
- PLUGGED CULVERTS
- R4 REACH NUMBER
- EXISTING ROAD CONNECTION (CULVERT GROUP)
- PROPOSED ROAD CONNECTION (CULVERT GROUP)
- PROPOSED COLLECTOR ROADWAY

D-OS-BASIN-B2 DEVELOPED ONSITE BASIN B2

UD-OF-SHED-6 UNDEVELOPED OFFSITE SHED 6

NOTES:

MAIN CHANNELS AND TRIBUTARY REACHES ARE SHOWN AND SPECIFIED AS REACH 1 THROUGH REACH 6 (R1-R6). RED CULVERT LABELS DEPICT THE CULVERTS THAT ARE TO BE PROPOSED.

ROAD CONNECTIONS ARE DEPICTED TO DEMONSTRATE THE CULVERT GROUPS AND ROADWAY REGIONS THAT WERE ANALYZED. CONNECTIONS WERE NAMED BY THE ROADWAY AND CULVERTS ASSOCIATED WITH THEM. FOR EXAMPLE, RD(POTTERS)C4 REPRESENTS THE SOUTH SIDE OF POTTER RD WITH CULVERTS C4A AND C4B RUNNING THROUGH IT.

CULVERTS ARE NOT DRAWN TO SCALE. SOME CULVERT SIZES THAT WERE INPUT INTO HEC-RAS MAY VARY FROM THE SIZES LISTED ON THIS EXHIBIT. FOR PIPE ARCH CULVERTS HEC-RAS LIMITS THE ABILITY TO SPECIFY ALL DIMENSIONS, SO THE SPAN OF THE CULVERT IS DEPENDENT ON THE RISE. BEST ENGINEERING JUDGEMENT WAS USED WHEN INPUTTING THE DATA.

CULVERT TYPES AND SIZES ARE BOUND TO CHANGE DURING THE FINAL DESIGN PHASE. FACTORS SUCH AS, TYPE AND CONFIGURATION OF BASINS REQUIRED FOR THE SPECIFIC DETENTION NEEDS, WILL DICTATE THE TYPES OF CULVERTS TO USE. CULVERT INVERTS AND THEIR CONFIGURATIONS MAY CHANGE DEPENDING ON THE EARTHWORK CUT VOLUMES NEEDED FOR DETENTION PURPOSES.

FIELD INVESTIGATIONS SHOWED THAT CULVERTS CB3 AND CE ARE PLUGGED. HOWEVER, THESE CULVERTS WERE ADDED INTO THE POST-DEVELOPED HEC-RAS MODEL. THE INVERT ELEVATION OF THESE CULVERTS IS HIGHER BECAUSE THEY ARE PLUGGED. THE HEC-RAS SURFACE WAS USED IN OBTAINING THESE VALUES.

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0 400' 800' 1200'

SCALE 1"=400'

Channels and Hydraulic Features (Post Developed)

Valley's Edge Drainage

City of Chico, Butte County, California March 20, 2020

FRAYJI DESIGN GROUP
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EXHIBIT E.1.0
SHEET: 1 OF 9

R1
R2
R4
R4T
R5
R6 (COMANCHE CREEK)

RD(Dawncrest)C1A,C1B
Q_2 = 89.4 cfs
Q_{10} = 153.1 cfs
Q_{100} = 299.1 cfs

RD(PotterN)C1-C3
Q_2 = 593.3 cfs
Q_{10} = 1027.5 cfs
Q_{100} = 2048.2 cfs

RD(PotterS)C4
Q_2 = 253.1 cfs
Q_{10} = 391.5 cfs
Q_{100} = 822.9 cfs

RD(Humbug)C5,C6
Q_2 = 1437.6 cfs
Q_{10} = 2360.5 cfs
Q_{100} = 4895.5 cfs

R1-5, R1-10, R1-15, R1-20, R1-25, R1-30
R2-10, R2-20, R2-30, R2-40, R2-50, R2-60, R2-70, R2-80, R2-87+83, R2-90, R2-33+61, R2-33+41, R2-88+25
R4-10, R4-20, R4-30, R4-40, R4-48+61, R4-50, R4-47+43
R4T-5, R4T-10, R4T-15, R4T-20
R5-5, R5-10, R5-15
R6-10, R6-20, R6-30, R6-40, R6-50, R6-57+16, R6-56+62, R6-60

DAWNCREST DR
BELVEDERE SUBDIVISION
DOE MILL RD
POTTER RD
HUMBUG RD
(CROUGH DITCH)

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0 400' 800' 1200'
SCALE 1"=400'

LEGEND:

- ANALYZED CROSS-SECTIONS
- 2YR FLOODWAY
- 10YR FLOODWAY
- 100YR FLOODWAY
- R4-40 STATION NUMBER
- R4 REACH NUMBER
- EXISTING ROAD CONNECTION (CULVERT GROUP)

NOTES:

RIVER STATIONS ARE NUMBERED IN INCREASING ORDER FROM THE START OF THE UPSTREAM ENDS OF EACH REACH (RIVER ALIGNMENT).

REACH 3 DOES NOT HAVE AN ALIGNMENT ASSOCIATED WITH IT BECAUSE THE ANALYZED SECTION COVERS THE ENTIRE FLOODWAY AT THAT REGION.

THE MAJOR TRIBUTARY REACHES HAVE INDIVIDUAL ALIGNMENTS BEFORE THE CONFLUENCE OF THE MAIN AND TRIBUTARY REACHES.

ROAD CONNECTIONS ARE DEPICTED TO DEMONSTRATE THE CULVERT GROUPS AND ROADWAY REGIONS THAT WERE ANALYZED. CULVERTS WERE GROUPED BASED ON FLOODWAY PARAMETERS. DISCHARGE VALUES ARE DISPLAYED FOR MAJOR CONNECTIONS ONLY (PLEASE SEE HEC-RAS MODEL FOR MORE INFORMATION).

CULVERTS C1B AND C1A WERE GROUPED INTO ONE CONNECTION FOR ANALYSIS PURPOSES DUE TO FLOODWAY EXTENTS IN THAT REGION.

DISCHARGE VALUES ON ROAD CONNECTIONS (CULVERT GROUPS) ARE CUMULATIVE Q VALUES GOING THROUGH CULVERTS AND OVER THE ROAD.

Floodway Analysis (Pre)

Valley's Edge Drainage

City of Chico, Butte County, California February 20, 2020

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Roseville, CA 95661 (916) 782-3955 Fax
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FLOODPLAIN ANALYSIS PER REACH (Pre-Project)

2 Yr Storm Event

Reach 1				Reach 2 (And R3)				Reach 4				Reach 4T				Reach 5				Reach 6			
Station #	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*
5	400.4	4.4	0.5	**10**	416.5	8.1	2.7	**10**	318.2	2.4	1.9	**5**	289.8	3.2	0.7	**5**	325.9	1.7	0.6	**10**	315.2	4.7	5.6
10	380.0	4.6	0.4	**20**	389.5	4.1	3.4	**20**	294.2	4.4	0.7	**10**	280.4	3.3	1.1	**10**	296.1	3.4	0.5	**20**	303.0	3.7	7.7
15	363.1	2.8	0.3	**30**	363.6	9.4	1.8	**30**	269.9	2.4	1.3	**15**	268.4	3.9	0.7	**15**	276.8	2.3	0.5	**30**	290.2	3.3	5.5
20	347.6	3.7	0.4	**40**	340.7	9.5	2.6	**40**	252.9	2.7	1.2	**20**	251.4	4.0	0.9					**40**	277.0	4.5	4.5
25	335.2	3.5	0.8	**50**	321.5	4.3	3.1	**47+43**	248.0	3.0	6.1									**50**	264.3	8.8	3.0
30	317.0	3.0	0.9	**60**	308.0	6.9	1.9	**48+61**	244.5	4.3	3.4									**56+62**	259.6	3.6	5.9
33+42	309.4	2.3	3.3	**70**	293.4	6.7	1.8	**50**	241.3	6.7	1.5									**57+16**	257.8	4.7	4.7
33+61	NA	NA	NA	**80**	278.2	7.1	1.4													**60**	255.7	3.9	5.8
				87+83	270.8	2.3	4.3																
				88+25	268.5	5.6	2.2																
				90	267.5	5.3	2.7																

10Yr Storm Event

Reach 1				Reach 2 (And R3)				Reach 4				Reach 4T				Reach 5				Reach 6			
Station #	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*
5	400.5	4.8	0.6	**10**	417.2	9.3	3.4	**10**	318.6	2.8	2.3	**5**	290.0	3.7	1.0	**5**	326.0	2.6	0.7	**10**	316.2	5.1	6.7
10	380.1	5.6	0.5	**20**	390.2	4.9	4.0	**20**	294.4	5.5	0.9	**10**	280.6	3.7	1.3	**10**	296.2	4.0	0.6	**20**	304.3	4.2	8.9
15	363.2	3.6	0.3	**30**	364.4	10.6	2.3	**30**	270.2	2.8	1.5	**15**	268.6	4.8	0.8	**15**	277.0	2.9	0.6	**30**	291.4	3.8	6.7
20	348.3	4.2	0.7	**40**	341.3	10.3	3.2	**40**	253.3	3.1	1.5	**20**	251.7	5.0	1.2					**40**	277.5	5.4	5.1
25	335.3	4.6	0.9	**50**	322.2	5.0	3.8	**47+43**	248.5	3.4	6.5									**50**	264.5	9.7	3.4
30	317.2	3.8	1.1	**60**	308.4	7.9	2.4	**48+61**	244.8	5.7	3.6									**56+62**	260.3	4.0	6.6
33+42	310.5	2.5	4.4	**70**	293.8	7.7	2.1	**50**	241.6	7.9	1.7									**57+16**	258.2	4.9	5.0
33+61	NA	NA	NA	**80**	278.4	7.7	1.5													**60**	256.1	4.5	6.2
				87+83	271.1	2.6	4.7																
				88+25	269.5	7.1	2.5																
				90	267.9	5.9	3.1																

100Yr Storm Event

Reach 1				Reach 2 (And R3)				Reach 4				Reach 4T				Reach 5				Reach 6			
Station #	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*
5	400.6	5.8	0.8	**10**	418.3	10.9	4.6	**10**	319.1	3.3	2.8	**5**	290.5	4.6	1.4	**5**	326.3	3.2	1.0	**10**	319.2	8.6	9.5
10	380.5	6.8	0.6	**20**	391.2	6.0	5.1	**20**	294.8	7.0	1.2	**10**	280.9	4.0	1.7	**10**	296.5	4.7	0.7	**20**	307.1	5.2	11.6
15	364.8	4.9	0.4	**30**	365.8	11.7	3.0	**30**	270.6	3.5	1.9	**15**	268.8	6.3	1.0	**15**	277.0	3.9	0.7	**30**	293.9	4.7	9.2
20	348.4	4.8	0.7	**40**	342.1	12.7	4.0	**40**	253.8	4.0	2.1	**20**	252.3	6.5	1.6					**40**	278.6	8.4	6.2
25	335.5	6.2	1.0	**50**	323.4	6.4	5.0	**47+43**	249.5	3.5	7.5									**50**	265.5	11.6	4.2
30	317.7	5.3	1.4	**60**	309.1	9.6	3.0	**48+61**	245.0	7.4	4.1									**56+62**	261.7	4.9	8.0
33+42	312.9	2.5	6.8	**70**	294.0	9.0	2.5	**50**	242.3	9.8	2.5									**57+16**	258.8	8.2	5.9
33+61	312.9	0.7	0.8	**80**	278.6	8.5	1.7													**60**	256.8	5.5	7.0
				87+83	271.8	3.5	5.3																
				88+25	269.6	8.6	3.0																
				90	268.4	6.8	3.6																

TABLE 1: FLOODPLAIN ANALYSIS PER REACH (PRE-PROJECT

DISCHARGE AT CONNECTIONS (HECRAS)

2 Year Storm

R1		R1+R2+R3		R4+R4T		R5+R6	
RD(Dawncrest)C1A,C1B		RD(PotterN)C1-C3		RD(PotterS)C4		RD(Humbug)C5,C6	
Qtot =	89.5 cfs	Qtot =	593.4 cfs	Qtot =	276.6 cfs	Qtot =	1440.2 cfs
C1A =	49.5 cfs	C1E =	69.5 cfs	C4A =	96.4 cfs	C5A,B =	161.9 cfs
C1B =	39.9 cfs	C2A,B =	196.1 cfs	C4B =	68.2 cfs	C6A,B,C =	290.9 cfs
Weir Flow =	0	C3A =	0	Weir Flow =	111.9 cfs	C6D =	166.3 cfs
		Weir Flow =	323.4 cfs			Weir Flow =	821.2 cfs

10 Year Storm

R1		R1+R2+R3		R4+R4T		R5+R6	
RD(Dawncrest)C1A,C1B		RD(PotterN)C1-C3		RD(PotterS)C4		RD(Humbug)C5,C6	
Qtot =	152.9 cfs	Qtot =	1027.3 cfs	Qtot =	392.2 cfs	Qtot =	2360.9 cfs
C1A =	88.4 cfs	C1E =	94.8 cfs	C4A =	102.9 cfs	C5A,B =	165.3 cfs
C1B =	64.5 cfs	C2A,B =	221.0 cfs	C4B =	71.6 cfs	C6A,B,C =	324.0 cfs
Weir Flow =	0	C3A =	0	Weir Flow =	217.7 cfs	C6D =	202.7 cfs
		Weir Flow =	707.3 cfs			Weir Flow =	1668.4 cfs

100 Year Storm

R1		R1+R2+R3		R4+R4T		R5+R6	
RD(Dawncrest)C1A,C1B		RD(PotterN)C1-C3		RD(PotterS)C4		RD(Humbug)C5,C6	
Qtot =	306.1 cfs	Qtot =	2046.0 cfs	Qtot =	822.3 cfs	Qtot =	4941.2 cfs
C1A =	170.1 cfs	C1E =	139.3 cfs	C4A =	117.0 cfs	C5A,B =	177.0 cfs
C1B =	111.4 cfs	C2A,B =	260.4 cfs	C4B =	79.2 cfs	C6A,B,C =	375.2 cfs
Weir Flow =	24.6 cfs	C3A =	0	Weir Flow =	626.1 cfs	C6D =	275.4 cfs
		Weir Flow =	1641.9 cfs			Weir Flow =	4113.3 cfs

TABLE 2: DISCHARGE AT CONNECTIONS (HEC-RAS)

DISCHARGE AT CONNECTIONS (SSA)

2 Year Storm

R1		R1+R2+R3		R4+R4T		R5+R6	
D(Dawncrest)C1A,C1		RD(PotterN)C1-C3		RD(PotterS)C4		RD(Humbug)C5,C6	
Qtot =	94.11	Qtot =	703.44	Qtot =	289.35	Qtot =	1602.83

10 Year Storm

R1		R1+R2+R3		R4+R4T		R5+R6	
D(Dawncrest)C1A,C1		RD(PotterN)C1-C3		RD(PotterS)C4		RD(Humbug)C5,C6	
Qtot =	159.18	Qtot =	1187.19	Qtot =	403.63	Qtot =	2721.79

100 Year Storm

R1		R1+R2+R3		R4+R4T		R5+R6	
D(Dawncrest)C1A,C1		RD(PotterN)C1-C3		RD(PotterS)C4		RD(Humbug)C5,C6	
Qtot =	312.5	Qtot =	2333.32	Qtot =	849.43	Qtot =	5406.92

TABLE 3: DISCHARGE AT CONNECTIONS (SSA)

NOTES:
ALL PARAMETERS, INCLUDING DISCHARGE, DEPTH, VELOCITY AND WATER SURFACE ELEVATION (WSE), ARE BASED ON THE "PRE-DEVELOPED" HEC-RAS MODEL ANALYSIS.

RIVER STATIONS ARE NUMBERED IN INCREASING ORDER FROM THE START OF THE UPSTREAM ENDS OF EACH REACH (RIVER ALIGNMENT).

REACH 3 DOES NOT HAVE AN ALIGNMENT ASSOCIATED WITH IT BECAUSE THE ANALYZED SECTION COVERS THE ENTIRE FLOODWAY AT THAT REGION.

CULVERTS C1B AND C1A WERE GROUPED INTO ONE CONNECTION FOR ANALYSIS PURPOSES DUE TO FLOODWAY EXTENTS IN THAT REGION,

DISCHARGE VALUES AT ROAD CONNECTIONS (CULVERT GROUPS) ARE CUMULATIVE Q VALUES GOING THROUGH CULVERTS AND OVER THE ROAD.

SOME CROSS-SECTIONS HAVE VARYING HGL VALUES ALONG THE LENGTH OF THE SECTION WHEN OBSERVING THEM IN HEC-RAS. BEST ENGINEERING JUDGEMENT WAS USED IN SELECTING THE MOST REASONABLE HGL VALUES AT THOSE LOCATIONS.

TABLE 3 DEPICTS CUMULATIVE DISCHARGE VALUES AT ROADWAY CROSSINGS AND CONNECTIONS OBTAINED FROM STORM AND SANITARY ANALYSIS (SSA) FOR COMPARISON PURPOSES.

Floodway Analysis (Pre)

Valley's Edge Drainage

City of Chico, Butte County, California February 20, 2020

FRAYJI DESIGN GROUP
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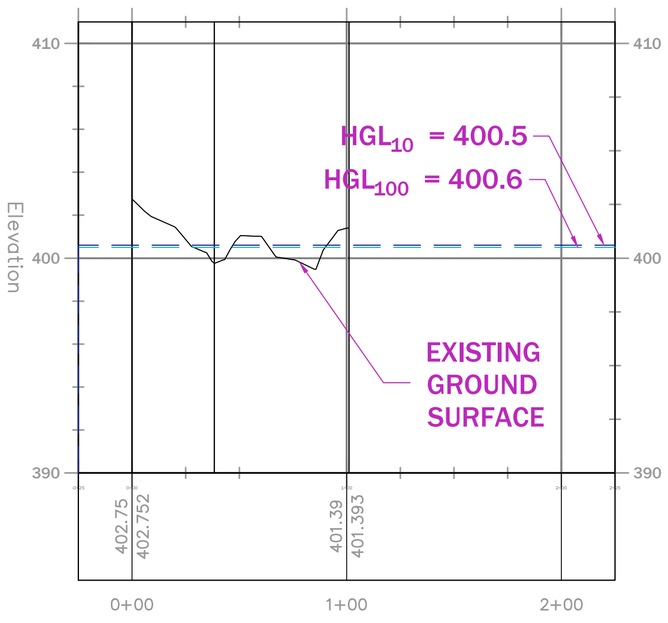
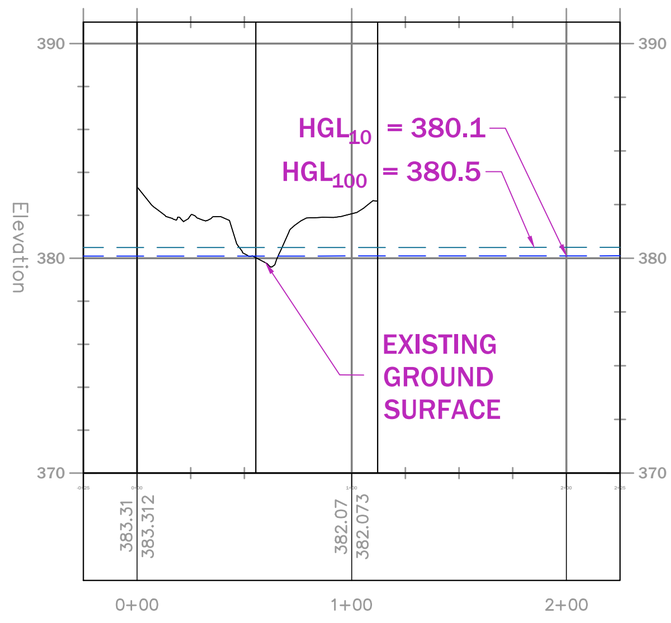
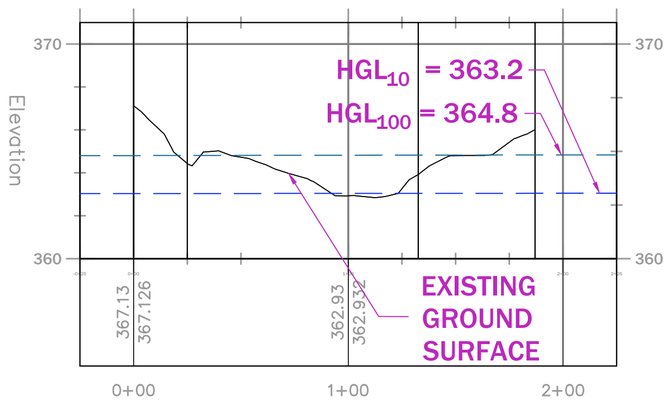
DRAFT



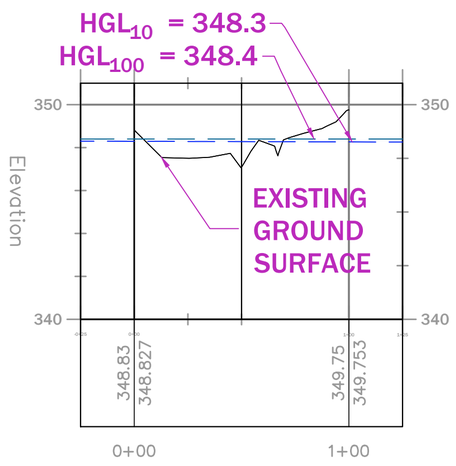
R1-5 CROSS SECTION - REACH 1
STA: 05+00.00 - WATER SURFACE ELEVATION



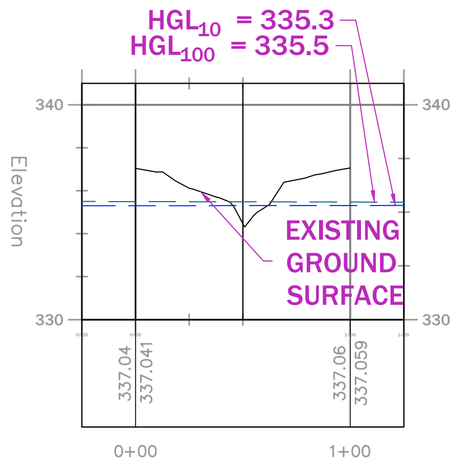
R1-10 CROSS SECTION - REACH 1
STA: 10+00.00 - WATER SURFACE ELEVATION



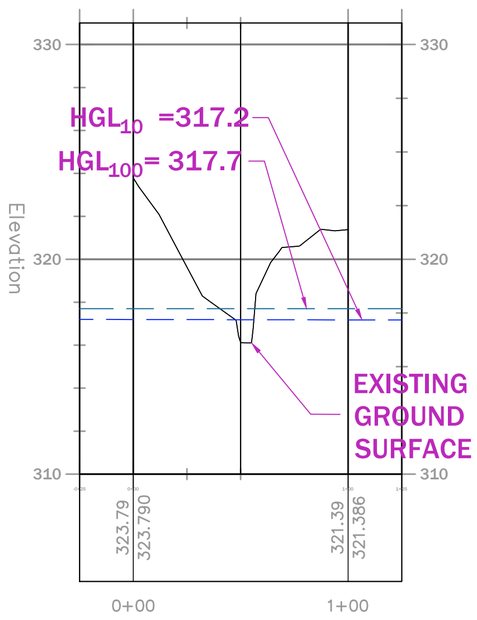
R1-15 CROSS SECTION - REACH 1
STA: 15+00.00 - WATER SURFACE ELEVATION



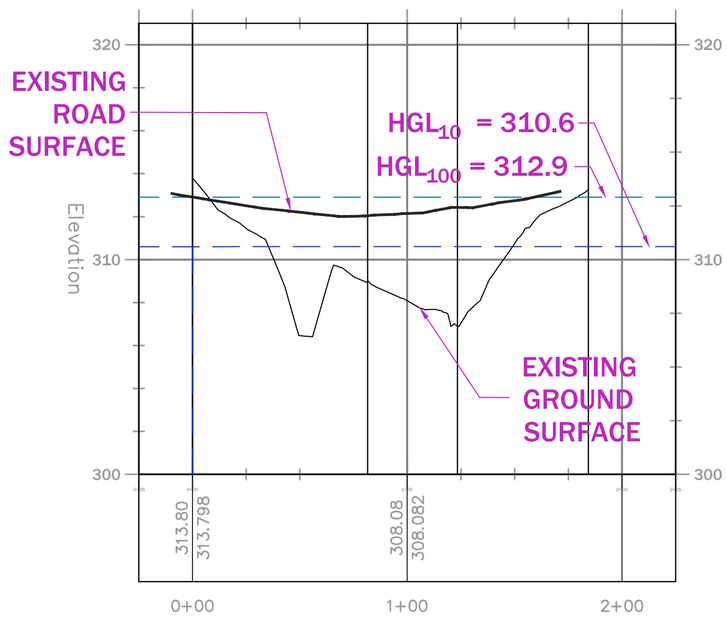
R1-20 CROSS SECTION - REACH 1
STA: 20+00.00 - WATER SURFACE ELEVATION



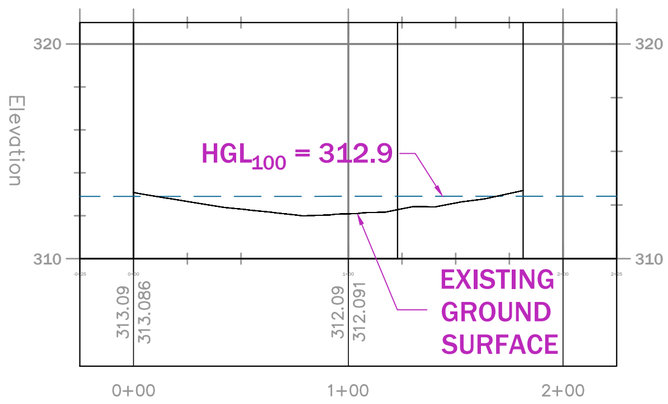
R1-25 CROSS SECTION - REACH 1
STA: 25+00.00 - WATER SURFACE ELEVATION



R1-30 CROSS SECTION - REACH 1
STA: 30+00.00 - WATER SURFACE ELEVATION



R1-33+42 CROSS SECTION - REACH 1
STA: 33+42.00 - WATER SURFACE ELEVATION



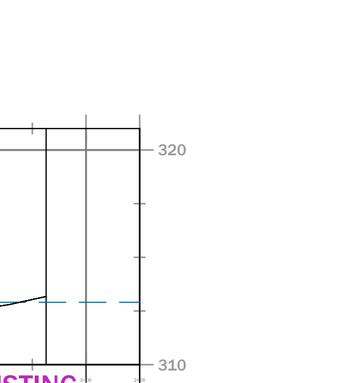
R1-33+61 CROSS SECTION - REACH 1
STA: 33+61.00 - WATER SURFACE ELEVATION

LEGEND:

- 100 YEAR HGL
- 10 YEAR HGL
- EXISTING GROUND SURFACE
- ADJACENT ROADWAY

NOTES:

SECTION PROFILES ARE ORIENTED FROM LEFT TO RIGHT FACING THE DOWNSTREAM DIRECTION.



SCALE 1"=50'

Reach 1 Section Profiles (Pre)

Valley's Edge Drainage

City of Chico, Butte County, California February 20, 2020

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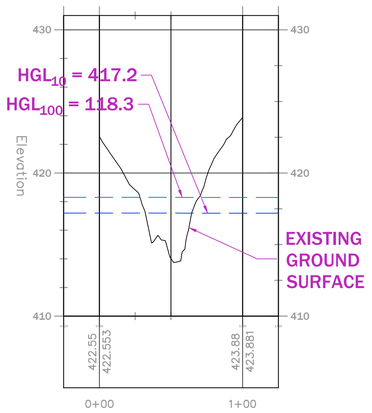
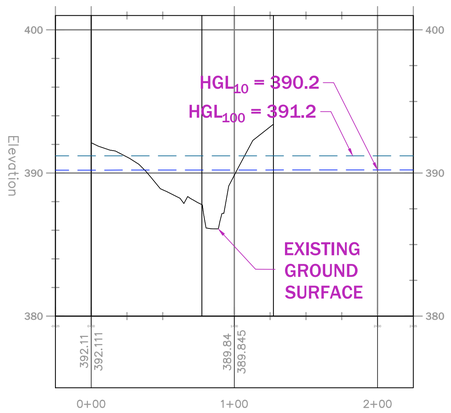
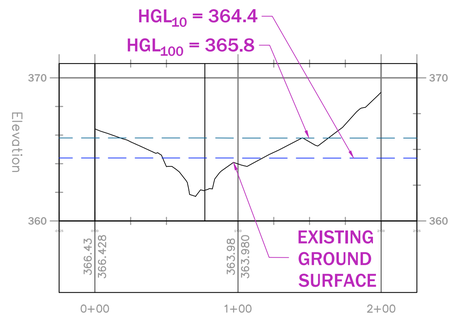


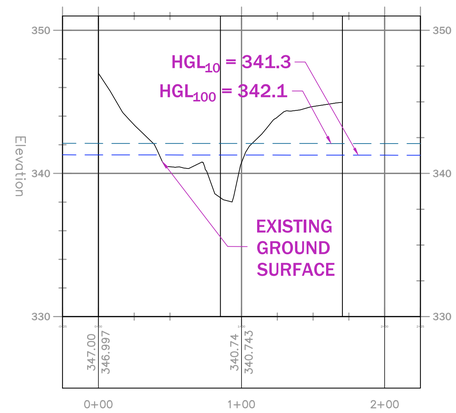
R2-10 CROSS SECTION - REACH 2
STA: 10+00.00 - @ POTTER ROAD
(UPSTREAM INVERT)



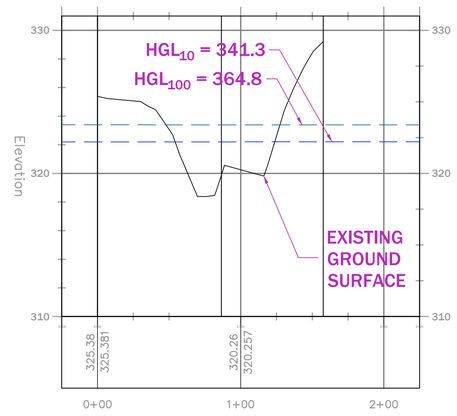
R2-20 CROSS SECTION - REACH 2
STA:20+00.00 - @ POTTER ROAD
(UPSTREAM INVERT)



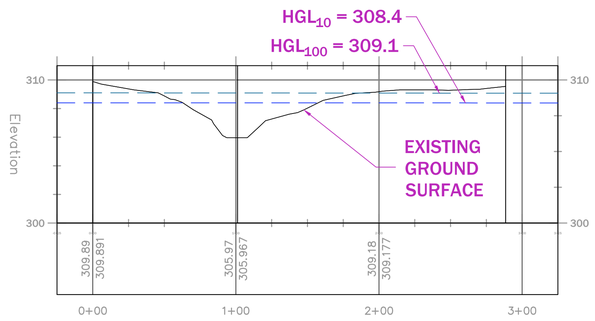
R2-30 CROSS SECTION - REACH 2
STA:33+00.00 - @ POTTER ROAD
(UPSTREAM INVERT)



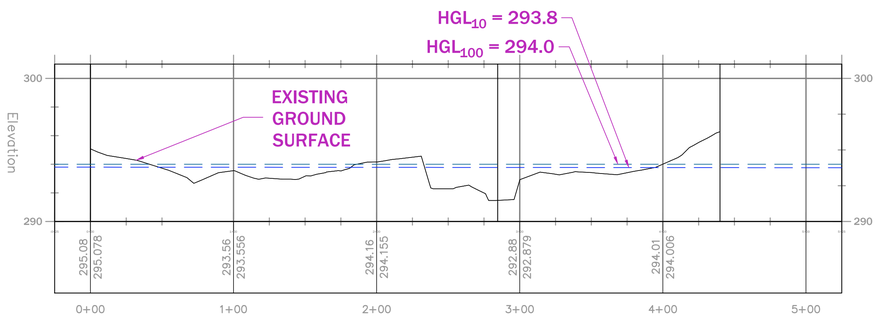
R2-40 CROSS SECTION - REACH 2
STA: 40+00.00 - @ POTTER ROAD
(UPSTREAM INVERT)



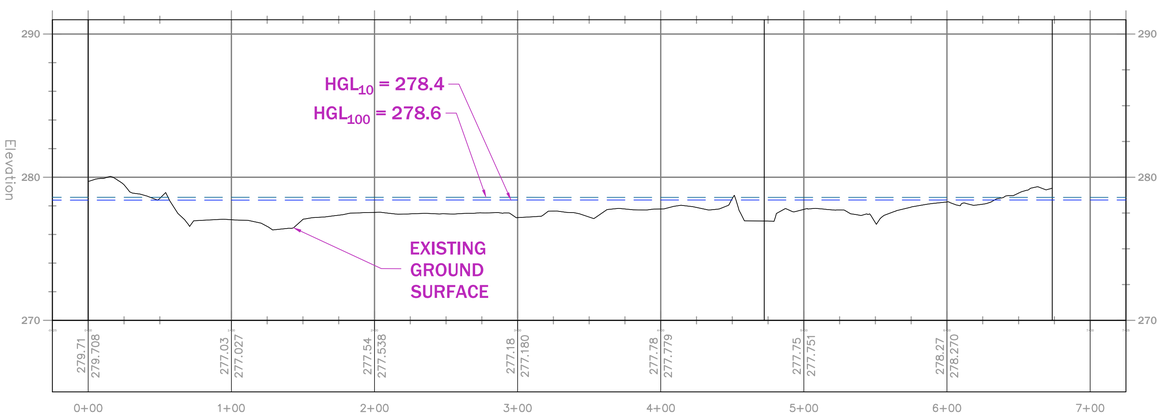
R2-50 CROSS SECTION - REACH 2
STA: 50+00.00 - @ POTTER ROAD
(UPSTREAM INVERT)



R2-60 CROSS SECTION - REACH 2
STA: 60+00.00 - @ POTTER ROAD
(UPSTREAM INVERT)



R2-70 CROSS SECTION - REACH 2
STA: 70+00.00 - @ POTTER ROAD
(UPSTREAM INVERT)



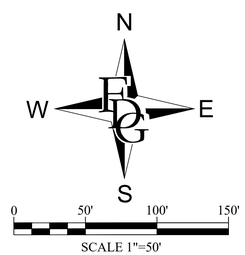
R2-80 CROSS SECTION - REACH 2
STA: 80+00.00 - @ POTTER ROAD
(UPSTREAM INVERT)

LEGEND:

- 100 YEAR HGL
- 10 YEAR HGL
- EXISTING GROUND SURFACE
- ADJACENT ROADWAY

NOTES:

SECTION PROFILES ARE ORIENTED FROM LEFT TO RIGHT FACING THE DOWNSTREAM DIRECTION.



Reach 2 Section Profiles (Pre)

Valley's Edge Drainage

City of Chico, Butte County, California February 20, 2020

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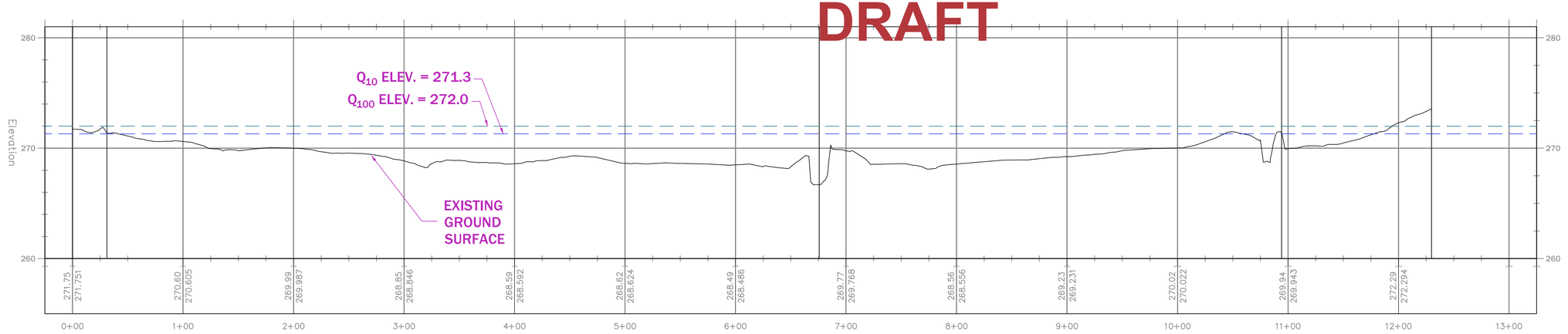
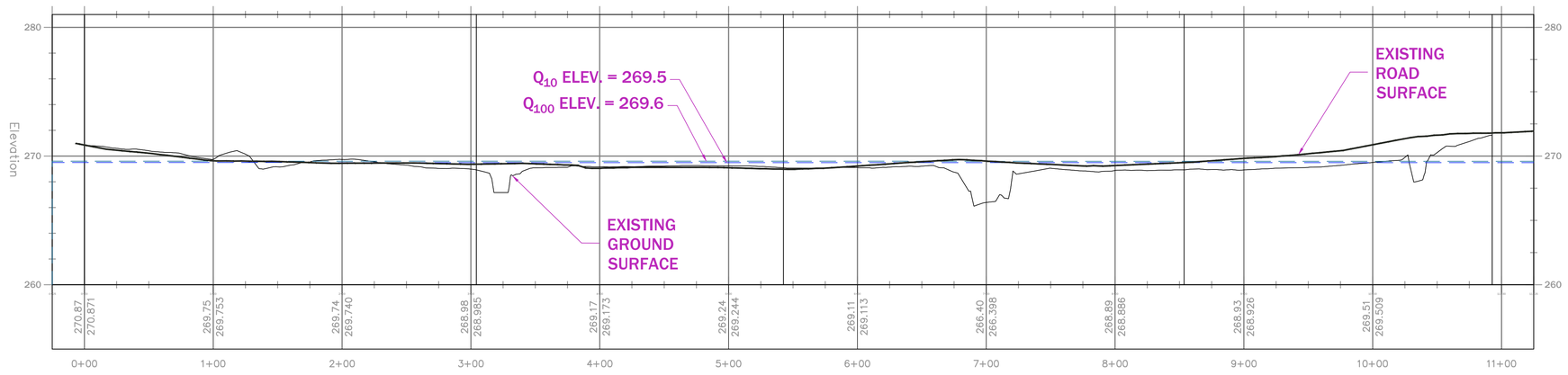
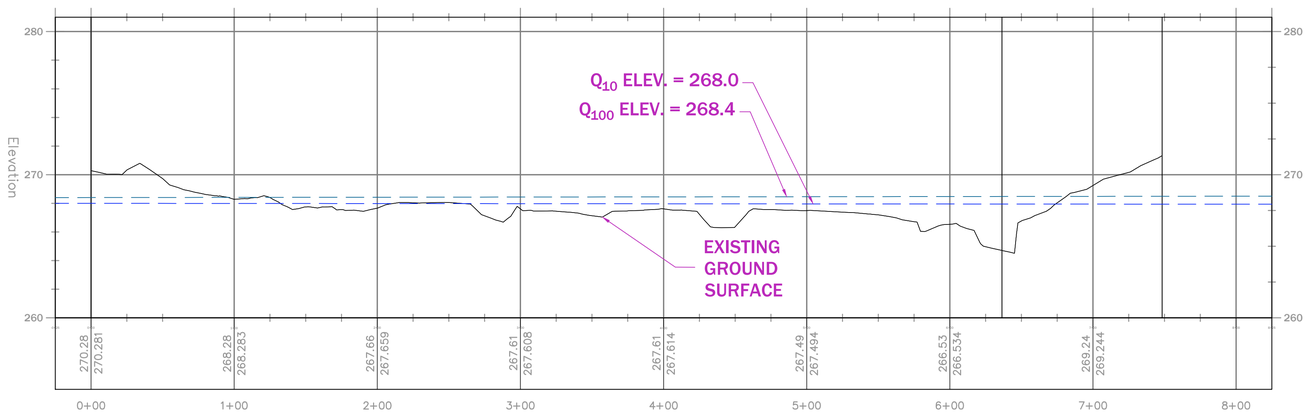


R2-87+83.00 CROSS SECTION - REACH 2
STA: 87+83.00 - @ POTTER ROAD
(UPSTREAM INVERT)



R2-88+25.00 CROSS SECTION - REACH 2
STA: 88+13.00 - @ POTTER ROAD
(UPSTREAM INVERT)



R2-90 CROSS SECTION - REACH 2
STA: 90+00.00 - @ POTTER ROAD
(UPSTREAM INVERT)

LEGEND:

100 YEAR HGL

10 YEAR HGL

EXISTING TERRAIN

SECTION PROFILES ARE ORIENTED FROM LEFT TO RIGHT LOOKING DOWNSTREAM (INCREASING STATIONS)

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W E
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0 50' 100' 150'
SCALE 1"=50'

Reach 2 Section Profiles Cont. (Pre)

Valley's Edge Drainage

City of Chico, Butte County, California February 20, 2020

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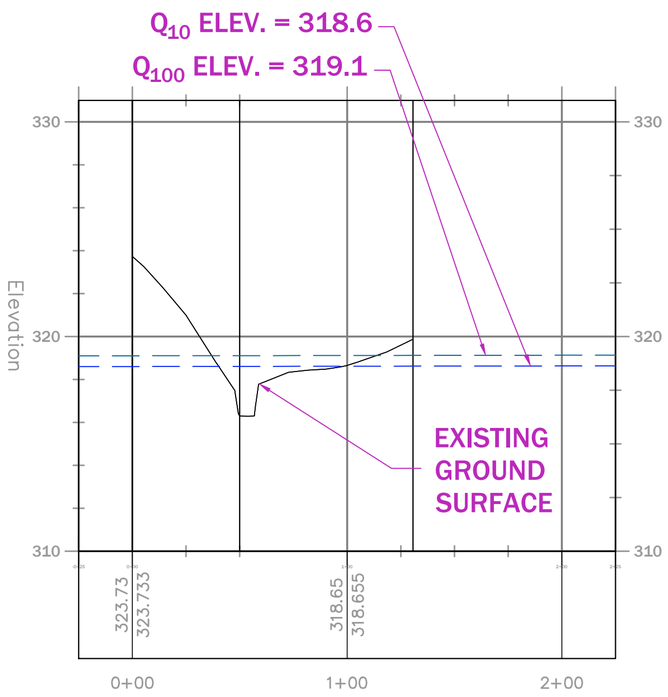
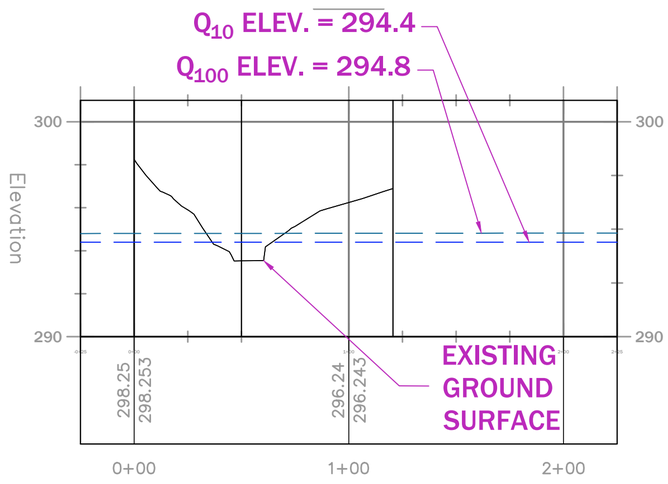
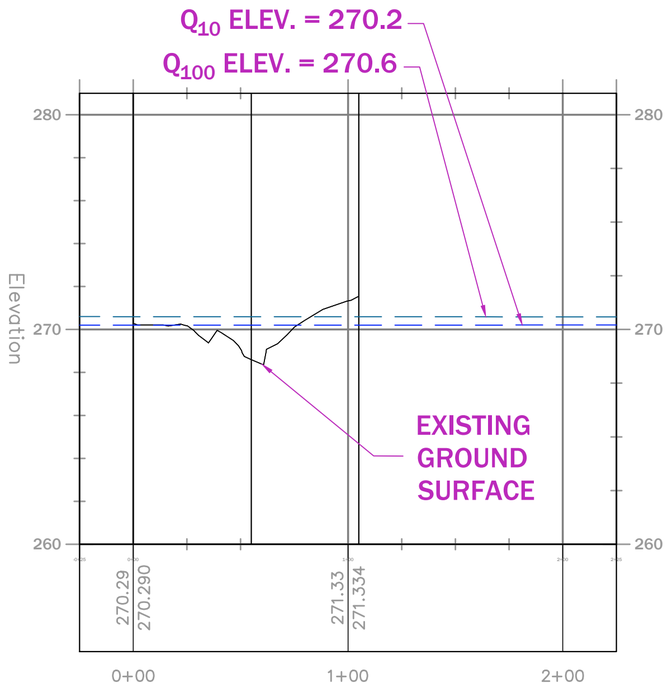
EXHIBIT E.1.0
SHEET: 6 OF 9



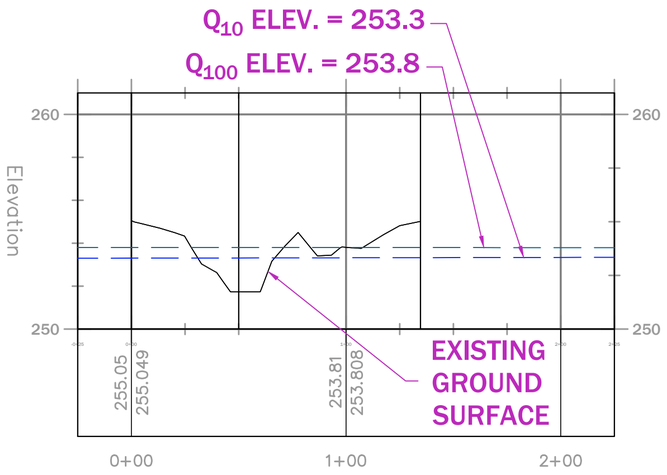
R4-10 CROSS SECTION - REACH 4 (AND R3)
STA: 10+00.00 - WATER SURFACE ELEVATION



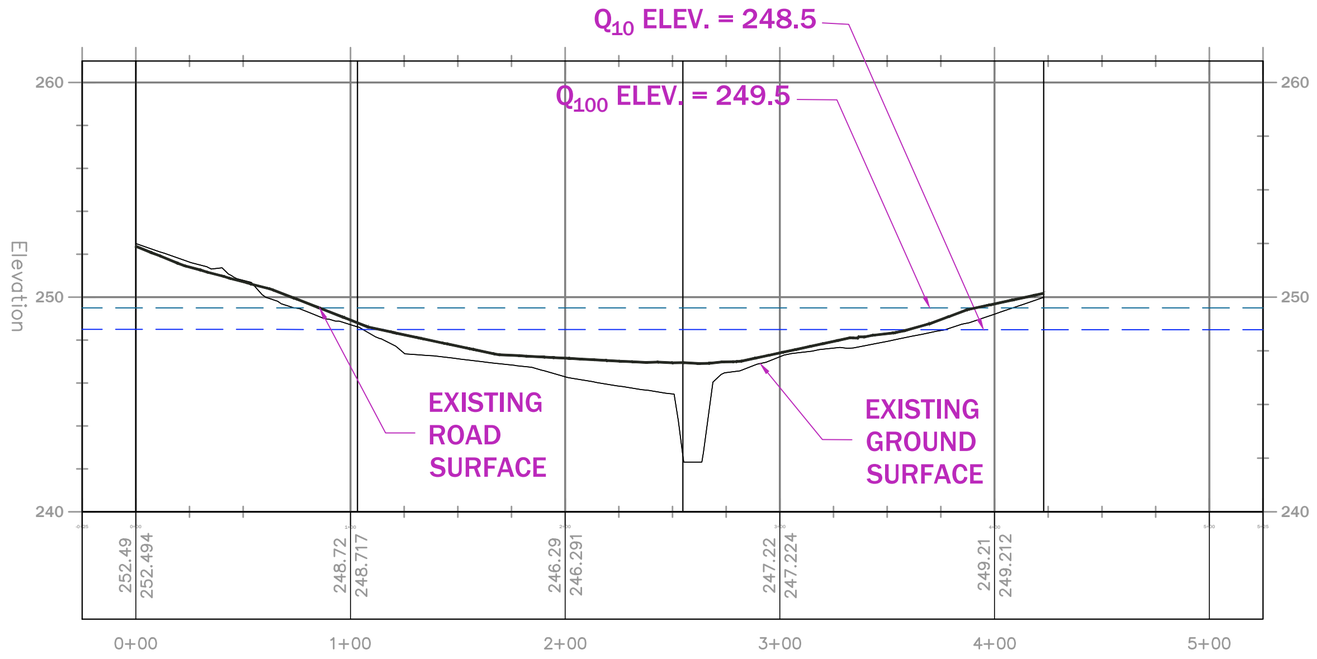
R4-20 CROSS SECTION - REACH 4 (AND R3)
STA: 20+00.00 - WATER SURFACE ELEVATION



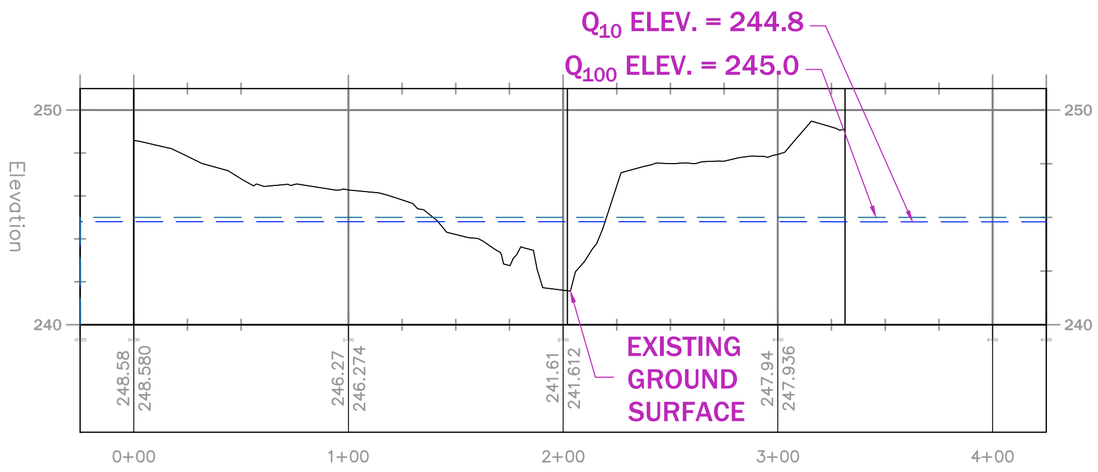
R4-30 CROSS SECTION - REACH 4 (AND R3)
STA: 30+00.00 - WATER SURFACE ELEVATION



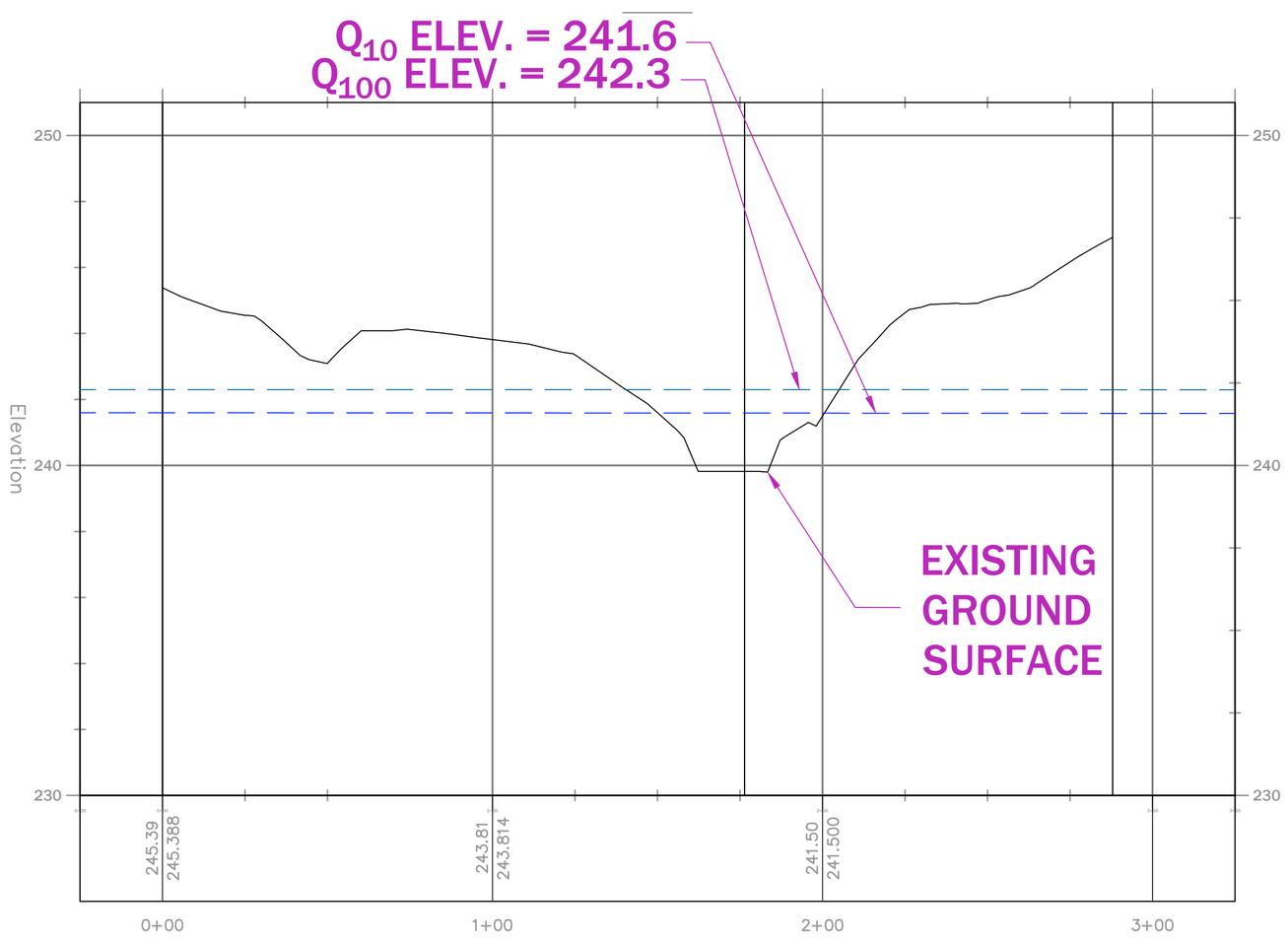
R4-40 CROSS SECTION - REACH 4 (AND R3)
STA: 40+00.00 - WATER SURFACE ELEVATION



R4-47+43.00 CROSS SECTION - REACH 4 (AND R3)
STA: 47+43.00 - WATER SURFACE ELEVATION



R4-48+61.00 CROSS SECTION - REACH 4 (AND R3)
STA: 48+61.00 - @ POTTER ROAD
(UPSTREAM INVERT)



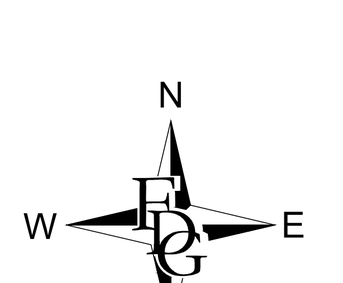
R4-50 CROSS SECTION - REACH 4 (AND R3)
STA: 50+00.00 - WATER SURFACE ELEVATION

LEGEND:

- 100 YEAR HGL
- 10 YEAR HGL
- EXISTING GROUND SURFACE
- ADJACENT ROADWAY

NOTES:

SECTION PROFILES ARE ORIENTED FROM LEFT TO RIGHT FACING THE DOWNSTREAM DIRECTION.



SCALE 1"=50'

Reach 4 Section Profiles (Pre)

Valley's Edge Drainage

City of Chico, Butte County, California February 20, 2020

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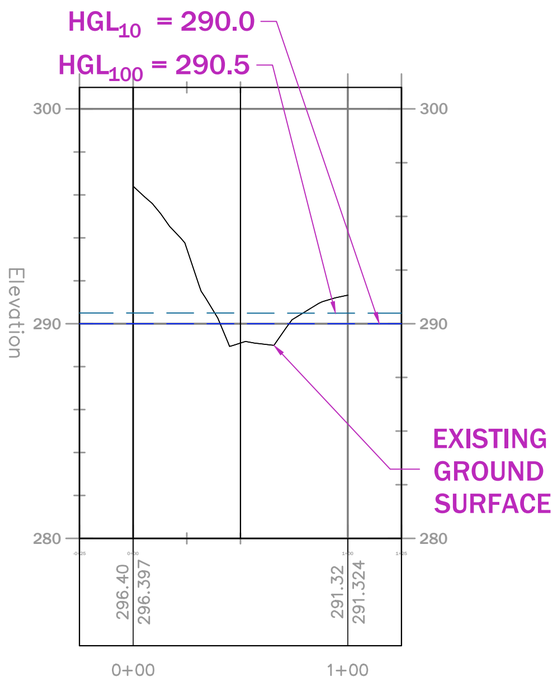
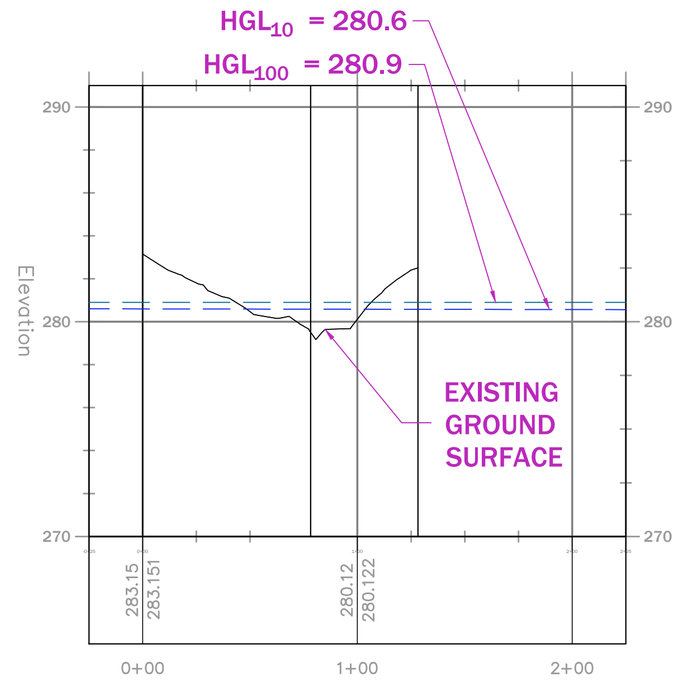
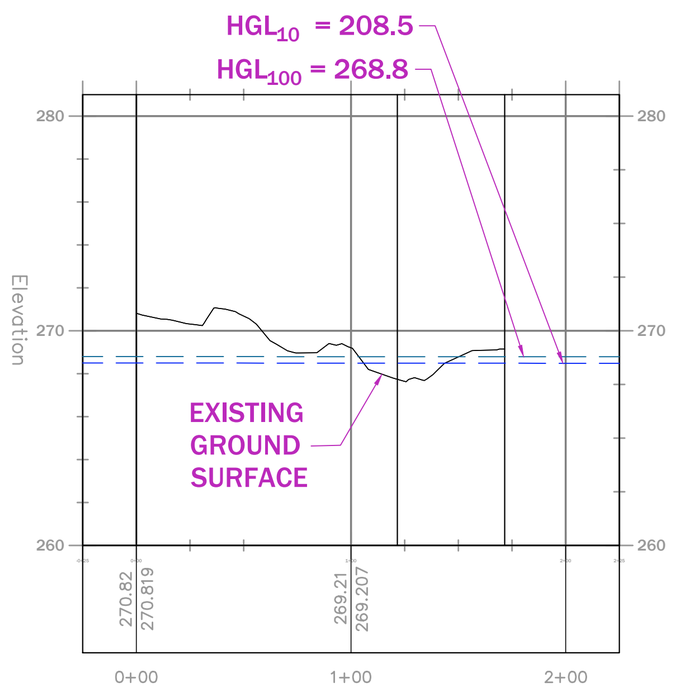
Reach 4T



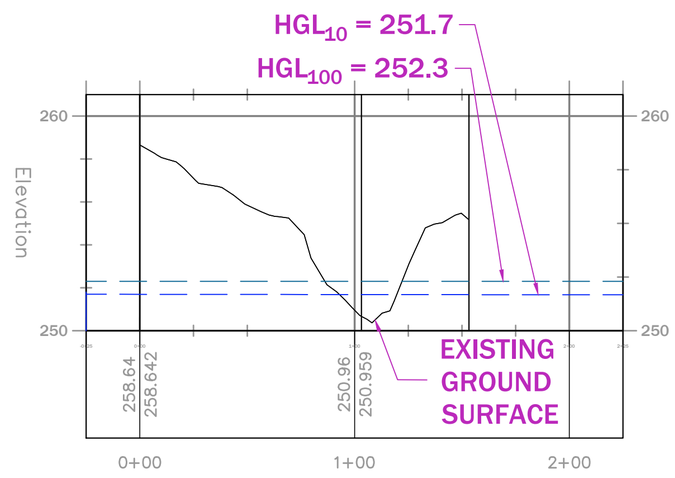
R4T-05 CROSS SECTION - REACH 4T
STA: 05+00.00 - WATER SURFACE ELEVATION



R4T-10 CROSS SECTION - REACH 4T
STA: 10+00.00 - WATER SURFACE ELEVATION

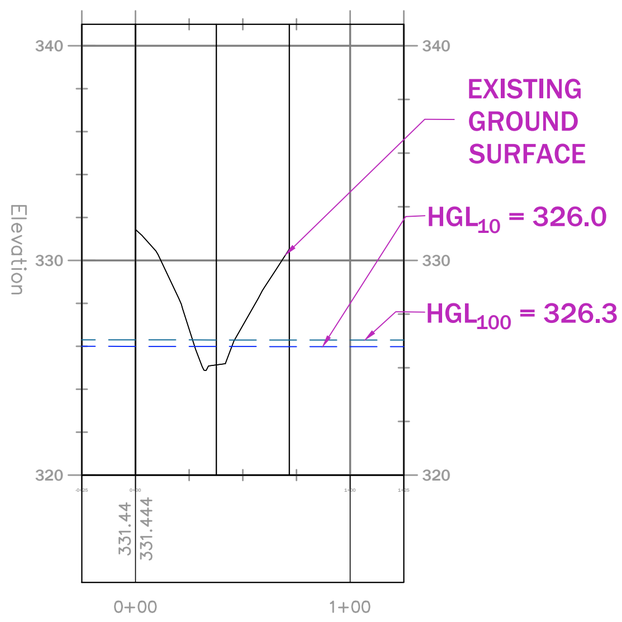


R4T-15 CROSS SECTION - REACH 4T
STA: 15+00.00 - WATER SURFACE ELEVATION

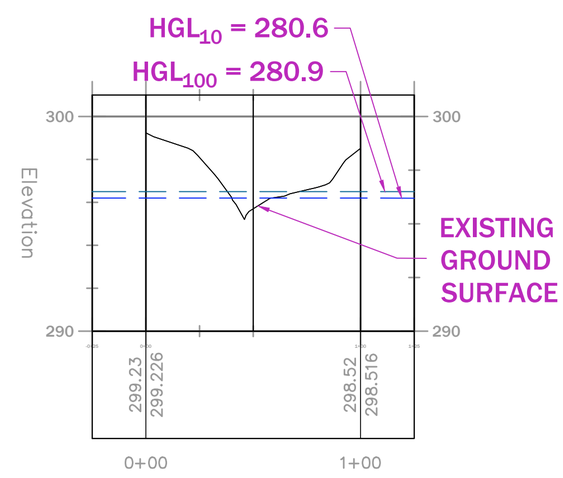


R4T-20 CROSS SECTION - REACH 4T
STA: 20+00.00 - WATER SURFACE ELEVATION

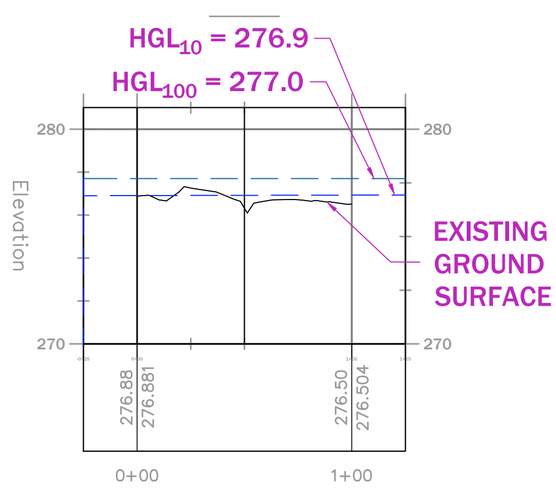
Reach 5



R5-05 CROSS SECTION - REACH 5
STA: 05+00.00 - WATER SURFACE ELEVATION



R5-10 CROSS SECTION - REACH 5
STA: 10+00.00 - WATER SURFACE ELEVATION



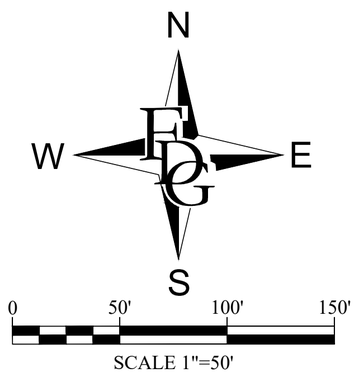
R5-15 CROSS SECTION - REACH 5
STA: 15+00.00 - WATER SURFACE ELEVATION

LEGEND:

- 100 YEAR HGL
- 10 YEAR HGL
- EXISTING GROUND SURFACE
- ADJACENT ROADWAY

NOTES:

SECTION PROFILES ARE ORIENTED FROM LEFT TO RIGHT FACING THE DOWNSTREAM DIRECTION.



SCALE 1"=50'

Reach 4T and 5 Section Profiles (Pre)

100 YR FLOOD

City of Chico, Butte County, California February 20, 2020

FRAYJI DESIGN GROUP
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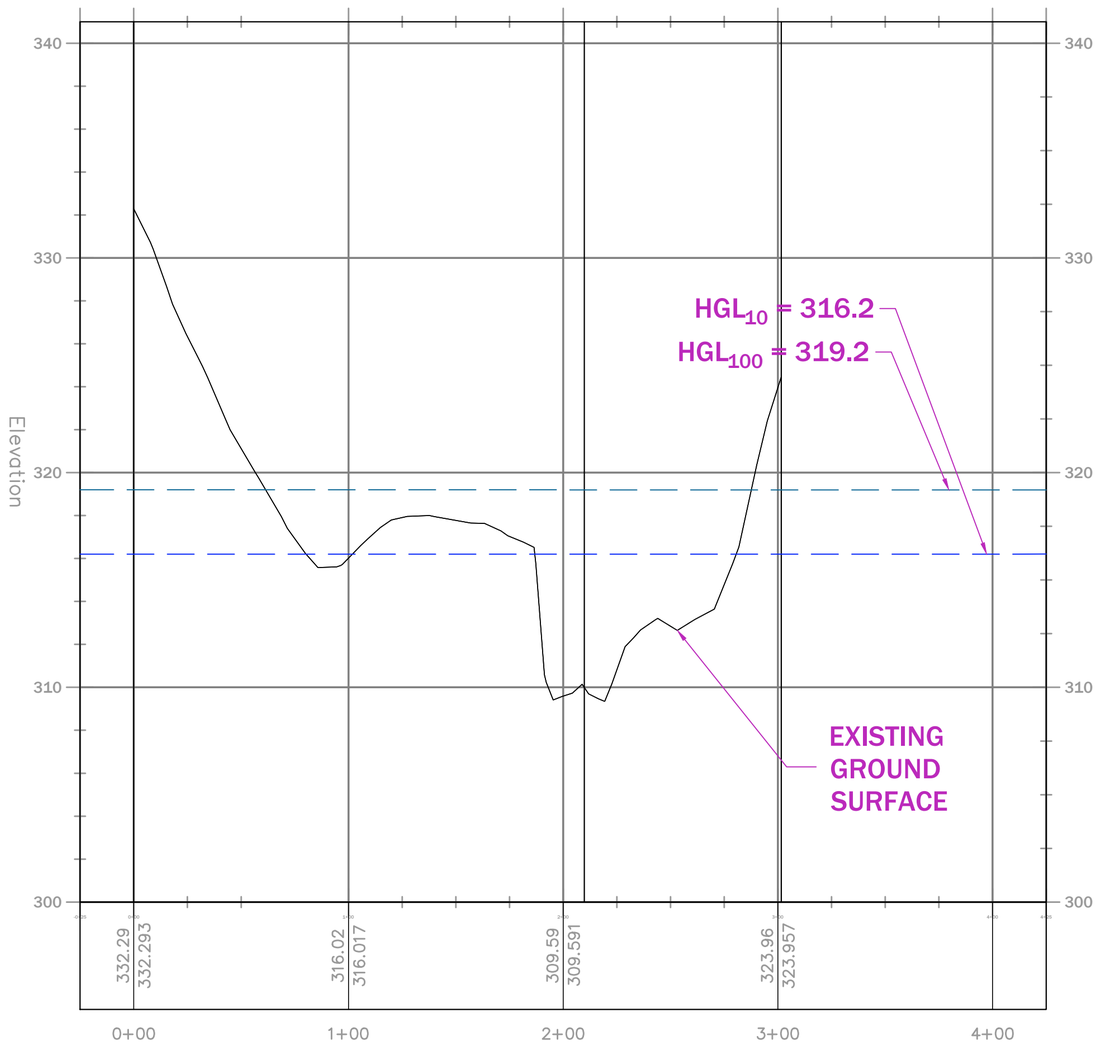
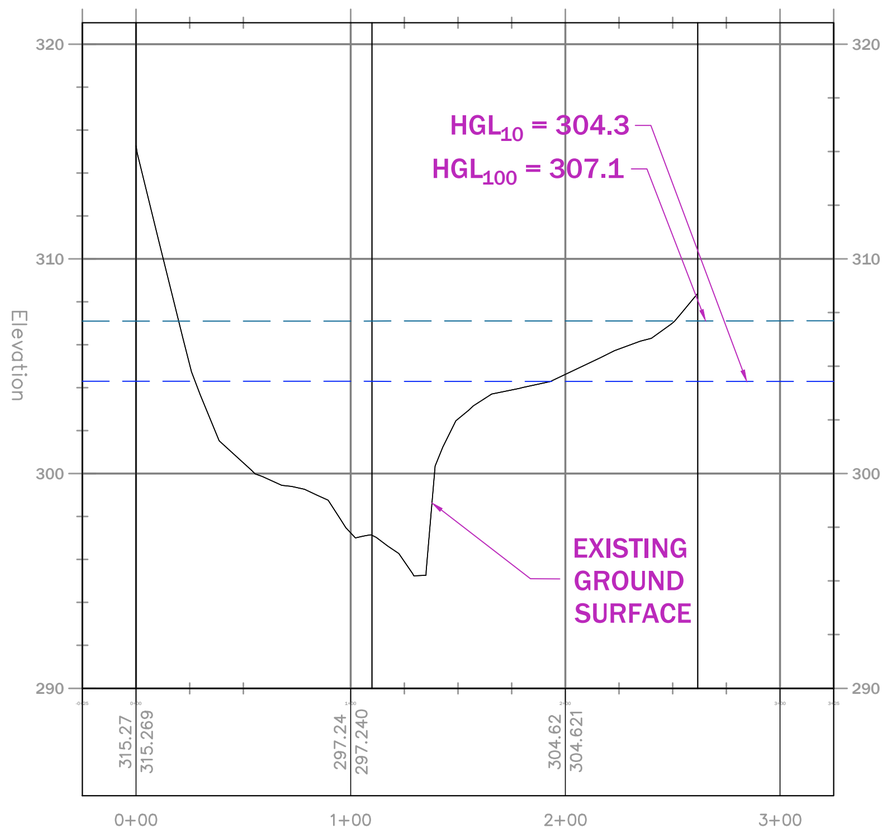
I:\Engineering\28100-Valley's Edge\Drainage 2019\CAD\EXHIBIT- Floodway Section Analysis\Pre-Section Analysis Exhibit.dwg, 04/18/20 02:57:36pm, jstebakov Profile R4T and R5

DRAFT

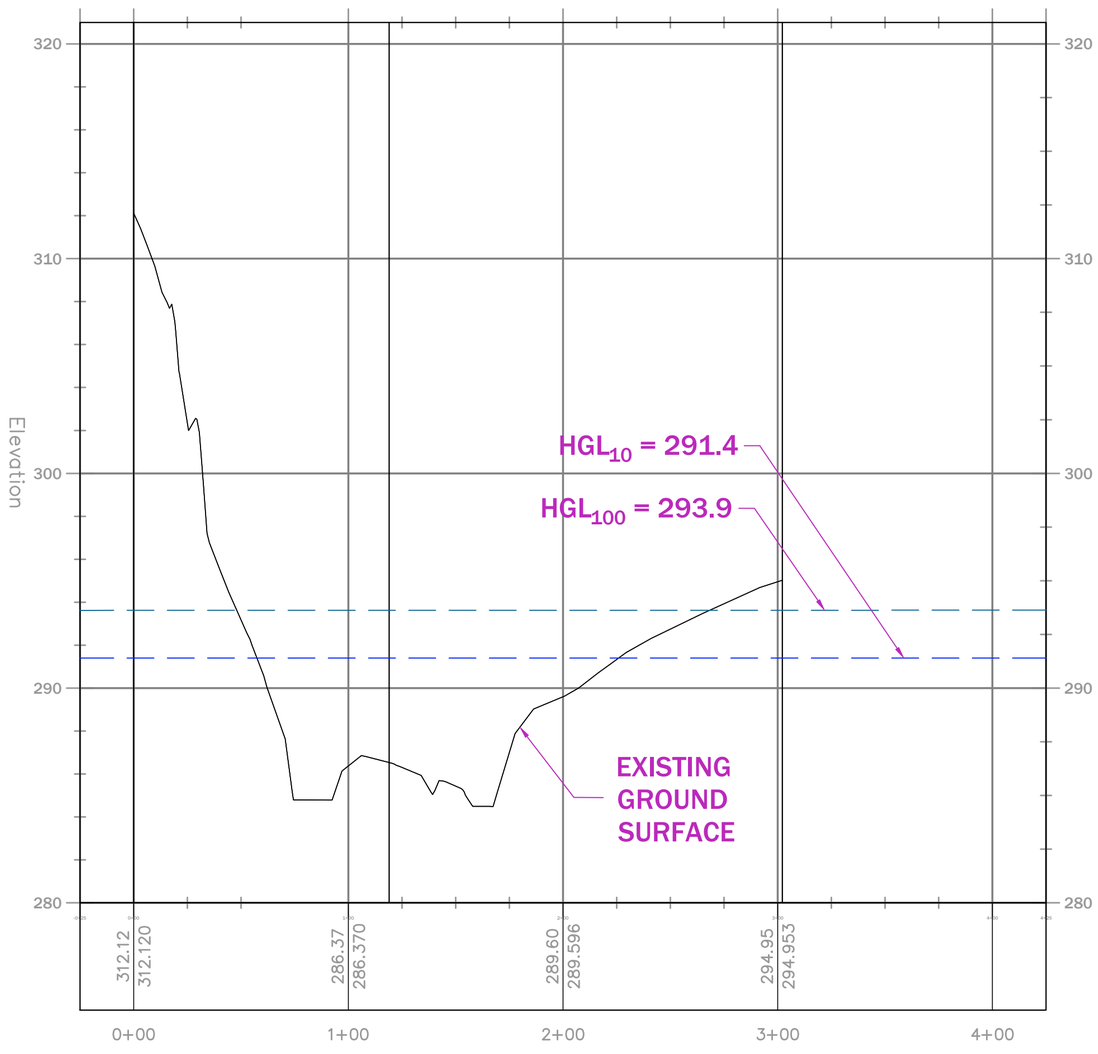
EXHIBIT E.1.0
SHEET: 8 OF 9



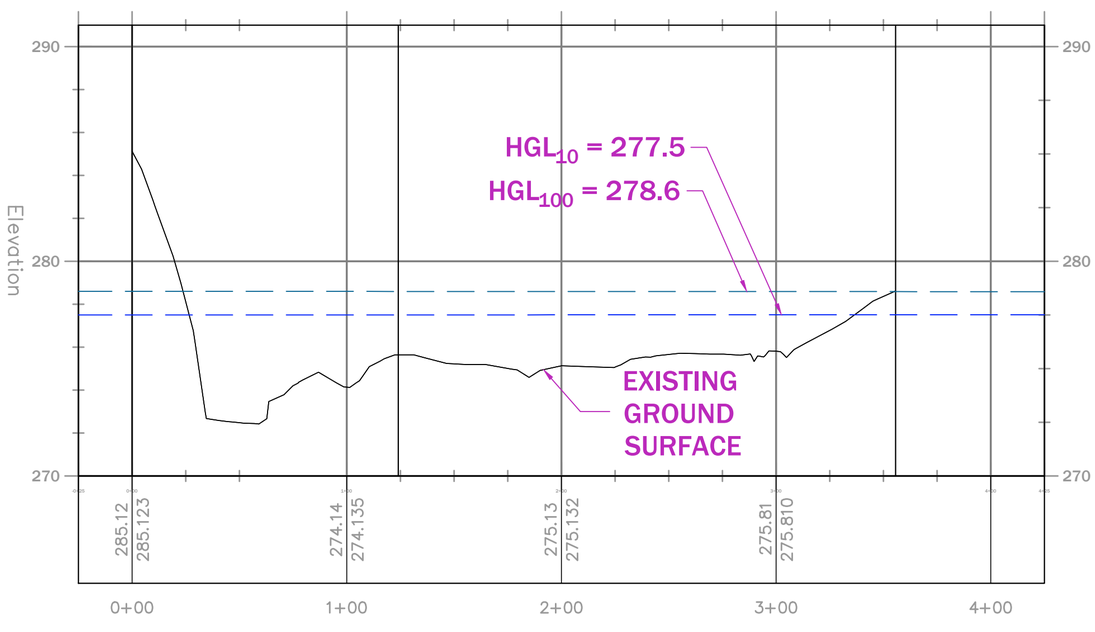
R6-10 CROSS SECTION - REACH 6
STA: 10+00.00 - WATER SURFACE ELEVATION



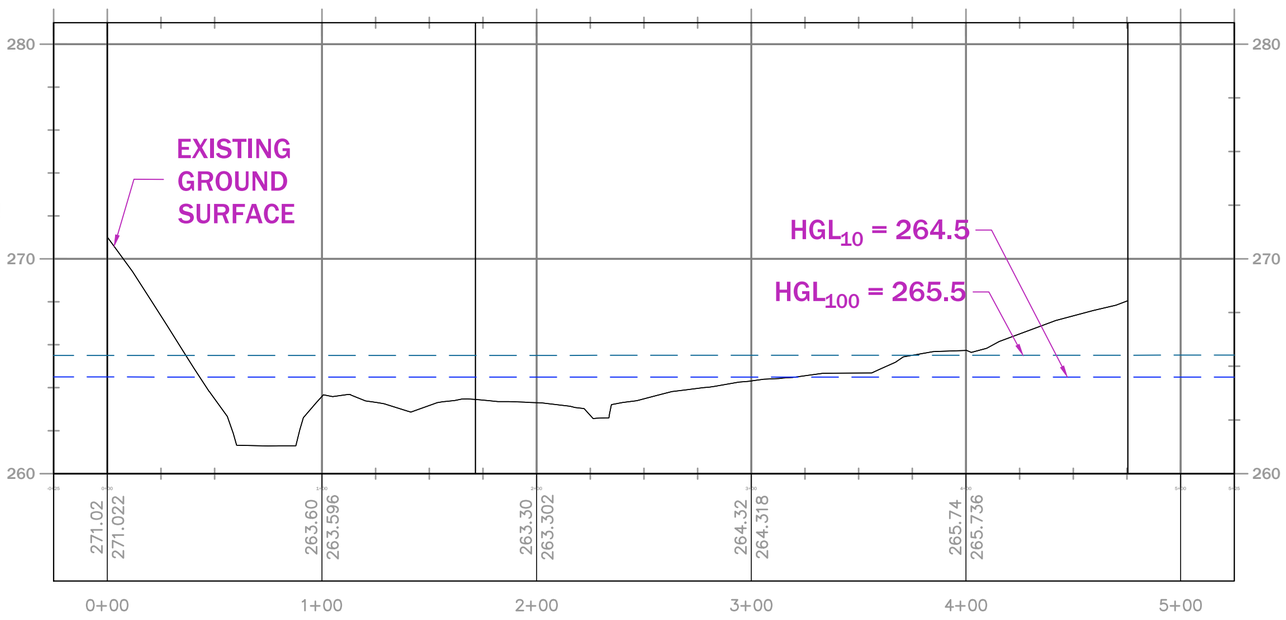
R6-20 CROSS SECTION - REACH 6
STA: 20+00.00 - WATER SURFACE ELEVATION



R6-30 CROSS SECTION - REACH 6
STA: 30+00.00 - WATER SURFACE ELEVATION



R6-40 CROSS SECTION - REACH 6
STA: 40+00.00 - WATER SURFACE ELEVATION



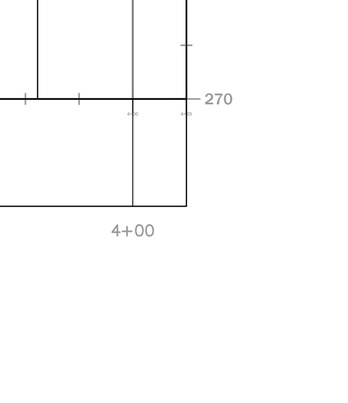
R6-50 CROSS SECTION - REACH 6
STA: 50+00.00 - WATER SURFACE ELEVATION

LEGEND:

- 100 YEAR HGL
- 10 YEAR HGL
- EXISTING GROUND SURFACE
- ADJACENT ROADWAY

NOTES:

SECTION PROFILES ARE ORIENTED FROM LEFT TO RIGHT FACING THE DOWNSTREAM DIRECTION.



SCALE 1"=50'

Reach 6 Section Profiles (Pre)

100 YR FLOOD

City of Chico, Butte County, California February 20, 2020

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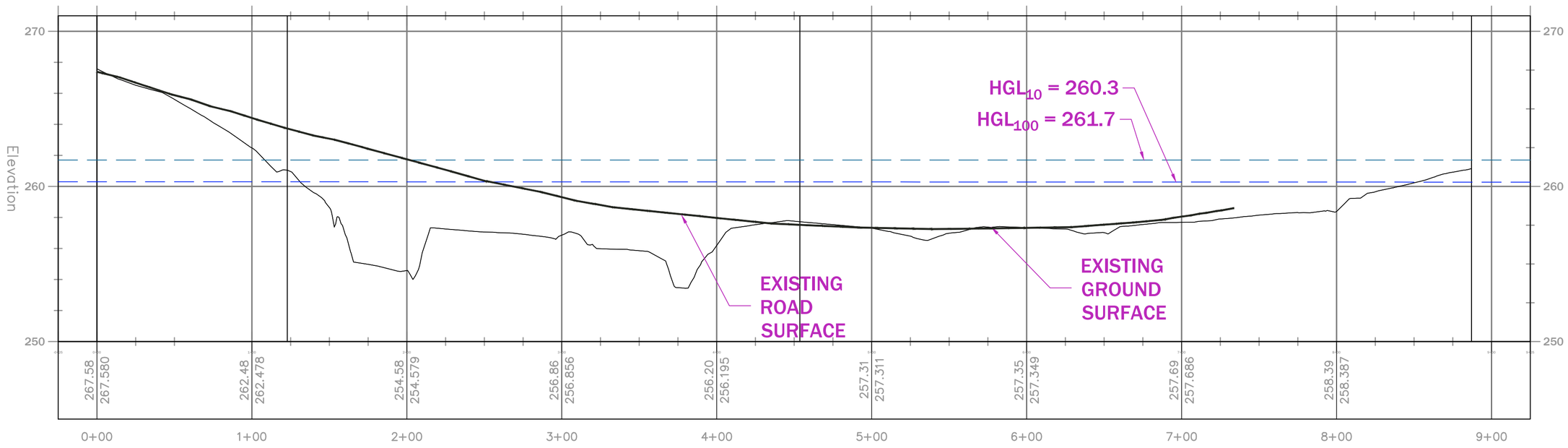
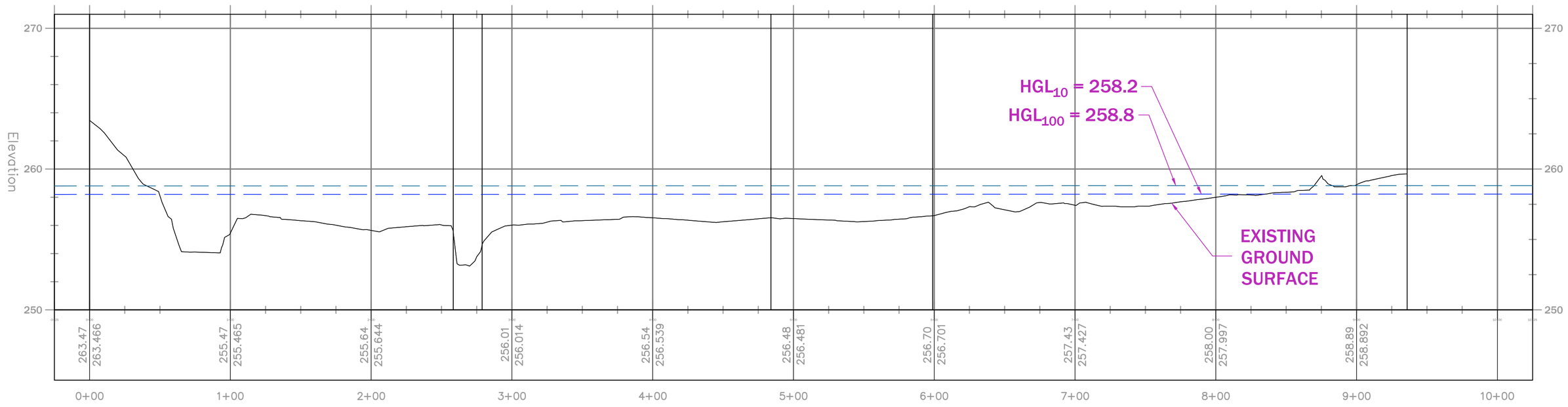
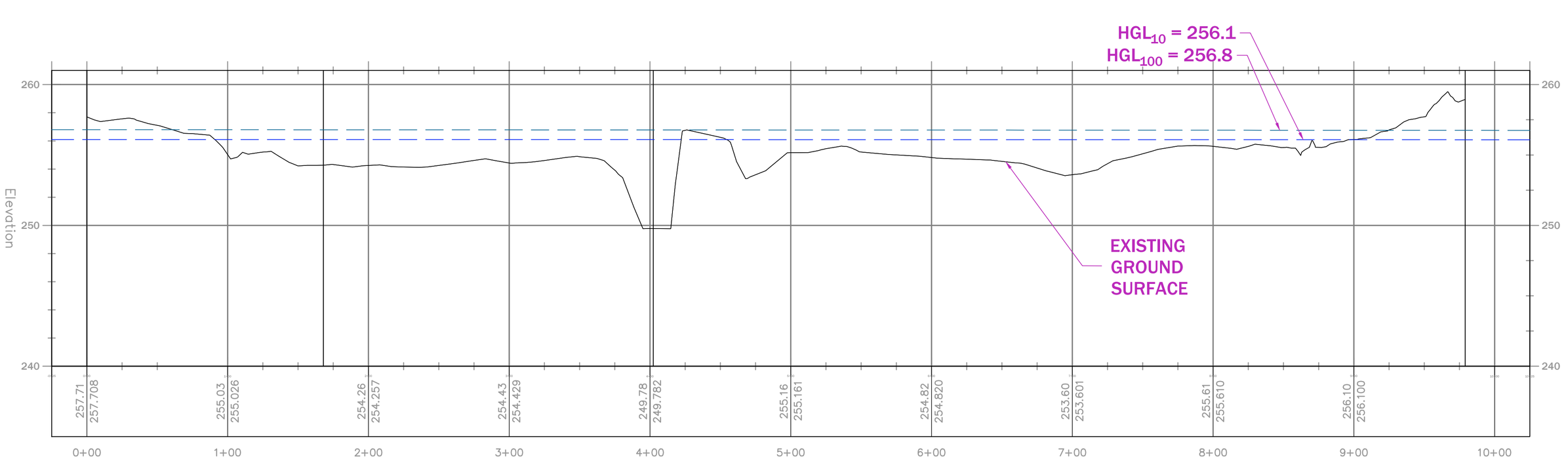


R6-56+62.00 CROSS SECTION - REACH 6
STA: 56+62.00 - WATER SURFACE ELEVATION



R6-57+16.00 CROSS SECTION - REACH 6
STA: 57+16.00 - WATER SURFACE ELEVATION



R6-60 CROSS SECTION - REACH 2
STA: 60+00.00 - WATER SURFACE ELEVATION

LEGEND:

- 100 YEAR HGL
- 10 YEAR HGL
- EXISTING GROUND SURFACE
- ADJACENT ROADWAY

NOTES:

SECTION PROFILES ARE ORIENTED FROM LEFT TO RIGHT FACING THE DOWNSTREAM DIRECTION.

Reach 6 Section Profiles Cont. (Pre)

100 YR FLOOD

City of Chico, Butte County, California February 20, 2020

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DRAFT

EXHIBIT E.1.1
SHEET: 1 OF 7

D-OS-BASIN-A4-
D-OS-BASIN-A3-
D-OS-BASIN-A5-
D-OS-BASIN-A6-
UD-OF-SHED-4
D-OS-BASIN-A2-
D-OS-BASIN-A1-
D-OS-BASIN-C4-
D-OS-BASIN-B2-
UD-OF-SHED-1
D-OS-BASIN-B1-
R1
R1-5
R1-10
R1-15
R1-20
R1-25
R1-30
RD(Dawncrest)C1A,C1B
Q_2 = 89.0 cfs
Q_{10} = 135.5 cfs
Q_{100} = 241.7 cfs
DAWNCREST DR
R2-33+61
R2-33+41
BELVEDERE SUBDIVISION
D-OS-BASIN-C3-
R2
R2-10
R2-20
R2-30
R2-40
R2-50
R2-58+09
RD(COLLECTOR)CP2
UD-OF-SHED-5
R2-88+25
RD(PotterN)C1-C3
Q_2 = 586.6 cfs
Q_{10} = 930.5 cfs
Q_{100} = 1624.2 cfs
D-OS-BASIN-C1-
R2-60
R2-70
RD(Humbug)C5,C6
Q_2 = 1411.4 cfs
Q_{10} = 2338.6 cfs
Q_{100} = 4354.9 cfs
D-OS-BASIN-C2-
RD(COLLECTOR)CP3
UD-OF-SHED-2
R2-90
R2-87+83
R2-80
POTTER RD
RD(Humbug)C5,C6
Q_2 = 1411.4 cfs
Q_{10} = 2338.6 cfs
Q_{100} = 4354.9 cfs
R4
D-OS-BASIN-D2-
D-OS-BASIN-D1-
R4-10
RD(Humbug)C5,C6
Q_2 = 1411.4 cfs
Q_{10} = 2338.6 cfs
Q_{100} = 4354.9 cfs
RD(COLLECTOR)CP4
R4-20
D-OS-BASIN-D5-
RD(PotterS)C4
Q_2 = 269.2 cfs
Q_{10} = 388.1 cfs
Q_{100} = 652.3 cfs
R6-10
D-OS-BASIN-F2-
R4-48+61
R4-40
R4-30+80
RD(Humbug)C5,C6
Q_2 = 1411.4 cfs
Q_{10} = 2338.6 cfs
Q_{100} = 4354.9 cfs
D-OS-BASIN-D3-
UD-OF-SHED-3
R6-20
R4T-20
R4-50
R4T-13+34
R4T
R4-47+43
R4T-5
RD(COLLECTOR)CP4T
R5-5
R5
UD-OF-SHED-6
D-OS-BASIN-E1-
R5-10
R6-30
POTTER RD
D-OS-BASIN-D4-
D-OS-BASIN-F1-
D-OS-BASIN-E2-
RD(Humbug)C5,C6
Q_2 = 1411.4 cfs
Q_{10} = 2338.6 cfs
Q_{100} = 4354.9 cfs
R6 (COMANCHE CREEK)
RD(MINER)CP6
D-OS-BASIN-G6-
R6-40
D-OS-BASIN-G4-
R6-57+16
HUMBUG RD
D-OS-BASIN-G3-
D-OS-BASIN-G5-
D-OS-BASIN-G2-
D-OS-BASIN-G1-
R6-49+94
R6-56+62
RD(Humbug)C5,C6
Q_2 = 1411.4 cfs
Q_{10} = 2338.6 cfs
Q_{100} = 4354.9 cfs
R6-60
HUMBUG RD
(CROUGH DITCH)
HUMBUG RD

N
W
E
S
0 400' 800' 1200'
SCALE 1"=400'

LEGEND:

- ANALYZED CROSS-SECTION
- 2YR FLOODWAY
- 10YR FLOODWAY
- 100YR FLOODWAY
- R4-40 STATION NUMBER
- R4 REACH NUMBER
- EXISTING ROAD CONNECTION (CULVERT GROUP)
- PROPOSED ROAD CONNECTION (CULVERT GROUP)
- PROPOSED COLLECTOR ROADWAY
- PROPOSED CULVERT

D-OS-BASIN-B2 DEVELOPED ONSITE BASIN B2

UD-OF-SHED-6 UNDEVELOPED OFFSITE SHED 6

NOTES:
RIVER STATIONS ARE NUMBERED IN INCREASING ORDER FROM THE START OF THE UPSTREAM ENDS OF EACH REACH (RIVER ALIGNMENT).

ROAD CONNECTIONS ARE DEPICTED TO DEMONSTRATE THE CULVERT GROUPS AND ROADWAY REGIONS THAT WERE ANALYZED. CULVERTS WERE GROUPED DEPENDING ON FLOODWAY PARAMETERS.

DISCHARGE VALUES ON ROAD CONNECTIONS (CULVERT GROUPS) ARE CUMULATIVE Q VALUES GOING THROUGH CULVERTS AND OVER THE ROAD.

CULVERTS ARE NOT DRAWN TO SCALE. THE CONFIGURATION OF THE CULVERTS IS A REPRESENTATION OF THE CULVERTS IN THE POST-DEVELOPED HEC-RAS MODEL. ALL CULVERTS MAY BE SUBJECT TO CHANGE DEPENDING ON SPECIFIC DETENTION NEEDS.

FLOODWAY FACTORS SUCH AS DEPTH, VELOCITY AND HGL AS WELL AS FLOOD EXTENTS, ESPECIALLY DIRECTLY UPSTREAM OF THE PROPOSED CONNECTIONS, ARE BOUND TO CHANGE. HYDRAULIC IMPROVEMENTS USED IN THE FINAL DESIGN, SUCH AS FOR CONVEYANCE AND DETENTION, WILL AFFECT THE FLOODWAY.

NOT ALL SECTIONS ARE SHOWN IN THE FOLLOWING SHEETS OF THIS EXHIBIT. ANALYSIS WAS EMPHASIZED IN AREAS OF CONCERN, SUCH AS PROPOSED AND EXISTING ROADWAYS (CONNECTIONS).

Floodway Analysis (Post)

Valley's Edge Drainage

City of Chico, Butte County, California March 20, 2020

FRAYJI DESIGN GROUP
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DRAFT

EXHIBIT E.1.1
SHEET: 2 OF 7

PA-40
VLDR
2.7 ac.
7 DU

PA-41
VLDR
51.1 ac.
128 DU

PA-42
VLDR
3.8 ac.
8 DU

PA-39
MDR
26 ac.
183 DU

PA-38
LDR
13.2 ac.
59 DU

PA-37
LDR
7.2 ac.
29 DU

PA-35
LDR
4 ac.
16 DU

PA-33
LDR
84.8 ac.
324 DU

PA-32
VLDR
15 ac.
15 DU

PA-53
R-OS
371.2 ac.
REG. PARK

PA-36
LDR
8.9 ac.
38 DU

PA-31
VLDR
7.6 ac.
8 DU

PA-30
VLDR
17.8 ac.
17 DU

PA-7
VCOMM
4.2 AC.
24,105 SF

PA-29
MDR
4 ac.
28 DU

PA-27
VLDR
12.2 ac.
30 DU

PA-34
LDR
20.3 ac.
80 DU

PA-51
V-OS1
26.4 ac.

PA-28
MDR
8.2 ac.
57 DU

PA-26
VLDR
12.6 ac.
30 DU

PA-25
MDR
7.3 ac.
42 DU

PA-23
VLDR
10.4 ac.
18 DU

PA-18
VLDR
6 ac.
8 DU

PA-47
V-OS2
48 ac.
COM PARK

PA-24
MDR
8 ac.
46 DU

PA-22
VLDR
9 ac.
17 DU

PA-50
V-OS1
16.8 ac.

PA-49
V-OS1
3.1 ac.

PA-17
VLDR
7.8 ac.
10 DU

PA-48
V-PG
18.8 ac.
SCHOOL

PA-52
V-OS2
186.8 ac.
CORRIDOR/PARKS

PA-21
VLDR
5.2 ac.
13 DU

PA-16
VLDR
5 ac.
4 DU

PA-6
V-COMM
2.6 ac.
19,279 SF

PA-20
VLDR
5 ac.
12 DU

PA-11
MDR
17.3 ac.
238 DU

PA-12
LDR
142.7 ac.
582 DU

PA-15
VLDR
6.3 ac.
8 DU

PA-45
V-OS2
8.7 ac.
PARK

PA-43
HMDR
9 ac.
162 DU

PA-10
MDR
20.5 ac.
282 DU

PA-46
V-OS2
2.9 ac.
PARK

PA-14
VLDR
5 ac.
3 DU

PA-3
V-CORE
8.8 ac.
65,000 SF

PA-4
V-COMM
15 ac.
130,348 SF

PA-9
LDR
16.2 ac.
97 DU

PA-5
V-CORE
3.8 ac.
12,000 SF

PA-2
V-COMM
6.3 ac.
59,813 SF

PA-1
V-COMM
15.7 ac.
136,839 SF
283 DU*

PA-8
LDR
36.4 AC.
146 DU

PA-13
VLDR
6 ac.
7 DU

PA-19
VLDR
46.3 ac.
25 DU

PA-44
OS
0.5 ac.
PARK

PA-53
R-OS
371.2 ac.
REG. PARK

BELVEDERE SUBDIVISION

E 20TH ST
DOE MILL RD
DAWNCREST DR
POTTER RD
POTTER RD
HUMBUG RD
HUMBUG RD
HUMBUG RD
(CROUGH DITCH)

N
W E
S

0 400' 800' 1200'
SCALE 1"=400'

LEGEND:

- 2YR FLOODWAY
- 10YR FLOODWAY
- 100YR FLOODWAY
- PROPOSED COLLECTOR ROADWAY
- PROPOSED CULVERT
- UD-OF-SHED-3 UNDEVELOPED OFFSITE SHED 3
- D-OS-BASIN-F2 DEVELOPED ONSITE BASIN F2

NOTES:
THIS EXHIBIT DEPICTS THE POST-DEVELOPED FLOODWAY EXTENTS LAYING OVER "VALLEY'S EDGE SPECIFIC PLAN (VESP)." PLEASE REFER TO THE VESP FOR ADDITIONAL INFORMATION.

CULVERTS ARE NOT DRAWN TO SCALE. THE CONFIGURATION OF THE CULVERTS IS A REPRESENTATION OF THE CULVERTS IN THE POST-DEVELOPED HEC-RAS MODEL. ALL CULVERTS MAY BE SUBJECT TO CHANGE DEPENDING ON SPECIFIC DETENTION NEEDS.

FLOODWAY FACTORS SUCH AS DEPTH, VELOCITY AND HGL AS WELL AS FLOOD EXTENTS, ESPECIALLY DIRECTLY UPSTREAM OF THE PROPOSED CONNECTIONS, ARE BOUND TO CHANGE. HYDRAULIC IMPROVEMENTS USED IN THE FINAL DESIGN, SUCH AS FOR CONVEYANCE AND DETENTION, WILL AFFECT THE FLOODWAY.

Floodway over VESP (Post)

Valley's Edge Drainage

City of Chico, Butte County, California March 20, 2020

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DRAFT

FLOODPLAIN ANALYSIS PER REACH (Post-Project)																			
2 Year Storm Event																			
Reach 1				**Reach 2 (And R3)**				**Reach 4**				**Reach 4T**				**Reach 6**			
Station #	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*
5	NA	NA	NA	**50**	321.2	3.9	2.7	**30+80**	275.5	1.0	9.0	**13+34**	280.8	0.9	6.7	**49+94**	269.5	1.7	8.5
10	NA	NA	NA	**58+09**	317.7	0.8	9.4	**47+43**	248.0	1.9	5.7					**56+62**	259.5	3.6	5.8
15	364.9	3.7	0.4	**87+83**	270.8	2.6	4.3	**48+61**	243.7	4.5	3.4					**57+16**	257.8	3.9	4.8
20	347.7	3.8	0.8	**88+25**	268.6	5.7	2.0												
25	335.4	5.8	0.9																
30	317.4	4.9	1.2																
33+42	309.5	2.7	3.2																
33+61	NA	NA	NA																
10 Year Storm Event																			
Reach 1				**Reach 2 (And R3)**				**Reach 4**				**Reach 4T**				**Reach 6**			
Station #	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*
5	NA	NA	NA	**50**	321.9	4.5	3.4	**30+80**	277.8	1.0	11.3	**13+34**	282.2	0.6	8.2	**49+94**	272.5	1.9	11.5
10	NA	NA	NA	**58+09**	320.1	0.7	11.8	**47+43**	248.4	2.0	6.1					**56+62**	260.2	4.3	6.5
15	365.0	4.7	0.5	**87+83**	271.1	2.7	4.6	**48+61**	244.0	5.5	3.6					**57+16**	258.2	4.5	5.2
20	347.8	4.3	0.9	**88+25**	268.8	6.7	2.3												
25	335.6	6.9	1.1																
30	317.6	5.9	1.4																
33+42	310.4	2.7	4.0																
33+61	NA	NA	NA																
100 Year Storm Event																			
Reach 1				**Reach 2 (And R3)**				**Reach 4**				**Reach 4T**				**Reach 6**			
Station #	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*	*Station #*	*HGLmax (ft)*	*VELOCITYmax (ft/s)*	*DEPTHmax (ft)*
5	NA	NA	NA	**50**	324.6	4.5	6.2	**30+80**	281.4	1.0	14.9	**13+34**	284.8	0.6	10.8	**49+94**	278.0	2.0	17.0
10	NA	NA	NA	**58+09**	324.4	0.8	16.1	**47+43**	249.1	2.2	6.8					**56+62**	261.2	5.3	7.5
15	365.1	6.4	0.6	**87+83**	271.5	3.3	5.1	**48+61**	244.3	6.6	3.9					**57+16**	258.9	6.3	5.9
20	348.0	5.2	1.1	**88+25**	269.1	8.0	2.6												
25	335.9	8.1	1.3																
30	318.0	7.4	1.8																
33+42	312.2	3.0	5.9																
33+61	NA	NA	NA																

TABLE 1: FLOODPLAIN ANALYSIS PER REACH (POST-DEVELOPED)

DISCHARGE AT PROPOSED CONNECTIONS (HECRAS)									
2 Year Storm (cfs)									
R2		**R3**		**R4**		**R4T**		**R6**	
RD(Collector)CP2		**RD(Collector)CP3**		**RD(Collector)CP4**		**RD(Collector)CP4T**		**RD(Minor)CP6**	
Qtot	457.1	Qtot	26.3	Qtot	150.9	Qtot	44.4	Qtot	1380.5
CP2A	440	CP3A	26.2	CP4A	139	CP4TA	22	CP6A,B	1355.7
CP2B	17.2	CP3B	0.1	CP4B	11.9	CP4TB	22.4	CP5	24.7
CP2C	0	Weir Flow	0	Weir Flow	0	Weir Flow	0	Weir Flow	0
Weir Flow	0								
10 Year Storm (cfs)									
R2		**R3**		**R4**		**R4T**		**R6**	
RD(Collector)CP2		**RD(Collector)CP3**		**RD(Collector)CP4**		**RD(Collector)CP4T**		**RD(Minor)CP6**	
Qtot	728.8	Qtot	39.6	Qtot	227.4	Qtot	75.7	Qtot	2301.6
CP2A	619	CP3A	2.5	CP4A	161.1	CP4TA	23	CP6A,B	2169.9
CP2B	90.4	CP3B	37.1	CP4B	66.3	CP4TB	52.7	CP5	131.7
CP2C	19.5	Weir Flow	0	Weir Flow	0	Weir Flow	0	Weir Flow	0
Weir Flow	0								
100 Year Storm (cfs)									
R2		**R3**		**R4**		**R4T**		**R6**	
RD(Collector)CP2		**RD(Collector)CP3**		**RD(Collector)CP4**		**RD(Collector)CP4T**		**RD(Minor)CP6**	
Qtot	1243.2	Qtot	68.3	Qtot	362.4	Qtot	123.2	Qtot	4286.4
CP2A	820.6	CP3A	12.2	CP4A	190.1	CP4TA	24.7	CP6A,B	3915
CP2B	297.1	CP3B	56	CP4B	172.4	CP4TB	98.5	CP5	371.4
CP2C	125.5	Weir Flow	0	Weir Flow	0	Weir Flow	0	Weir Flow	0
Weir Flow	0								

TABLE 2: POST-DEVELOPED DISCHARGE AT PROPOSED CONNECTIONS (HEC-RAS)

DISCHARGE AT PROPOSED CONNECTIONS (SSA)									
2 Year Storm (cfs)									
R2		**R3**		**R4**		**R4T**		**R6**	
RD(Collector)CP2		**RD(Collector)CP3**		**RD(Collector)CP4**		**RD(Collector)CP4T**		**RD(Minor)CP6**	
Qtot	663.3	Qtot	30.5	Qtot	237.2	Qtot	107.1	Qtot	1687.2
10 Year Storm (cfs)									
R2		**R3**		**R4**		**R4T**		**R6**	
RD(Collector)CP2		**RD(Collector)CP3**		**RD(Collector)CP4**		**RD(Collector)CP4T**		**RD(Minor)CP6**	
Qtot	1075.9	Qtot	46.1	Qtot	365.8	Qtot	170.3	Qtot	2831.2
100 Year Storm (cfs)									
R2		**R3**		**R4**		**R4T**		**R6**	
RD(Collector)CP2		**RD(Collector)CP3**		**RD(Collector)CP4**		**RD(Collector)CP4T**		**RD(Minor)CP6**	
Qtot	2034.6	Qtot	81.2	Qtot	654.6	Qtot	313.7	Qtot	5565.3

TABLE 3: POST-DEVELOPED DISCHARGE AT PROPOSED CONNECTIONS (SSA)

PRE VS. POST DISCHARGE AT EXISTING CONNECTIONS (HECRAS)												
2 Year Storm (cfs)												
R1			**R1+R2+R3**			**R4+R4T**			**R5+R6**			
RD(Dawncrest)C1A,C1B			**RD(PotterN)C1-C3**			**RD(PotterS)C4**			**RD(Humbug)C5,C6**			
	PRE (cfs)	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**	
Qtot =	89.4	89	Qtot =	593.3	586.6	Qtot =	276.6	269.2	Qtot =	1440.2	1411.4	
C1A =	49.5	48.2	C1E =	69.1	67.7	C4A =	96.4	95.9	C5A,B =	161.9	160	
C1B =	40	40.7	C2A,B =	197	196.2	C4B =	68.2	68	C6A,B,C =	290.9	288.7	
Weir Flow =	0	0	C3A =	0	4	Weir Flow =	111.9	105.4	C6D =	166.3	166.1	
			Weir Flow =	323.4	319.1				Weir Flow =	821.2	796.7	
10 Year Storm (cfs)												
R1			**R1+R2+R3**			**R4+R4T**			**R5+R6**			
RD(Dawncrest)C1A,C1B			**RD(PotterN)C1-C3**			**RD(PotterS)C4**			**RD(Humbug)C5,C6**			
	PRE (cfs)	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**	
Qtot =	153.1	135.5	Qtot =	1027.5	930.5	Qtot =	392.2	388.1	Qtot =	2360.5	2338.6	
C1A =	88.5	77.1	C1E =	94.6	86.2	C4A =	102.9	102.7	C5A,B =	165.5	164.7	
C1B =	64.6	58.4	C2A,B =	221.1	215.9	C4B =	71.6	71.5	C6A,B,C =	324	321.5	
Weir Flow =	0	0	C3A =	0	4.1	Weir Flow =	217.7	213.9	C6D =	202.7	203.3	
			Weir Flow =	707.7	625.4				Weir Flow =	1668.4	1649.7	
100 Year Storm (cfs)												
R1			**R1+R2+R3**			**R4+R4T**			**R5+R6**			
RD(Dawncrest)C1A,C1B			**RD(PotterN)C1-C3**			**RD(PotterS)C4**			**RD(Humbug)C5,C6**			
	PRE (cfs)	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**	
Qtot =	306.1	241.7	Qtot =	2048.2	1624.2	Qtot =	822.3	652.3	Qtot =	4941.2	4354.9	
C1A =	170.1	144.3	C1E =	139.3	121.1	C4A =	117	112.4	C5A,B =	174.5	173.3	
C1B =	111.4	97.4	C2A,B =	260.5	245.8	C4B =	79.2	76.7	C6A,B,C =	375.2	363.6	
Weir Flow =	24.6	0	C3A =	0	4.2	Weir Flow =	626.1	463.2	C6D =	275.4	262.5	
			Weir Flow =	1644.1	1253.1				Weir Flow =	4113.3	3555.4	

TABLE 4: PRE VS. POST DISCHARGE AT EXISTING CONNECTIONS (HEC-RAS)

PRE VS. POST DISCHARGE AT EXISTING CONNECTIONS (SSA)												
2 Year Storm (cfs)												
R1			**R1+R2+R3**			**R4+R4T**			**R5+R6**			
RD(Dawncrest)C1A,C1B			**RD(PotterN)C1-C3**			**RD(PotterS)C4**			**RD(Humbug)C5,C6**			
	PRE (cfs)	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**	
Qtot =	94.1	101.5	Qtot =	703.4	791.4	Qtot =	289.4	448.4	Qtot =	1602.8	1756.6	
10 Year Storm (cfs)												
R1			**R1+R2+R3**			**R4+R4T**			**R5+R6**			
RD(Dawncrest)C1A,C1B			**RD(PotterN)C1-C3**			**RD(PotterS)C4**			**RD(Humbug)C5,C6**			
	PRE (cfs)	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**	
Qtot =	159.2	156.2	Qtot =	1187.2	1280	Qtot =	403.6	688.3	Qtot =	2721.8	2943.5	
100 Year Storm (cfs)												
R1			**R1+R2+R3**			**R4+R4T**			**R5+R6**			
RD(Dawncrest)C1A,C1B			**RD(PotterN)C1-C3**			**RD(PotterS)C4**			**RD(Humbug)C5,C6**			
	PRE (cfs)	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**		**PRE (cfs)**	**POST (cfs)**	
Qtot =	312.5	279.2	Qtot =	2333.3	2413.2	Qtot =	849.4	1228.6	Qtot =	5406.9	5776	

TABLE 5: PRE VS. POST DISCHARGE AT EXISTING CONNECTIONS (SSA)

NOTES:

THE FLOODWAY ANALYSIS TABLE 1 DEPICTS THE HGL, VELOCITY AND DEPTH AT ANALYZED CROSS-SECTIONS. THIS INCLUDES SECTIONS DIRECTLY UPSTREAM OF PROPOSED ROADWAYS AND DIRECTLY UPSTREAM AND DOWNSTREAM OF EXISTING ROADWAYS. NOT ALL SECTIONS SHOWN ON THE PLAN VIEW WERE ANALYZED.

TABLES 2 DEPICTS THE RESULTS FROM HEC-RAS FOR POST-DEVELOPED DISCHARGE AT PROPOSED CONNECTIONS. TABLE 3 DISCHARGE VALUES WERE OBTAINED FROM STORM AND SANITARY ANALYSIS (SSA)

TABLE 4 DEPICTS THE PRE-DEVELOPED VERSUS POST-DEVELOPED DISCHARGE VALUES OBTAINED FROM HEC-RAS. THIS CAN BE COMPARED TO TABLE 5, WHICH DEPICTS THE DISCHARGE VALUES OBTAINED FROM SSA.

Floodway Analysis (Post)

Valley's Edge Drainage

City of Chico, Butte County, California March 20, 2020

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Roseville, CA 95661 (916) 782-3955 Fax
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J:\Engineering\28100-Valley's Edge\Drainage 2019\CAD\EXHIBIT- Floodway Section Analysis\Post-Section Analysis Exhibit.dwg, 04/21/20 10:04:27am, jstebakov Tables

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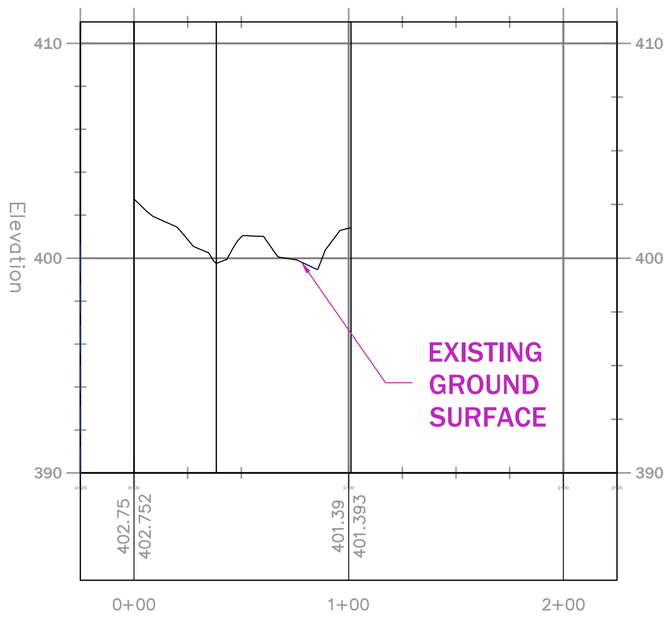
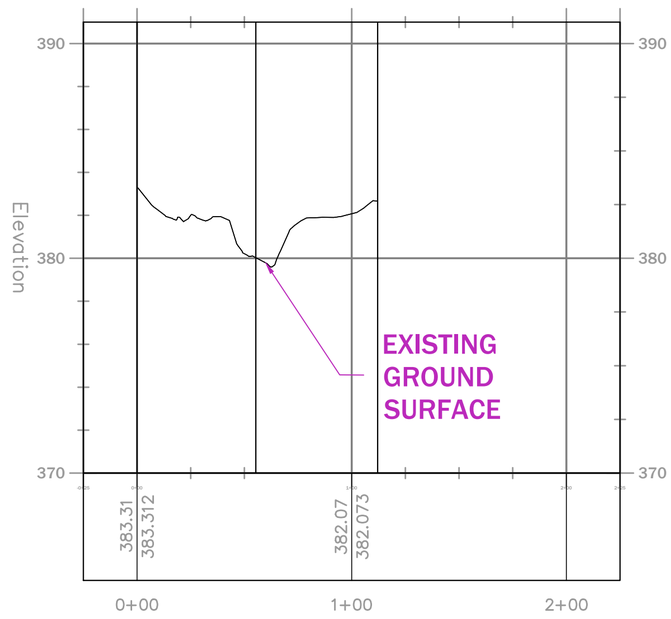


R1-5 CROSS SECTION - REACH 1
STA: 05+00.00 - WATER SURFACE ELEVATION



R1-10 CROSS SECTION - REACH 1
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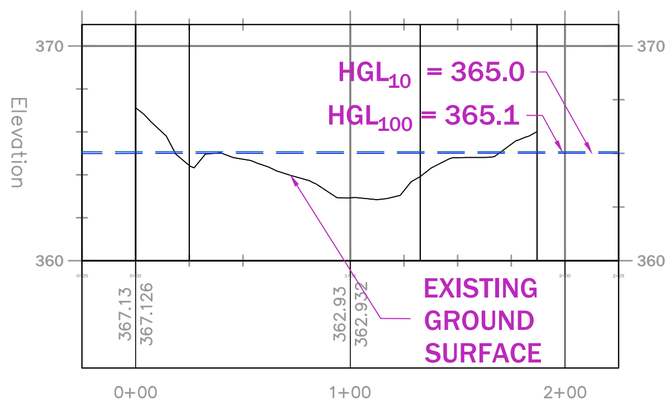
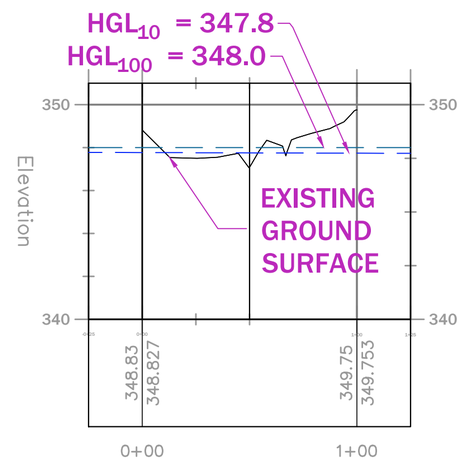
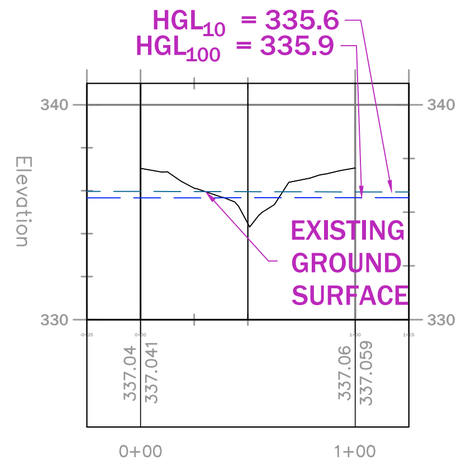


R1-15 CROSS SECTION - REACH 1
STA: 15+00.00 - WATER SURFACE ELEVATION



R1-20 CROSS SECTION - REACH 1
STA: 20+00.00 - WATER SURFACE ELEVATION



R1-25 CROSS SECTION - REACH 1
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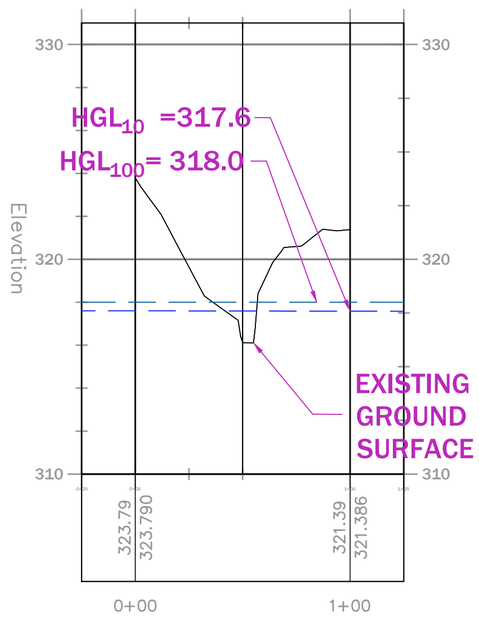
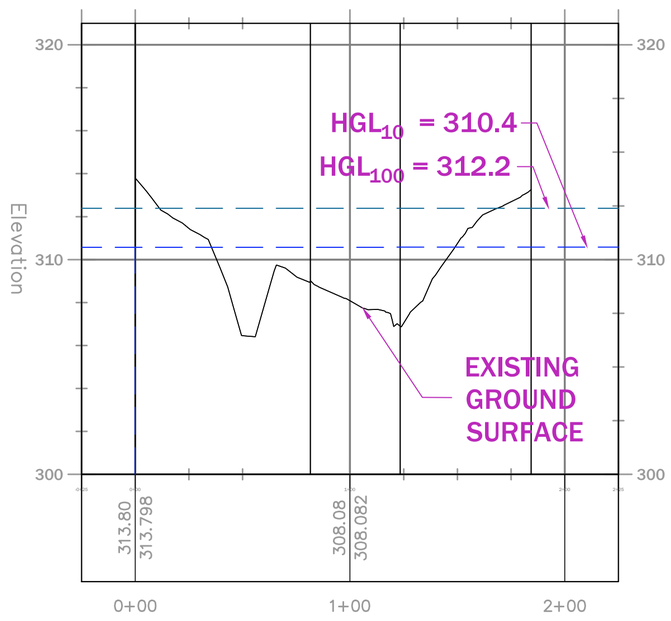
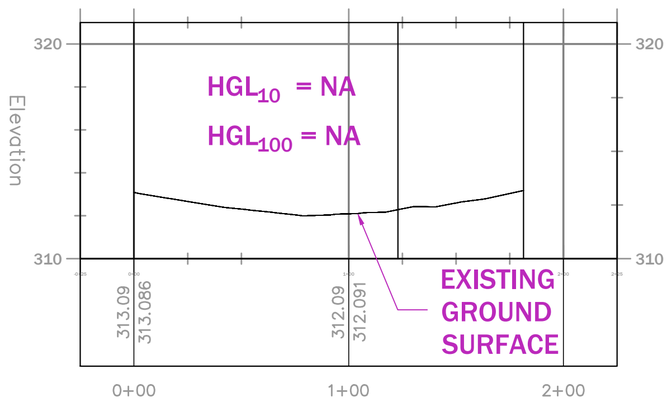


R1-30 CROSS SECTION - REACH 1
STA: 30+00.00 - WATER SURFACE ELEVATION



R1-33+42 CROSS SECTION - REACH 1
STA: 33+42.00 - @ DAWNCREST DR
(UPSTREAM INVERT)



R1-33+61 CROSS SECTION - REACH 1
STA: 33+61.00 - @ DAWNCREST DR
(ON ROAD)

LEGEND:

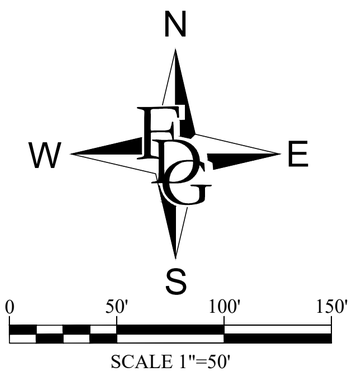
- 100 YEAR HGL
- 10 YEAR HGL
- EXISTING GROUND SURFACE
- ADJACENT ROADWAY

NOTES:

CROSS SECTION PROFILES ARE ORIENTED FROM LEFT TO RIGHT FACING THE DOWNSTREAM DIRECTION.

NOT ALL SECTIONS WHICH ARE DISPLAYED ON THE PLAN VIEW (SHEET 1) ARE SHOWN. EMPHASIS WAS PLACED ON ANALYZING SECTIONS DIRECTLY UPSTREAM OF PROPOSED CONNECTIONS AS WELL AS DOWNSTREAM AND UPSTREAM OF EXISTING CONNECTIONS.

HGL VALUES SHOWN ON THIS SHEET ARE BOUND TO CHANGE, ESPECIALLY DIRECTLY UPSTREAM OF THE PROPOSED CONNECTIONS. HYDRAULIC IMPROVEMENTS USED IN THE FINAL DESIGN, SUCH AS FOR CONVEYANCE AND DETENTION, WILL AFFECT THE FLOODWAY PARAMETERS.



SCALE 1"=50'

Reach 1 Section Profiles (Post)

Valley's Edge Drainage

City of Chico, Butte County, California March 20, 2020

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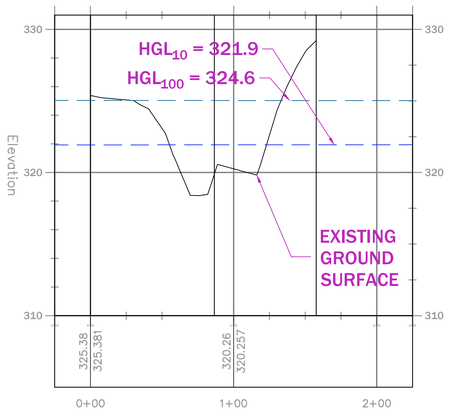
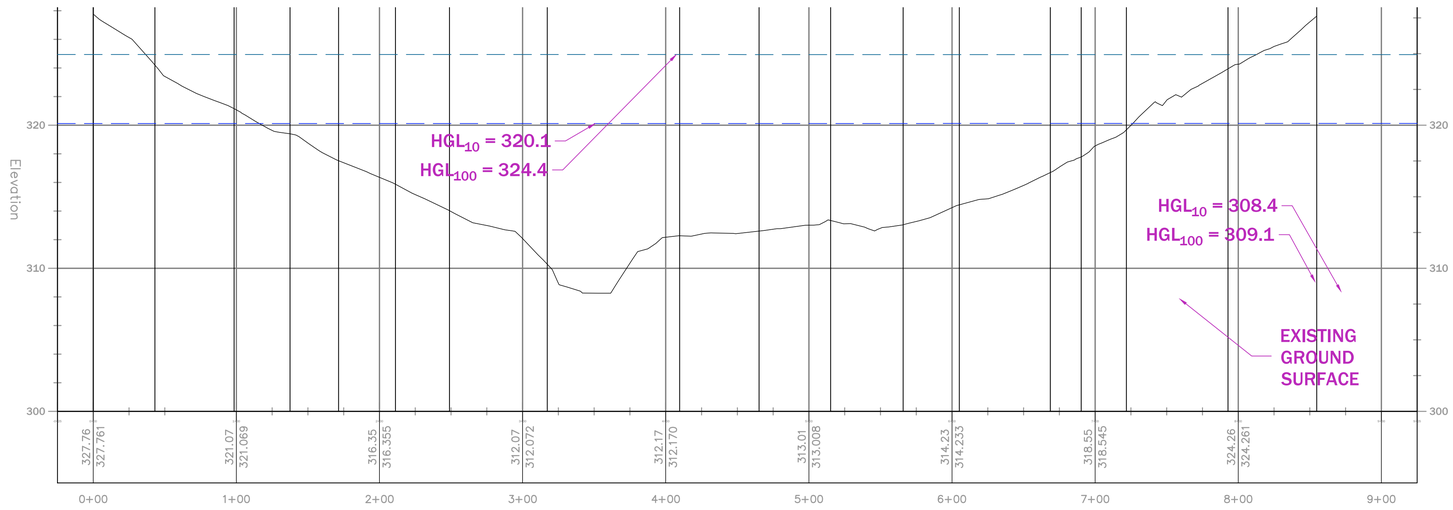
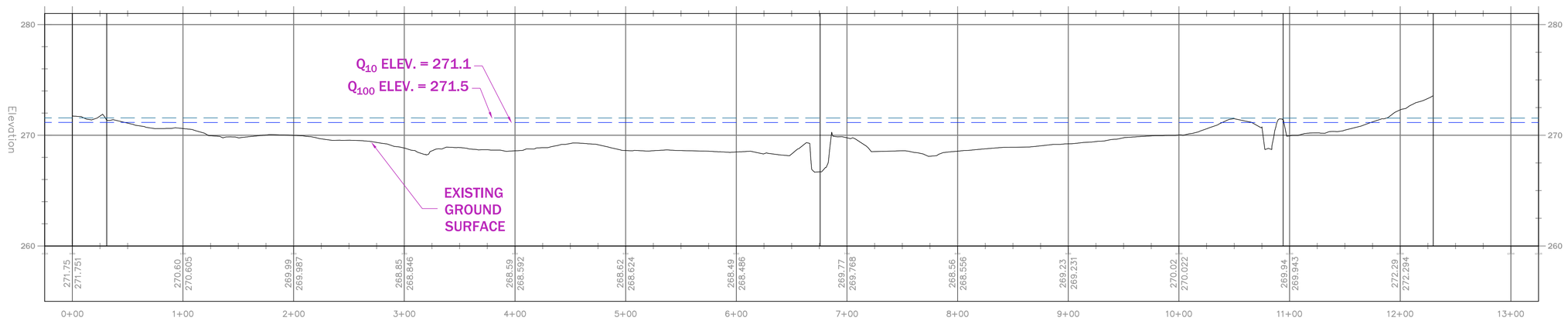


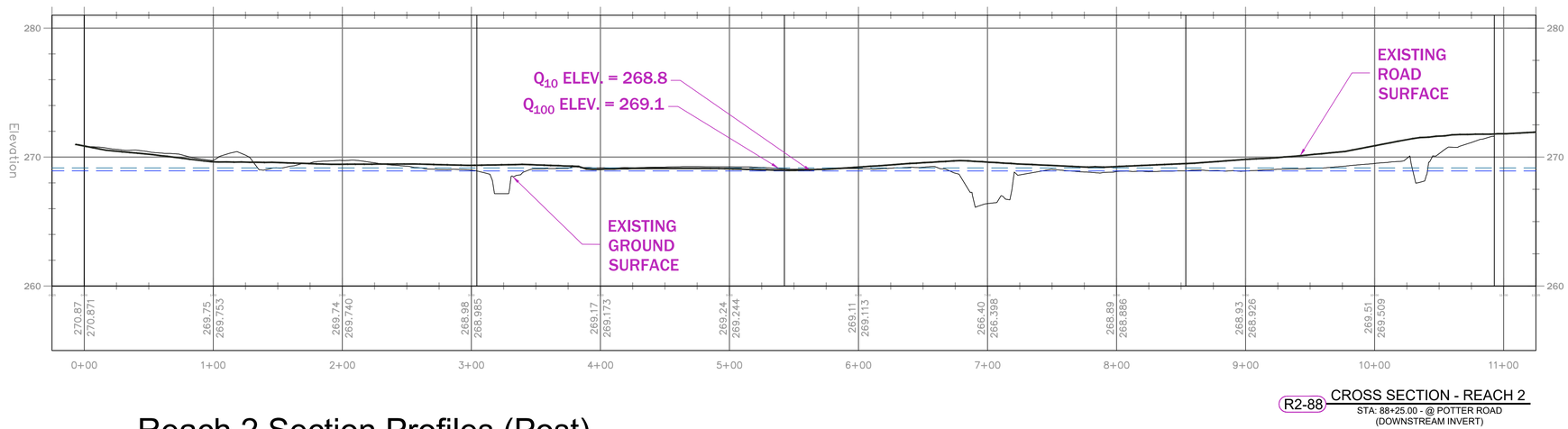
R2-50 CROSS SECTION - REACH 2
STA: 50+00.00 - WATER SURFACE ELEVATION



R2-58 CROSS SECTION - REACH 2
STA: 58+09.77 - @ PROPOSED COLLECTOR RD
(UPSTREAM INVERT)



R2-87 CROSS SECTION - REACH 2
STA: 87+83.00 - @ POTTER ROAD
(UPSTREAM INVERT)



R2-88 CROSS SECTION - REACH 2
STA: 88+25.00 - @ POTTER ROAD
(DOWNSTREAM INVERT)

LEGEND:

- 100 YEAR HGL
- 10 YEAR HGL
- EXISTING GROUND SURFACE
- ADJACENT ROADWAY

NOTES:

CROSS SECTION PROFILES ARE ORIENTED FROM LEFT TO RIGHT FACING THE DOWNSTREAM DIRECTION.

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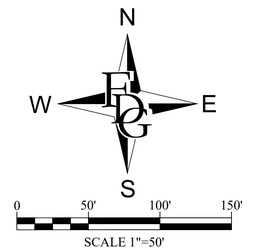

SCALE 1"=50'

Reach 2 Section Profiles (Post)

Valley's Edge Drainage

City of Chico, Butte County, California March 20, 2020

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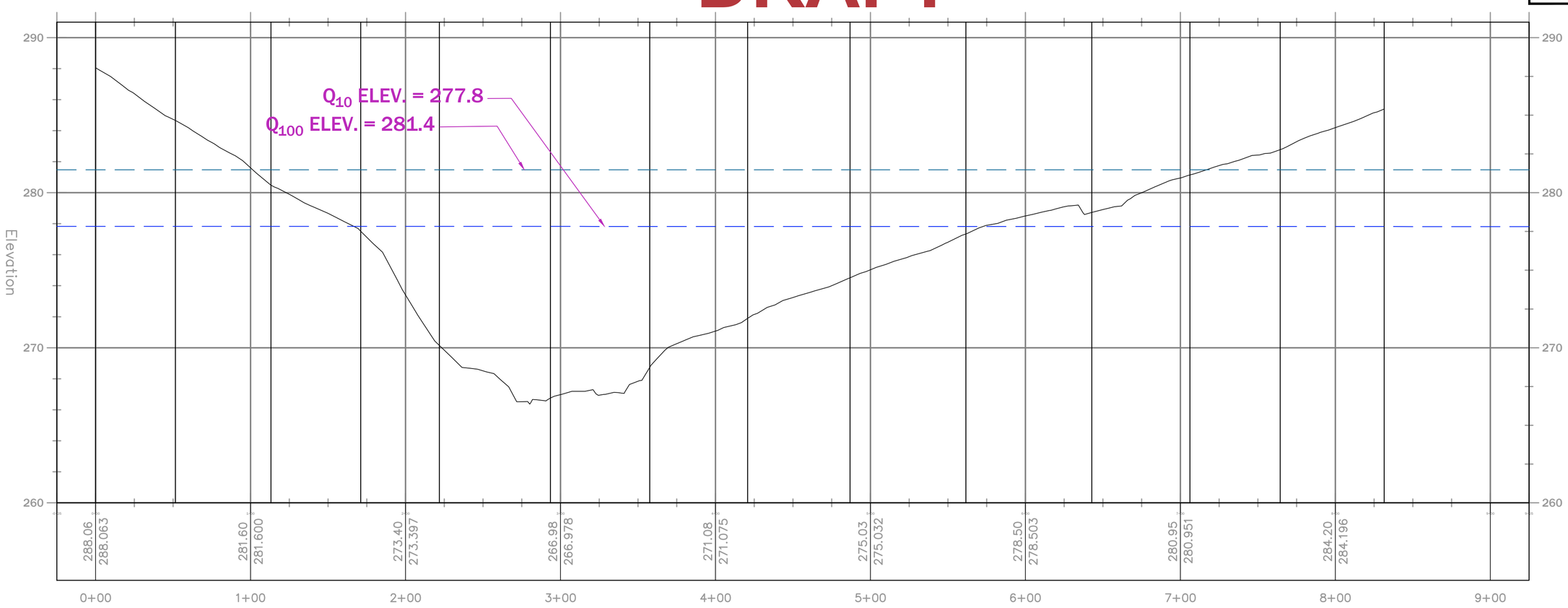
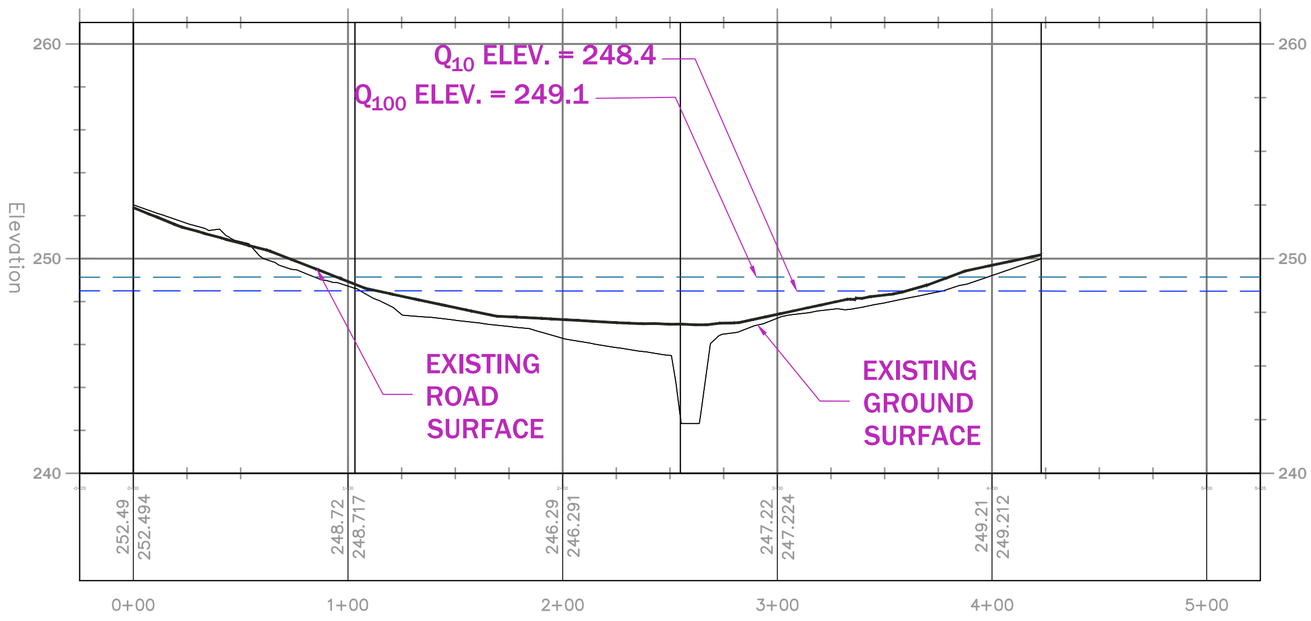
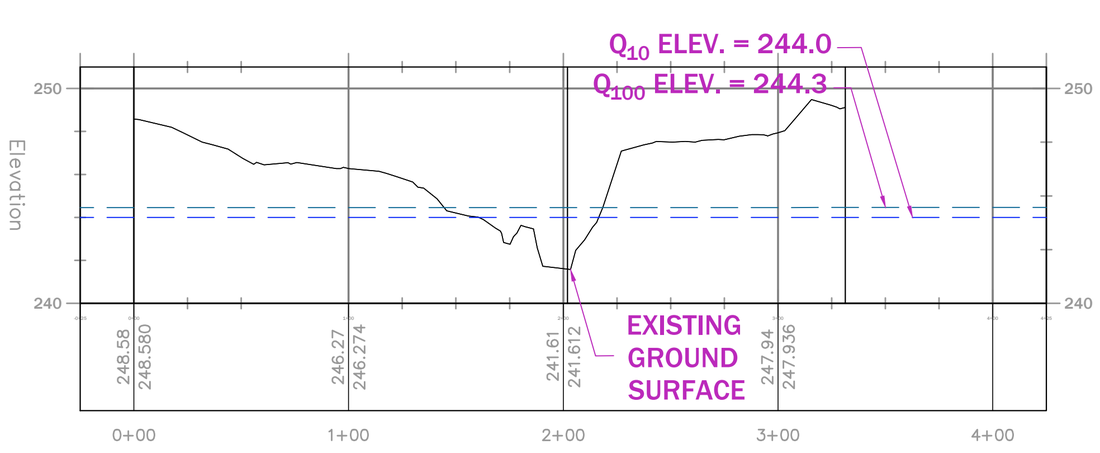
EXHIBIT E.1.1
SHEET: 6 OF 7



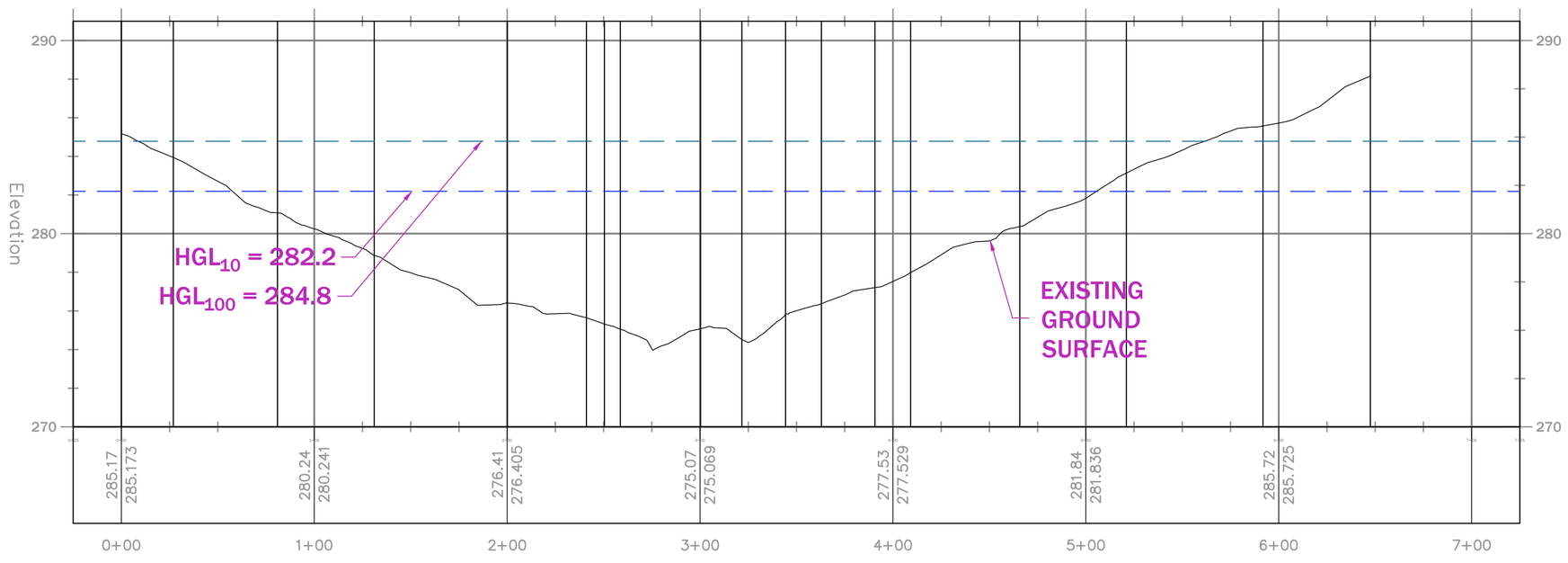
R4-30 CROSS SECTION - REACH 4
STA: 30+80.79 - @ PROPOSED COLLECTOR RD
(UPSTREAM INVERT)



R4-47 CROSS SECTION - REACH 4
STA: 47+43.00 - @ POTTER RD
(UPSTREAM INVERT)



R4-48 CROSS SECTION - REACH 4
STA: 48+61.00 - @ POTTER RD
(DOWNSTREAM INVERT)



R4T-13 CROSS SECTION - REACH 4T
STA: 13+34.57 - @ PROPOSED COLLECTOR RD
(UPSTREAM INVERT)

LEGEND:

- 100 YEAR HGL
- 10 YEAR HGL
- EXISTING GROUND SURFACE
- ADJACENT ROADWAY

NOTES:

CROSS SECTION PROFILES ARE ORIENTED FROM LEFT TO RIGHT FACING THE DOWNSTREAM DIRECTION.

NOT ALL SECTIONS WHICH ARE DISPLAYED ON THE PLAN VIEW (SHEET 1) ARE SHOWN. EMPHASIS WAS PLACED ON ANALYZING SECTIONS DIRECTLY UPSTREAM OF PROPOSED CONNECTIONS AS WELL AS DOWNSTREAM AND UPSTREAM OF EXISTING CONNECTIONS.

HGL VALUES SHOWN ON THIS SHEET ARE BOUND TO CHANGE, ESPECIALLY DIRECTLY UPSTREAM OF THE PROPOSED CONNECTIONS. HYDRAULIC IMPROVEMENTS USED IN THE FINAL DESIGN, SUCH AS FOR CONVEYANCE AND DETENTION, WILL AFFECT THE FLOODWAY PARAMETERS.

0 50' 100' 150'
SCALE 1"=50'

Reach 4 Section Profiles (Post)

Valley's Edge Drainage

City of Chico, Butte County, California March 20, 2020

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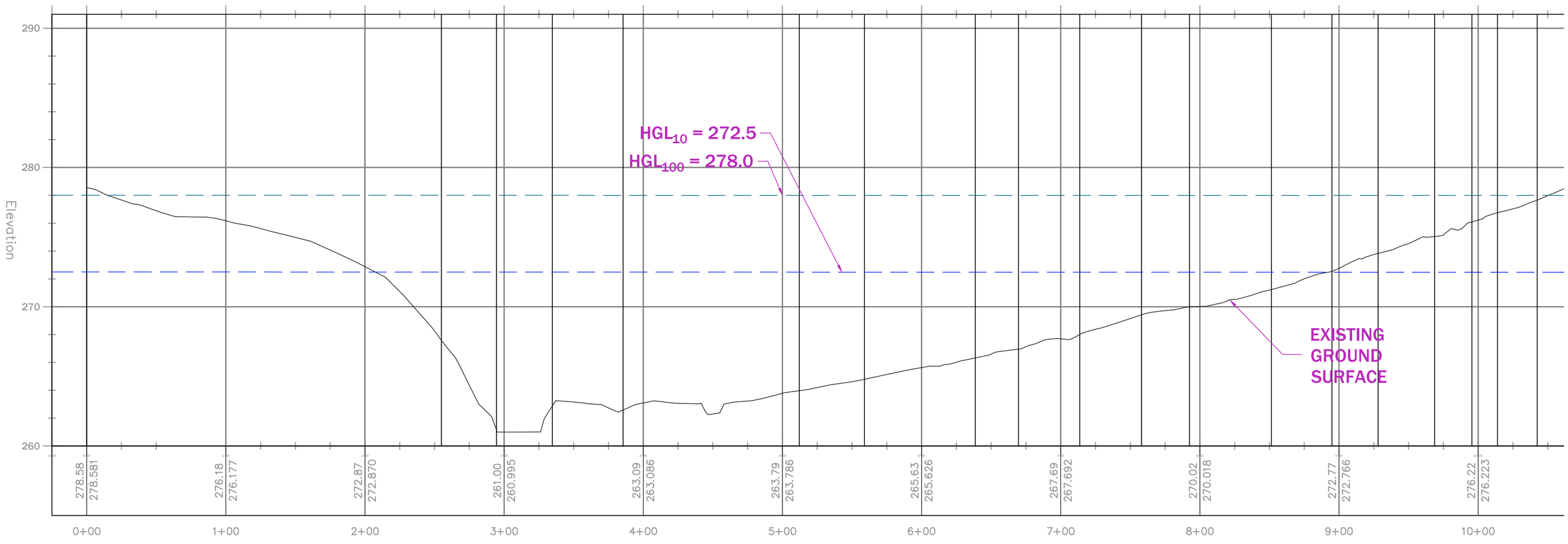
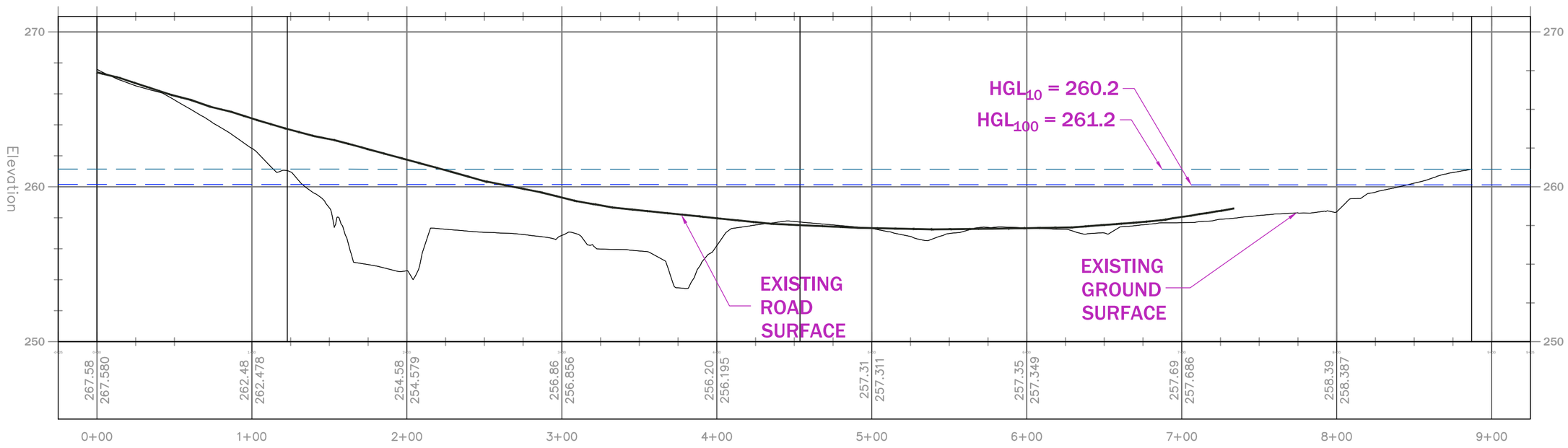
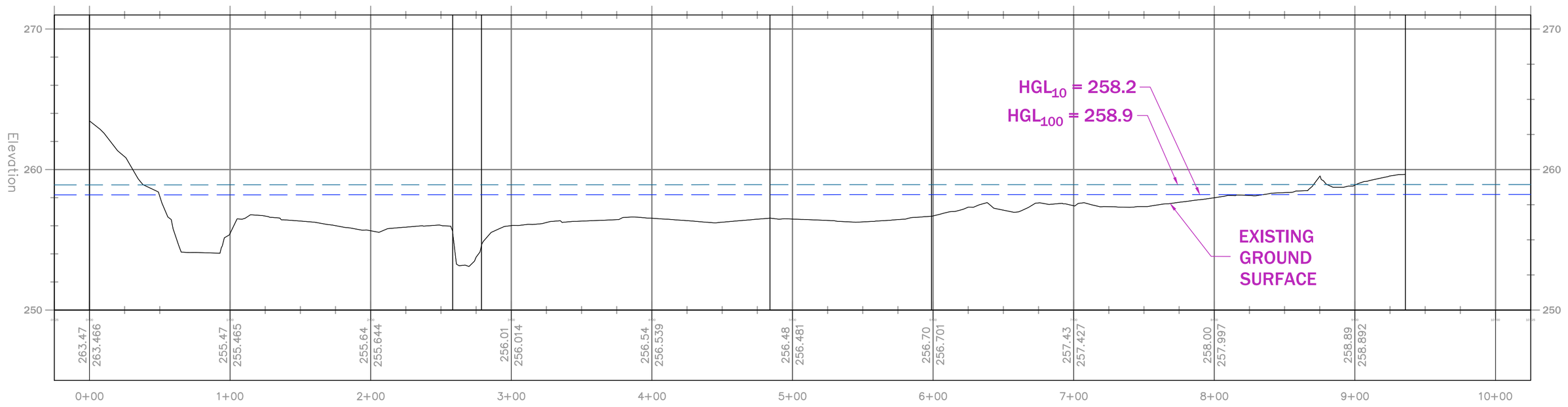
EXHIBIT E.1.1
SHEET: 7 OF 7



R6-49 CROSS SECTION - REACH 6
STA: 49+94.25 - @ PROPOSED LOCAL RD
(UPSTREAM INVERT)



R6-56 CROSS SECTION - REACH 6
STA: 56+62.00 - @ HUMBUG DR
(UPSTREAM INVERT)



R6-57 CROSS SECTION - REACH 6
STA: 57+16.00 - WATER SURFACE ELEVATION

LEGEND:

- 100 YEAR HGL
- 10 YEAR HGL
- EXISTING GROUND SURFACE
- ADJACENT ROADWAY

NOTES:

CROSS SECTION PROFILES ARE ORIENTED FROM LEFT TO RIGHT FACING THE DOWNSTREAM DIRECTION.

NOT ALL SECTIONS WHICH ARE DISPLAYED ON THE PLAN VIEW (SHEET 1) ARE SHOWN. EMPHASIS WAS PLACED ON ANALYZING SECTIONS DIRECTLY UPSTREAM OF PROPOSED CONNECTIONS AS WELL AS DOWNSTREAM AND UPSTREAM OF EXISTING CONNECTIONS.

HGL VALUES SHOWN ON THIS SHEET ARE BOUND TO CHANGE, ESPECIALLY DIRECTLY UPSTREAM OF THE PROPOSED CONNECTIONS. HYDRAULIC IMPROVEMENTS USED IN THE FINAL DESIGN, SUCH AS FOR CONVEYANCE AND DETENTION, WILL AFFECT THE FLOODWAY PARAMETERS.

Reach 6 Section Profiles Cont. (Post)

Valley's Edge Drainage

City of Chico, Butte County, California March 20, 2020

FRAYJI DESIGN GROUP
CIVIL ENGINEERING | PLANNING | SURVEYING
1540 Eureka Road Ste. 100 (916) 782-3000 Phone
Roseville, CA 95661 (916) 782-3955 Fax
CIVIL ENGINEERING • PLANNING • SURVEYING

I:\Engineering\28100-Valley's Edge\Drainage 2019\CAD\EXHIBIT- Floodway Section Analysis\Post-Section Analysis Exhibit.dwg, 04/19/20 04:02:41pm, jstebakov R6

DRAFT

EXHIBIT F.1.0
SHEET: 1 OF 1

UD-OS-BASIN-A5-
UD-OS-BASIN-A4-
UD-OS-BASIN-A3-
UD-OS-BASIN-A6-
UD-OS-BASIN-A7-
UD-OF-SHED-4
UD-OS-BASIN-A2-
UD-OS-BASIN-A1-
UD-OS-BASIN-B3-
UD-OS-BASIN-B2-
UD-OF-SHED-1
UD-OS-BASIN-C3-
RD(Dawncrest)C1B
UD-OS-BASIN-B1-
RDC1A
UD-OS-BASIN-C1-
UD-OS-BASIN-C4-
UD-OF-SHED-5
RD(PotterN)C1-C3
UD-OS-BASIN-C2-
UD-OS-BASIN-F8-
UD-OF-SHED-2
UD-OS-BASIN-D7-
UD-OS-BASIN-D2-
UD-OS-BASIN-D6-
UD-OS-BASIN-F7-
UD-OS-BASIN-D1-
RD(PotterMid)CA
UD-OS-BASIN-D3-
UD-OS-BASIN-F4-
RD(PotterS)C4
UD-OS-BASIN-F6-
UD-OS-BASIN-D5-
UD-OF-SHED-3
UD-OS-BASIN-F5-
UD-OS-BASIN-D4-
UD-OS-BASIN-F3-
UD-OF-SHED-6
UD-OS-BASIN-E2-
UD-OS-BASIN-F1-
RD(Skyway)CB1
RD(Skyway)CB2
UD-OS-BASIN-E1-
UD-OS-BASIN-G4-
RD(Humbug)CC3
RD(Humbug)CC4
RD(Skyway)CC1-CC2
UD-OS-BASIN-F2-
RD(Humbug)CD
RD(Humbug)C5C6CE
UD-OS-BASIN-G2-
UD-OS-BASIN-G1-
UD-OS-BASIN-G6-
RD(Humbug)CK
RD(Humbug)CJ
UD-OS-BASIN-G5-
RD(Humbug)CG
RD(Humbug)CH
RD(Humbug)CI
UD-OS-BASIN-G3-

IN-ShedA1
Q CFS 2yr = 1.37
Q CFS 10yr = 2.31
Q CFS 100yr = 3.59

IN-ShedA2
Q CFS 2yr = 9.76
Q CFS 10yr = 16.33
Q CFS 100yr = 25.24

IN-ShedA3
Q CFS 2yr = 10.1
Q CFS 10yr = 17.0
Q CFS 100yr = 26.3

IN-ShedA4
Q CFS 2yr = 11.1
Q CFS 10yr = 18.5
Q CFS 100yr = 28.7

IN-ShedA5
Q CFS 2yr = 3.9
Q CFS 10yr = 6.5
Q CFS 100yr = 10.1

IN-ShedA6
Q CFS 2yr = 78.2
Q CFS 10yr = 131.5
Q CFS 100yr = 205.1

IN-ShedA7
Q CFS 2yr = 8.2
Q CFS 10yr = 13.8
Q CFS 100yr = 21.6

IN-Shed (B3 + S4)
Q CFS 2yr = 16.69
Q CFS 10yr = 28.20
Q CFS 100yr = 55.28

IN-ShedB2
Q CFS 2yr = 77.42
Q CFS 10yr = 130.98
Q CFS 100yr = 257.22

IN-ShedB2
Q CFS 2yr = 312.88
Q CFS 10yr = 530.71
Q CFS 100yr = 1047.46

IN-ShedB1
Q CFS 2yr = 5.09
Q CFS 10yr = 8.58
Q CFS 100yr = 16.80

IN-Shed(C3+C4)
Q CFS 2yr = 102.29
Q CFS 10yr = 174.08
Q CFS 100yr = 349.55

IN-ShedC1
Q CFS 2yr = 112.51
Q CFS 10yr = 189.76
Q CFS 100yr = 370.72

IN-ShedC2
Q CFS 2yr = 76.56
Q CFS 10yr = 124.88
Q CFS 100yr = 236.29

IN-ShedD2
Q CFS 2yr = 10.88
Q CFS 10yr = 18.41
Q CFS 100yr = 35.97

IN-Shed(D6+D7)
Q CFS 2yr = 49.36
Q CFS 10yr = 82.41
Q CFS 100yr = 160.20

IN-Shed2
Q CFS 2yr = 604.18
Q CFS 10yr = 1018.39
Q CFS 100yr = 2034.83

IN-Shed(F6+F7+F8+5)
Q CFS 2yr = 100.79
Q CFS 10yr = 171.10
Q CFS 100yr = 336.61

IN-Shed3
Q CFS 2yr = 690.41
Q CFS 10yr = 1180.46
Q CFS 100yr = 2342.98

IN-Shed(D3+D4)
Q CFS 2yr = 171.50
Q CFS 10yr = 206.50
Q CFS 100yr = 467.20

IN-ShedD5
Q CFS 2yr = 52.36
Q CFS 10yr = 87.80
Q CFS 100yr = 170.11

IN-ShedF4
Q CFS 2yr = 13.82
Q CFS 10yr = 23.08
Q CFS 100yr = 44.76

IN-ShedD1
Q CFS 2yr = 16.13
Q CFS 10yr = 26.92
Q CFS 100yr = 51.92

IN-ShedE1
Q CFS 2yr = 18.50
Q CFS 10yr = 30.67
Q CFS 100yr = 58.91

IN-ShedE2
Q CFS 2yr = 12.57
Q CFS 10yr = 21.29
Q CFS 100yr = 41.82

IN-ShedF2
Q CFS 2yr = 4.85
Q CFS 10yr = 7.92
Q CFS 100yr = 14.98

IN-ShedF3
Q CFS 2yr = 26.87
Q CFS 10yr = 45.10
Q CFS 100yr = 87.78

IN-Shed6
Q CFS 2yr = 15.25
Q CFS 10yr = 25.61
Q CFS 100yr = 59.89

IN-ShedF1
Q CFS 2yr = 49.42
Q CFS 10yr = 83.01
Q CFS 100yr = 162.03

IN-ShedF5
Q CFS 2yr = 117.34
Q CFS 10yr = 200.65
Q CFS 100yr = 397.93

IN-ShedG6
Q CFS 2yr = 18.08
Q CFS 10yr = 30.57
Q CFS 100yr = 59.89

IN-ShedG5
Q CFS 2yr = 10.74
Q CFS 10yr = 18.02
Q CFS 100yr = 35.18

IN-ShedG3
Q CFS 2yr = 9.68
Q CFS 10yr = 16.19
Q CFS 100yr = 31.46

IN-ShedG4
Q CFS 2yr = 5.30
Q CFS 10yr = 8.86
Q CFS 100yr = 17.21

IN-ShedG1
Q CFS 2yr = 5.80
Q CFS 10yr = 9.75
Q CFS 100yr = 18.97

IN-ShedG2
Q CFS 2yr = 5.13
Q CFS 10yr = 8.56
Q CFS 100yr = 16.58

N
W E
S
0 400' 800' 1200'
SCALE 1"=400'

HEC-RAS GEOMETRY AND INFLOW LEGEND

- 2D FLOW AREA (HEC-RAS)
- DISTRIBUTED INFLOW BC FROM SHEDS (HEC-RAS)
- INFLOW BC FROM SHEDS (HEC-RAS)
- EXISTING CULVERTS/PIPES
- PROPERTY BOUNDARY
- D-OS-BASIN-F2 UNDEVELOPED ONSITE BASIN F2
- HEC-RAS OUTFLOW BC (NORMAL DEPTH)
- REACH FLOW PATH
- HEC-RAS ENFORCED BREAKLINES
- EXISTING ROAD CONNECTION (CULVERT GROUP)
- UD-OF-SHED-3 UNDEVELOPED OFFSITE SHED 3

EXHIBIT NOTES:

- BC (BOUNDARY CONDITION) LINES WERE ASSIGNED IN HEC-RAS REPRESENTING THE MAGNITUDE OF HYDROGRAPH INFLOW. PLACEMENT LOCATIONS ARE SHOWN AS EITHER NODES OR RED LINES (SEE LEGEND). SOME INFLOW (DISCHARGE) LOCATIONS SHOWN DIFFER FROM OUTFALL DISCHARGE NODES SHOWN ON THE SHED DELINEATION MAP (EXHIBIT C). MANY FACTORS INFLUENCED THE PLACEMENT OF THESE INFLOW BC LINES
- INFLOW Q VALUES THAT ARE SHOWN ARE PEAK VALUES FOR INDIVIDUAL BASINS OR A SUMMATION OF CONTRIBUTING BASINS AT THAT POINT OR REGION. DOWNSTREAM DISCHARGE (Q) VALUES ARE INDEPENDENT OF UPSTREAM Q VALUES. EACH Q VALUE REPRESENTS THE RUNOFF FROM ITS RESPECTIVE BASIN(S) UPSTREAM.
- OUTFLOW BC LINES ARE SHOWN AS DARK GREEN LINES REPRESENTING DISCHARGE (Q) OUTFLOW LOCATIONS. THEY WERE ASSIGNED NORMAL DEPTH VALUES. INFLOW BC NODES AND LINES WERE NAMED ACCORDING TO THEIR CONTRIBUTING SHEDS
- SOME HEC-RAS GEOMETRY IS NOT SHOWN ON THIS EXHIBIT. SECTION PROFILE LINES ARE SHOWN ON EXHIBIT E.0 INSTEAD. ROAD CONNECTIONS SHOWN REPRESENT THE CULVERT GROUPS USED IN CREATING THE SA-2D CONNECTIONS IN HEC-RAS. THEY DO NOT REPRESENT THE GEOMETRY OF THE CONNECTIONS THEMSELVES.
- ROAD CONNECTIONS, ALSO KNOWN AS SA-2D CONNECTIONS IN HEC-RAS, ARE DEPICTED TO DEMONSTRATE THE CULVERT GROUPS AND ROADWAY REGIONS THAT WERE ANALYZED. CONNECTIONS WERE NAMED BY THE ROADWAY AND CULVERTS ASSOCIATED WITH THEM. FOR EXAMPLE, RD(POTTERS)C4 REPRESENTS THE SOUTH SIDE OF POTTER RD WITH CULVERTS C4A AND C4B RUNNING THROUGH IT.

I:\Engineering\28100-Valley's Edge\Drainage 2019\CAD\EXHIBIT- HEC-RAS- Geometry and Inflow\HEC-RAS- Geometry and Inflow (Pre).dwg, 04/19/20 02:12:40pm, jstebakov EXHIBIT I (HECRAS-Geometry and Inflow)

HEC-RAS - Geometry and Inflow (Existing)

Valleys Edge Drainage

City of Chico, Butte County, California March 20, 2020

FRAYJI DESIGN GROUP
CIVIL ENGINEERING | PLANNING | SURVEYING
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Roseville, CA 95661 (916) 782-3955 Fax
CIVIL ENGINEERING • PLANNING • SURVEYING

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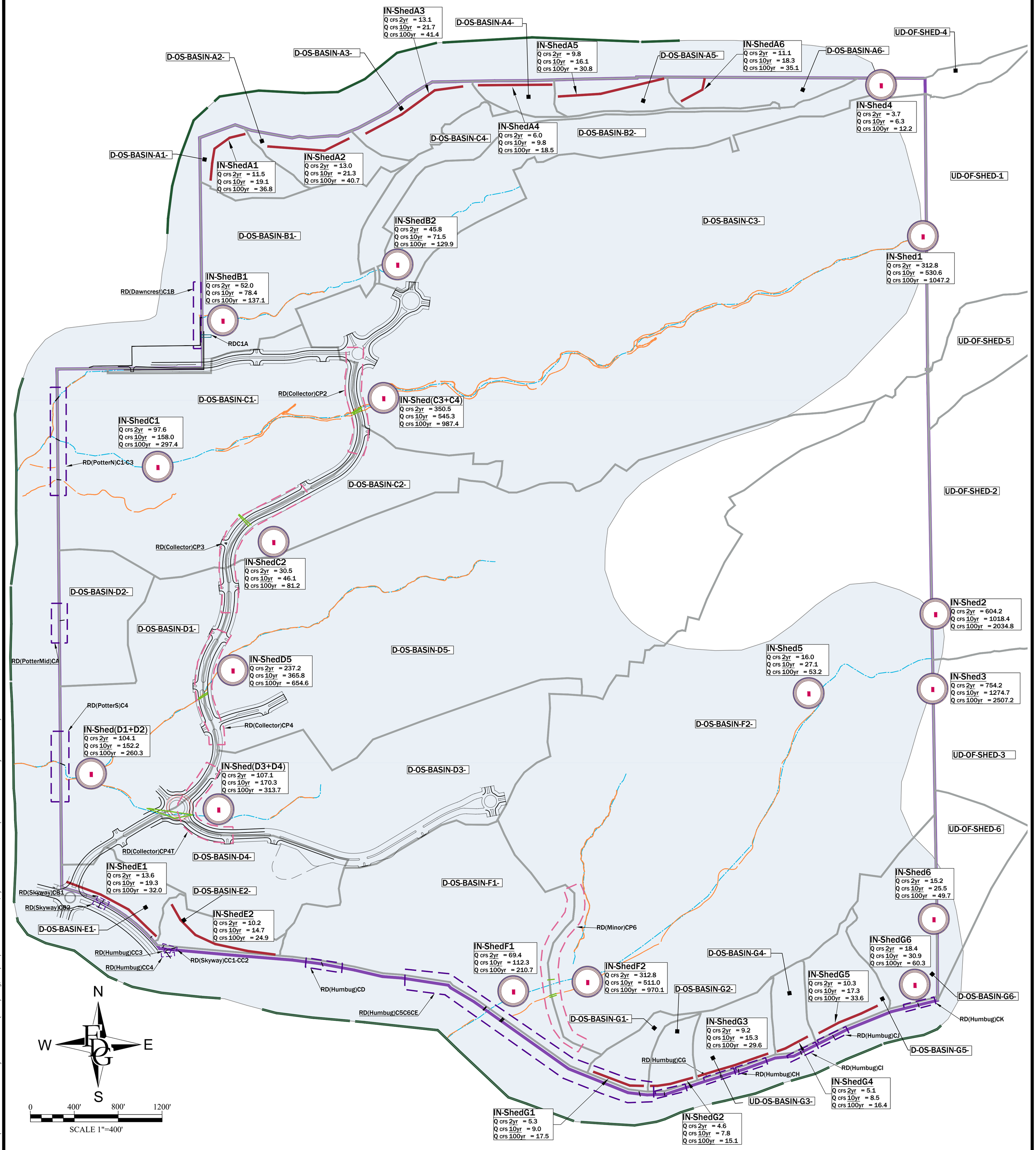
EXHIBIT F.1.1
SHEET: 1 OF 1



HEC-RAS GEOMETRY AND INFLOW LEGEND

- 2D FLOW AREA (HEC-RAS)
- DISTRIBUTED INFLOW BC FROM SHEDS (HEC-RAS)
- INFLOW BC FROM SHEDS (HEC-RAS)
- EXISTING CULVERTS/PIPES
- PROPERTY BOUNDARY
- PROPOSED CULVERTS/PIPES
- DELINEATED PROPOSED BASINS
- HEC-RAS OUTFLOW BC (NORMAL DEPTH)
- REACH FLOW PATH
- HEC-RAS ENFORCED BREAKLINES
- EXISTING ROAD CONNECTION (CULVERT GROUP)
- PROPOSED ROAD CONNECTION (CULVERT GROUP)
- UD-OF-SHED-3 UNDEVELOPED OFFSITE SHED 3
- D-OS-BASIN-F2 UNDEVELOPED ONSITE BASIN F2

EXHIBIT NOTES:

- BC (BOUNDARY CONDITION) LINES WERE ASSIGNED IN HEC-RAS REPRESENTING THE MAGNITUDE OF HYDROGRAPH INFLOW. PLACEMENT LOCATIONS ARE SHOWN AS EITHER NODES OR RED LINES (SEE LEGEND). SOME INFLOW (DISCHARGE) LOCATIONS SHOWN DIFFER FROM OUTFALL DISCHARGE NODES SHOWN ON THE SHED DELINEATION MAP (EXHIBIT C). MANY FACTORS INFLUENCED THE PLACEMENT OF THESE INFLOW BC LINES
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HEC-RAS - Geometry and Inflow (Proposed)

Valleys Edge Drainage

City of Chico, Butte County, California March 9, 2020

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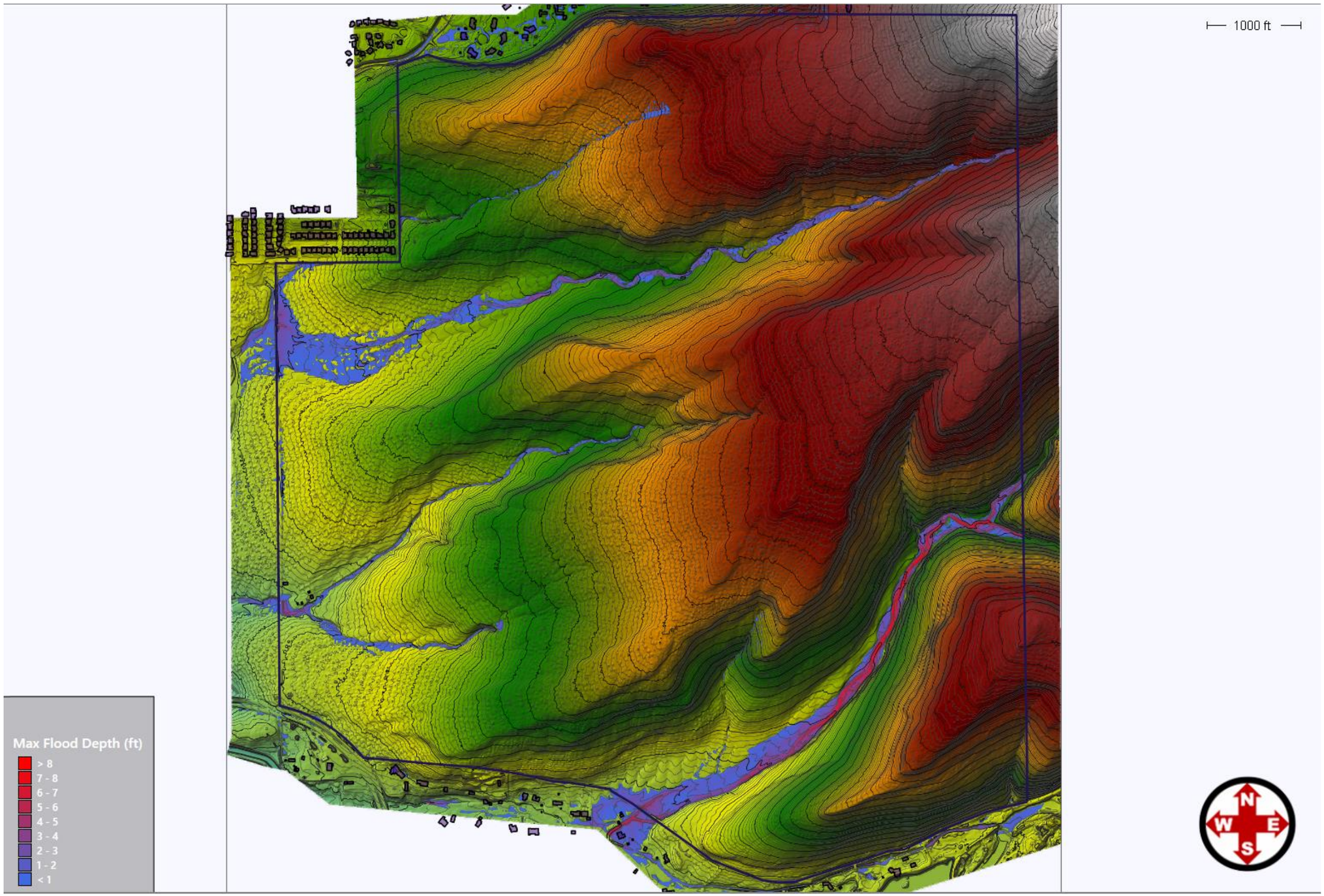
Roseville, CA 95661 (916) 782-3955 Fax
CIVIL ENGINEERING • PLANNING • SURVEYING

I:\Engineering\28100-Valley's Edge\Drainage 2019\CAD\EXHIBIT- HEC-RAS- Geometry and Inflow\HEC-RAS- Geometry and Inflow (Post).dwg, 04/28/20 10:14:59am, jstebakov EXHIBIT I (HECRAS-Geometry and Inflow)

Max Flood Depth (2yr Storm Event)

DRAFT

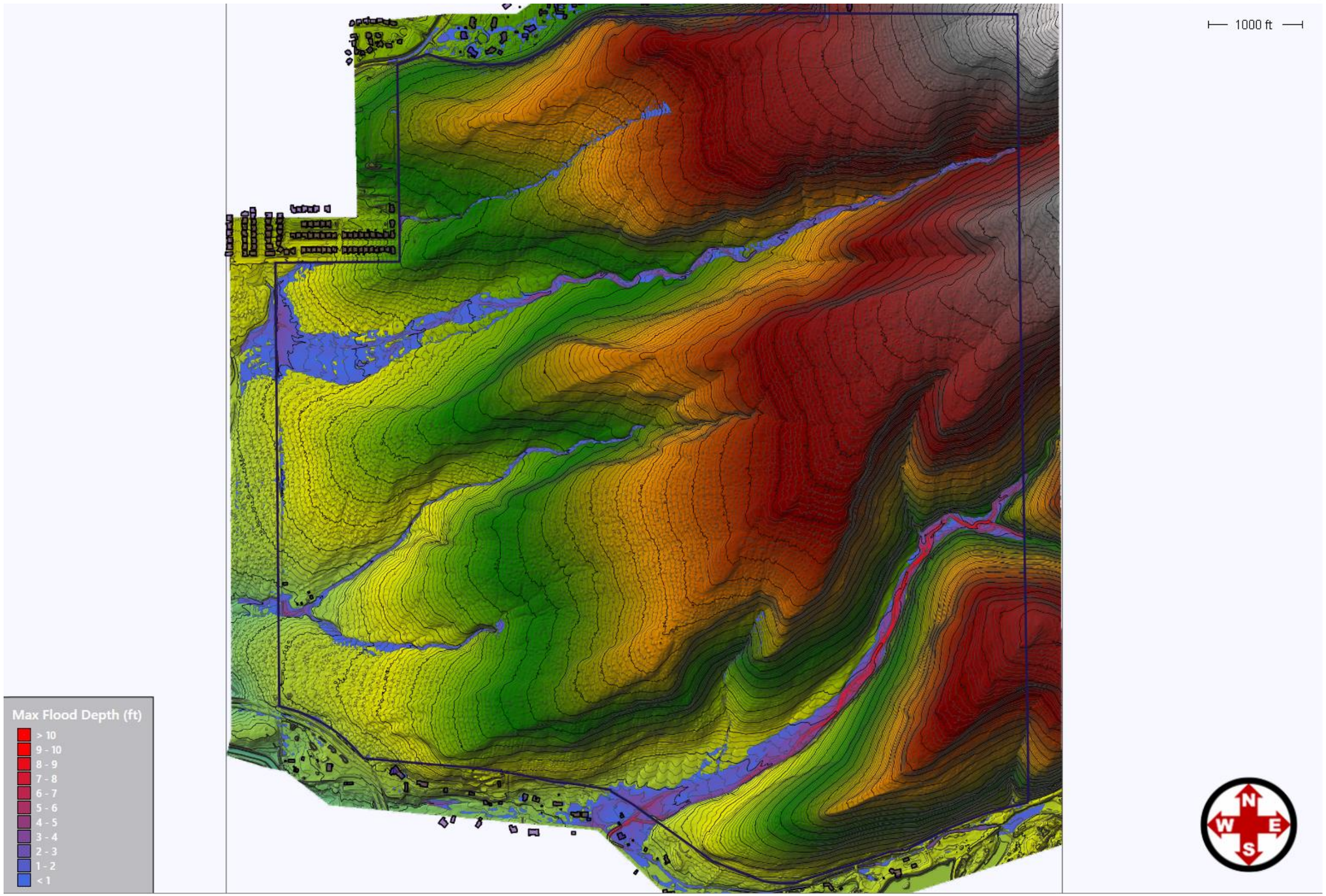
Exhibit G.1.1



Max Flood Depth (10yr Storm Event)

DRAFT

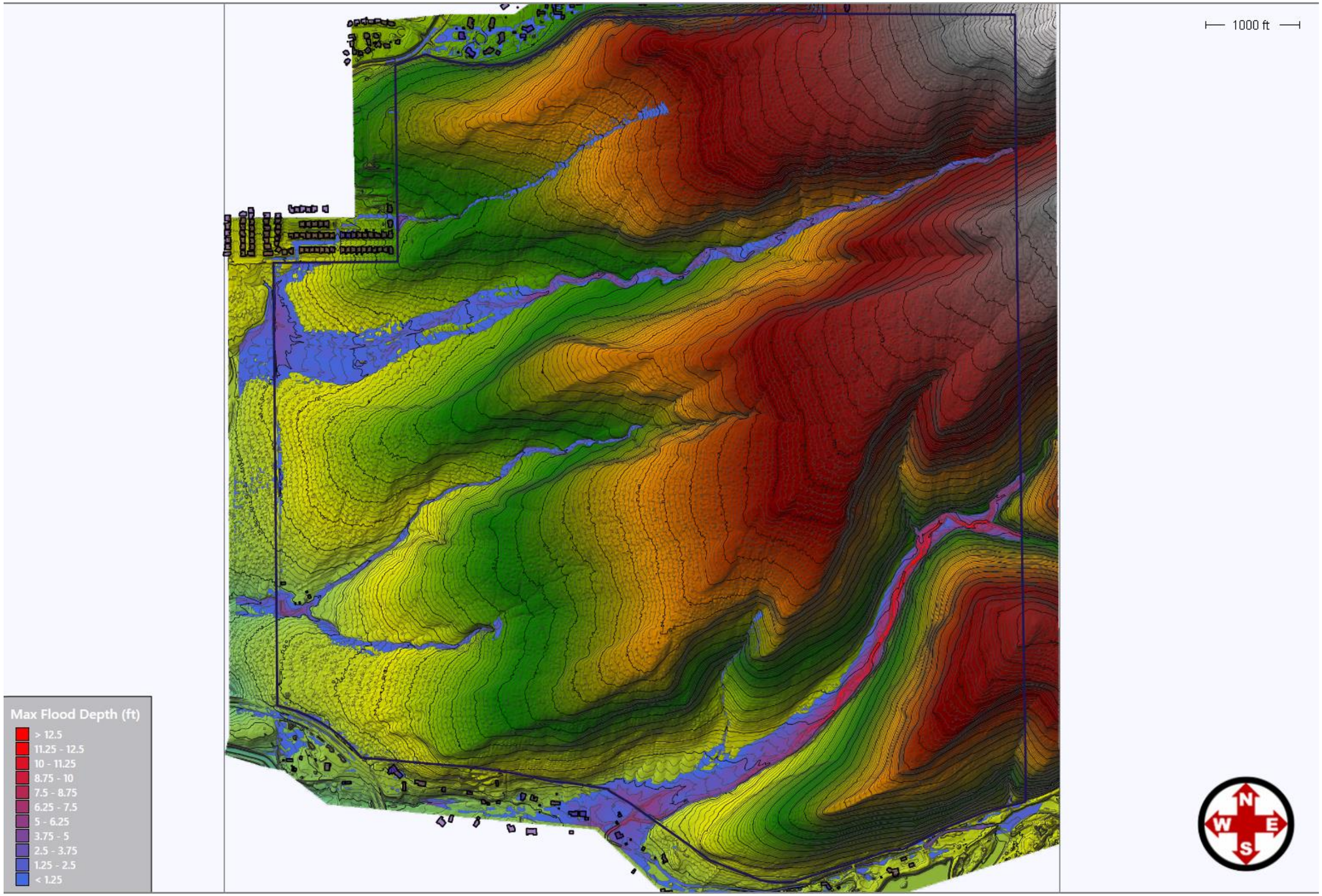
Exhibit G.1.1



Max Flood Depth (100yr Storm Event)

DRAFT

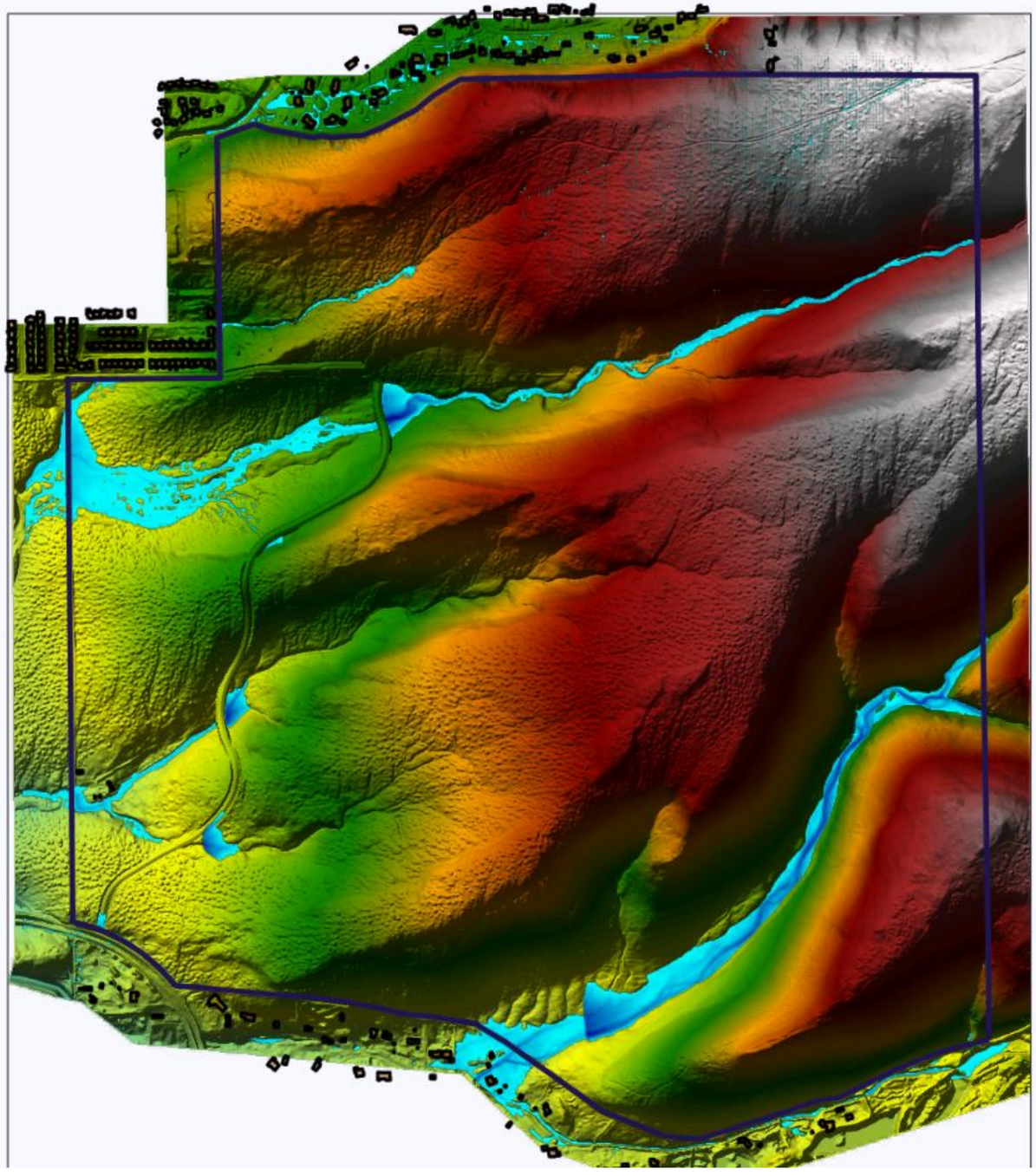
Exhibit G.1.1



Post Max Flood Depth (2yr Storm Event)

DRAFT

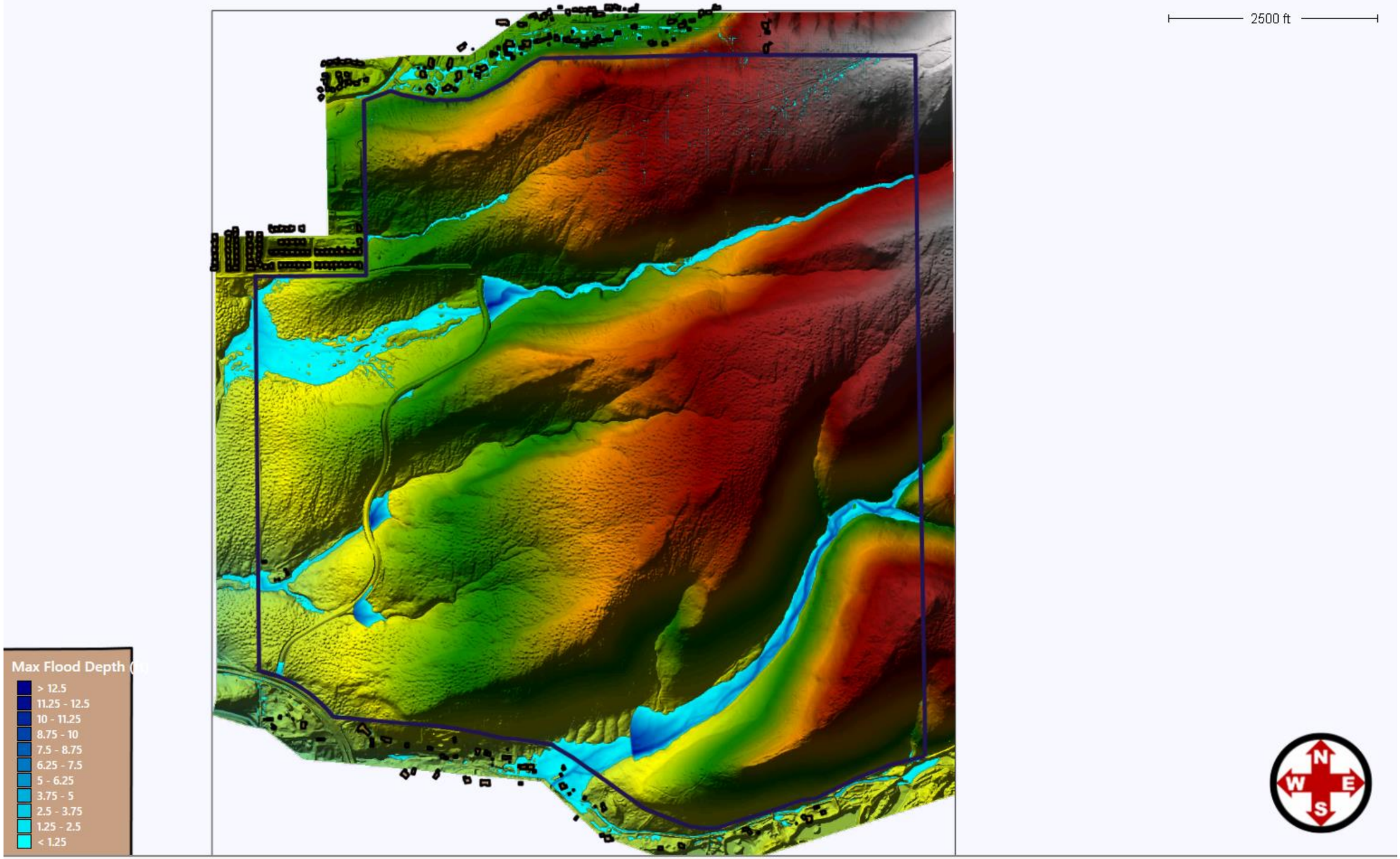
Exhibit G.1.2



Post Max Flood Depth (10yr Storm Event)

DRAFT

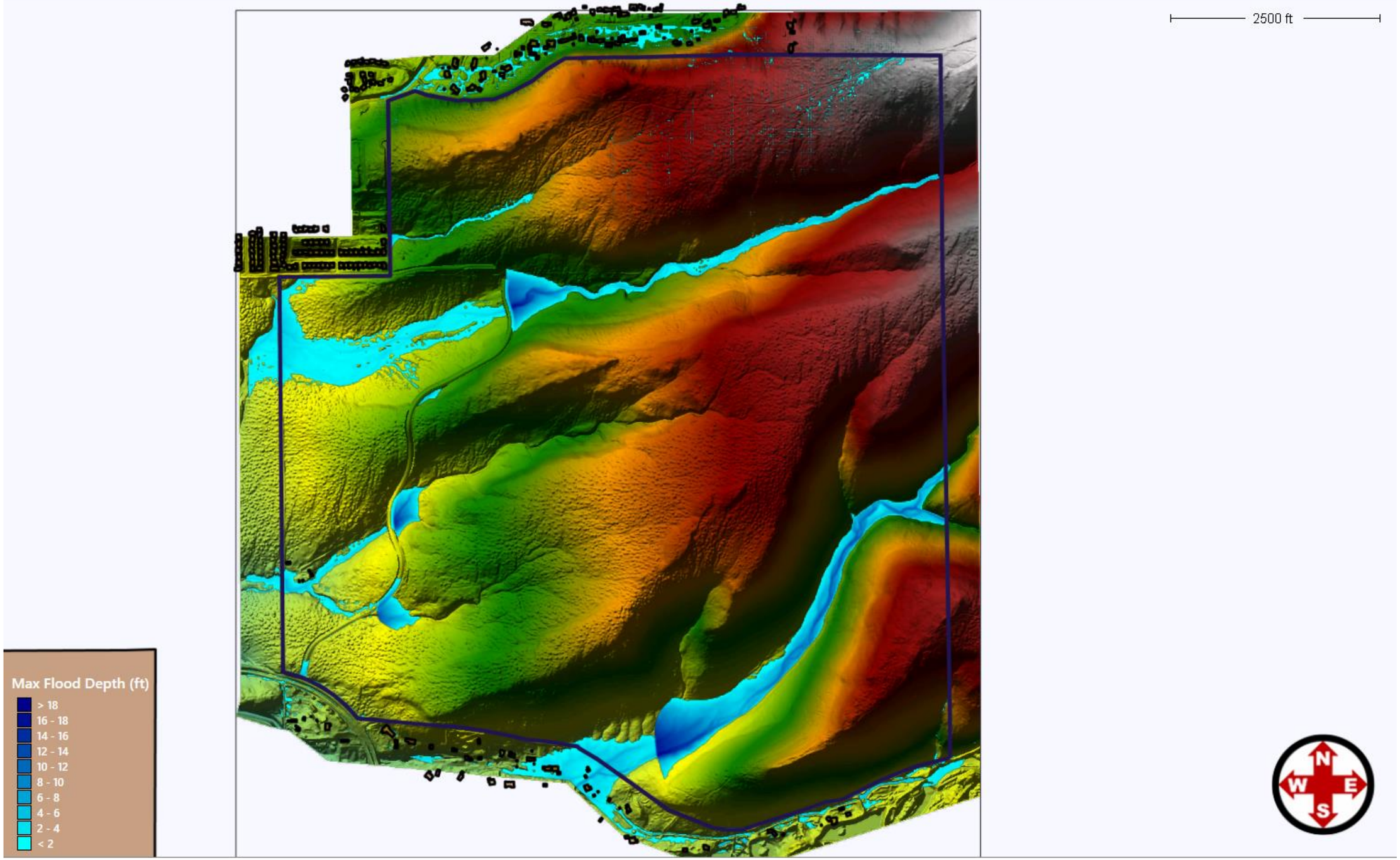
Exhibit G.1.2



Post Max Flood Depth (100yr Storm Event)

DRAFT

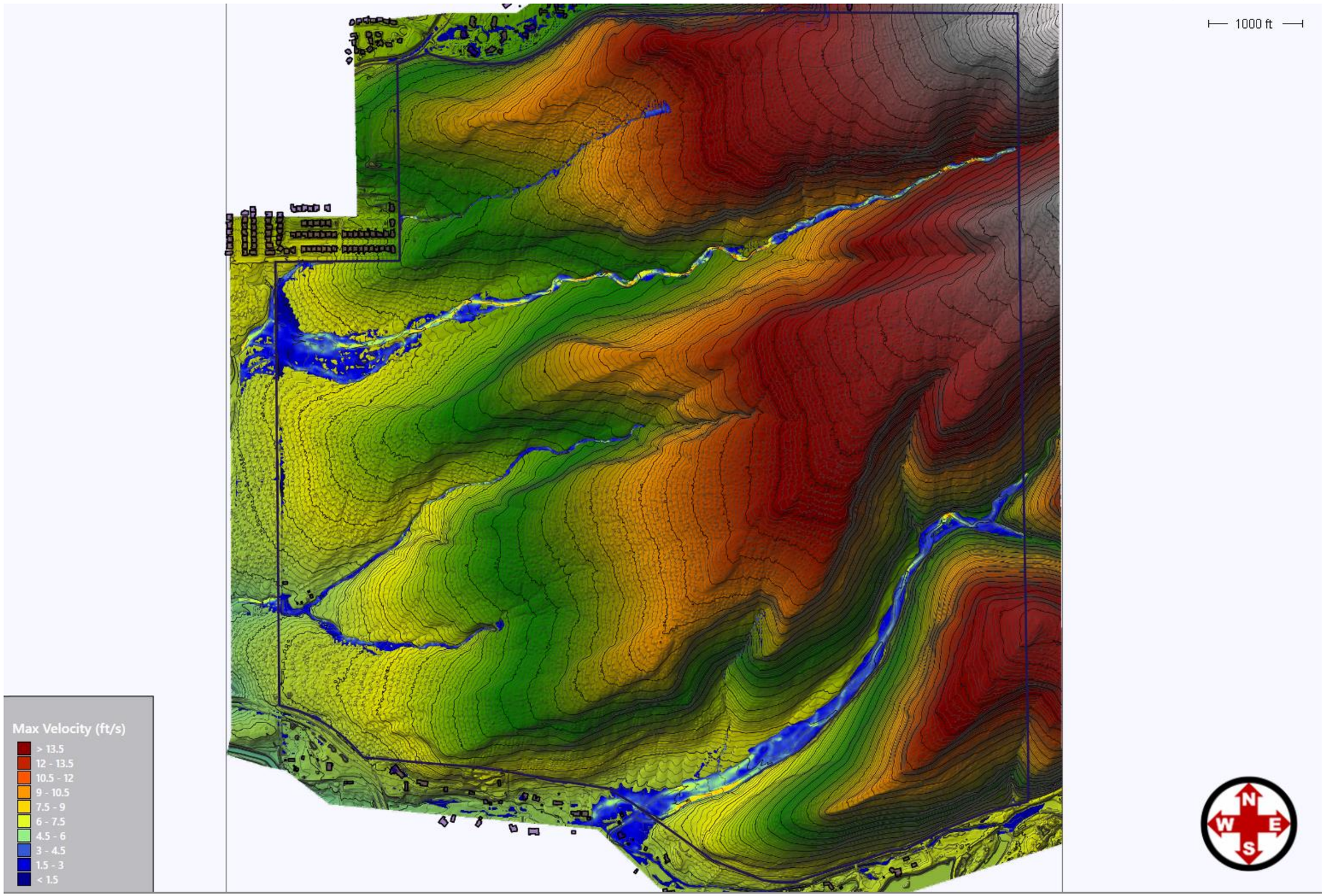
Exhibit G.1.2



Max Flood Velocity (2yr Storm Event)

DRAFT

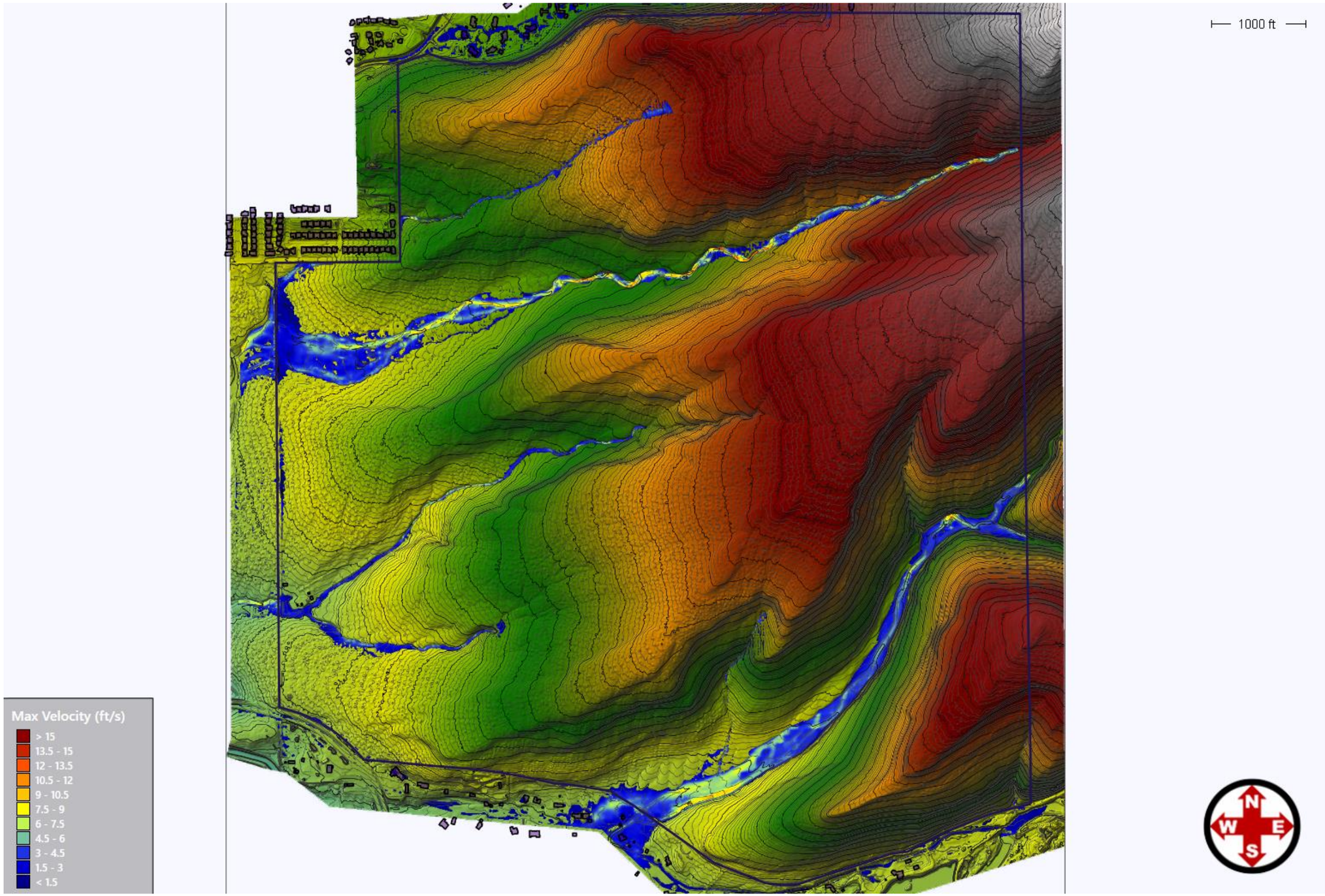
Exhibit G.2.1



Max Flood Velocity (10yr Storm Event)

DRAFT

Exhibit G.2.1



Max Flood Velocity (100yr Storm Event)

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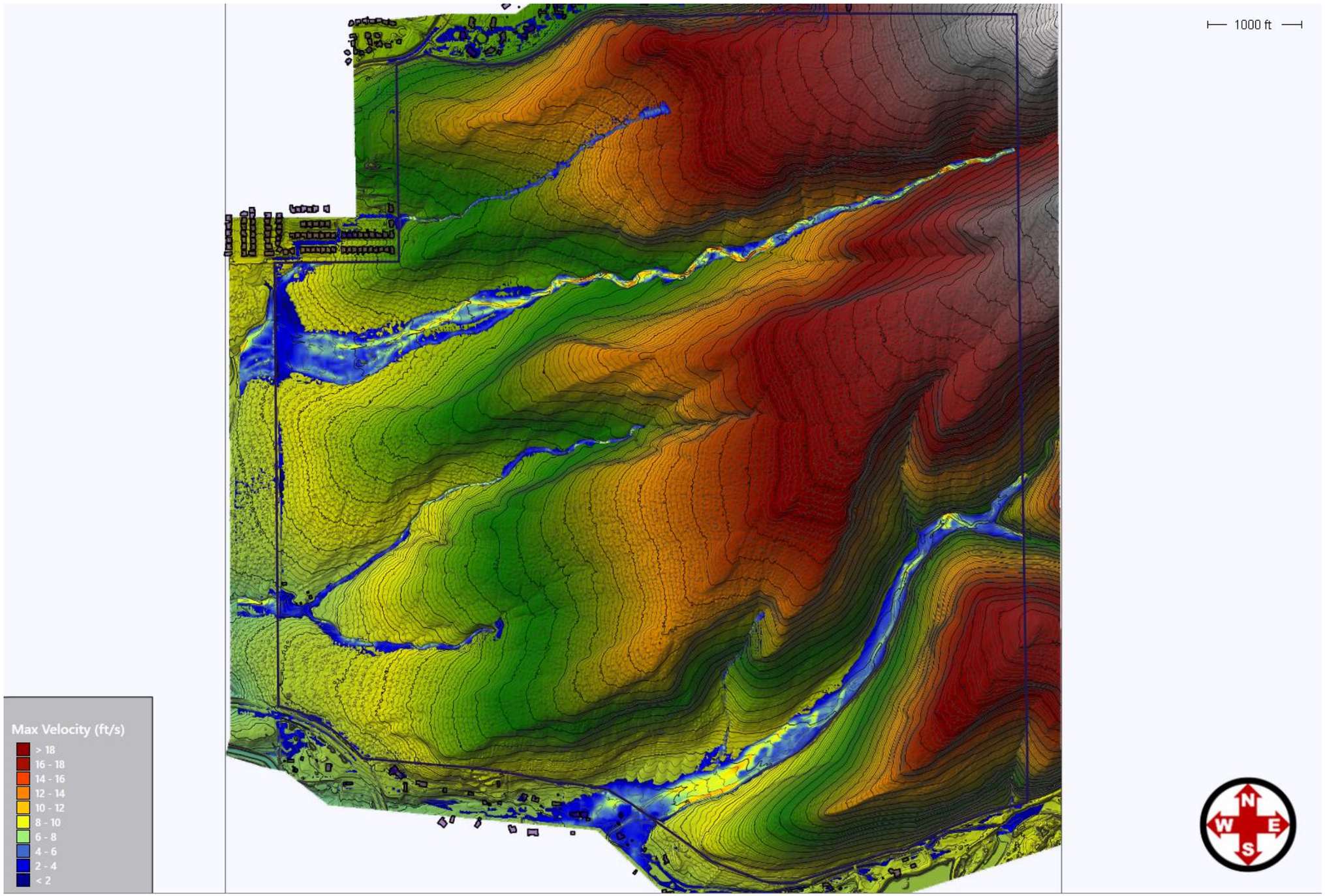
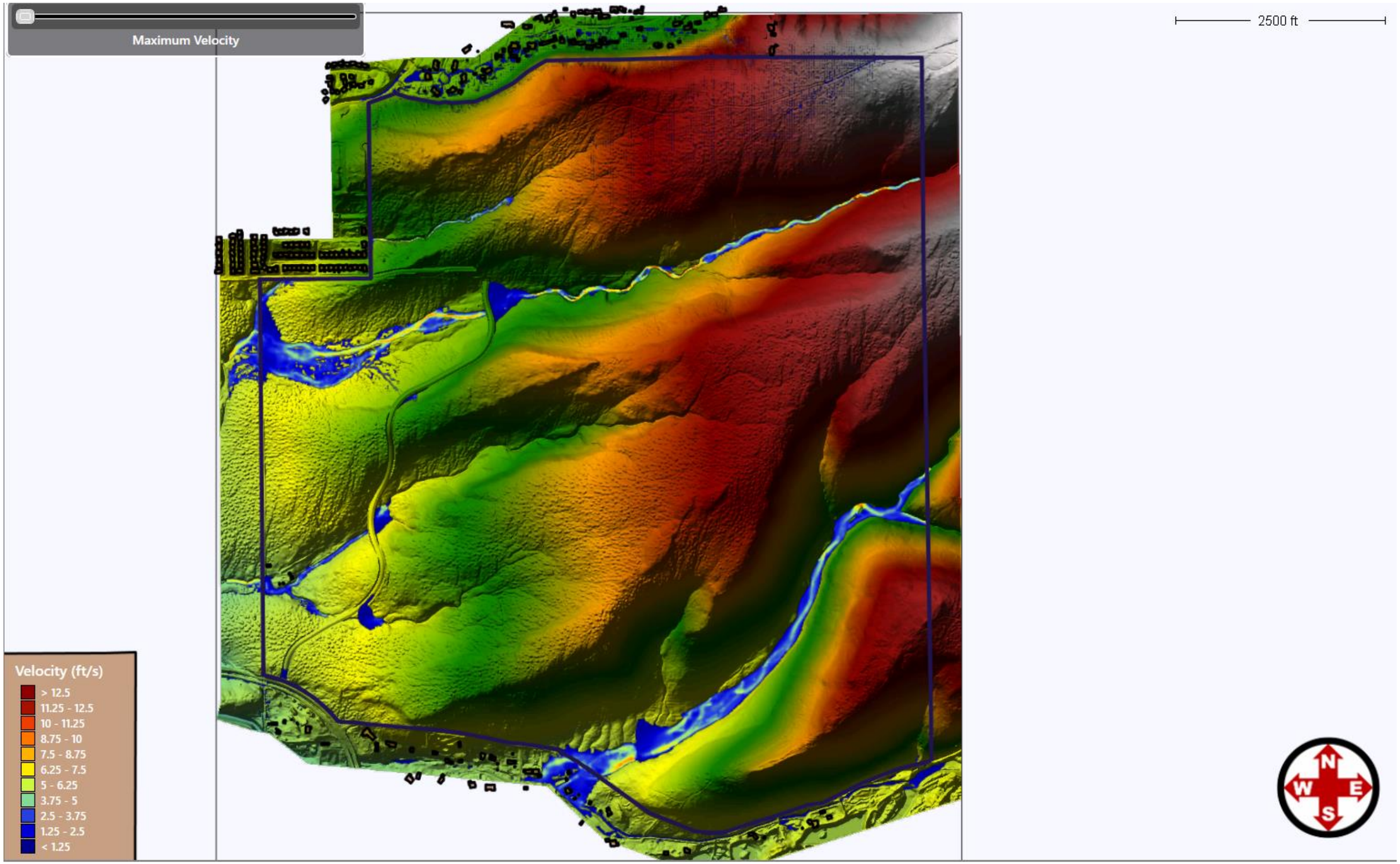
Exhibit G.2.1



Post Max Flood Velocity (2yr Storm Event)

DRAFT

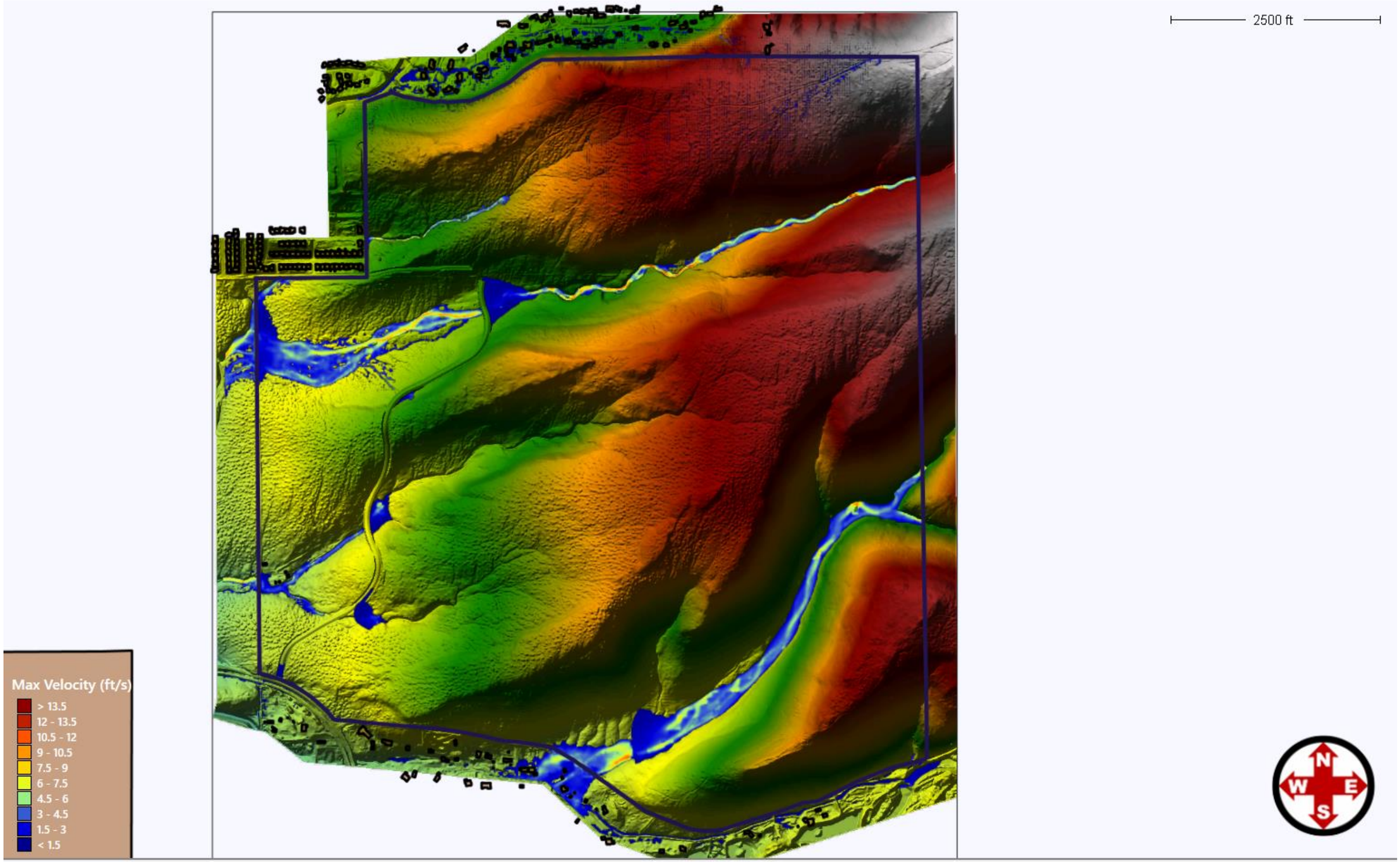
Exhibit G.2.2



Post Max Flood Velocity (10yr Storm Event)

DRAFT

Exhibit G.2.2



Post Max Flood Velocity (100yr Storm Event)

DRAFT

Exhibit G.2.2

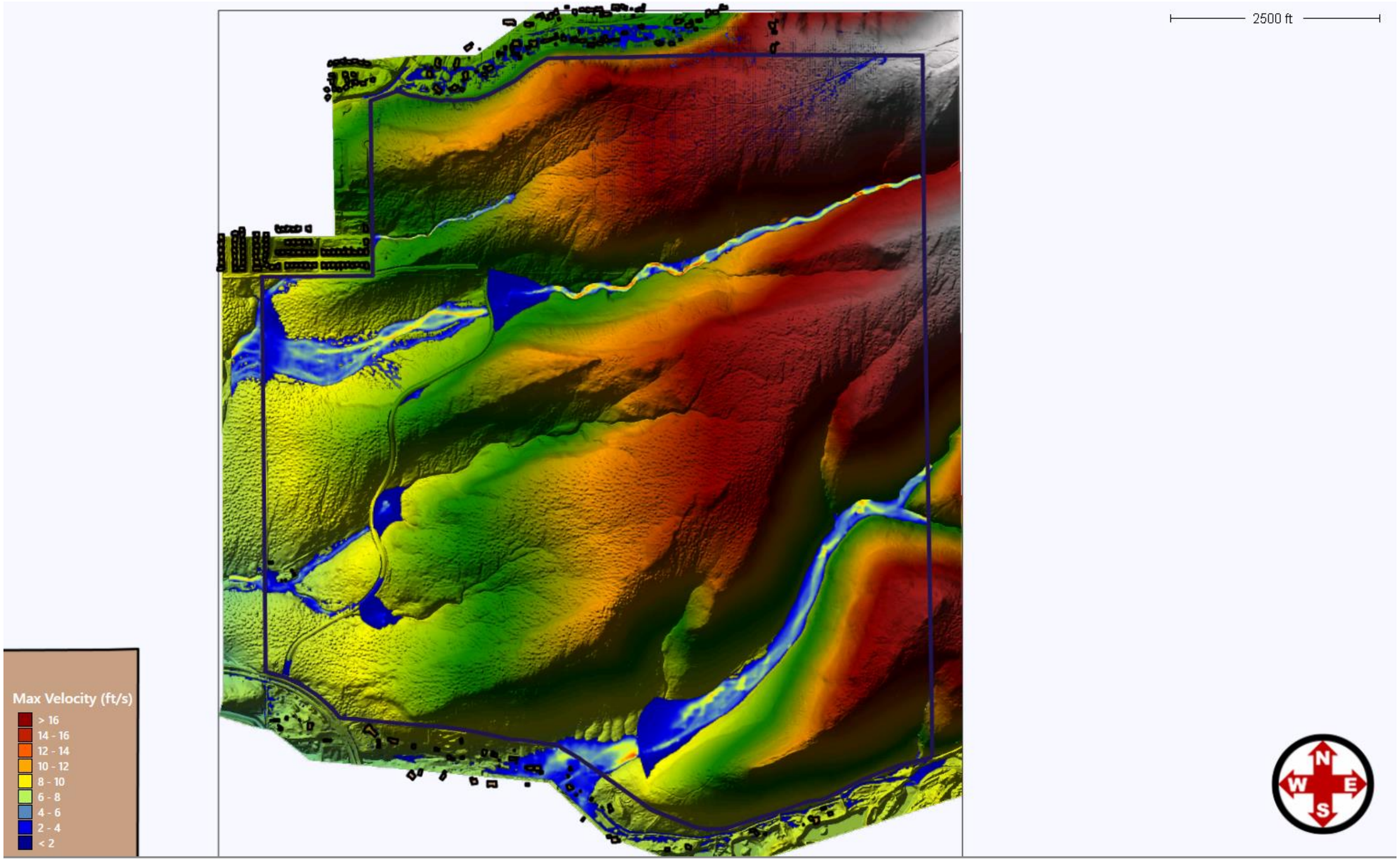


EXHIBIT
H.1.0

DRAFT

Autodesk® Storm and Sanitary Analysis 2016 - Version 13.2.147 (Build 0)

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Project Description
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Description ..... C:\Users\tsotomayor\AppData\Local\Temp\Chico_Drainage-UnDEV Basins(Use)_1_13048_8423ce0f.sv$

****
Analysis Options
****
Flow Units ..... cfs
Subbasin Hydrograph Method. SCS TR-55
Time of Concentration..... SCS TR-55
Link Routing Method ..... Kinematic Wave
Storage Node Exfiltration.. None
Starting Date MAY-02-2020 00:00:00
Ending Date MAY-03-2020 00:00:00
Report Time Step 00:15:00

****
Element Count
****
Number of rain gages 2
Number of subbasins 43
Number of nodes 60
Number of links 37

****
Raingage Summary
****

Gage ID	Data Source	Data Type	Recording Interval min
Type1-24hr-CumulativeC-1-SCS-100YR		CUMULATIVE	6.00
Type1-24hr-Intensityi-100-SCS		INTENSITY	6.00

****
Subbasin Summary
****

Subbasin ID	Total Area acres	Peak Rate Factor
{Drainage-UnDEV}.UD-OF-SHED-1	398.73	484.00
{Drainage-UnDEV}.UD-OF-SHED-2	884.33	484.00
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{Drainage-UnDEV}.UD-OF-SHED-4	4.31	484.00
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{Drainage-UnDEV}.UD-OF-SHED-6	18.41	484.00
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{Drainage-UnDEV}.UD-OS-SHED-SUB-C4-	43.38	484.00
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{Drainage-UnDEV}.UD-OS-SHED-SUB-E2-	17.45	484.00
{Drainage-UnDEV}.UD-OS-SHED-SUB-F1-	72.28	484.00
{Drainage-UnDEV}.UD-OS-SHED-SUB-F2-	3.56	484.00
{Drainage-UnDEV}.UD-OS-SHED-SUB-F3-	38.98	484.00
{Drainage-UnDEV}.UD-OS-SHED-SUB-F4-	19.75	484.00
{Drainage-UnDEV}.UD-OS-SHED-SUB-F5-	136.81	484.00
{Drainage-UnDEV}.UD-OS-SHED-SUB-F6-	17.65	484.00
{Drainage-UnDEV}.UD-OS-SHED-SUB-F7-	35.84	484.00

{Drainage-UnDEV}.UD-OS-SHED-SUB-F8-	53.70	484.00
{Drainage-UnDEV}.UD-OS-SHED-SUB-G1-	6.47	484.00
{Drainage-UnDEV}.UD-OS-SHED-SUB-G2-	5.54	484.00
{Drainage-UnDEV}.UD-OS-SHED-SUB-G3-	10.59	484.00
{Drainage-UnDEV}.UD-OS-SHED-SUB-G4-	5.80	484.00
{Drainage-UnDEV}.UD-OS-SHED-SUB-G5-	12.27	484.00
{Drainage-UnDEV}.UD-OS-SHED-SUB-G6-	21.06	484.00

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Node Summary

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Node ID	Element Type	Invert Elevation ft	Maximum Elev. ft	Ponded Area ft²	External Inflow
AP-OF-1	JUNCTION	450.28	454.28	0.00	
AP-OF-2	JUNCTION	319.33	325.08	0.00	
AP-OF-3	JUNCTION	319.33	325.08	0.00	
AP-OF-4	JUNCTION	580.00	583.75	0.00	
AP-OF-5	JUNCTION	525.00	527.25	0.00	
AP-OF-6	JUNCTION	341.00	343.25	0.00	
AP-OS-B1	JUNCTION	268.57	274.07	0.00	
AP-OS-B2	JUNCTION	307.66	313.41	0.00	
AP-OS-B3	JUNCTION	470.24	473.99	0.00	
AP-OS-C1	JUNCTION	266.64	271.14	0.00	
AP-OS-C2	JUNCTION	267.92	269.67	0.00	
AP-OS-C3	JUNCTION	360.59	366.09	0.00	
AP-OS-C4	JUNCTION	361.59	367.34	0.00	
AP-OS-D1	JUNCTION	242.32	246.57	0.00	
AP-OS-D2	JUNCTION	269.32	271.07	0.00	
AP-OS-D3	JUNCTION	246.96	250.71	0.00	
AP-OS-D4	JUNCTION	246.96	250.71	0.00	
AP-OS-D5	JUNCTION	315.25	318.00	0.00	
AP-OS-D6	JUNCTION	351.56	355.31	0.00	
AP-OS-D7	JUNCTION	352.56	354.31	0.00	
AP-OS-E1	JUNCTION	253.82	256.07	0.00	
AP-OS-E2	JUNCTION	257.12	259.87	0.00	
AP-OS-F1-A	JUNCTION	253.86	261.28	0.00	
AP-OS-F1-B	JUNCTION	252.92	256.67	0.00	
AP-OS-F2	JUNCTION	279.23	281.48	0.00	
AP-OS-F3	JUNCTION	274.98	278.73	0.00	
AP-OS-F4	JUNCTION	401.69	403.44	0.00	
AP-OS-F5	JUNCTION	264.57	271.32	0.00	

AP-OS-F6	JUNCTION	307.80	313.55	0.00
AP-OS-F7	JUNCTION	306.80	313.55	0.00
AP-OS-F8	JUNCTION	307.80	313.55	0.00
AP-OS-G1	JUNCTION	264.74	266.49	0.00
AP-OS-G2	JUNCTION	264.11	265.86	0.00
AP-OS-G3	JUNCTION	265.33	267.58	0.00
AP-OS-G4	JUNCTION	267.93	269.68	0.00
AP-OS-G5	JUNCTION	267.93	269.68	0.00
AP-OS-G6	JUNCTION	272.54	275.29	0.00
OUTFALL-A-1	OUTFALL	351.90	351.90	0.00
OUTFALL-A-2	OUTFALL	310.00	310.00	0.00
OUTFALL-A-3	OUTFALL	332.00	332.00	0.00
OUTFALL-A-4	OUTFALL	341.00	341.00	0.00
OUTFALL-A-5	OUTFALL	402.00	402.00	0.00
OUTFALL-A-6	OUTFALL	406.00	406.00	0.00
OUTFALL-A-7	OUTFALL	448.00	448.00	0.00
OUTFALL-B-1	OUTFALL	268.23	272.56	0.00
OUTFALL-C-1-ALL	OUTFALL	266.29	270.46	0.00
OUTFALL-C-2	OUTFALL	267.45	268.95	0.00
OUTFALL-D-1-ALL	OUTFALL	242.54	246.54	0.00
OUTFALL-D-2	OUTFALL	268.09	269.59	0.00
OUTFALL-E-1-SOUTHWESTOUTFALL		251.55	253.55	0.00
OUTFALL-E-2-SOUTH	OUTFALL	256.53	259.03	0.00
OUTFALL-F-1-ALL	OUTFALL	253.69	260.86	0.00
OUTFALL-F-2	OUTFALL	252.80	256.30	0.00
OUTFALL-F-3	OUTFALL	277.91	279.91	0.00
OUTFALL-G-1	OUTFALL	263.11	264.61	0.00
OUTFALL-G-2	OUTFALL	263.56	265.06	0.00
OUTFALL-G-3	OUTFALL	263.40	265.40	0.00
OUTFALL-G-4	OUTFALL	267.24	268.74	0.00
OUTFALL-G-5	OUTFALL	263.88	265.38	0.00
OUTFALL-G-6	OUTFALL	271.90	274.40	0.00

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Link Summary

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Link ID	From Node	To Node	Element Type	Length ft	Slope %	Manning's Roughness
BYPASS-REACH-1-B1	AP-OS-B2	AP-OS-B1	CONDUIT	1853.6	2.1224	0.0150
OUTLET-CC-10-G1	AP-OS-G1	OUTFALL-G-1	CONDUIT	30.0	6.2667	0.0150
OUTLET-CC-11-G2	AP-OS-G2	OUTFALL-G-2	CONDUIT	45.0	1.7778	0.0150
OUTLET-CC-12-G3	AP-OS-G3	OUTFALL-G-3	CONDUIT	36.0	6.0556	0.0150

OUTLET-CC-13-G4	AP-OS-G4	OUTFALL-G-4	CONDUIT	40.0	2.3500	0.0150
OUTLET-CC-14-G5	AP-OS-G5	OUTFALL-G-5	CONDUIT	40.0	10.7500	0.0150
OUTLET-CC-15-G6	AP-OS-G6	OUTFALL-G-6	CONDUIT	40.0	2.2250	0.0150
OUTLET-CC-1-B	AP-OS-B1	OUTFALL-B-1	CONDUIT	50.0	1.1800	0.0150
OUTLET-CC-2-C1	AP-OS-C1	OUTFALL-C-1-ALL	CONDUIT	41.0	1.4634	0.0150
OUTLET-CC-3-C2	AP-OS-C2	OUTFALL-C-2	CONDUIT	36.0	2.0000	0.0150
OUTLET-CC-4-D2	AP-OS-D2	OUTFALL-D-2	CONDUIT	83.6	1.7712	0.0150
OUTLET-CC-5-D1	AP-OS-D1	OUTFALL-D-1-ALL	CONDUIT	45.0	0.0667	0.0150
OUTLET-CC-6-E1	AP-OS-E1	OUTFALL-E-1-SOUTHWEST	CONDUIT	50.0	5.0400	0.0150
OUTLET-CC-7-E2	AP-OS-E2	OUTFALL-E-2-SOUTH	CONDUIT	77.0	1.0909	0.0120
OUTLET-CC-8-F1	AP-OS-F1-B	OUTFALL-F-2	CONDUIT	41.0	0.9024	0.0120
OUTLET-CC-8-F2	AP-OS-F2	OUTFALL-F-3	CONDUIT	40.0	3.9250	0.0150
OUTLET-CC-9-F1	AP-OS-F1-A	OUTFALL-F-1-ALL	CONDUIT	48.0	0.8750	0.0150
REACH-1-B2	AP-OS-B3	AP-OS-B2	CHANNEL	4391.5	3.7078	0.0320
REACH-1-B3	AP-OF-4	AP-OS-B3	CHANNEL	2848.1	3.8626	0.0320
REACH-2-C1	AP-OS-C3	AP-OS-C1	CHANNEL	5856.8	1.6084	0.0320
REACH-2-C4	AP-OF-1	AP-OS-C3	CHANNEL	3056.0	2.9185	0.0320
REACH-2-LINK1	AP-OS-C4	AP-OS-C3	CHANNEL	20.0	6.2500	0.0150
REACH-3-D1	AP-OS-D3	AP-OS-D1	CHANNEL	666.3	0.7339	0.0150
REACH-3-D2	AP-OS-D6	AP-OS-D3	CHANNEL	4513.7	2.3229	0.0320
REACH-3-LINK1	AP-OS-D7	AP-OS-D6	CHANNEL	20.0	6.2500	0.0150
REACH-4-D1	AP-OS-D4	AP-OS-D1	CHANNEL	666.3	0.7339	0.0320
REACH-4-D3	AP-OS-D5	AP-OS-D4	CHANNEL	2274.1	3.0139	0.0320
REACH-5-F1	AP-OS-F3	AP-OS-F1-B	CHANNEL	1309.8	1.7033	0.0320
REACH-5-F3	AP-OS-F4	AP-OS-F3	CHANNEL	1712.9	7.4119	0.0320
REACH-6-F1	AP-OS-F5	AP-OS-F1-A	CHANNEL	932.5	1.1753	0.0320
REACH-6-F5	AP-OS-F7	AP-OS-F5	CHANNEL	3501.7	1.2131	0.0320
REACH-6-F6	AP-OF-3	AP-OS-F6	CHANNEL	1289.1	0.9138	0.0320
REACH-6-F7	AP-OF-2	AP-OS-F7	CHANNEL	1455.9	0.8778	0.0320
REACH-6-F8	AP-OF-5	AP-OS-F8	CHANNEL	3106.3	7.0003	0.0320
REACH-6-LINK1	AP-OS-F6	AP-OS-F7	CHANNEL	20.0	6.2500	0.0150
REACH-6-LINK2	AP-OS-F8	AP-OS-F7	CHANNEL	20.0	6.2500	0.0150
REACH-7-G6	AP-OF-6	AP-OS-G6	CHANNEL	1048.2	6.5552	0.0320

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Cross Section Summary

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Link ID	Shape	Depth/ Diameter	Width	No. of Barrels	Cross Sectional Area	Full Flow Hydraulic Radius	Design Flow Capacity
		ft	ft		ft²	ft	cfs
BYPASS-REACH-1-B1	CIRCULAR	5.00	5.00	1	19.63	1.25	328.83

OUTLET-CC-10-G1	CIRCULAR	1.00	1.00	1	0.79	0.25	7.73
OUTLET-CC-11-G2	CIRCULAR	1.00	1.00	1	0.79	0.25	4.12
OUTLET-CC-12-G3	CIRCULAR	1.50	1.50	2	1.77	0.38	22.40
OUTLET-CC-13-G4	CIRCULAR	1.00	1.00	1	0.79	0.25	4.73
OUTLET-CC-14-G5	CIRCULAR	1.00	1.00	1	0.79	0.25	10.12
OUTLET-CC-15-G6	CIRCULAR	2.00	2.00	1	3.14	0.50	29.25
OUTLET-CC-1-B	HORIZ_ELLIPSE	3.83	5.50	1	18.65	1.17	223.28
OUTLET-CC-2-C1	HORIZ_ELLIPSE	3.67	6.00	2	17.06	1.12	220.86
OUTLET-CC-3-C2	CIRCULAR	1.00	1.00	1	0.79	0.25	4.37
OUTLET-CC-4-D2	HORIZ_ELLIPSE	1.00	1.50	1	1.27	0.31	7.60
OUTLET-CC-5-D1	CIRCULAR	3.50	3.50	2	9.62	0.88	22.51
OUTLET-CC-6-E1	CIRCULAR	1.50	1.50	1	1.77	0.38	20.44
OUTLET-CC-7-E2	CIRCULAR	2.00	2.00	1	3.14	0.50	25.60
OUTLET-CC-8-F1	HORIZ_ELLIPSE	3.00	5.00	1	11.42	0.92	126.95
OUTLET-CC-8-F2	CIRCULAR	1.50	1.50	1	1.77	0.38	18.04
OUTLET-CC-9-F1	FILLED_CIRCULAR	6.17	6.67	1	33.71	1.54	417.14
REACH-1-B2	TRAPEZOIDAL	3.00	14.00	1	24.00	1.56	288.26
REACH-1-B3	TRAPEZOIDAL	3.00	14.00	1	24.00	1.56	294.22
REACH-2-C1	TRAPEZOIDAL	4.00	68.00	1	176.00	2.56	1941.36
REACH-2-C4	TRAPEZOIDAL	4.00	36.00	1	112.00	2.96	1830.09
REACH-2-LINK1	TRAPEZOIDAL	5.00	30.00	1	100.00	3.09	5254.39
REACH-3-D1	TRAPEZOIDAL	3.00	66.00	1	144.00	2.17	2045.54
REACH-3-D2	TRAPEZOIDAL	3.00	37.00	1	93.00	2.42	1186.72
REACH-3-LINK1	TRAPEZOIDAL	1.00	14.00	1	12.00	0.83	262.31
REACH-4-D1	TRAPEZOIDAL	3.00	66.00	1	144.00	2.17	958.85
REACH-4-D3	TRAPEZOIDAL	2.00	18.00	1	28.00	1.48	292.90
REACH-5-F1	TRAPEZOIDAL	3.00	22.00	1	48.00	2.05	469.43
REACH-5-F3	TRAPEZOIDAL	1.00	22.00	1	16.00	0.72	162.77
REACH-6-F1	TRAPEZOIDAL	6.00	137.00	1	606.00	4.39	8181.49
REACH-6-F5	TRAPEZOIDAL	6.00	93.00	1	414.00	4.38	5670.30
REACH-6-F6	TRAPEZOIDAL	5.00	70.00	1	275.00	3.84	2993.30
REACH-6-F7	TRAPEZOIDAL	5.00	60.00	1	225.00	3.65	2321.16
REACH-6-F8	TRAPEZOIDAL	1.50	20.00	1	16.50	0.81	176.87
REACH-6-LINK1	TRAPEZOIDAL	5.00	40.00	1	150.00	3.54	8630.67
REACH-6-LINK2	TRAPEZOIDAL	5.00	40.00	1	150.00	3.54	8630.67
REACH-7-G6	TRAPEZOIDAL	1.50	20.00	1	16.50	0.81	171.15

**********	Volume	Depth
Runoff Quantity Continuity	acre-ft	inches
**********	---------	-------
Total Precipitation	2366.314	7.147
Surface Runoff	56.721	0.171
Continuity Error (%)	-0.001	

**********	Volume	Volume
Flow Routing Continuity	acre-ft	Mgallons
**********	---	---
External Inflow	0.000	0.000
External Outflow	1073.047	349.668
Initial Stored Volume	0.000	0.000
Final Stored Volume	10.639	3.467
Continuity Error (%)	-0.001	

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Composite Curve Number Computations Report
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Subbasin {Drainage-UnDEV}.UD-OF-SHED-1

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	311.01	D	83.00
Woods, Fair	47.85	D	79.00
Woods & grass combination, Fair	39.87	D	82.00
Composite Area & Weighted CN	398.72		82.42

Subbasin {Drainage-UnDEV}.UD-OF-SHED-2

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	663.25	D	83.00
Woods, Fair	221.08	D	79.00
Composite Area & Weighted CN	884.33		82.00

Subbasin {Drainage-UnDEV}.UD-OF-SHED-3

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	786.54	D	83.00

Woods, Fair	337.09	D	79.00
Composite Area & Weighted CN	1123.63		81.80

Subbasin {Drainage-UnDEV}.UD-OF-SHED-4

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	4.31	D	83.00
Composite Area & Weighted CN	4.31		83.00

Subbasin {Drainage-UnDEV}.UD-OF-SHED-5

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	20.94	D	83.00
Composite Area & Weighted CN	20.94		83.00

Subbasin {Drainage-UnDEV}.UD-OF-SHED-6

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	18.32	D	83.00
Woods & grass combination, Fair	0.09	D	82.00
Composite Area & Weighted CN	18.41		82.99

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A1-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	1.64	D	83.00
Composite Area & Weighted CN	1.64		83.00

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A2-

Soil/Surface Description	Area	Soil

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	10.62	D	83.00
Composite Area & Weighted CN	10.62		83.00

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A3-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	11.28	D	83.00
Composite Area & Weighted CN	11.28		83.00

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A4-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	12.22	D	83.00
Composite Area & Weighted CN	12.22		83.00

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A5-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	4.49	D	83.00
Composite Area & Weighted CN	4.49		83.00

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A6-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	8.50	D	83.00
Woods & grass combination, Fair	0.45	D	82.00
Composite Area & Weighted CN	8.95		82.95

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A7-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	10.50	D	83.00
Composite Area & Weighted CN	10.50		83.00

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-B1-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	6.42	D	83.00
Woods & grass combination, Fair	0.03	D	82.00
Composite Area & Weighted CN	6.45		82.99

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-B2-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	97.83	D	83.00
Woods & grass combination, Fair	8.51	D	82.00
Composite Area & Weighted CN	106.34		82.92

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-B3-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	18.32	D	83.00
Woods & grass combination, Fair	0.09	D	82.00
Composite Area & Weighted CN	18.41		82.99

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-C1-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	134.30	D	83.00

Woods & grass combination, Fair	37.88	D	82.00
Composite Area & Weighted CN	172.18		82.78

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-C2-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	56.14	D	83.00
Composite Area & Weighted CN	56.14		83.00

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-C3-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	61.18	D	83.00
Woods, Fair	50.05	D	79.00
Composite Area & Weighted CN	111.23		81.20

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-C4-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	30.36	D	83.00
Woods, Fair	13.01	D	79.00
Composite Area & Weighted CN	43.38		81.80

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D1-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	22.39	D	83.00
Woods & grass combination, Fair	0.46	D	82.00
Composite Area & Weighted CN	22.85		82.98

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D2-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	13.98	D	83.00
Composite Area & Weighted CN	13.98		83.00

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D3-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	85.55	D	83.00
Woods, Fair	57.04	D	79.00
Composite Area & Weighted CN	142.59		81.40

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D4-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	59.64	D	83.00
Woods, Fair	6.63	D	79.00
Composite Area & Weighted CN	66.26		82.60

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D5-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	74.30	D	83.00
Woods, Fair	1.52	D	79.00
Composite Area & Weighted CN	75.82		82.92

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D6-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	44.72	D	83.00

Soil/Surface Description	Area (acres)	Soil Group	CN
Woods, Fair	6.10	D	79.00
Composite Area & Weighted CN	50.82		82.52

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D7-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	18.75	D	83.00
Woods, Fair	1.20	D	79.00
Composite Area & Weighted CN	19.95		82.76

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-E1-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	12.49	D	83.00
Woods, Fair	0.25	D	79.00
Composite Area & Weighted CN	12.74		82.92

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-E2-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	17.10	D	83.00
Woods, Fair	0.35	D	79.00
Composite Area & Weighted CN	17.45		82.92

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F1-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	63.60	D	83.00
Woods, Fair	8.67	D	79.00
Composite Area & Weighted CN	72.28		82.52

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F2-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	3.56	D	83.00
Composite Area & Weighted CN	3.56		83.00

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F3-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	34.30	D	83.00
Woods, Fair	4.68	D	79.00
Composite Area & Weighted CN	38.98		82.52

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F4-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	19.16	D	83.00
Woods, Fair	0.59	D	79.00
Composite Area & Weighted CN	19.75		82.88

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F5-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	75.24	D	83.00
Woods, Fair	61.56	D	79.00
Composite Area & Weighted CN	136.81		81.20

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F6-

Soil/Surface Description	Area (acres)	Soil Group	CN

Brush, Poor	14.12	D	83.00
Woods, Fair	3.53	D	79.00
Composite Area & Weighted CN	17.65		82.20

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F7-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	30.47	D	83.00
Woods, Fair	5.38	D	79.00
Composite Area & Weighted CN	35.84		82.40

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F8-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	44.03	D	83.00
Woods, Fair	9.67	D	79.00
Composite Area & Weighted CN	53.70		82.28

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G1-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	5.95	D	83.00
Woods, Fair	0.52	D	79.00
Composite Area & Weighted CN	6.47		82.68

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G2-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	5.10	D	83.00
Woods, Fair	0.44	D	79.00
Composite Area & Weighted CN	5.54		82.68

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G3-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	9.74	D	83.00
Woods, Fair	0.85	D	79.00
Composite Area & Weighted CN	10.59		82.68

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G4-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	5.33	D	83.00
Woods, Fair	0.46	D	79.00
Composite Area & Weighted CN	5.80		82.68

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G5-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	11.29	D	83.00
Woods, Fair	0.98	D	79.00
Composite Area & Weighted CN	12.27		82.68

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G6-

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	17.90	D	83.00
Woods, Fair	3.16	D	79.00
Composite Area & Weighted CN	21.06		82.40

****

SCS TR-55 Time of Concentration Computations Report

****

Sheet Flow Equation

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where:

Tc = Time of Concentration (hrs)
n = Manning's Roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hrs)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hrs)

Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft^2)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's Roughness

Subbasin {Drainage-UnDEV}.UD-OF-SHED-1

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	4.33	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.16	0.00	0.00
Computed Flow Time (minutes):	31.31	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	4.25	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.06	0.00	0.00
Computed Flow Time (minutes):	9.71	0.00	0.00

==========

Total TOC (minutes): 41.02

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Subbasin {Drainage-UnDEV}.UD-OF-SHED-2

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	36.26	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	3.33	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.82	0.00	0.00
Computed Flow Time (minutes):	10.99	0.00	0.00

==========

Total TOC (minutes): 47.25

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Subbasin {Drainage-UnDEV}.UD-OF-SHED-3

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	1.33	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.10	0.00	0.00
Computed Flow Time (minutes):	50.21	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00

Slope (%):	3.50	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.87	0.00	0.00
Computed Flow Time (minutes):	10.70	0.00	0.00

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Total TOC (minutes): 60.90

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Subbasin {Drainage-UnDEV}.UD-OF-SHED-4

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	4.33	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.16	0.00	0.00
Computed Flow Time (minutes):	31.31	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	759.00	0.00	0.00
Slope (%):	4.87	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.21	0.00	0.00
Computed Flow Time (minutes):	5.72	0.00	0.00

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Total TOC (minutes): 37.04

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Subbasin {Drainage-UnDEV}.UD-OF-SHED-5

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	4.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.15	0.00	0.00
Computed Flow Time (minutes):	32.32	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	4.50	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.12	0.00	0.00
Computed Flow Time (minutes):	9.43	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	952.00	0.00	0.00
Channel Slope (%):	3.68	0.00	0.00
Cross Section Area (ft^2):	20.00	0.00	0.00
Wetted Perimeter (ft):	14.00	0.00	0.00
Velocity (ft/sec):	10.36	0.00	0.00
Computed Flow Time (minutes):	1.53	0.00	0.00

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Total TOC (minutes): 43.29

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Subbasin {Drainage-UnDEV}.UD-OF-SHED-6

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.67	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.15	0.00	0.00
Computed Flow Time (minutes):	33.45	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1201.00	0.00	0.00
Slope (%):	10.66	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	3.26	0.00	0.00
Computed Flow Time (minutes):	6.14	0.00	0.00

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Total TOC (minutes): 39.59

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A1-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	36.26	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	339.00	0.00	0.00
Slope (%):	4.45	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.11	0.00	0.00
Computed Flow Time (minutes):	2.68	0.00	0.00

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Total TOC (minutes): 38.94

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A2-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	5.33	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.17	0.00	0.00
Computed Flow Time (minutes):	28.81	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	717.00	0.00	0.00
Slope (%):	8.65	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.94	0.00	0.00
Computed Flow Time (minutes):	4.06	0.00	0.00

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Total TOC (minutes): 32.88

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A3-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	5.67	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.18	0.00	0.00
Computed Flow Time (minutes):	28.11	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	946.00	0.00	0.00
Slope (%):	5.92	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.43	0.00	0.00
Computed Flow Time (minutes):	6.49	0.00	0.00

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Total TOC (minutes): 34.60

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A4-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	5.33	0.00	0.00

2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.17	0.00	0.00
Computed Flow Time (minutes):	28.81	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	963.00	0.00	0.00
Slope (%):	9.03	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	3.00	0.00	0.00
Computed Flow Time (minutes):	5.35	0.00	0.00

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Total TOC (minutes): 34.16

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A5-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.33	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	34.78	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	445.00	0.00	0.00
Slope (%):	8.76	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.96	0.00	0.00
Computed Flow Time (minutes):	2.51	0.00	0.00

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Total TOC (minutes): 37.29

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A6-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.67	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.15	0.00	0.00
Computed Flow Time (minutes):	33.45	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1078.00	0.00	0.00
Slope (%):	7.98	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.82	0.00	0.00
Computed Flow Time (minutes):	6.37	0.00	0.00

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Total TOC (minutes): 39.82

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A7-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.33	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	34.78	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1285.00	0.00	0.00
Slope (%):	7.32	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.71	0.00	0.00
Computed Flow Time (minutes):	7.90	0.00	0.00

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Total TOC (minutes): 42.68

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-B1-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	4.22	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.16	0.00	0.00
Computed Flow Time (minutes):	31.64	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00

Slope (%):	3.82	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.95	0.00	0.00
Computed Flow Time (minutes):	10.26	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	74.00	0.00	0.00
Channel Slope (%):	2.70	0.00	0.00
Cross Section Area (ft^2):	30.00	0.00	0.00
Wetted Perimeter (ft):	32.00	0.00	0.00
Velocity (ft/sec):	6.70	0.00	0.00
Computed Flow Time (minutes):	0.18	0.00	0.00

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Total TOC (minutes): 42.08

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-B2-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	4.36	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.16	0.00	0.00
Computed Flow Time (minutes):	31.23	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	4.46	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved

Velocity (ft/sec):	2.11	0.00	0.00
Computed Flow Time (minutes):	9.48	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	3311.00	0.00	0.00
Channel Slope (%):	3.65	0.00	0.00
Cross Section Area (ft^2):	30.00	0.00	0.00
Wetted Perimeter (ft):	19.00	0.00	0.00
Velocity (ft/sec):	11.03	0.00	0.00
Computed Flow Time (minutes):	5.00	0.00	0.00

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Total TOC (minutes): 45.71

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-B3-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.37	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	34.61	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	4.17	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.04	0.00	0.00
Computed Flow Time (minutes):	9.80	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1300.00	0.00	0.00
Channel Slope (%):	3.84	0.00	0.00
Cross Section Area (ft^2):	10.00	0.00	0.00
Wetted Perimeter (ft):	12.00	0.00	0.00
Velocity (ft/sec):	7.39	0.00	0.00
Computed Flow Time (minutes):	2.93	0.00	0.00

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Total TOC (minutes): 47.35

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-C1-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	1.93	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.12	0.00	0.00
Computed Flow Time (minutes):	43.26	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	2.21	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.49	0.00	0.00
Computed Flow Time (minutes):	13.42	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1578.00	0.00	0.00
Channel Slope (%):	2.50	0.00	0.00
Cross Section Area (ft^2):	25.00	0.00	0.00
Wetted Perimeter (ft):	15.00	0.00	0.00
Velocity (ft/sec):	9.46	0.00	0.00
Computed Flow Time (minutes):	2.78	0.00	0.00

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Total TOC (minutes): 59.46

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-C2-

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Total TOC (minutes): 0.00

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-C3-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.49	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.15	0.00	0.00
Computed Flow Time (minutes):	34.13	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	3.25	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.80	0.00	0.00
Computed Flow Time (minutes):	11.11	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1578.00	0.00	0.00
Channel Slope (%):	2.50	0.00	0.00
Cross Section Area (ft^2):	25.00	0.00	0.00
Wetted Perimeter (ft):	15.00	0.00	0.00
Velocity (ft/sec):	9.46	0.00	0.00
Computed Flow Time (minutes):	2.78	0.00	0.00

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Total TOC (minutes): 48.02

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-C4-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	2.93	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	36.61	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	6.52	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.55	0.00	0.00
Computed Flow Time (minutes):	7.84	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1499.00	0.00	0.00
Channel Slope (%):	6.20	0.00	0.00
Cross Section Area (ft^2):	24.00	0.00	0.00
Wetted Perimeter (ft):	16.00	0.00	0.00
Velocity (ft/sec):	13.89	0.00	0.00
Computed Flow Time (minutes):	1.80	0.00	0.00

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Total TOC (minutes): 46.25

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D1-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	2.54	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.13	0.00	0.00
Computed Flow Time (minutes):	38.76	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00

Slope (%):	3.07	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.75	0.00	0.00
Computed Flow Time (minutes):	11.43	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	292.00	0.00	0.00
Channel Slope (%):	2.54	0.00	0.00
Cross Section Area (ft^2):	80.00	0.00	0.00
Wetted Perimeter (ft):	28.00	0.00	0.00
Velocity (ft/sec):	13.66	0.00	0.00
Computed Flow Time (minutes):	0.36	0.00	0.00

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Total TOC (minutes): 50.54

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D2-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	2.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.12	0.00	0.00
Computed Flow Time (minutes):	42.65	0.00	0.00

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Total TOC (minutes): 42.65

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D3-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	4.41	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.16	0.00	0.00
Computed Flow Time (minutes):	31.08	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	2.36	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.54	0.00	0.00
Computed Flow Time (minutes):	12.99	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	2992.00	0.00	0.00
Channel Slope (%):	2.11	0.00	0.00
Cross Section Area (ft^2):	30.00	0.00	0.00
Wetted Perimeter (ft):	16.00	0.00	0.00
Velocity (ft/sec):	9.40	0.00	0.00
Computed Flow Time (minutes):	5.30	0.00	0.00

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Total TOC (minutes): 49.37

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D4-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.49	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.15	0.00	0.00
Computed Flow Time (minutes):	34.13	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	4.68	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.16	0.00	0.00
Computed Flow Time (minutes):	9.26	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	2290.00	0.00	0.00
Channel Slope (%):	2.98	0.00	0.00
Cross Section Area (ft^2):	30.00	0.00	0.00
Wetted Perimeter (ft):	16.00	0.00	0.00
Velocity (ft/sec):	11.17	0.00	0.00
Computed Flow Time (minutes):	3.42	0.00	0.00

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Total TOC (minutes): 46.81

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D5-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	2.31	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.12	0.00	0.00
Computed Flow Time (minutes):	40.26	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	3.55	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.88	0.00	0.00
Computed Flow Time (minutes):	10.64	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	2138.00	0.00	0.00
Channel Slope (%):	3.90	0.00	0.00
Cross Section Area (ft^2):	30.00	0.00	0.00
Wetted Perimeter (ft):	19.00	0.00	0.00
Velocity (ft/sec):	11.40	0.00	0.00
Computed Flow Time (minutes):	3.13	0.00	0.00

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Total TOC (minutes): 54.02

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D6-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	2.89	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	36.81	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	3.11	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.76	0.00	0.00
Computed Flow Time (minutes):	11.36	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1462.00	0.00	0.00
Channel Slope (%):	7.47	0.00	0.00
Cross Section Area (ft²):	20.00	0.00	0.00
Wetted Perimeter (ft):	14.00	0.00	0.00
Velocity (ft/sec):	14.76	0.00	0.00
Computed Flow Time (minutes):	1.65	0.00	0.00

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Total TOC (minutes): 49.82

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D7-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.28	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	34.99	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	3.49	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.87	0.00	0.00
Computed Flow Time (minutes):	10.70	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1907.00	0.00	0.00
Channel Slope (%):	4.92	0.00	0.00
Cross Section Area (ft^2):	20.00	0.00	0.00
Wetted Perimeter (ft):	14.00	0.00	0.00
Velocity (ft/sec):	11.98	0.00	0.00
Computed Flow Time (minutes):	2.65	0.00	0.00

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Total TOC (minutes): 48.34

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-E1-

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00

Slope (%):	4.61	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.15	0.00	0.00
Computed Flow Time (minutes):	9.30	0.00	0.00

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Total TOC (minutes): 9.30

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-E2-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.29	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	34.95	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	4.61	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.15	0.00	0.00
Computed Flow Time (minutes):	9.30	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1056.00	0.00	0.00
Channel Slope (%):	2.21	0.00	0.00
Cross Section Area (ft^2):	30.00	0.00	0.00
Wetted Perimeter (ft):	16.00	0.00	0.00

Velocity (ft/sec):	9.62	0.00	0.00
Computed Flow Time (minutes):	1.83	0.00	0.00

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Total TOC (minutes): 46.08

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F1-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	5.72	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.18	0.00	0.00
Computed Flow Time (minutes):	28.01	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	9.06	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	3.01	0.00	0.00
Computed Flow Time (minutes):	6.64	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	496.00	0.00	0.00
Channel Slope (%):	0.38	0.00	0.00
Cross Section Area (ft^2):	60.00	0.00	0.00
Wetted Perimeter (ft):	26.00	0.00	0.00
Velocity (ft/sec):	0.46	0.00	0.00
Computed Flow Time (minutes):	18.04	0.00	0.00

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Total TOC (minutes): 52.70

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F2-

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Total TOC (minutes): 0.00

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F3-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	2.48	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.13	0.00	0.00
Computed Flow Time (minutes):	39.13	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	8.44	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.91	0.00	0.00
Computed Flow Time (minutes):	6.87	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	2364.00	0.00	0.00
Channel Slope (%):	2.01	0.00	0.00
Cross Section Area (ft^2):	16.00	0.00	0.00
Wetted Perimeter (ft):	12.00	0.00	0.00
Velocity (ft/sec):	7.31	0.00	0.00
Computed Flow Time (minutes):	5.39	0.00	0.00

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Total TOC (minutes): 51.39

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F4-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	2.41	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.13	0.00	0.00
Computed Flow Time (minutes):	39.58	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	2.91	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.71	0.00	0.00
Computed Flow Time (minutes):	11.70	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	383.00	0.00	0.00
Channel Slope (%):	5.05	0.00	0.00
Cross Section Area (ft²):	20.00	0.00	0.00
Wetted Perimeter (ft):	14.00	0.00	0.00
Velocity (ft/sec):	12.13	0.00	0.00
Computed Flow Time (minutes):	0.53	0.00	0.00

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Total TOC (minutes): 51.80

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F5-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	4.86	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.17	0.00	0.00
Computed Flow Time (minutes):	29.90	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	983.00	0.00	0.00
Channel Slope (%):	2.87	0.00	0.00
Cross Section Area (ft²):	60.00	0.00	0.00
Wetted Perimeter (ft):	26.00	0.00	0.00
Velocity (ft/sec):	12.59	0.00	0.00
Computed Flow Time (minutes):	1.30	0.00	0.00

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Total TOC (minutes): 31.20

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F6-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	10.82	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.23	0.00	0.00
Computed Flow Time (minutes):	21.71	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	10.88	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	3.30	0.00	0.00
Computed Flow Time (minutes):	6.06	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	490.00	0.00	0.00
Channel Slope (%):	2.49	0.00	0.00
Cross Section Area (ft^2):	40.00	0.00	0.00
Wetted Perimeter (ft):	18.00	0.00	0.00
Velocity (ft/sec):	11.44	0.00	0.00
Computed Flow Time (minutes):	0.71	0.00	0.00

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Total TOC (minutes): 28.48

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F7-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	5.53	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.18	0.00	0.00
Computed Flow Time (minutes):	28.39	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	11.67	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	3.42	0.00	0.00
Computed Flow Time (minutes):	5.85	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1544.00	0.00	0.00
Channel Slope (%):	3.48	0.00	0.00
Cross Section Area (ft^2):	40.00	0.00	0.00
Wetted Perimeter (ft):	18.00	0.00	0.00
Velocity (ft/sec):	13.52	0.00	0.00
Computed Flow Time (minutes):	1.90	0.00	0.00

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Total TOC (minutes): 36.14

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F8-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.18	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	35.43	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	5.51	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.35	0.00	0.00
Computed Flow Time (minutes):	8.51	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1695.00	0.00	0.00
Channel Slope (%):	8.44	0.00	0.00
Cross Section Area (ft^2):	40.00	0.00	0.00
Wetted Perimeter (ft):	19.00	0.00	0.00
Velocity (ft/sec):	20.32	0.00	0.00
Computed Flow Time (minutes):	1.39	0.00	0.00

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Total TOC (minutes): 45.33

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G1-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	7.70	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.20	0.00	0.00
Computed Flow Time (minutes):	24.87	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	750.00	0.00	0.00
Slope (%):	4.00	0.00	0.00
Surface Type:	Grass pasture	Unpaved	Unpaved
Velocity (ft/sec):	1.40	0.00	0.00
Computed Flow Time (minutes):	8.93	0.00	0.00

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Total TOC (minutes): 33.80

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G2-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	7.70	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.20	0.00	0.00
Computed Flow Time (minutes):	24.87	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	400.00	0.00	0.00
Slope (%):	4.00	0.00	0.00
Surface Type:	Grass pasture	Unpaved	Unpaved
Velocity (ft/sec):	1.40	0.00	0.00
Computed Flow Time (minutes):	4.76	0.00	0.00

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Total TOC (minutes): 29.63

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G3-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	7.70	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.20	0.00	0.00
Computed Flow Time (minutes):	24.87	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	600.00	0.00	0.00
Slope (%):	4.00	0.00	0.00
Surface Type:	Grass pasture	Unpaved	Unpaved
Velocity (ft/sec):	1.40	0.00	0.00
Computed Flow Time (minutes):	7.14	0.00	0.00

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Total TOC (minutes): 32.01

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G4-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	7.70	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.20	0.00	0.00
Computed Flow Time (minutes):	24.87	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	600.00	0.00	0.00
Slope (%):	4.00	0.00	0.00
Surface Type:	Grass pasture	Unpaved	Unpaved
Velocity (ft/sec):	1.40	0.00	0.00
Computed Flow Time (minutes):	7.14	0.00	0.00

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Total TOC (minutes): 32.01

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G5-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00

Flow Length (ft):	300.00	0.00	0.00
Slope (%):	7.70	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.20	0.00	0.00
Computed Flow Time (minutes):	24.87	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	900.00	0.00	0.00
Slope (%):	4.00	0.00	0.00
Surface Type:	Grass pasture	Unpaved	Unpaved
Velocity (ft/sec):	1.40	0.00	0.00
Computed Flow Time (minutes):	10.71	0.00	0.00

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Total TOC (minutes): 35.59

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G6-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	4.76	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.17	0.00	0.00
Computed Flow Time (minutes):	30.15	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	11.96	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	3.46	0.00	0.00

Computed Flow Time (minutes): 5.78 0.00 0.00

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Total TOC (minutes): 35.93

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Subbasin Runoff Summary
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Subbasin ID	Total Precip in	Total Runoff in	Peak Runoff cfs	Weighted Curve Number	Time of Concentration days hh:mm:ss
{Drainage-UnDEV}.UD-OF-SHED-1	7.30	5.25	842.86	82.420	0 00:41:01
{Drainage-UnDEV}.UD-OF-SHED-2	7.30	5.20	1710.66	82.000	0 00:47:15
{Drainage-UnDEV}.UD-OF-SHED-3	7.30	5.17	1865.78	81.800	0 01:00:54
{Drainage-UnDEV}.UD-OF-SHED-4	7.30	5.31	9.77	83.000	0 00:37:02
{Drainage-UnDEV}.UD-OF-SHED-5	7.30	5.31	43.47	83.000	0 00:43:17
{Drainage-UnDEV}.UD-OF-SHED-6	7.30	5.31	40.19	82.990	0 00:39:35
{Drainage-UnDEV}.UD-OS-SHED-SUB-A1-	7.30	5.31	3.61	83.000	0 00:38:56
{Drainage-UnDEV}.UD-OS-SHED-SUB-A2-	7.30	5.31	25.63	83.000	0 00:32:52
{Drainage-UnDEV}.UD-OS-SHED-SUB-A3-	7.30	5.31	26.48	83.000	0 00:34:36
{Drainage-UnDEV}.UD-OS-SHED-SUB-A4-	7.30	5.31	28.93	83.000	0 00:34:09
{Drainage-UnDEV}.UD-OS-SHED-SUB-A5-	7.30	5.31	10.13	83.000	0 00:37:17
{Drainage-UnDEV}.UD-OS-SHED-SUB-A6-	7.30	5.31	206.54	82.950	0 00:39:49
{Drainage-UnDEV}.UD-OS-SHED-SUB-A7-	7.30	5.31	21.96	83.000	0 00:42:40
{Drainage-UnDEV}.UD-OS-SHED-SUB-B1-	7.30	5.31	13.59	82.990	0 00:42:04
{Drainage-UnDEV}.UD-OS-SHED-SUB-B2-	7.30	5.30	214.00	82.920	0 00:45:42
{Drainage-UnDEV}.UD-OS-SHED-SUB-B3-	7.30	5.31	36.25	82.990	0 00:47:21
{Drainage-UnDEV}.UD-OS-SHED-SUB-C1-	7.30	5.29	295.89	82.780	0 00:59:27
{Drainage-UnDEV}.UD-OS-SHED-SUB-C2-	7.30	5.31	242.18	83.000	0 00:05:00
{Drainage-UnDEV}.UD-OS-SHED-SUB-C3-	7.30	5.11	209.07	81.200	0 00:48:01
{Drainage-UnDEV}.UD-OS-SHED-SUB-C4-	7.30	5.17	84.56	81.800	0 00:46:15
{Drainage-UnDEV}.UD-OS-SHED-SUB-D1-	7.30	5.31	43.45	82.980	0 00:50:32
{Drainage-UnDEV}.UD-OS-SHED-SUB-D2-	7.30	5.31	29.23	83.000	0 00:42:39
{Drainage-UnDEV}.UD-OS-SHED-SUB-D3-	7.30	5.13	265.12	81.400	0 00:49:22
{Drainage-UnDEV}.UD-OS-SHED-SUB-D4-	7.30	5.27	130.25	82.600	0 00:46:48
{Drainage-UnDEV}.UD-OS-SHED-SUB-D5-	7.30	5.30	138.32	82.920	0 00:54:01

{Drainage-UnDEV}.UD-OS-SHED-SUB-D6-	7.30	5.26	96.48	82.520	0	00:49:49
{Drainage-UnDEV}.UD-OS-SHED-SUB-D7-	7.30	5.28	38.72	82.760	0	00:48:20
{Drainage-UnDEV}.UD-OS-SHED-SUB-E1-	7.30	5.30	48.81	82.920	0	00:09:18
{Drainage-UnDEV}.UD-OS-SHED-SUB-E2-	7.30	5.30	34.96	82.920	0	00:46:04
{Drainage-UnDEV}.UD-OS-SHED-SUB-F1-	7.30	5.26	132.70	82.520	0	00:52:42
{Drainage-UnDEV}.UD-OS-SHED-SUB-F2-	7.30	5.31	15.35	83.000	0	00:05:00
{Drainage-UnDEV}.UD-OS-SHED-SUB-F3-	7.30	5.26	72.60	82.520	0	00:51:23
{Drainage-UnDEV}.UD-OS-SHED-SUB-F4-	7.30	5.30	36.85	82.880	0	00:51:48
{Drainage-UnDEV}.UD-OS-SHED-SUB-F5-	7.30	5.11	325.31	81.200	0	00:31:12
{Drainage-UnDEV}.UD-OS-SHED-SUB-F6-	7.30	5.22	45.04	82.200	0	00:28:28
{Drainage-UnDEV}.UD-OS-SHED-SUB-F7-	7.30	5.24	81.13	82.400	0	00:36:08
{Drainage-UnDEV}.UD-OS-SHED-SUB-F8-	7.30	5.23	106.88	82.280	0	00:45:19
{Drainage-UnDEV}.UD-OS-SHED-SUB-G1-	7.30	5.28	15.27	82.680	0	00:33:47
{Drainage-UnDEV}.UD-OS-SHED-SUB-G2-	7.30	5.28	14.03	82.680	0	00:29:37
{Drainage-UnDEV}.UD-OS-SHED-SUB-G3-	7.30	5.28	25.80	82.680	0	00:32:00
{Drainage-UnDEV}.UD-OS-SHED-SUB-G4-	7.30	5.28	14.12	82.680	0	00:32:00
{Drainage-UnDEV}.UD-OS-SHED-SUB-G5-	7.30	5.28	28.19	82.680	0	00:35:35
{Drainage-UnDEV}.UD-OS-SHED-SUB-G6-	7.30	5.24	47.83	82.400	0	00:35:55

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Node Depth Summary

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Node ID	Average Depth Attained ft	Maximum Depth Attained ft	Maximum HGL Attained ft	Time of Max Occurrence days hh:mm	Total Flooded Volume acre-in	Total Flooded minutes	Retention Time hh:mm:ss
AP-OF-1	0.57	2.58	452.86	0 10:30	0	0	0:00:00
AP-OF-2	1.76	4.87	324.20	0 10:30	0	0	0:00:00
AP-OF-3	1.72	4.60	323.93	0 10:45	0	0	0:00:00
AP-OF-4	0.89	1.35	581.35	0 10:30	0	0	0:00:00
AP-OF-5	0.99	1.57	526.57	0 10:30	0	0	0:00:00
AP-OF-6	0.97	1.56	342.56	0 10:30	0	0	0:00:00
AP-OS-B1	1.61	5.50	274.07	0 10:28	8.62	25	0:00:00
AP-OS-B2	1.57	3.92	311.58	0 10:36	0	0	0:00:00
AP-OS-B3	1.09	2.03	472.27	0 10:35	0	0	0:00:00
AP-OS-C1	2.01	4.50	271.14	0 10:13	666.71	95	0:00:00
AP-OS-C2	1.54	1.75	269.67	0 06:32	215.55	1049	0:00:00
AP-OS-C3	1.51	3.78	364.37	0 10:33	0	0	0:00:00
AP-OS-C4	0.87	1.25	362.84	0 10:30	0	0	0:00:00

AP-OS-D1	3.26	4.25	246.57	0	08:11	1160.81	886	0:00:00
AP-OS-D2	1.12	1.75	271.07	0	10:00	15.02	102	0:00:00
AP-OS-D3	1.04	1.95	248.91	0	10:45	0	0	0:00:00
AP-OS-D4	1.11	2.21	249.17	0	10:45	0	0	0:00:00
AP-OS-D5	1.07	2.05	317.30	0	10:45	0	0	0:00:00
AP-OS-D6	0.94	1.57	353.13	0	10:45	0	0	0:00:00
AP-OS-D7	0.82	1.06	353.62	0	10:45	0	0	0:00:00
AP-OS-E1	1.06	2.25	256.07	0	10:02	5.66	26	0:00:00
AP-OS-E2	1.19	2.75	259.87	0	10:22	2.72	33	0:00:00
AP-OS-F1-A	5.00	7.42	261.28	0	09:11	5196.63	538	0:00:00
AP-OS-F1-B	1.60	3.75	256.67	0	10:18	60.71	60	0:00:00
AP-OS-F2	0.93	1.65	280.88	0	10:15	0	0	0:00:00
AP-OS-F3	1.07	2.08	277.06	0	10:45	0	0	0:00:00
AP-OS-F4	0.86	1.19	402.88	0	10:45	0	0	0:00:00
AP-OS-F5	1.79	5.23	269.80	0	10:48	0	0	0:00:00
AP-OS-F6	1.52	4.33	312.13	0	10:46	0	0	0:00:00
AP-OS-F7	1.95	5.49	312.29	0	10:46	0	0	0:00:00
AP-OS-F8	0.86	1.31	309.11	0	10:37	0	0	0:00:00
AP-OS-G1	0.99	1.75	266.49	0	10:10	2.62	45	0:00:00
AP-OS-G2	1.06	1.75	265.86	0	10:01	4.64	67	0:00:00
AP-OS-G3	0.94	1.55	266.88	0	10:30	0	0	0:00:00
AP-OS-G4	1.04	1.75	269.68	0	10:03	4.34	64	0:00:00
AP-OS-G5	1.04	1.75	269.68	0	10:04	8.83	65	0:00:00
AP-OS-G6	1.37	2.75	275.29	0	10:04	31.67	73	0:00:00
OUTFALL-A-1	0.00	0.00	351.90	0	00:00	0	0	0:00:00
OUTFALL-A-2	0.00	0.00	310.00	0	00:00	0	0	0:00:00
OUTFALL-A-3	0.00	0.00	332.00	0	00:00	0	0	0:00:00
OUTFALL-A-4	0.00	0.00	341.00	0	00:00	0	0	0:00:00
OUTFALL-A-5	0.00	0.00	402.00	0	00:00	0	0	0:00:00
OUTFALL-A-6	0.00	0.00	406.00	0	00:00	0	0	0:00:00
OUTFALL-A-7	0.00	0.00	448.00	0	00:00	0	0	0:00:00
OUTFALL-B-1	1.35	4.33	272.56	0	10:28	0	0	0:00:00
OUTFALL-C-1-ALL	1.76	4.17	270.46	0	10:13	0	0	0:00:00
OUTFALL-C-2	1.29	1.50	268.95	0	06:44	0	0	0:00:00
OUTFALL-D-1-ALL	3.00	4.00	246.54	0	08:24	0	0	0:00:00
OUTFALL-D-2	0.87	1.50	269.59	0	10:02	0	0	0:00:00
OUTFALL-E-1-SOUTHWEST	0.81	2.00	253.55	0	10:02	0	0	0:00:00
OUTFALL-E-2-SOUTH	0.94	2.50	259.03	0	10:25	0	0	0:00:00
OUTFALL-F-1-ALL	4.74	7.17	260.86	0	09:19	0	0	0:00:00
OUTFALL-F-2	1.35	3.50	256.30	0	10:19	0	0	0:00:00
OUTFALL-F-3	0.68	1.40	279.31	0	10:15	0	0	0:00:00
OUTFALL-G-1	0.74	1.50	264.61	0	10:12	0	0	0:00:00
OUTFALL-G-2	0.81	1.50	265.06	0	10:02	0	0	0:00:00
OUTFALL-G-3	0.69	1.30	264.70	0	10:30	0	0	0:00:00

OUTFALL-G-4	0.79	1.50	268.74	0	10:04	0	0	0:00:00
OUTFALL-G-5	0.79	1.50	265.38	0	10:06	0	0	0:00:00
OUTFALL-G-6	1.12	2.50	274.40	0	10:06	0	0	0:00:00

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Node Flow Summary

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Node ID	Element Type	Maximum Lateral Inflow cfs	Peak Inflow cfs	Time of Peak Occurrence days	Time of Peak Occurrence hh:mm	Maximum Flooding Overflow cfs	Time of Peak Flooding Occurrence days	Time of Peak Flooding Occurrence hh:mm
AP-OF-1	JUNCTION	834.92	834.92	0	10:30	0.00		
AP-OF-2	JUNCTION	1615.98	1615.98	0	10:30	0.00		
AP-OF-3	JUNCTION	1863.53	1863.53	0	10:45	0.00		
AP-OF-4	JUNCTION	9.76	9.76	0	10:30	0.00		
AP-OF-5	JUNCTION	42.40	42.40	0	10:30	0.00		
AP-OF-6	JUNCTION	39.91	39.91	0	10:30	0.00		
AP-OS-B1	JUNCTION	13.38	252.63	0	10:36	29.34	0	10:36
AP-OS-B2	JUNCTION	205.34	240.14	0	10:36	0.00		
AP-OS-B3	JUNCTION	34.28	43.23	0	10:35	0.00		
AP-OS-C1	JUNCTION	295.43	1337.69	0	10:44	895.91	0	10:44
AP-OS-C2	JUNCTION	190.57	190.57	0	10:15	184.70	0	10:15
AP-OS-C3	JUNCTION	195.86	1091.96	0	10:33	0.00		
AP-OS-C4	JUNCTION	80.63	80.63	0	10:30	0.00		
AP-OS-D1	JUNCTION	41.68	669.78	0	10:45	624.48	0	10:46
AP-OS-D2	JUNCTION	28.70	28.70	0	10:30	21.04	0	10:30
AP-OS-D3	JUNCTION	251.60	376.51	0	10:45	0.00		
AP-OS-D4	JUNCTION	123.72	252.88	0	10:45	0.00		
AP-OS-D5	JUNCTION	136.06	136.06	0	10:45	0.00		
AP-OS-D6	JUNCTION	91.79	128.05	0	10:45	0.00		
AP-OS-D7	JUNCTION	36.26	36.26	0	10:45	0.00		
AP-OS-E1	JUNCTION	47.26	47.26	0	10:15	26.32	0	10:15
AP-OS-E2	JUNCTION	33.46	33.46	0	10:30	7.83	0	10:30
AP-OS-F1-A	JUNCTION	0.00	3812.37	0	10:49	3394.23	0	10:49
AP-OS-F1-B	JUNCTION	129.35	233.76	0	10:45	106.52	0	10:45
AP-OS-F2	JUNCTION	12.08	12.08	0	10:15	0.00		
AP-OS-F3	JUNCTION	70.15	105.47	0	10:45	0.00		
AP-OS-F4	JUNCTION	35.81	35.81	0	10:45	0.00		
AP-OS-F5	JUNCTION	315.74	3815.08	0	10:48	0.00		
AP-OS-F6	JUNCTION	41.80	1874.19	0	10:46	0.00		

AP-OS-F7	JUNCTION	81.12	3652.72	0	10:46	0.00	
AP-OS-F8	JUNCTION	102.82	141.42	0	10:34	0.00	
AP-OS-G1	JUNCTION	15.14	15.14	0	10:30	7.32	0 10:30
AP-OS-G2	JUNCTION	13.26	13.26	0	10:30	9.09	0 10:30
AP-OS-G3	JUNCTION	25.18	25.18	0	10:30	0.00	
AP-OS-G4	JUNCTION	13.77	13.77	0	10:30	8.97	0 10:30
AP-OS-G5	JUNCTION	28.09	28.09	0	10:30	17.82	0 10:30
AP-OS-G6	JUNCTION	47.81	86.02	0	10:30	56.76	0 10:31
OUTFALL-A-1	OUTFALL	3.59	3.59	0	10:30	0.00	
OUTFALL-A-2	OUTFALL	25.24	25.24	0	10:30	0.00	
OUTFALL-A-3	OUTFALL	26.32	26.32	0	10:30	0.00	
OUTFALL-A-4	OUTFALL	28.68	28.68	0	10:30	0.00	
OUTFALL-A-5	OUTFALL	10.12	10.12	0	10:30	0.00	
OUTFALL-A-6	OUTFALL	205.08	205.08	0	10:30	0.00	
OUTFALL-A-7	OUTFALL	21.56	21.56	0	10:30	0.00	
OUTFALL-B-1	OUTFALL	0.00	223.28	0	10:28	0.00	
OUTFALL-C-1-ALL	OUTFALL	0.00	442.23	0	11:47	0.00	
OUTFALL-C-2	OUTFALL	0.00	4.70	0	06:43	0.00	
OUTFALL-D-1-ALL	OUTFALL	0.00	48.46	0	22:22	0.00	
OUTFALL-D-2	OUTFALL	0.00	8.50	0	10:01	0.00	
OUTFALL-E-1-SOUTHWEST	OUTFALL	0.00	21.92	0	10:26	0.00	
OUTFALL-E-2-SOUTH	OUTFALL	0.00	27.58	0	10:24	0.00	
OUTFALL-F-1-ALL	OUTFALL	0.00	445.80	0	17:02	0.00	
OUTFALL-F-2	OUTFALL	0.00	127.43	0	10:18	0.00	
OUTFALL-F-3	OUTFALL	0.00	12.06	0	10:15	0.00	
OUTFALL-G-1	OUTFALL	0.00	8.31	0	10:12	0.00	
OUTFALL-G-2	OUTFALL	0.00	4.43	0	11:04	0.00	
OUTFALL-G-3	OUTFALL	0.00	25.13	0	10:30	0.00	
OUTFALL-G-4	OUTFALL	0.00	5.08	0	10:04	0.00	
OUTFALL-G-5	OUTFALL	0.00	10.91	0	10:06	0.00	
OUTFALL-G-6	OUTFALL	0.00	31.43	0	10:06	0.00	

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Outfall Loading Summary
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Outfall Node ID	Flow Frequency (%)	Average Flow cfs	Peak Inflow cfs
OUTFALL-A-1	84.83	0.42	3.59
OUTFALL-A-2	85.39	2.74	25.24

OUTFALL-A-3	85.39	2.91	26.32
OUTFALL-A-4	85.39	3.15	28.68
OUTFALL-A-5	85.25	1.16	10.12
OUTFALL-A-6	86.15	24.24	205.08
OUTFALL-A-7	85.32	2.71	21.56
OUTFALL-B-1	85.18	34.36	223.28
OUTFALL-C-1-ALL	85.35	149.50	442.23
OUTFALL-C-2	86.43	3.99	4.70
OUTFALL-D-1-ALL	85.14	38.20	48.46
OUTFALL-D-2	85.18	2.87	8.50
OUTFALL-E-1-SOUTHWEST	86.32	3.02	21.92
OUTFALL-E-2-SOUTH	85.21	4.36	27.58
OUTFALL-F-1-ALL	82.33	322.15	445.80
OUTFALL-F-2	85.28	30.33	127.43
OUTFALL-F-3	86.29	0.92	12.06
OUTFALL-G-1	85.25	1.53	8.31
OUTFALL-G-2	85.21	1.20	4.43
OUTFALL-G-3	85.28	2.72	25.13
OUTFALL-G-4	85.21	1.28	5.08
OUTFALL-G-5	85.32	2.71	10.91
OUTFALL-G-6	85.25	8.56	31.43
System	85.30	645.02	1710.98

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Link Flow Summary
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Link ID	Element Type	Time of Maximum Occurrence days hh:mm	Length Peak Flow Attained Velocity ft/sec	Design Flow during Analysis cfs	Ratio of Flow Capacity cfs	Ratio of Maximum /Design Flow	Total Maximum Depth	Reported Time Flow Surcharged minutes	Condition
BYPASS-REACH-1-B1	CONDUIT	0 10:37	18.32 1.00	240.10	328.83	0.73	0.63	0	Calculated
OUTLET-CC-10-G1	CONDUIT	0 10:12	11.28 1.00	8.31	7.73	1.08	1.00	40	SURCHARGED
OUTLET-CC-11-G2	CONDUIT	0 11:04	6.03 1.00	4.43	4.12	1.08	1.00	62	SURCHARGED
OUTLET-CC-12-G3	CONDUIT	0 10:30	13.02 1.00	25.13	44.81	0.56	0.54	0	

Calculated
OUTLET-CC-13-G4 CONDUIT 0 10:04 6.93 1.00 5.08 4.73 1.07 1.00 58
SURCHARGED
OUTLET-CC-14-G5 CONDUIT 0 10:06 14.72 1.00 10.91 10.12 1.08 1.00 60
SURCHARGED
OUTLET-CC-15-G6 CONDUIT 0 10:06 10.67 1.00 31.43 29.25 1.07 1.00 67
SURCHARGED
OUTLET-CC-1-B CONDUIT 0 10:28 14.22 1.00 223.28 223.28 1.00 1.00 24
SURCHARGED
OUTLET-CC-2-C1 CONDUIT 0 11:47 15.34 1.00 442.23 441.71 1.00 1.00 94
SURCHARGED
OUTLET-CC-3-C2 CONDUIT 0 06:43 6.33 1.00 4.70 4.37 1.08 1.00 1037
SURCHARGED
OUTLET-CC-4-D2 CONDUIT 0 10:01 7.36 1.00 8.50 7.60 1.12 1.00 100
SURCHARGED
OUTLET-CC-5-D1 CONDUIT 0 22:22 2.71 1.00 48.46 45.03 1.08 1.00 838
SURCHARGED
OUTLET-CC-6-E1 CONDUIT 0 10:26 13.34 1.00 21.92 20.44 1.07 1.00 24
SURCHARGED
OUTLET-CC-7-E2 CONDUIT 0 10:24 9.38 1.00 27.58 25.60 1.08 1.00 27
SURCHARGED
OUTLET-CC-8-F1 CONDUIT 0 10:18 13.19 1.00 127.43 126.95 1.00 1.00 59
SURCHARGED
OUTLET-CC-8-F2 CONDUIT 0 10:15 10.92 1.00 12.06 18.04 0.67 0.60 0
Calculated
OUTLET-CC-9-F1 CONDUIT 0 17:02 13.93 1.00 445.80 417.14 1.07 1.00 463
SURCHARGED
REACH-1-B2 CHANNEL 0 10:47 7.68 1.00 42.85 288.26 0.15 0.42 0
Calculated
REACH-1-B3 CHANNEL 0 10:36 5.12 1.00 9.18 294.22 0.03 0.19 0
Calculated
REACH-2-C1 CHANNEL 0 10:42 9.67 1.00 1049.36 1941.36 0.54 0.74 0
Calculated
REACH-2-C4 CHANNEL 0 10:33 12.84 1.00 816.69 1830.09 0.45 0.64 0
Calculated
REACH-2-LINK1 CHANNEL 0 10:30 14.57 1.00 80.59 5254.39 0.02 0.10 0
Calculated
REACH-3-D1 CHANNEL 0 10:45 8.48 1.00 376.25 2045.54 0.18 0.40 0
Calculated
REACH-3-D2 CHANNEL 0 10:48 6.06 1.00 128.04 1186.72 0.11 0.27 0
Calculated
REACH-3-LINK1 CHANNEL 0 10:45 10.90 1.00 36.26 262.31 0.14 0.31 0
Calculated
REACH-4-D1 CHANNEL 0 10:46 4.48 1.00 252.71 958.85 0.26 0.49 0

Calculated										
REACH-4-D3	CHANNEL	0	10:46	8.33	1.00	135.12	292.90	0.46	0.65	0
Calculated										
REACH-5-F1	CHANNEL	0	10:46	6.31	1.00	105.19	469.43	0.22	0.44	0
Calculated										
REACH-5-F3	CHANNEL	0	10:46	6.49	1.00	35.70	162.77	0.22	0.44	0
Calculated										
REACH-6-F1	CHANNEL	0	10:49	10.77	1.00	3812.37	8181.49	0.47	0.66	0
Calculated										
REACH-6-F5	CHANNEL	0	10:48	12.14	1.00	3637.71	5670.30	0.64	0.79	0
Calculated										
REACH-6-F6	CHANNEL	0	10:46	9.41	1.00	1851.68	2993.30	0.62	0.77	0
Calculated										
REACH-6-F7	CHANNEL	0	10:34	9.30	1.00	1608.71	2321.16	0.69	0.82	0
Calculated										
REACH-6-F8	CHANNEL	0	10:37	7.54	1.00	40.90	176.87	0.23	0.54	0
Calculated										
REACH-6-LINK1	CHANNEL	0	10:46	36.07	1.00	1874.16	8630.67	0.22	0.43	0
Calculated										
REACH-6-LINK2	CHANNEL	0	10:34	14.41	1.00	141.42	8630.67	0.02	0.09	0
Calculated										
REACH-7-G6	CHANNEL	0	10:32	7.19	1.00	39.31	171.15	0.23	0.54	0
Calculated										

****
Highest Flow Instability Indexes
****
Link OUTLET-CC-4-D2 (1)
Link OUTLET-CC-9-F1 (1)
Link OUTLET-CC-12-G3 (1)

Analysis began on: Fri Feb 21 16:34:01 2020
Analysis ended on: Fri Feb 21 16:34:05 2020
Total elapsed time: 00:00:04

EXHIBIT
H.1.1

DRAFT

Autodesk® Storm and Sanitary Analysis 2016 - Version 13.2.147 (Build 0)

****
Project Description
****
File Name ..... 28100-Valleys Edge-SSA-Storm Analysis--UnDev--1-02-2020-TS-rational method.SPF
Description ..... C:\Users\tsotomayor\AppData\Local\Temp\Chico_Drainage-UnDEV Basins(Use)_1_13048_8423ce0f.sv$

****
Analysis Options
****
Flow Units ..... cfs
Subbasin Hydrograph Method. Rational
Time of Concentration..... SCS TR-55
Link Routing Method ..... Kinematic Wave
Storage Node Exfiltration.. None
Starting Date MAY-02-2020 00:00:00
Ending Date MAY-03-2020 00:00:00
Report Time Step 00:00:10

****
Element Count
****
Number of subbasins 43
Number of nodes 60
Number of links 37

****
Subbasin Summary
****

Subbasin ID	Total Area acres
{Drainage-UnDEV}.UD-OF-SHED-1	398.73
{Drainage-UnDEV}.UD-OF-SHED-2	884.33
{Drainage-UnDEV}.UD-OF-SHED-3	1123.63

{Drainage-UnDEV}.UD-OF-SHED-4 4.31
{Drainage-UnDEV}.UD-OF-SHED-5 20.94
{Drainage-UnDEV}.UD-OF-SHED-6 18.41
{Drainage-UnDEV}.UD-OS-SHED-SUB-A1- 1.64
{Drainage-UnDEV}.UD-OS-SHED-SUB-A2- 10.62
{Drainage-UnDEV}.UD-OS-SHED-SUB-A3- 11.28
{Drainage-UnDEV}.UD-OS-SHED-SUB-A4- 12.22
{Drainage-UnDEV}.UD-OS-SHED-SUB-A5- 4.49
{Drainage-UnDEV}.UD-OS-SHED-SUB-A6- 8.95
{Drainage-UnDEV}.UD-OS-SHED-SUB-A7- 10.50
{Drainage-UnDEV}.UD-OS-SHED-SUB-B1- 6.45
{Drainage-UnDEV}.UD-OS-SHED-SUB-B2- 106.34
{Drainage-UnDEV}.UD-OS-SHED-SUB-B3- 18.41
{Drainage-UnDEV}.UD-OS-SHED-SUB-C1- 172.18
{Drainage-UnDEV}.UD-OS-SHED-SUB-C2- 56.14
{Drainage-UnDEV}.UD-OS-SHED-SUB-C3- 111.23
{Drainage-UnDEV}.UD-OS-SHED-SUB-C4- 43.38
{Drainage-UnDEV}.UD-OS-SHED-SUB-D1- 22.85
{Drainage-UnDEV}.UD-OS-SHED-SUB-D2- 13.98
{Drainage-UnDEV}.UD-OS-SHED-SUB-D3- 142.59
{Drainage-UnDEV}.UD-OS-SHED-SUB-D4- 66.26
{Drainage-UnDEV}.UD-OS-SHED-SUB-D5- 75.82
{Drainage-UnDEV}.UD-OS-SHED-SUB-D6- 50.82
{Drainage-UnDEV}.UD-OS-SHED-SUB-D7- 19.95
{Drainage-UnDEV}.UD-OS-SHED-SUB-E1- 12.74
{Drainage-UnDEV}.UD-OS-SHED-SUB-E2- 17.45
{Drainage-UnDEV}.UD-OS-SHED-SUB-F1- 72.28
{Drainage-UnDEV}.UD-OS-SHED-SUB-F2- 3.56
{Drainage-UnDEV}.UD-OS-SHED-SUB-F3- 38.98
{Drainage-UnDEV}.UD-OS-SHED-SUB-F4- 19.75
{Drainage-UnDEV}.UD-OS-SHED-SUB-F5- 136.81
{Drainage-UnDEV}.UD-OS-SHED-SUB-F6- 17.65
{Drainage-UnDEV}.UD-OS-SHED-SUB-F7- 35.84
{Drainage-UnDEV}.UD-OS-SHED-SUB-F8- 53.70
{Drainage-UnDEV}.UD-OS-SHED-SUB-G1- 6.47
{Drainage-UnDEV}.UD-OS-SHED-SUB-G2- 5.54
{Drainage-UnDEV}.UD-OS-SHED-SUB-G3- 10.59
{Drainage-UnDEV}.UD-OS-SHED-SUB-G4- 5.80
{Drainage-UnDEV}.UD-OS-SHED-SUB-G5- 12.27
{Drainage-UnDEV}.UD-OS-SHED-SUB-G6- 21.06

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Node Summary

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Node ID	Element Type	Invert Elevation ft	Maximum Elev. ft	Ponded Area ft²	External Inflow
AP-OF-1	JUNCTION	450.28	454.28	0.00	
AP-OF-2	JUNCTION	319.33	328.08	0.00	
AP-OF-3	JUNCTION	319.33	328.08	0.00	
AP-OF-4	JUNCTION	580.00	583.75	0.00	
AP-OF-5	JUNCTION	525.00	527.25	0.00	
AP-OF-6	JUNCTION	341.00	343.25	0.00	
AP-OS-B1	JUNCTION	268.57	274.07	0.00	
AP-OS-B2	JUNCTION	307.66	313.41	0.00	
AP-OS-B3	JUNCTION	470.24	473.99	0.00	
AP-OS-C1	JUNCTION	266.64	271.14	0.00	
AP-OS-C2	JUNCTION	267.92	269.67	0.00	
AP-OS-C3	JUNCTION	360.59	366.09	0.00	
AP-OS-C4	JUNCTION	361.59	367.34	0.00	
AP-OS-D1	JUNCTION	242.32	246.57	0.00	
AP-OS-D2	JUNCTION	269.32	271.07	0.00	
AP-OS-D3	JUNCTION	246.96	250.71	0.00	
AP-OS-D4	JUNCTION	246.96	250.71	0.00	
AP-OS-D5	JUNCTION	315.25	318.00	0.00	
AP-OS-D6	JUNCTION	351.56	355.31	0.00	
AP-OS-D7	JUNCTION	352.56	354.31	0.00	
AP-OS-E1	JUNCTION	253.82	256.07	0.00	
AP-OS-E2	JUNCTION	257.12	259.87	0.00	
AP-OS-F1-A	JUNCTION	253.86	261.28	0.00	
AP-OS-F1-B	JUNCTION	252.92	256.67	0.00	
AP-OS-F2	JUNCTION	279.23	281.48	0.00	
AP-OS-F3	JUNCTION	274.98	278.73	0.00	
AP-OS-F4	JUNCTION	401.69	403.44	0.00	
AP-OS-F5	JUNCTION	264.57	271.32	0.00	
AP-OS-F6	JUNCTION	307.80	316.30	0.00	
AP-OS-F7	JUNCTION	306.80	315.30	0.00	
AP-OS-F8	JUNCTION	307.80	313.55	0.00	
AP-OS-G1	JUNCTION	264.74	266.49	0.00	
AP-OS-G2	JUNCTION	264.11	265.86	0.00	
AP-OS-G3	JUNCTION	265.33	267.58	0.00	
AP-OS-G4	JUNCTION	267.93	269.68	0.00	
AP-OS-G5	JUNCTION	267.93	269.68	0.00	
AP-OS-G6	JUNCTION	272.54	275.29	0.00	
OUTFALL-A-1	OUTFALL	351.90	351.90	0.00	
OUTFALL-A-2	OUTFALL	310.00	310.00	0.00	

OUTFALL-A-3	OUTFALL	332.00	332.00	0.00
OUTFALL-A-4	OUTFALL	341.00	341.00	0.00
OUTFALL-A-5	OUTFALL	402.00	402.00	0.00
OUTFALL-A-6	OUTFALL	406.00	406.00	0.00
OUTFALL-A-7	OUTFALL	448.00	448.00	0.00
OUTFALL-B-1	OUTFALL	268.23	272.56	0.00
OUTFALL-C-1-ALL	OUTFALL	266.29	270.46	0.00
OUTFALL-C-2	OUTFALL	267.45	268.95	0.00
OUTFALL-D-1-ALL	OUTFALL	242.54	246.54	0.00
OUTFALL-D-2	OUTFALL	268.09	269.59	0.00
OUTFALL-E-1-SOUTHWESTOUTFALL		251.55	253.55	0.00
OUTFALL-E-2-SOUTH	OUTFALL	256.53	259.03	0.00
OUTFALL-F-1-ALL	OUTFALL	253.69	260.86	0.00
OUTFALL-F-2	OUTFALL	252.80	256.30	0.00
OUTFALL-F-3	OUTFALL	277.91	279.91	0.00
OUTFALL-G-1	OUTFALL	263.11	264.61	0.00
OUTFALL-G-2	OUTFALL	263.56	265.06	0.00
OUTFALL-G-3	OUTFALL	263.40	265.40	0.00
OUTFALL-G-4	OUTFALL	267.24	268.74	0.00
OUTFALL-G-5	OUTFALL	263.88	265.38	0.00
OUTFALL-G-6	OUTFALL	271.90	274.40	0.00

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Link Summary

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Link ID	From Node	To Node	Element Type	Length ft	Slope %	Manning's Roughness
BYPASS-REACH-1-B1	AP-OS-B2	AP-OS-B1	CONDUIT	1853.6	2.1224	0.0150
OUTLET-CC-10-G1	AP-OS-G1	OUTFALL-G-1	CONDUIT	30.0	6.2667	0.0150
OUTLET-CC-11-G2	AP-OS-G2	OUTFALL-G-2	CONDUIT	45.0	1.7778	0.0150
OUTLET-CC-12-G3	AP-OS-G3	OUTFALL-G-3	CONDUIT	36.0	6.0556	0.0150
OUTLET-CC-13-G4	AP-OS-G4	OUTFALL-G-4	CONDUIT	40.0	2.3500	0.0150
OUTLET-CC-14-G5	AP-OS-G5	OUTFALL-G-5	CONDUIT	40.0	10.7500	0.0150
OUTLET-CC-15-G6	AP-OS-G6	OUTFALL-G-6	CONDUIT	40.0	2.2250	0.0150
OUTLET-CC-1-B	AP-OS-B1	OUTFALL-B-1	CONDUIT	50.0	1.1800	0.0150
OUTLET-CC-2-C1	AP-OS-C1	OUTFALL-C-1-ALL	CONDUIT	41.0	1.4634	0.0150
OUTLET-CC-3-C2	AP-OS-C2	OUTFALL-C-2	CONDUIT	36.0	2.0000	0.0150
OUTLET-CC-4-D2	AP-OS-D2	OUTFALL-D-2	CONDUIT	83.6	1.7712	0.0150
OUTLET-CC-5-D1	AP-OS-D1	OUTFALL-D-1-ALL	CONDUIT	45.0	0.0667	0.0150
OUTLET-CC-6-E1	AP-OS-E1	OUTFALL-E-1-SOUTHWEST	CONDUIT	50.0	5.0400	0.0150
OUTLET-CC-7-E2	AP-OS-E2	OUTFALL-E-2-SOUTH	CONDUIT	77.0	1.0909	0.0120
OUTLET-CC-8-F1	AP-OS-F1-B	OUTFALL-F-2	CONDUIT	41.0	0.9024	0.0120

OUTLET-CC-8-F2	AP-OS-F2	OUTFALL-F-3	CONDUIT	40.0	3.9250	0.0150
OUTLET-CC-9-F1	AP-OS-F1-A	OUTFALL-F-1-ALL	CONDUIT	48.0	0.8750	0.0150
REACH-1-B2	AP-OS-B3	AP-OS-B2	CHANNEL	4391.5	3.7078	0.0320
REACH-1-B3	AP-OF-4	AP-OS-B3	CHANNEL	2848.1	3.8626	0.0320
REACH-2-C1	AP-OS-C3	AP-OS-C1	CHANNEL	5856.8	1.6084	0.0320
REACH-2-C4	AP-OF-1	AP-OS-C3	CHANNEL	3056.0	2.9185	0.0320
REACH-2-LINK1	AP-OS-C4	AP-OS-C3	CHANNEL	20.0	6.2500	0.0150
REACH-3-D1	AP-OS-D3	AP-OS-D1	CHANNEL	666.3	0.7339	0.0150
REACH-3-D2	AP-OS-D6	AP-OS-D3	CHANNEL	4513.7	2.3229	0.0320
REACH-3-LINK1	AP-OS-D7	AP-OS-D6	CHANNEL	20.0	6.2500	0.0150
REACH-4-D1	AP-OS-D4	AP-OS-D1	CHANNEL	666.3	0.7339	0.0320
REACH-4-D3	AP-OS-D5	AP-OS-D4	CHANNEL	2274.1	3.0139	0.0320
REACH-5-F1	AP-OS-F3	AP-OS-F1-B	CHANNEL	1309.8	1.7033	0.0320
REACH-5-F3	AP-OS-F4	AP-OS-F3	CHANNEL	1712.9	7.4119	0.0320
REACH-6-F1	AP-OS-F5	AP-OS-F1-A	CHANNEL	932.5	1.1753	0.0320
REACH-6-F5	AP-OS-F7	AP-OS-F5	CHANNEL	3501.7	1.2131	0.0320
REACH-6-F6	AP-OF-3	AP-OS-F6	CHANNEL	1289.1	0.9138	0.0320
REACH-6-F7	AP-OF-2	AP-OS-F7	CHANNEL	1455.9	0.8778	0.0320
REACH-6-F8	AP-OF-5	AP-OS-F8	CHANNEL	3106.3	7.0003	0.0320
REACH-6-LINK1	AP-OS-F6	AP-OS-F7	CHANNEL	20.0	6.2500	0.0150
REACH-6-LINK2	AP-OS-F8	AP-OS-F7	CHANNEL	20.0	6.2500	0.0150
REACH-7-G6	AP-OF-6	AP-OS-G6	CHANNEL	1048.2	6.5552	0.0320

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Cross Section Summary

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Link ID	Shape	Depth/ Diameter	Width	No. of Barrels	Cross Sectional Area	Full Flow Hydraulic Radius	Design Flow Capacity
		ft	ft		ft²	ft	cfs
BYPASS-REACH-1-B1	CIRCULAR	5.00	5.00	1	19.63	1.25	328.83
OUTLET-CC-10-G1	CIRCULAR	1.00	1.00	1	0.79	0.25	7.73
OUTLET-CC-11-G2	CIRCULAR	1.00	1.00	1	0.79	0.25	4.12
OUTLET-CC-12-G3	CIRCULAR	1.50	1.50	2	1.77	0.38	22.40
OUTLET-CC-13-G4	CIRCULAR	1.00	1.00	1	0.79	0.25	4.73
OUTLET-CC-14-G5	CIRCULAR	1.00	1.00	1	0.79	0.25	10.12
OUTLET-CC-15-G6	CIRCULAR	2.00	2.00	1	3.14	0.50	29.25
OUTLET-CC-1-B	HORIZ_ELLIPSE	3.83	5.50	1	18.65	1.17	223.28
OUTLET-CC-2-C1	HORIZ_ELLIPSE	3.67	6.00	2	17.06	1.12	220.86
OUTLET-CC-3-C2	CIRCULAR	1.00	1.00	1	0.79	0.25	4.37
OUTLET-CC-4-D2	HORIZ_ELLIPSE	1.00	1.50	1	1.27	0.31	7.60
OUTLET-CC-5-D1	CIRCULAR	3.50	3.50	2	9.62	0.88	22.51

OUTLET-CC-6-E1	CIRCULAR	1.50	1.50	1	1.77	0.38	20.44
OUTLET-CC-7-E2	CIRCULAR	2.00	2.00	1	3.14	0.50	25.60
OUTLET-CC-8-F1	HORIZ_ELLIPSE	3.00	5.00	1	11.42	0.92	126.95
OUTLET-CC-8-F2	CIRCULAR	1.50	1.50	1	1.77	0.38	18.04
OUTLET-CC-9-F1	FILLED_CIRCULAR	6.17	6.67	1	33.71	1.54	417.14
REACH-1-B2	TRAPEZOIDAL	3.00	14.00	1	24.00	1.56	288.26
REACH-1-B3	TRAPEZOIDAL	3.00	14.00	1	24.00	1.56	294.22
REACH-2-C1	TRAPEZOIDAL	4.00	68.00	1	176.00	2.56	1941.36
REACH-2-C4	TRAPEZOIDAL	4.00	36.00	1	112.00	2.96	1830.09
REACH-2-LINK1	TRAPEZOIDAL	5.00	30.00	1	100.00	3.09	5254.39
REACH-3-D1	TRAPEZOIDAL	3.00	66.00	1	144.00	2.17	2045.54
REACH-3-D2	TRAPEZOIDAL	3.00	37.00	1	93.00	2.42	1186.72
REACH-3-LINK1	TRAPEZOIDAL	1.00	14.00	1	12.00	0.83	262.31
REACH-4-D1	TRAPEZOIDAL	3.00	66.00	1	144.00	2.17	958.85
REACH-4-D3	TRAPEZOIDAL	2.00	18.00	1	28.00	1.48	292.90
REACH-5-F1	TRAPEZOIDAL	3.00	22.00	1	48.00	2.05	469.43
REACH-5-F3	TRAPEZOIDAL	1.00	22.00	1	16.00	0.72	162.77
REACH-6-F1	TRAPEZOIDAL	6.00	137.00	1	606.00	4.39	8181.49
REACH-6-F5	TRAPEZOIDAL	6.00	93.00	1	414.00	4.38	5670.30
REACH-6-F6	TRAPEZOIDAL	8.00	73.00	1	392.00	5.19	5213.22
REACH-6-F7	TRAPEZOIDAL	8.00	73.00	1	392.00	5.19	5109.42
REACH-6-F8	TRAPEZOIDAL	1.50	20.00	1	16.50	0.81	176.87
REACH-6-LINK1	TRAPEZOIDAL	5.00	40.00	1	150.00	3.54	8630.67
REACH-6-LINK2	TRAPEZOIDAL	5.00	40.00	1	150.00	3.54	8630.67
REACH-7-G6	TRAPEZOIDAL	1.50	20.00	1	16.50	0.81	171.15

Runoff Quantity Continuity	Volume acre-ft	Depth inches
Total Precipitation	2770.163	8.552
Continuity Error (%)	0.661	

Flow Routing Continuity	Volume acre-ft	Volume Mgallons
External Inflow	0.000	0.000
External Outflow	217.281	70.804
Initial Stored Volume	0.000	0.000
Final Stored Volume	0.002	0.001
Continuity Error (%)	-0.003	

****
Runoff Coefficient Computations Report
****

Subbasin {Drainage-UnDEV}.UD-OF-SHED-1

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	311.01	D (2-6%)	0.40
Forest, less than 25 years	47.85	D (2-6%)	0.16
Forest, less than 25 years	39.87	D (6%+)	0.20
Composite Area & Weighted Runoff Coeff.	398.72		0.35

Subbasin {Drainage-UnDEV}.UD-OF-SHED-2

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	663.25	D (2-6%)	0.40
Forest, less than 25 years	221.08	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	884.33		0.34

Subbasin {Drainage-UnDEV}.UD-OF-SHED-3

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	786.54	D (2-6%)	0.40
Forest, less than 25 years	337.09	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	1123.63		0.33

Subbasin {Drainage-UnDEV}.UD-OF-SHED-4

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	4.31	D (2-6%)	0.40
Composite Area & Weighted Runoff Coeff.	4.31		0.40

Subbasin {Drainage-UnDEV}.UD-OF-SHED-5

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	20.94	D (2-6%)	0.40
Composite Area & Weighted Runoff Coeff.	20.94		0.40

Subbasin {Drainage-UnDEV}.UD-OF-SHED-6

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
-	18.41	-	0.72
Composite Area & Weighted Runoff Coeff.	18.41		0.72

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A1-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	1.64	D (2-6%)	0.40
Composite Area & Weighted Runoff Coeff.	1.64		0.40

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A2-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	10.62	D (2-6%)	0.40
Composite Area & Weighted Runoff Coeff.	10.62		0.40

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A3-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	11.28	D (2-6%)	0.40
Composite Area & Weighted Runoff Coeff.	11.28		0.40

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A4-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	12.22	D (2-6%)	0.40
Composite Area & Weighted Runoff Coeff.	12.22		0.40

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A5-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	4.49	D (2-6%)	0.40
Composite Area & Weighted Runoff Coeff.	4.49		0.40

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A6-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	8.50	D (2-6%)	0.40
Forest, less than 25 years	0.45	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	8.95		0.39

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A7-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	10.50	D (2-6%)	0.40
Composite Area & Weighted Runoff Coeff.	10.50		0.40

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-B1-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	6.42	D (2-6%)	0.40
Forest, less than 25 years	0.03	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	6.45		0.40

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-B2-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	97.83	D (2-6%)	0.40
Forest, less than 25 years	8.51	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	106.34		0.38

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-B3-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	18.32	D (2-6%)	0.40
Forest, less than 25 years	0.09	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	18.41		0.40

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-C1-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	134.30	D (2-6%)	0.40
Forest, less than 25 years	37.88	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	172.18		0.35

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-C2-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	56.14	D (2-6%)	0.40
Composite Area & Weighted Runoff Coeff.	56.14		0.40

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-C3-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	61.18	D (2-6%)	0.40
Forest, less than 25 years	50.05	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	111.23		0.29

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-C4-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	30.36	D (2-6%)	0.40
Forest, less than 25 years	13.01	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	43.38		0.33

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D1-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	22.39	D (2-6%)	0.40
Forest, less than 25 years	0.46	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	22.85		0.40

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D2-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	13.98	D (2-6%)	0.40
Composite Area & Weighted Runoff Coeff.	13.98		0.40

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D3-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.

Pasture, less than 25 years	85.55	D (2-6%)	0.40
Forest, less than 25 years	57.04	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	142.59		0.30

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D4-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	59.64	D (2-6%)	0.40
Forest, less than 25 years	6.63	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	66.26		0.38

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D5-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	74.30	D (2-6%)	0.40
Forest, less than 25 years	1.52	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	75.82		0.40

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D6-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	44.72	D (2-6%)	0.40
Forest, less than 25 years	6.10	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	50.82		0.37

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D7-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	18.75	D (2-6%)	0.40
Forest, less than 25 years	1.20	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	19.95		0.39

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-E1-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	12.49	D (2-6%)	0.40
Forest, less than 25 years	0.25	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	12.74		0.40

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-E2-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	17.10	D (2-6%)	0.40
Forest, less than 25 years	0.35	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	17.45		0.40

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F1-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	63.60	D (2-6%)	0.40
Forest, less than 25 years	8.67	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	72.28		0.37

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F2-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	3.56	D (2-6%)	0.40
Composite Area & Weighted Runoff Coeff.	3.56		0.40

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F3-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	34.30	D (2-6%)	0.40
Forest, less than 25 years	4.68	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	38.98		0.37

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F4-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	19.16	D (2-6%)	0.40
Forest, less than 25 years	0.59	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	19.75		0.39

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F5-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	75.24	D (2-6%)	0.40
Forest, less than 25 years	61.56	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	136.81		0.29

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F6-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	14.12	D (2-6%)	0.40
Forest, less than 25 years	3.53	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	17.65		0.35

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F7-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	30.47	D (2-6%)	0.40
Forest, less than 25 years	5.38	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	35.84		0.36

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F8-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	44.03	D (2-6%)	0.40
Forest, less than 25 years	9.67	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	53.70		0.36

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G1-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	5.95	D (2-6%)	0.40
Forest, less than 25 years	0.52	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	6.47		0.38

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G2-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	5.10	D (2-6%)	0.40
Forest, less than 25 years	0.44	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	5.54		0.38

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G3-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	9.74	D (2-6%)	0.40
Forest, less than 25 years	0.85	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	10.59		0.38

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G4-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	5.33	D (2-6%)	0.40
Forest, less than 25 years	0.46	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	5.80		0.38

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G5-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	11.29	D (2-6%)	0.40
Forest, less than 25 years	0.98	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	12.27		0.38

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G6-

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, less than 25 years	17.90	D (2-6%)	0.40
Forest, less than 25 years	3.16	D (2-6%)	0.16
Composite Area & Weighted Runoff Coeff.	21.06		0.36

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SCS TR-55 Time of Concentration Computations Report

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Sheet Flow Equation

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where:

Tc = Time of Concentration (hrs)
n = Manning's Roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hrs)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hrs)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft^2)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's Roughness

Subbasin {Drainage-UnDEV}.UD-OF-SHED-1

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	4.33	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.16	0.00	0.00
Computed Flow Time (minutes):	31.31	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	4.25	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.06	0.00	0.00
Computed Flow Time (minutes):	9.71	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.03	0.00	0.00
Flow Length (ft):	12521.00	0.00	0.00
Channel Slope (%):	4.00	0.00	0.00
Cross Section Area (ft^2):	208.00	0.00	0.00
Wetted Perimeter (ft):	45.77	0.00	0.00
Velocity (ft/sec):	24.78	0.00	0.00
Computed Flow Time (minutes):	8.42	0.00	0.00

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Total TOC (minutes): 49.44

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Subbasin {Drainage-UnDEV}.UD-OF-SHED-2

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C

Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	36.26	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	3.33	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.82	0.00	0.00
Computed Flow Time (minutes):	10.99	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.03	0.00	0.00
Flow Length (ft):	20691.50	0.00	0.00
Channel Slope (%):	4.00	0.00	0.00
Cross Section Area (ft^2):	208.00	0.00	0.00
Wetted Perimeter (ft):	45.77	0.00	0.00
Velocity (ft/sec):	24.78	0.00	0.00
Computed Flow Time (minutes):	13.92	0.00	0.00

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Total TOC (minutes): 61.17

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Subbasin {Drainage-UnDEV}.UD-OF-SHED-3

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00

Slope (%):	1.33	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.10	0.00	0.00
Computed Flow Time (minutes):	50.21	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	3.50	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.87	0.00	0.00
Computed Flow Time (minutes):	10.70	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	26027.56	0.00	0.00
Channel Slope (%):	4.00	0.00	0.00
Cross Section Area (ft^2):	208.00	0.00	0.00
Wetted Perimeter (ft):	45.78	0.00	0.00
Velocity (ft/sec):	23.36	0.00	0.00
Computed Flow Time (minutes):	18.57	0.00	0.00

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Total TOC (minutes): 79.47

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Subbasin {Drainage-UnDEV}.UD-OF-SHED-4

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	4.33	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80

Velocity (ft/sec):	0.16	0.00	0.00
Computed Flow Time (minutes):	31.31	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	759.00	0.00	0.00
Slope (%):	4.87	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.21	0.00	0.00
Computed Flow Time (minutes):	5.72	0.00	0.00

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Total TOC (minutes): 37.04

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Subbasin {Drainage-UnDEV}.UD-OF-SHED-5

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	4.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.15	0.00	0.00
Computed Flow Time (minutes):	32.32	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	4.50	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.12	0.00	0.00
Computed Flow Time (minutes):	9.43	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	952.00	0.00	0.00
Channel Slope (%):	3.68	0.00	0.00
Cross Section Area (ft^2):	20.00	0.00	0.00
Wetted Perimeter (ft):	14.00	0.00	0.00
Velocity (ft/sec):	10.36	0.00	0.00
Computed Flow Time (minutes):	1.53	0.00	0.00

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Total TOC (minutes): 43.29

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Subbasin {Drainage-UnDEV}.UD-OF-SHED-6

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.67	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.15	0.00	0.00
Computed Flow Time (minutes):	33.45	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1201.00	0.00	0.00
Slope (%):	10.66	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	3.26	0.00	0.00
Computed Flow Time (minutes):	6.14	0.00	0.00

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Total TOC (minutes): 39.59

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A1-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	36.26	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	339.00	0.00	0.00
Slope (%):	4.45	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.11	0.00	0.00
Computed Flow Time (minutes):	2.68	0.00	0.00

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Total TOC (minutes): 38.94

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A2-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00

Flow Length (ft):	300.00	0.00	0.00
Slope (%):	5.33	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.17	0.00	0.00
Computed Flow Time (minutes):	28.81	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	717.00	0.00	0.00
Slope (%):	8.65	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.94	0.00	0.00
Computed Flow Time (minutes):	4.06	0.00	0.00

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Total TOC (minutes): 32.88

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A3-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	5.67	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.18	0.00	0.00
Computed Flow Time (minutes):	28.11	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	946.00	0.00	0.00
Slope (%):	5.92	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.43	0.00	0.00

Computed Flow Time (minutes):	6.49	0.00	0.00

==========

Total TOC (minutes): 34.60

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A4-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	5.33	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.17	0.00	0.00
Computed Flow Time (minutes):	28.81	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	963.00	0.00	0.00
Slope (%):	9.03	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	3.00	0.00	0.00
Computed Flow Time (minutes):	5.35	0.00	0.00

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Total TOC (minutes): 34.16

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A5-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.33	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	34.78	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	445.00	0.00	0.00
Slope (%):	8.76	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.96	0.00	0.00
Computed Flow Time (minutes):	2.51	0.00	0.00

==========

Total TOC (minutes): 37.29

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A6-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.67	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.15	0.00	0.00
Computed Flow Time (minutes):	33.45	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1078.00	0.00	0.00
Slope (%):	7.98	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.82	0.00	0.00
Computed Flow Time (minutes):	6.37	0.00	0.00

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Total TOC (minutes): 39.82

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-A7-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.33	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	34.78	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1285.00	0.00	0.00
Slope (%):	7.32	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.71	0.00	0.00
Computed Flow Time (minutes):	7.90	0.00	0.00

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Total TOC (minutes): 42.68

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-B1-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	4.22	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.16	0.00	0.00
Computed Flow Time (minutes):	31.64	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	3.82	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.95	0.00	0.00
Computed Flow Time (minutes):	10.26	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	74.00	0.00	0.00
Channel Slope (%):	2.70	0.00	0.00
Cross Section Area (ft^2):	30.00	0.00	0.00
Wetted Perimeter (ft):	32.00	0.00	0.00
Velocity (ft/sec):	6.70	0.00	0.00
Computed Flow Time (minutes):	0.18	0.00	0.00

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Total TOC (minutes): 42.08

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-B2-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	4.36	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.16	0.00	0.00
Computed Flow Time (minutes):	31.23	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	4.46	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.11	0.00	0.00
Computed Flow Time (minutes):	9.48	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	3311.00	0.00	0.00
Channel Slope (%):	3.65	0.00	0.00
Cross Section Area (ft^2):	30.00	0.00	0.00
Wetted Perimeter (ft):	19.00	0.00	0.00
Velocity (ft/sec):	11.03	0.00	0.00
Computed Flow Time (minutes):	5.00	0.00	0.00

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Total TOC (minutes): 45.71

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-B3-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.37	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	34.61	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	4.17	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.04	0.00	0.00
Computed Flow Time (minutes):	9.80	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1300.00	0.00	0.00
Channel Slope (%):	3.84	0.00	0.00
Cross Section Area (ft^2):	10.00	0.00	0.00
Wetted Perimeter (ft):	12.00	0.00	0.00
Velocity (ft/sec):	7.39	0.00	0.00
Computed Flow Time (minutes):	2.93	0.00	0.00

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Total TOC (minutes): 47.35

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-C1-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	1.93	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.12	0.00	0.00
Computed Flow Time (minutes):	43.26	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	2.21	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.49	0.00	0.00
Computed Flow Time (minutes):	13.42	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1578.00	0.00	0.00
Channel Slope (%):	2.50	0.00	0.00
Cross Section Area (ft²):	25.00	0.00	0.00
Wetted Perimeter (ft):	15.00	0.00	0.00
Velocity (ft/sec):	9.46	0.00	0.00
Computed Flow Time (minutes):	2.78	0.00	0.00

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Total TOC (minutes): 59.46

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-C2-

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Total TOC (minutes): 0.00

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-C3-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.49	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.15	0.00	0.00
Computed Flow Time (minutes):	34.13	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	3.25	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.80	0.00	0.00
Computed Flow Time (minutes):	11.11	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1578.00	0.00	0.00
Channel Slope (%):	2.50	0.00	0.00
Cross Section Area (ft^2):	25.00	0.00	0.00
Wetted Perimeter (ft):	15.00	0.00	0.00
Velocity (ft/sec):	9.46	0.00	0.00
Computed Flow Time (minutes):	2.78	0.00	0.00

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Total TOC (minutes): 48.02

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-C4-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	2.93	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	36.61	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	6.52	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.55	0.00	0.00
Computed Flow Time (minutes):	7.84	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1499.00	0.00	0.00
Channel Slope (%):	6.20	0.00	0.00
Cross Section Area (ft^2):	24.00	0.00	0.00
Wetted Perimeter (ft):	16.00	0.00	0.00
Velocity (ft/sec):	13.89	0.00	0.00
Computed Flow Time (minutes):	1.80	0.00	0.00

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Total TOC (minutes): 46.25

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D1-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	2.54	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.13	0.00	0.00
Computed Flow Time (minutes):	38.76	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	3.07	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.75	0.00	0.00
Computed Flow Time (minutes):	11.43	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	292.00	0.00	0.00
Channel Slope (%):	2.54	0.00	0.00
Cross Section Area (ft^2):	80.00	0.00	0.00
Wetted Perimeter (ft):	28.00	0.00	0.00
Velocity (ft/sec):	13.66	0.00	0.00
Computed Flow Time (minutes):	0.36	0.00	0.00

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Total TOC (minutes): 50.54

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D2-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	2.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.12	0.00	0.00
Computed Flow Time (minutes):	42.65	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	2.00	0.00	0.00
Surface Type:	Grass pasture	Unpaved	Unpaved
Velocity (ft/sec):	0.99	0.00	0.00
Computed Flow Time (minutes):	20.20	0.00	0.00

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Total TOC (minutes): 62.85

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D3-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	4.41	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.16	0.00	0.00
Computed Flow Time (minutes):	31.08	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	2.36	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.54	0.00	0.00
Computed Flow Time (minutes):	12.99	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	2992.00	0.00	0.00
Channel Slope (%):	2.11	0.00	0.00
Cross Section Area (ft^2):	30.00	0.00	0.00
Wetted Perimeter (ft):	16.00	0.00	0.00
Velocity (ft/sec):	9.40	0.00	0.00
Computed Flow Time (minutes):	5.30	0.00	0.00

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Total TOC (minutes): 49.37

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D4-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.49	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.15	0.00	0.00
Computed Flow Time (minutes):	34.13	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	4.68	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.16	0.00	0.00
Computed Flow Time (minutes):	9.26	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	2290.00	0.00	0.00
Channel Slope (%):	2.98	0.00	0.00
Cross Section Area (ft^2):	30.00	0.00	0.00
Wetted Perimeter (ft):	16.00	0.00	0.00
Velocity (ft/sec):	11.17	0.00	0.00
Computed Flow Time (minutes):	3.42	0.00	0.00

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Total TOC (minutes): 46.81

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D5-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	2.31	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.12	0.00	0.00
Computed Flow Time (minutes):	40.26	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C

Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	3.55	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.88	0.00	0.00
Computed Flow Time (minutes):	10.64	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	2138.00	0.00	0.00
Channel Slope (%):	3.90	0.00	0.00
Cross Section Area (ft^2):	30.00	0.00	0.00
Wetted Perimeter (ft):	19.00	0.00	0.00
Velocity (ft/sec):	11.40	0.00	0.00
Computed Flow Time (minutes):	3.13	0.00	0.00

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Total TOC (minutes): 54.02

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D6-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	2.89	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	36.81	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	3.11	0.00	0.00

Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.76	0.00	0.00
Computed Flow Time (minutes):	11.36	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1462.00	0.00	0.00
Channel Slope (%):	7.47	0.00	0.00
Cross Section Area (ft^2):	20.00	0.00	0.00
Wetted Perimeter (ft):	14.00	0.00	0.00
Velocity (ft/sec):	14.76	0.00	0.00
Computed Flow Time (minutes):	1.65	0.00	0.00

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Total TOC (minutes): 49.82

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-D7-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.28	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	34.99	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	3.49	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.87	0.00	0.00

Computed Flow Time (minutes):	10.70	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1907.00	0.00	0.00
Channel Slope (%):	4.92	0.00	0.00
Cross Section Area (ft^2):	20.00	0.00	0.00
Wetted Perimeter (ft):	14.00	0.00	0.00
Velocity (ft/sec):	11.98	0.00	0.00
Computed Flow Time (minutes):	2.65	0.00	0.00

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Total TOC (minutes): 48.34

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-E1-

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	4.61	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.15	0.00	0.00
Computed Flow Time (minutes):	9.30	0.00	0.00

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Total TOC (minutes): 9.30

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-E2-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.29	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	34.95	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	4.61	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.15	0.00	0.00
Computed Flow Time (minutes):	9.30	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1056.00	0.00	0.00
Channel Slope (%):	2.21	0.00	0.00
Cross Section Area (ft^2):	30.00	0.00	0.00
Wetted Perimeter (ft):	16.00	0.00	0.00
Velocity (ft/sec):	9.62	0.00	0.00
Computed Flow Time (minutes):	1.83	0.00	0.00

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Total TOC (minutes): 46.08

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F1-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	5.72	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.18	0.00	0.00
Computed Flow Time (minutes):	28.01	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	9.06	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	3.01	0.00	0.00
Computed Flow Time (minutes):	6.64	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	496.00	0.00	0.00
Channel Slope (%):	0.38	0.00	0.00
Cross Section Area (ft²):	60.00	0.00	0.00
Wetted Perimeter (ft):	26.00	0.00	0.00
Velocity (ft/sec):	0.46	0.00	0.00
Computed Flow Time (minutes):	18.04	0.00	0.00

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Total TOC (minutes): 52.70

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F2-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	2.00	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.12	0.00	0.00
Computed Flow Time (minutes):	42.65	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	450.00	0.00	0.00
Slope (%):	2.00	0.00	0.00
Surface Type:	Grass pasture	Unpaved	Unpaved
Velocity (ft/sec):	0.99	0.00	0.00
Computed Flow Time (minutes):	7.58	0.00	0.00

Total TOC (minutes): 50.22

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F3-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	2.48	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.13	0.00	0.00
Computed Flow Time (minutes):	39.13	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	8.44	0.00	0.00

Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.91	0.00	0.00
Computed Flow Time (minutes):	6.87	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	2364.00	0.00	0.00
Channel Slope (%):	2.01	0.00	0.00
Cross Section Area (ft^2):	16.00	0.00	0.00
Wetted Perimeter (ft):	12.00	0.00	0.00
Velocity (ft/sec):	7.31	0.00	0.00
Computed Flow Time (minutes):	5.39	0.00	0.00

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Total TOC (minutes): 51.39

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F4-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	2.41	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.13	0.00	0.00
Computed Flow Time (minutes):	39.58	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	2.91	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	1.71	0.00	0.00

Computed Flow Time (minutes):	11.70	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	383.00	0.00	0.00
Channel Slope (%):	5.05	0.00	0.00
Cross Section Area (ft^2):	20.00	0.00	0.00
Wetted Perimeter (ft):	14.00	0.00	0.00
Velocity (ft/sec):	12.13	0.00	0.00
Computed Flow Time (minutes):	0.53	0.00	0.00

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Total TOC (minutes): 51.80

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F5-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	4.86	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.17	0.00	0.00
Computed Flow Time (minutes):	29.90	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	983.00	0.00	0.00
Channel Slope (%):	2.87	0.00	0.00
Cross Section Area (ft^2):	60.00	0.00	0.00
Wetted Perimeter (ft):	26.00	0.00	0.00
Velocity (ft/sec):	12.59	0.00	0.00

Computed Flow Time (minutes):	1.30	0.00	0.00

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Total TOC (minutes): 31.20

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F6-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	10.82	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.23	0.00	0.00
Computed Flow Time (minutes):	21.71	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	10.88	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	3.30	0.00	0.00
Computed Flow Time (minutes):	6.06	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	490.00	0.00	0.00
Channel Slope (%):	2.49	0.00	0.00
Cross Section Area (ft^2):	40.00	0.00	0.00
Wetted Perimeter (ft):	18.00	0.00	0.00
Velocity (ft/sec):	11.44	0.00	0.00
Computed Flow Time (minutes):	0.71	0.00	0.00

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Total TOC (minutes): 28.48

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F7-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	5.53	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.18	0.00	0.00
Computed Flow Time (minutes):	28.39	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	11.67	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	3.42	0.00	0.00
Computed Flow Time (minutes):	5.85	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1544.00	0.00	0.00
Channel Slope (%):	3.48	0.00	0.00
Cross Section Area (ft^2):	40.00	0.00	0.00
Wetted Perimeter (ft):	18.00	0.00	0.00
Velocity (ft/sec):	13.52	0.00	0.00
Computed Flow Time (minutes):	1.90	0.00	0.00

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Total TOC (minutes): 36.14

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-F8-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	3.18	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.14	0.00	0.00
Computed Flow Time (minutes):	35.43	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	5.51	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	2.35	0.00	0.00
Computed Flow Time (minutes):	8.51	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	1695.00	0.00	0.00
Channel Slope (%):	8.44	0.00	0.00
Cross Section Area (ft^2):	40.00	0.00	0.00
Wetted Perimeter (ft):	19.00	0.00	0.00
Velocity (ft/sec):	20.32	0.00	0.00
Computed Flow Time (minutes):	1.39	0.00	0.00

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Total TOC (minutes): 45.33

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G1-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	7.70	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.20	0.00	0.00
Computed Flow Time (minutes):	24.87	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	750.00	0.00	0.00
Slope (%):	6.00	0.00	0.00
Surface Type:	Grass pasture	Unpaved	Unpaved
Velocity (ft/sec):	1.71	0.00	0.00
Computed Flow Time (minutes):	7.31	0.00	0.00

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Total TOC (minutes): 32.18

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G2-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00

Slope (%):	7.70	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.20	0.00	0.00
Computed Flow Time (minutes):	24.87	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	400.00	0.00	0.00
Slope (%):	6.00	0.00	0.00
Surface Type:	Grass pasture	Unpaved	Unpaved
Velocity (ft/sec):	1.71	0.00	0.00
Computed Flow Time (minutes):	3.90	0.00	0.00

Total TOC (minutes): 28.77

Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G3-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	7.70	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.20	0.00	0.00
Computed Flow Time (minutes):	24.87	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	600.00	0.00	0.00
Slope (%):	6.00	0.00	0.00
Surface Type:	Grass pasture	Unpaved	Unpaved
Velocity (ft/sec):	1.71	0.00	0.00
Computed Flow Time (minutes):	5.85	0.00	0.00

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Total TOC (minutes): 30.72

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G4-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	7.70	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.20	0.00	0.00
Computed Flow Time (minutes):	24.87	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	600.00	0.00	0.00
Slope (%):	6.00	0.00	0.00
Surface Type:	Grass pasture	Unpaved	Unpaved
Velocity (ft/sec):	1.71	0.00	0.00
Computed Flow Time (minutes):	5.85	0.00	0.00

==========
Total TOC (minutes): 30.72

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G5-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	7.70	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.20	0.00	0.00
Computed Flow Time (minutes):	24.87	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Flow Length (ft):	900.00	0.00	0.00
Slope (%):	6.00	0.00	0.00
Surface Type:	Grass pasture	Unpaved	Unpaved
Velocity (ft/sec):	1.71	0.00	0.00
Computed Flow Time (minutes):	8.77	0.00	0.00

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Total TOC (minutes): 33.64

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Subbasin {Drainage-UnDEV}.UD-OS-SHED-SUB-G6-

Sheet Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.35	0.00	0.00
Flow Length (ft):	300.00	0.00	0.00
Slope (%):	4.76	0.00	0.00
2 yr, 24 hr Rainfall (in):	3.80	3.80	3.80
Velocity (ft/sec):	0.17	0.00	0.00
Computed Flow Time (minutes):	30.15	0.00	0.00

Shallow Concentrated Flow Computations

	Flowpath A	Flowpath B	Flowpath C

Flow Length (ft):	1200.00	0.00	0.00
Slope (%):	11.96	0.00	0.00
Surface Type:	Bare & untilled	Unpaved	Unpaved
Velocity (ft/sec):	3.46	0.00	0.00
Computed Flow Time (minutes):	5.78	0.00	0.00

Channel Flow Computations

	Flowpath A	Flowpath B	Flowpath C
Manning's Roughness:	0.04	0.00	0.00
Flow Length (ft):	250.00	0.00	0.00
Channel Slope (%):	8.00	0.00	0.00
Cross Section Area (ft^2):	33.00	0.00	0.00
Wetted Perimeter (ft):	18.00	0.00	0.00
Velocity (ft/sec):	18.04	0.00	0.00
Computed Flow Time (minutes):	0.23	0.00	0.00

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Total TOC (minutes): 36.16

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Subbasin Runoff Summary

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Subbasin ID	Accumulated Precip in	Rainfall Intensity in/hr	Total Runoff in	Peak Runoff cfs	Weighted Runoff Coeff	Time of Concentration days hh:mm:ss
{Drainage-UnDEV}.UD-OF-SHED-1	7.18	8.70	2.51	1214.12	0.350	0 00:49:26
{Drainage-UnDEV}.UD-OF-SHED-2	8.87	8.70	3.02	2615.86	0.340	0 01:01:10
{Drainage-UnDEV}.UD-OF-SHED-3	11.53	8.70	3.80	3225.93	0.330	0 01:19:28
{Drainage-UnDEV}.UD-OF-SHED-4	5.36	8.70	2.15	15.01	0.400	0 00:37:02
{Drainage-UnDEV}.UD-OF-SHED-5	6.28	8.70	2.51	72.88	0.400	0 00:43:17
{Drainage-UnDEV}.UD-OF-SHED-6	5.75	8.70	4.14	115.34	0.720	0 00:39:35
{Drainage-UnDEV}.UD-OS-SHED-SUB-A1-	5.65	8.70	2.26	5.69	0.400	0 00:38:56
{Drainage-UnDEV}.UD-OS-SHED-SUB-A2-	4.76	8.70	1.90	36.97	0.400	0 00:32:52
{Drainage-UnDEV}.UD-OS-SHED-SUB-A3-	5.03	8.70	2.01	39.26	0.400	0 00:34:36
{Drainage-UnDEV}.UD-OS-SHED-SUB-A4-	4.95	8.70	1.98	42.52	0.400	0 00:34:09

{Drainage-UnDEV}.UD-OS-SHED-SUB-A5-	5.41	8.70	2.17	15.61	0.400	0	00:37:17
{Drainage-UnDEV}.UD-OS-SHED-SUB-A6-	5.78	8.70	2.25	30.37	0.390	0	00:39:49
{Drainage-UnDEV}.UD-OS-SHED-SUB-A7-	6.19	8.70	2.47	36.54	0.400	0	00:42:40
{Drainage-UnDEV}.UD-OS-SHED-SUB-B1-	6.09	8.70	2.44	22.45	0.400	0	00:42:04
{Drainage-UnDEV}.UD-OS-SHED-SUB-B2-	6.62	8.70	2.52	351.56	0.380	0	00:45:42
{Drainage-UnDEV}.UD-OS-SHED-SUB-B3-	6.86	8.70	2.75	64.08	0.400	0	00:47:21
{Drainage-UnDEV}.UD-OS-SHED-SUB-C1-	8.63	8.70	3.02	524.28	0.350	0	00:59:27
{Drainage-UnDEV}.UD-OS-SHED-SUB-C2-	0.72	8.70	0.29	195.35	0.400	0	00:05:00
{Drainage-UnDEV}.UD-OS-SHED-SUB-C3-	6.96	8.70	2.02	280.64	0.290	0	00:48:01
{Drainage-UnDEV}.UD-OS-SHED-SUB-C4-	6.72	8.70	2.22	124.54	0.330	0	00:46:15
{Drainage-UnDEV}.UD-OS-SHED-SUB-D1-	7.32	8.70	2.93	79.51	0.400	0	00:50:32
{Drainage-UnDEV}.UD-OS-SHED-SUB-D2-	9.11	8.70	3.64	48.63	0.400	0	01:02:51
{Drainage-UnDEV}.UD-OS-SHED-SUB-D3-	7.15	8.70	2.15	372.15	0.300	0	00:49:22
{Drainage-UnDEV}.UD-OS-SHED-SUB-D4-	6.79	8.70	2.58	219.07	0.380	0	00:46:48
{Drainage-UnDEV}.UD-OS-SHED-SUB-D5-	7.83	8.70	3.13	263.86	0.400	0	00:54:01
{Drainage-UnDEV}.UD-OS-SHED-SUB-D6-	7.23	8.70	2.67	163.60	0.370	0	00:49:49
{Drainage-UnDEV}.UD-OS-SHED-SUB-D7-	7.01	8.70	2.73	67.68	0.390	0	00:48:20
{Drainage-UnDEV}.UD-OS-SHED-SUB-E1-	1.35	8.70	0.54	44.35	0.400	0	00:09:18
{Drainage-UnDEV}.UD-OS-SHED-SUB-E2-	6.67	8.70	2.67	60.73	0.400	0	00:46:04
{Drainage-UnDEV}.UD-OS-SHED-SUB-F1-	7.64	8.70	2.83	232.66	0.370	0	00:52:42
{Drainage-UnDEV}.UD-OS-SHED-SUB-F2-	7.27	8.70	2.91	12.37	0.400	0	00:50:13
{Drainage-UnDEV}.UD-OS-SHED-SUB-F3-	7.44	8.70	2.75	125.46	0.370	0	00:51:23
{Drainage-UnDEV}.UD-OS-SHED-SUB-F4-	7.52	8.70	2.93	67.01	0.390	0	00:51:48
{Drainage-UnDEV}.UD-OS-SHED-SUB-F5-	4.52	8.70	1.31	345.17	0.290	0	00:31:12
{Drainage-UnDEV}.UD-OS-SHED-SUB-F6-	4.13	8.70	1.45	53.74	0.350	0	00:28:28
{Drainage-UnDEV}.UD-OS-SHED-SUB-F7-	5.24	8.70	1.89	112.26	0.360	0	00:36:08
{Drainage-UnDEV}.UD-OS-SHED-SUB-F8-	6.57	8.70	2.37	168.18	0.360	0	00:45:19
{Drainage-UnDEV}.UD-OS-SHED-SUB-G1-	4.66	8.70	1.77	21.38	0.380	0	00:32:10
{Drainage-UnDEV}.UD-OS-SHED-SUB-G2-	4.18	8.70	1.59	18.33	0.380	0	00:28:46
{Drainage-UnDEV}.UD-OS-SHED-SUB-G3-	4.45	8.70	1.69	35.01	0.380	0	00:30:43
{Drainage-UnDEV}.UD-OS-SHED-SUB-G4-	4.45	8.70	1.69	19.16	0.380	0	00:30:43
{Drainage-UnDEV}.UD-OS-SHED-SUB-G5-	4.88	8.70	1.86	40.55	0.380	0	00:33:38
{Drainage-UnDEV}.UD-OS-SHED-SUB-G6-	5.24	8.70	1.89	65.96	0.360	0	00:36:09

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Node Depth Summary

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Node ID	Average Depth	Maximum Depth Attained	Maximum HGL Attained	Time of Max Occurrence	Total Flooded Volume	Total Time Flooded	Retention Time

	ft	ft	ft	days	hh:mm	acre-in	minutes	hh:mm:ss
AP-OF-1	0.14	3.19	453.47	0	00:49	0	0	0:00:00
AP-OF-2	1.07	6.47	325.80	0	01:01	0	0	0:00:00
AP-OF-3	1.21	7.05	326.38	0	01:19	0	0	0:00:00
AP-OF-4	0.78	1.50	581.50	0	00:37	0	0	0:00:00
AP-OF-5	0.79	1.79	526.79	0	00:43	0	0	0:00:00
AP-OF-6	0.80	2.02	343.02	0	00:39	0	0	0:00:00
AP-OS-B1	0.98	5.50	274.07	0	00:25	69.86	46	0:00:00
AP-OS-B2	0.96	5.75	313.41	0	00:36	16.40	21	0:00:00
AP-OS-B3	0.83	2.43	472.67	0	00:47	0	0	0:00:00
AP-OS-C1	1.04	4.50	271.14	0	00:21	1122.79	81	0:00:00
AP-OS-C2	0.76	1.75	269.67	0	00:00	15.43	10	0:00:00
AP-OS-C3	0.92	4.36	364.95	0	00:51	0	0	0:00:00
AP-OS-C4	0.78	1.40	362.99	0	00:46	0	0	0:00:00
AP-OS-D1	1.09	4.25	246.57	0	00:06	879.41	105	0:00:00
AP-OS-D2	0.83	1.75	271.07	0	00:10	35.95	106	0:00:00
AP-OS-D3	0.83	2.26	249.22	0	00:49	0	0	0:00:00
AP-OS-D4	0.85	2.73	249.69	0	00:55	0	0	0:00:00
AP-OS-D5	0.84	2.64	317.89	0	00:54	0	0	0:00:00
AP-OS-D6	0.80	1.90	353.46	0	00:50	0	0	0:00:00
AP-OS-D7	0.77	1.20	353.76	0	00:48	0	0	0:00:00
AP-OS-E1	0.76	2.25	256.07	0	00:04	1.99	10	0:00:00
AP-OS-E2	0.85	2.75	259.87	0	00:19	15.45	53	0:00:00
AP-OS-F1-A	1.96	7.42	261.28	0	00:14	6259.07	145	0:00:00
AP-OS-F1-B	0.94	3.75	256.67	0	00:17	179.48	73	0:00:00
AP-OS-F2	0.79	1.66	280.89	0	00:50	0	0	0:00:00
AP-OS-F3	0.84	2.59	277.57	0	00:51	0	0	0:00:00
AP-OS-F4	0.78	1.37	403.06	0	00:52	0	0	0:00:00
AP-OS-F5	1.15	6.26	270.83	0	01:08	0	0	0:00:00
AP-OS-F6	1.18	6.78	314.58	0	01:20	0	0	0:00:00
AP-OS-F7	1.17	6.52	313.32	0	01:03	0	0	0:00:00
AP-OS-F8	0.78	1.52	309.32	0	00:46	0	0	0:00:00
AP-OS-G1	0.79	1.75	266.49	0	00:11	4.63	41	0:00:00
AP-OS-G2	0.79	1.75	265.86	0	00:06	5.25	45	0:00:00
AP-OS-G3	0.78	1.75	267.08	0	00:30	0	0	0:00:00
AP-OS-G4	0.79	1.75	269.68	0	00:07	5.51	46	0:00:00
AP-OS-G5	0.79	1.75	269.68	0	00:08	12.71	51	0:00:00
AP-OS-G6	0.85	2.75	275.29	0	00:07	80.13	64	0:00:00
OUTFALL-A-1	0.00	0.00	351.90	0	00:00	0	0	0:00:00
OUTFALL-A-2	0.00	0.00	310.00	0	00:00	0	0	0:00:00
OUTFALL-A-3	0.00	0.00	332.00	0	00:00	0	0	0:00:00
OUTFALL-A-4	0.00	0.00	341.00	0	00:00	0	0	0:00:00
OUTFALL-A-5	0.00	0.00	402.00	0	00:00	0	0	0:00:00

OUTFALL-A-6	0.00	0.00	406.00	0	00:00	0	0	0:00:00
OUTFALL-A-7	0.00	0.00	448.00	0	00:00	0	0	0:00:00
OUTFALL-B-1	0.69	4.33	272.56	0	00:30	0	0	0:00:00
OUTFALL-C-1-ALL	0.78	4.17	270.46	0	00:23	0	0	0:00:00
OUTFALL-C-2	0.51	1.50	268.95	0	00:00	0	0	0:00:00
OUTFALL-D-1-ALL	0.84	4.00	246.54	0	00:06	0	0	0:00:00
OUTFALL-D-2	0.58	1.50	269.59	0	00:12	0	0	0:00:00
OUTFALL-E-1-SOUTHWEST	0.51	2.00	253.55	0	00:05	0	0	0:00:00
OUTFALL-E-2-SOUTH	0.60	2.50	259.03	0	00:22	0	0	0:00:00
OUTFALL-F-1-ALL	1.71	7.17	260.86	0	00:15	0	0	0:00:00
OUTFALL-F-2	0.69	3.50	256.30	0	00:20	0	0	0:00:00
OUTFALL-F-3	0.54	1.41	279.32	0	00:50	0	0	0:00:00
OUTFALL-G-1	0.54	1.50	264.61	0	00:13	0	0	0:00:00
OUTFALL-G-2	0.54	1.50	265.06	0	00:07	0	0	0:00:00
OUTFALL-G-3	0.53	1.50	264.90	0	00:30	0	0	0:00:00
OUTFALL-G-4	0.54	1.50	268.74	0	00:08	0	0	0:00:00
OUTFALL-G-5	0.54	1.50	265.38	0	00:09	0	0	0:00:00
OUTFALL-G-6	0.60	2.50	274.40	0	00:08	0	0	0:00:00

****
Node Flow Summary
****

Node ID	Element Type	Maximum Lateral Inflow cfs	Peak Inflow cfs	Time of Peak Inflow Occurrence days	hh:mm	Maximum Flooding Overflow cfs	Time of Peak Flooding Occurrence days	hh:mm
AP-OF-1	JUNCTION	1214.12	1214.12	0	00:49	0.00		
AP-OF-2	JUNCTION	2615.86	2615.86	0	01:01	0.00		
AP-OF-3	JUNCTION	3225.93	3225.93	0	01:19	0.00		
AP-OF-4	JUNCTION	15.01	15.01	0	00:37	0.00		
AP-OF-5	JUNCTION	72.88	72.88	0	00:43	0.00		
AP-OF-6	JUNCTION	115.34	115.34	0	00:39	0.00		
AP-OS-B1	JUNCTION	22.45	378.14	0	00:42	154.85	0	00:42
AP-OS-B2	JUNCTION	351.56	417.70	0	00:45	88.82	0	00:45
AP-OS-B3	JUNCTION	64.08	77.13	0	00:47	0.00		
AP-OS-C1	JUNCTION	524.28	2026.23	0	00:57	1584.52	0	00:57
AP-OS-C2	JUNCTION	195.35	195.35	0	00:05	190.66	0	00:05
AP-OS-C3	JUNCTION	280.64	1569.00	0	00:51	0.00		
AP-OS-C4	JUNCTION	124.54	124.54	0	00:46	0.00		
AP-OS-D1	JUNCTION	79.51	1084.29	0	00:51	1039.26	0	00:51

AP-OS-D2	JUNCTION	48.63	48.63	0	01:03	41.03	0 01:03
AP-OS-D3	JUNCTION	372.15	571.16	0	00:49	0.00	
AP-OS-D4	JUNCTION	219.07	438.99	0	00:55	0.00	
AP-OS-D5	JUNCTION	263.86	263.86	0	00:54	0.00	
AP-OS-D6	JUNCTION	163.60	229.20	0	00:50	0.00	
AP-OS-D7	JUNCTION	67.68	67.68	0	00:48	0.00	
AP-OS-E1	JUNCTION	44.35	44.35	0	00:09	23.87	0 00:09
AP-OS-E2	JUNCTION	60.73	60.73	0	00:46	35.12	0 00:46
AP-OS-F1-A	JUNCTION	0.00	5245.96	0	01:09	4828.82	0 01:09
AP-OS-F1-B	JUNCTION	232.66	418.52	0	00:52	291.55	0 00:52
AP-OS-F2	JUNCTION	12.37	12.37	0	00:50	0.00	
AP-OS-F3	JUNCTION	125.46	188.49	0	00:51	0.00	
AP-OS-F4	JUNCTION	67.01	67.01	0	00:52	0.00	
AP-OS-F5	JUNCTION	345.17	5246.64	0	01:08	0.00	
AP-OS-F6	JUNCTION	53.74	3208.31	0	01:20	0.00	
AP-OS-F7	JUNCTION	112.26	5267.45	0	01:03	0.00	
AP-OS-F8	JUNCTION	168.18	237.85	0	00:45	0.00	
AP-OS-G1	JUNCTION	21.38	21.38	0	00:32	13.64	0 00:32
AP-OS-G2	JUNCTION	18.33	18.33	0	00:29	14.20	0 00:29
AP-OS-G3	JUNCTION	35.01	35.01	0	00:30	0.00	
AP-OS-G4	JUNCTION	19.16	19.16	0	00:30	14.42	0 00:30
AP-OS-G5	JUNCTION	40.55	40.55	0	00:33	30.42	0 00:33
AP-OS-G6	JUNCTION	65.96	172.15	0	00:40	142.90	0 00:40
OUTFALL-A-1	OUTFALL	5.69	5.69	0	00:39	0.00	
OUTFALL-A-2	OUTFALL	36.97	36.97	0	00:33	0.00	
OUTFALL-A-3	OUTFALL	39.26	39.26	0	00:34	0.00	
OUTFALL-A-4	OUTFALL	42.52	42.52	0	00:34	0.00	
OUTFALL-A-5	OUTFALL	15.61	15.61	0	00:37	0.00	
OUTFALL-A-6	OUTFALL	30.37	30.37	0	00:40	0.00	
OUTFALL-A-7	OUTFALL	36.54	36.54	0	00:42	0.00	
OUTFALL-B-1	OUTFALL	0.00	249.63	0	00:29	0.00	
OUTFALL-C-1-ALL	OUTFALL	0.00	493.75	0	00:23	0.00	
OUTFALL-C-2	OUTFALL	0.00	4.71	0	00:10	0.00	
OUTFALL-D-1-ALL	OUTFALL	0.00	48.69	0	01:51	0.00	
OUTFALL-D-2	OUTFALL	0.00	8.50	0	01:56	0.00	
OUTFALL-E-1-SOUTHWEST	OUTFALL	0.00	22.11	0	00:05	0.00	
OUTFALL-E-2-SOUTH	OUTFALL	0.00	27.70	0	00:22	0.00	
OUTFALL-F-1-ALL	OUTFALL	0.00	445.74	0	00:15	0.00	
OUTFALL-F-2	OUTFALL	0.00	141.94	0	00:20	0.00	
OUTFALL-F-3	OUTFALL	0.00	12.37	0	00:50	0.00	
OUTFALL-G-1	OUTFALL	0.00	8.36	0	00:13	0.00	
OUTFALL-G-2	OUTFALL	0.00	4.45	0	00:07	0.00	
OUTFALL-G-3	OUTFALL	0.00	35.00	0	00:30	0.00	
OUTFALL-G-4	OUTFALL	0.00	5.12	0	00:08	0.00	

OUTFALL-G-5	OUTFALL	0.00	10.95	0	00:09	0.00
OUTFALL-G-6	OUTFALL	0.00	31.63	0	00:08	0.00

****
Outfall Loading Summary
****

Outfall Node ID	Flow Frequency (%)	Average Flow cfs	Peak Inflow cfs
OUTFALL-A-1	5.42	2.85	5.69
OUTFALL-A-2	4.56	18.49	36.97
OUTFALL-A-3	4.81	19.64	39.26
OUTFALL-A-4	4.74	21.26	42.52
OUTFALL-A-5	5.18	7.81	15.61
OUTFALL-A-6	5.53	15.19	30.37
OUTFALL-A-7	5.92	18.27	36.54
OUTFALL-B-1	44.69	24.20	249.63
OUTFALL-C-1-ALL	99.98	30.20	493.75
OUTFALL-C-2	0.78	3.83	4.71
OUTFALL-D-1-ALL	74.66	4.97	48.69
OUTFALL-D-2	8.97	6.82	8.50
OUTFALL-E-1-SOUTHWEST	1.38	14.75	22.11
OUTFALL-E-2-SOUTH	6.59	19.62	27.70
OUTFALL-F-1-ALL	67.96	67.47	445.74
OUTFALL-F-2	37.29	21.15	141.94
OUTFALL-F-3	7.02	6.14	12.37
OUTFALL-G-1	4.50	6.29	8.36
OUTFALL-G-2	4.10	3.57	4.45
OUTFALL-G-3	4.33	17.24	35.00
OUTFALL-G-4	4.33	4.08	5.12
OUTFALL-G-5	4.72	8.78	10.95
OUTFALL-G-6	11.04	13.33	31.63
System	18.20	355.97	1580.55

****
Link Flow Summary
****

Link ID	Element Type	Time of Maximum Occurrence days hh:mm	Length Peak Flow during Analysis cfs	Design Flow Capacity cfs	Ratio of Maximum Flow /Design Flow	Ratio of Maximum Depth	Total Reported Time minutes	Condition
BYPASS-REACH-1-B1	CONDUIT	0 00:42	20.02 1.00 355.81	328.83	1.08	1.00	14	SURCHARGED
OUTLET-CC-10-G1	CONDUIT	0 00:13	11.56 1.00 8.36	7.73	1.08	1.00	39	SURCHARGED
OUTLET-CC-11-G2	CONDUIT	0 00:07	6.91 1.00 4.45	4.12	1.08	1.00	44	SURCHARGED
OUTLET-CC-12-G3	CONDUIT	0 00:30	14.03 1.00 35.00	44.81	0.78	0.67	0	Calculated
OUTLET-CC-13-G4	CONDUIT	0 00:08	7.21 1.00 5.12	4.73	1.08	1.00	45	SURCHARGED
OUTLET-CC-14-G5	CONDUIT	0 00:09	15.06 1.00 10.95	10.12	1.08	1.00	49	SURCHARGED
OUTLET-CC-15-G6	CONDUIT	0 00:08	10.93 1.00 31.63	29.25	1.08	1.00	63	SURCHARGED
OUTLET-CC-1-B	CONDUIT	0 00:29	14.75 1.00 249.63	223.28	1.12	1.00	41	SURCHARGED
OUTLET-CC-2-C1	CONDUIT	0 00:23	15.85 1.00 493.75	441.71	1.12	1.00	79	SURCHARGED
OUTLET-CC-3-C2	CONDUIT	0 00:10	14.92 1.00 4.71	4.37	1.08	1.00	10	SURCHARGED
OUTLET-CC-4-D2	CONDUIT	0 01:56	7.45 1.00 8.50	7.60	1.12	1.00	104	SURCHARGED
OUTLET-CC-5-D1	CONDUIT	0 01:51	2.79 1.00 48.69	45.03	1.08	1.00	105	SURCHARGED
OUTLET-CC-6-E1	CONDUIT	0 00:05	14.59 1.00 22.11	20.44	1.08	1.00	9	SURCHARGED
OUTLET-CC-7-E2	CONDUIT	0 00:22	9.57 1.00 27.70	25.60	1.08	1.00	50	SURCHARGED
OUTLET-CC-8-F1	CONDUIT	0 00:20	13.66 1.00 141.94	126.95	1.12	1.00	70	SURCHARGED
OUTLET-CC-8-F2	CONDUIT	0 00:50	10.99 1.00 12.37	18.04	0.69	0.61	0	Calculated
OUTLET-CC-9-F1	CONDUIT	0 00:15	14.27 1.00 445.74	417.14	1.07	1.00	144	SURCHARGED
REACH-1-B2	CHANNEL	0 00:51	12.64 1.00 74.41	288.26	0.26	0.55	0	Calculated

REACH-1-B3	CHANNEL	0	00:41	9.17	1.00	14.15	294.22	0.05	0.24	0 Calculated
REACH-2-C1	CHANNEL	0	00:56	10.74	1.00	1523.25	1941.36	0.78	0.88	0 Calculated
REACH-2-C4	CHANNEL	0	00:51	14.95	1.00	1194.37	1830.09	0.65	0.79	0 Calculated
REACH-2-LINK1	CHANNEL	0	00:46	16.99	1.00	124.52	5254.39	0.02	0.13	0 Calculated
REACH-3-D1	CHANNEL	0	00:51	9.69	1.00	570.67	2045.54	0.28	0.50	0 Calculated
REACH-3-D2	CHANNEL	0	00:54	8.97	1.00	220.26	1186.72	0.19	0.37	0 Calculated
REACH-3-LINK1	CHANNEL	0	00:48	13.69	1.00	67.68	262.31	0.26	0.45	0 Calculated
REACH-4-D1	CHANNEL	0	00:56	5.31	1.00	438.64	958.85	0.46	0.66	0 Calculated
REACH-4-D3	CHANNEL	0	00:56	10.62	1.00	259.65	292.90	0.89	0.93	0 Calculated
REACH-5-F1	CHANNEL	0	00:54	7.55	1.00	187.22	469.43	0.40	0.61	0 Calculated
REACH-5-F3	CHANNEL	0	00:53	8.17	1.00	65.93	162.77	0.41	0.62	0 Calculated
REACH-6-F1	CHANNEL	0	01:09	11.85	1.00	5245.96	8181.49	0.64	0.79	0 Calculated
REACH-6-F5	CHANNEL	0	01:08	13.48	1.00	5246.64	5670.30	0.93	0.96	0 Calculated
REACH-6-F6	CHANNEL	0	01:20	11.70	1.00	3208.31	5213.22	0.62	0.78	0 Calculated
REACH-6-F7	CHANNEL	0	01:02	10.89	1.00	2593.34	5109.42	0.51	0.71	0 Calculated
REACH-6-F8	CHANNEL	0	00:46	15.82	1.00	70.33	176.87	0.40	0.68	0 Calculated
REACH-6-LINK1	CHANNEL	0	01:20	42.80	1.00	3208.31	8630.67	0.37	0.58	0 Calculated
REACH-6-LINK2	CHANNEL	0	00:45	17.51	1.00	237.83	8630.67	0.03	0.13	0 Calculated
REACH-7-G6	CHANNEL	0	00:40	13.46	1.00	114.01	171.15	0.67	0.84	0 Calculated

****

Highest Flow Instability Indexes

****

All links are stable.

Analysis began on: Fri Feb 21 16:37:53 2020
Analysis ended on: Fri Feb 21 16:37:58 2020
Total elapsed time: 00:00:05

Autodesk® Storm and Sanitary Analysis 2016 - Version 13.2.147 (Build 0)

****
Project Description
****
File Name ..... 28100-Valleys Edge-SSA-Storm Analysis--Dev--1-12-2020-TS-tr55.SPF
Description ..... I:\Drafting\28100-Valley Edge-Chico\Exhibits\Drainage Analysis 2019\Xref-Assemblies\Chico_Drainage-DEV-Basins-ALONE-USE.dwg

****
Analysis Options
****
Flow Units ..... cfs
Subbasin Hydrograph Method. SCS TR-55
Time of Concentration..... SCS TR-55
Link Routing Method ..... Kinematic Wave
Storage Node Exfiltration.. None
Starting Date MAR-05-2020 00:00:00
Ending Date MAR-06-2020 00:00:00
Report Time Step 00:15:00

****
Element Count
****
Number of rain gages 1
Number of subbasins 33
Number of nodes 58
Number of links 34

****
Raingage Summary
****

Gage ID	Data Source	Data Type	Recording Interval min
Rain Gage-Butte-CherokeeSCS-Type 1-2yr		INTENSITY	6.00

****
Subbasin Summary
****

Subbasin ID	Total Area acres	Peak Rate Factor	
{Drainage-UnDEV}.DEV-SHED-A-1	9.52	484.00	
{Drainage-UnDEV}.DEV-SHED-A-2	9.99	484.00	
{Drainage-UnDEV}.DEV-SHED-A-3	10.74	484.00	
{Drainage-UnDEV}.DEV-SHED-A-4	4.50	484.00	
{Drainage-UnDEV}.DEV-SHED-A-5	7.55	484.00	
{Drainage-UnDEV}.DEV-SHED-A-6	8.72	484.00	
{Drainage-UnDEV}.DEV-SHED-B-1	44.28	484.00	
{Drainage-UnDEV}.DEV-SHED-B-2	42.31	484.00	
{Drainage-UnDEV}.DEV-SHED-C-1	100.08	484.00	
{Drainage-UnDEV}.DEV-SHED-C-2	24.84	484.00	
{Drainage-UnDEV}.DEV-SHED-C-3	304.25	484.00	
{Drainage-UnDEV}.DEV-SHED-C-4	12.78	484.00	
{Drainage-UnDEV}.DEV-SHED-D-1	58.59	484.00	
{Drainage-UnDEV}.DEV-SHED-D-2	19.51	484.00	
{Drainage-UnDEV}.DEV-SHED-D-3	70.72	484.00	
{Drainage-UnDEV}.DEV-SHED-D-4	30.89	484.00	

{Drainage-UnDEV}.DEV-SHED-D-5	207.90	484.00
{Drainage-UnDEV}.DEV-SHED-E-1	9.20	484.00
{Drainage-UnDEV}.DEV-SHED-E-2	7.29	484.00
{Drainage-UnDEV}.DEV-SHED-F-1	68.24	484.00
{Drainage-UnDEV}.DEV-SHED-F-2	321.28	484.00
{Drainage-UnDEV}.DEV-SHED-G-1	6.05	484.00
{Drainage-UnDEV}.DEV-SHED-G-2	5.22	484.00
{Drainage-UnDEV}.DEV-SHED-G-3	10.11	484.00
{Drainage-UnDEV}.DEV-SHED-G-4	5.60	484.00
{Drainage-UnDEV}.DEV-SHED-G-5	11.63	484.00
{Drainage-UnDEV}.DEV-SHED-G-6	21.09	484.00
{Drainage-UnDEV}.DEV-SHED-OFFSITE-S1	398.61	484.00
{Drainage-UnDEV}.DEV-SHED-OFFSITE-S2	884.32	484.00
{Drainage-UnDEV}.DEV-SHED-OFFSITE-S3	1123.62	484.00
{Drainage-UnDEV}.DEV-SHED-OFFSITE-S4	4.31	484.00
{Drainage-UnDEV}.DEV-SHED-OFFSITE-S5	20.91	484.00
{Drainage-UnDEV}.DEV-SHED-OFFSITE-S6	18.30	484.00

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Node Summary
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Node ID	Element Type	Invert Elevation ft	Maximum Elev. ft	Ponded Area ft²	External Inflow
AP-OS-B1	JUNCTION	0.00	273.78	0.00	
AP-OS-C1	JUNCTION	0.00	271.62	0.00	
AP-OS-D1-A&B	JUNCTION	0.00	249.00	0.00	
AP-OS-E1	JUNCTION	0.00	256.07	0.00	
AP-OS-E2	JUNCTION	0.00	259.87	0.00	
AP-OS-F1-A&B	JUNCTION	261.85	269.85	0.00	
JUNCTION-01	JUNCTION	0.00	312.64	0.00	
JUNCTION-02	JUNCTION	0.00	288.98	0.00	
JUNCTION-03	JUNCTION	0.00	322.97	0.00	
JUNCTION-04	JUNCTION	0.00	314.27	0.00	
JUNCTION-05	JUNCTION	0.00	367.42	0.00	
JUNCTION-06	JUNCTION	0.00	364.15	0.00	
JUNCTION-07	JUNCTION	0.00	584.48	0.00	
JUNCTION-08	JUNCTION	0.00	454.68	0.00	
JUNCTION-09	JUNCTION	0.00	531.82	0.00	
JUNCTION-10	JUNCTION	0.00	343.50	0.00	
JUNCTION-11	JUNCTION	0.00	340.78	0.00	
JUNCTION-12	JUNCTION	0.00	332.02	0.00	
JUNCTION-13	JUNCTION	307.00	317.00	0.00	
JUNCTION-14	JUNCTION	0.00	404.98	0.00	
JUNCTION-15	JUNCTION	264.50	274.50	0.00	
JUNCTION-16	JUNCTION	0.00	276.16	0.00	
JUNCTION-17	JUNCTION	0.00	281.91	0.00	
JUNCTION-18	JUNCTION	278.22	283.22	0.00	
JUNCTION-19	JUNCTION	0.00	270.41	0.00	
JUNCTION-24	JUNCTION	0.00	251.95	0.00	
JUNCTION-25	JUNCTION	0.00	289.41	0.00	
JUNCTION-26	JUNCTION	0.00	311.00	0.00	
JUNCTION-27	JUNCTION	0.00	318.00	0.00	
JUNCTION-28	JUNCTION	0.00	265.00	0.00	
JUNCTION-30	JUNCTION	0.00	270.50	0.00	
JUNCTION-33	JUNCTION	0.00	364.15	0.00	
JUNCTION-34	JUNCTION	263.90	273.90	0.00	
JUNCTION-35	JUNCTION	0.00	6.00	0.00	
JUNCTION-36	JUNCTION	0.00	6.00	0.00	
JUNCTION-37	JUNCTION	0.00	6.00	0.00	
JUNCTION-38	JUNCTION	0.00	6.00	0.00	
JUNCTION-39	JUNCTION	0.00	6.00	0.00	
JUNCTION-41	JUNCTION	0.00	404.98	0.00	
OUTFALL-16	OUTFALL	0.00	0.00	0.00	
OUTFALL-A1	OUTFALL	0.00	0.00	0.00	

OUTFALL-A2	OUTFALL	0.00	0.00	0.00
OUTFALL-A3	OUTFALL	0.00	0.00	0.00
OUTFALL-A4	OUTFALL	0.00	0.00	0.00
OUTFALL-A5	OUTFALL	0.00	0.00	0.00
OUTFALL-A6	OUTFALL	0.00	0.00	0.00
OUTFALL-B-(Reach-1)	OUTFALL	0.00	1.00	0.00
OUTFALL-C-(Reach-2)	OUTFALL	0.00	1.00	0.00
OUTFALL-D-(Reach-4)	OUTFALL	0.00	1.00	0.00
OUTFALL-E1	OUTFALL	0.00	253.55	0.00
OUTFALL-E2	OUTFALL	0.00	259.03	0.00
OUTFALL-F-(Reach-6)	OUTFALL	0.00	1.00	0.00
OUTFALL-G1	OUTFALL	0.00	0.00	0.00
OUTFALL-G2	OUTFALL	0.00	0.00	0.00
OUTFALL-G3	OUTFALL	0.00	0.00	0.00
OUTFALL-G4	OUTFALL	0.00	0.00	0.00
OUTFALL-G5	OUTFALL	0.00	0.00	0.00
OUTFALL-G6	OUTFALL	0.00	276.87	0.00

****
Link Summary
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Link ID	From Node	To Node	Element Type	Length ft	Slope %	Manning's Roughness
Link-07	JUNCTION-09	JUNCTION-13	CHANNEL	3333.1	6.6550	0.0320
Link-08	JUNCTION-10	JUNCTION-12	CHANNEL	644.9	2.0903	0.0320
Link-09	JUNCTION-11	JUNCTION-12	CHANNEL	465.0	2.3138	0.0320
Link-10	JUNCTION-12	JUNCTION-13	CHANNEL	889.4	1.6889	0.0320
Link-14	JUNCTION-14	JUNCTION-41	CHANNEL	872.1	14.6897	0.0320
Link-28	JUNCTION-26	JUNCTION-25	CHANNEL	1706.4	1.2066	0.0320
Link-29	JUNCTION-27	JUNCTION-25	CHANNEL	937.7	3.2622	0.0320
Link-30	JUNCTION-28	JUNCTION-24	CHANNEL	1228.6	1.1436	0.0320
Link-33	JUNCTION-30	JUNCTION-24	CHANNEL	688.5	2.7668	0.0320
Link-34	AP-OS-E1	OUTFALL-E1	CONDUIT	50.0	5.0400	0.0120
Link-35	AP-OS-E2	OUTFALL-E2	CONDUIT	77.0	1.0909	0.0120
Link-36	JUNCTION-33	JUNCTION-01	CHANNEL	1576.1	3.3316	0.0320
Link-37	JUNCTION-34	AP-OS-F1-A&B	CHANNEL	436.8	0.4693	0.0320
Link-38	JUNCTION-41	OUTFALL-G6	CHANNEL	48.1	266.3410	0.0320
Reach-1	JUNCTION-02	AP-OS-B1	CHANNEL	480.1	2.7495	0.0320
Reach-1-(1)(OpenChannel)	JUNCTION-01	JUNCTION-02	CHANNEL	1405.1	1.6839	0.0320
Reach-1(3)	JUNCTION-07	JUNCTION-06	CHANNEL	5631.7	3.9123	0.0320
Reach-1-(3)	JUNCTION-06	JUNCTION-33	CHANNEL	148.6	35.3436	0.0320
Reach-2(1)	JUNCTION-25	AP-OS-C1	CHANNEL	1150.6	1.5462	0.0320
reach-2-(2)	JUNCTION-04	JUNCTION-26	CONDUIT	151.4	2.1603	0.0150
Reach-2(3)	JUNCTION-08	JUNCTION-04	CHANNEL	5752.9	2.4581	0.0320
Reach-2-Trib-1	JUNCTION-03	JUNCTION-27	CONDUIT	139.7	3.5579	0.0150
Reach-2-Trib-2-1	JUNCTION-05	JUNCTION-04	CHANNEL	1272.8	4.4899	0.0320
Reach-4-(1)	JUNCTION-24	AP-OS-D1-A&B	CHANNEL	353.4	0.8347	0.0320
Reach-4-(2)	JUNCTION-16	JUNCTION-28	CONDUIT	397.4	2.8083	0.0150
Reach-4-(SideFlow)	JUNCTION-19	AP-OS-D1-A&B	CHANNEL	723.9	2.9686	0.0320
Reach-4-Trib-1	JUNCTION-17	JUNCTION-30	CONDUIT	466.6	2.4452	0.0150
Reach-4-Trib-1-2	JUNCTION-18	JUNCTION-17	CONDUIT	230.1	0.7865	0.0150
Reach-6-(1)	JUNCTION-15	JUNCTION-34	CONDUIT	114.6	0.5236	0.0150
Reach-6-(2)	JUNCTION-13	JUNCTION-15	CHANNEL	3766.5	1.1284	0.0320
SubDrain-Reach-1	AP-OS-B1	OUTFALL-B-(Reach-1)	CHANNEL	109.8	0.0009	0.0320
SubDrain-Reach-2	AP-OS-C1	OUTFALL-C-(Reach-2)	CHANNEL	117.8	0.0008	0.0320
SubDrain-Reach-4	AP-OS-D1-A&B	OUTFALL-D-(Reach-4)	CHANNEL	76.7	0.0013	0.0320
SubDrain-Reach-6	AP-OS-F1-A&B	OUTFALL-F-(Reach-6)	CHANNEL	109.7	238.7835	0.0320

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Cross Section Summary
****

Link	Shape	Depth/	Width	No. of	Cross	Full Flow	Design

ID	Diameter		Barrels	Sectional Area	Hydraulic Radius	Flow Capacity
	ft	ft		ft²	ft	cfs
Link-07	TRAPEZOIDAL	3.00	23.00	1	42.00	1.75	731.20
Link-08	TRAPEZOIDAL	8.00	126.00	1	624.00	4.90	12087.63
Link-09	TRAPEZOIDAL	8.00	121.00	1	584.00	4.77	11696.15
Link-10	TRAPEZOIDAL	10.00	115.00	1	750.00	6.39	15577.65
Link-14	TRAPEZOIDAL	2.00	21.00	1	26.00	1.21	525.38
Link-28	TRAPEZOIDAL	5.00	65.00	1	225.00	3.40	2593.67
Link-29	TRAPEZOIDAL	1.00	27.00	1	21.00	0.77	148.36
Link-30	TRAPEZOIDAL	4.00	49.00	1	148.00	2.94	1509.16
Link-33	TRAPEZOIDAL	4.00	59.00	1	188.00	3.12	3099.24
Link-34	CIRCULAR	1.50	1.50	1	1.77	0.38	25.55
Link-35	CIRCULAR	2.00	2.00	1	3.14	0.50	25.60
Link-36	TRAPEZOIDAL	3.00	22.00	1	39.00	1.70	470.42
Link-37	TRAPEZOIDAL	8.00	216.00	1	1344.00	6.18	14404.93
Link-38	TRAPEZOIDAL	2.00	21.00	1	26.00	1.21	2237.11
Reach-1	TRAPEZOIDAL	2.00	32.00	1	40.00	1.24	354.97
Reach-1-(1)(OpenChannel)	TRAPEZOIDAL	4.00	37.00	1	84.00	2.21	859.17
Reach-1(3)	TRAPEZOIDAL	3.00	22.00	1	39.00	1.70	509.77
Reach-1-(3)	TRAPEZOIDAL	3.00	22.00	1	39.00	1.70	1532.19
Reach-2(1)	TRAPEZOIDAL	5.00	65.00	1	225.00	3.40	2936.06
reach-2-(2)	CIRCULAR	6.00	6.00	1	28.27	1.50	539.47
Reach-2(3)	TRAPEZOIDAL	5.00	55.00	1	175.00	3.11	2715.90
Reach-2-Trib-1	CIRCULAR	3.00	3.00	1	7.07	0.75	109.03
Reach-2-Trib-2-1	TRAPEZOIDAL	2.00	21.00	1	26.00	1.21	290.46
Reach-4-(1)	TRAPEZOIDAL	6.00	73.00	1	294.00	3.95	3115.57
Reach-4-(2)	CIRCULAR	5.00	5.00	2	19.63	1.25	378.26
Reach-4-(SideFlow)	TRAPEZOIDAL	2.00	31.00	1	46.00	1.46	473.81
Reach-4-Trib-1	CIRCULAR	5.50	5.50	1	23.76	1.38	455.10
Reach-4-Trib-1-2	CIRCULAR	5.00	5.00	1	19.63	1.25	200.17
Reach-6-(1)	RECT_CLOSED	10.00	12.00	3	120.00	2.73	1679.18

Reach-6-(2)	TRAPEZOIDAL	10.00	115.00	1	750.00	6.39
12732.95						
SubDrain-Reach-1	TRAPEZOIDAL	1.00	3.00	1	2.00	0.52
0.18						
SubDrain-Reach-2	TRAPEZOIDAL	1.00	3.00	1	2.00	0.52
0.18						
SubDrain-Reach-4	TRAPEZOIDAL	1.00	3.00	1	2.00	0.52
0.22						
SubDrain-Reach-6	TRAPEZOIDAL	1.00	3.00	1	2.00	0.52
93.09						

Runoff Quantity Continuity	Volume acre-ft	Depth inches
Total Precipitation	1203.876	3.720
Surface Runoff	23.360	0.072
Continuity Error (%)	-0.001	

Flow Routing Continuity	Volume acre-ft	Volume Mgallons
External Inflow	0.000	0.000
External Outflow	150.311	48.981
Initial Stored Volume	0.000	0.000
Final Stored Volume	5.871	1.913
Continuity Error (%)	-0.001	

Composite Curve Number Computations Report

Subbasin {Drainage-UnDEV}.DEV-SHED-A-1

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	8.97	D	83.00
Paved parking & roofs	0.55	D	98.00
Composite Area & Weighted CN	9.52		83.87

Subbasin {Drainage-UnDEV}.DEV-SHED-A-2

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	8.98	D	83.00
Paved parking & roofs	1.01	D	98.00
Composite Area & Weighted CN	9.99		84.52

Subbasin {Drainage-UnDEV}.DEV-SHED-A-3

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	9.73	D	83.00
Paved parking & roofs	1.01	D	98.00
Composite Area & Weighted CN	10.74		84.41

Subbasin {Drainage-UnDEV}.DEV-SHED-A-4

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	3.95	D	83.00
Paved parking & roofs	0.55	D	98.00
Composite Area & Weighted CN	4.50		84.84

Subbasin {Drainage-UnDEV}.DEV-SHED-A-5

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	6.79	D	83.00
Paved parking & roofs	0.72	D	98.00
Woods & grass combination, Fair	0.04	D	82.00
Composite Area & Weighted CN	7.55		84.43

Subbasin {Drainage-UnDEV}.DEV-SHED-A-6

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	7.99	D	83.00
Paved parking & roofs	0.73	D	98.00
Composite Area & Weighted CN	8.72		84.26

Subbasin {Drainage-UnDEV}.DEV-SHED-B-1

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	20.68	D	83.00
Paved parking & roofs	17.17	D	98.00
Paved roads with curbs & sewers	6.43	D	98.00
Composite Area & Weighted CN	44.28		90.99

Subbasin {Drainage-UnDEV}.DEV-SHED-B-2

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	28.26	D	83.00
Paved parking & roofs	10.01	D	98.00
Paved roads with curbs & sewers	4.04	D	98.00
Composite Area & Weighted CN	42.31		87.98

Subbasin {Drainage-UnDEV}.DEV-SHED-C-1

Soil/Surface Description	Area (acres)	Soil Group	CN
Brush, Poor	84.46	D	83.00
Paved parking & roofs	6.89	D	98.00
Paved roads with curbs & sewers	8.74	D	98.00
Composite Area & Weighted CN	100.09		85.34

Subbasin {Drainage-UnDEV}.DEV-SHED-C-2

Soil/Surface Description	Area (acres)	Soil Group	CN

EXHIBIT
H.2.1

DRAFT

Autodesk® Storm and Sanitary Analysis 2016 - Version 13.2.147 (Build 0)

****
Project Description
****
File Name ..... 28100-Valleys Edge-SSA-Storm Analysis--Dev--1-12-2020-TS-Rational Method.SPF
Description ..... I:\Drafting\28100-Valley Edge-Chico\Exhibits\Drainage Analysis 2019\Xref-Assemblies\Chico_Drainage-DEV-Basins-ALONE-USE.dwg

****
Analysis Options
****
Flow Units ..... cfs
Subbasin Hydrograph Method. Rational
Time of Concentration..... SCS TR-55
Link Routing Method ..... Kinematic Wave
Storage Node Exfiltration.. None
Starting Date MAR-05-2020 00:00:00
Ending Date MAR-06-2020 00:00:00
Report Time Step 00:00:10

****
Element Count
****
Number of subbasins 33
Number of nodes 48
Number of links 29

****
Subbasin Summary
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Subbasin ID	Total Area acres
{Drainage-UnDEV}.DEV-SHED-A-1	9.52
{Drainage-UnDEV}.DEV-SHED-A-2	9.99
{Drainage-UnDEV}.DEV-SHED-A-3	10.74
{Drainage-UnDEV}.DEV-SHED-A-4	4.50
{Drainage-UnDEV}.DEV-SHED-A-5	7.55
{Drainage-UnDEV}.DEV-SHED-A-6	8.72
{Drainage-UnDEV}.DEV-SHED-B-1	44.28
{Drainage-UnDEV}.DEV-SHED-B-2	42.31
{Drainage-UnDEV}.DEV-SHED-C-1	100.08
{Drainage-UnDEV}.DEV-SHED-C-2	24.84
{Drainage-UnDEV}.DEV-SHED-C-3	304.25
{Drainage-UnDEV}.DEV-SHED-C-4	12.78
{Drainage-UnDEV}.DEV-SHED-D-1	58.59
{Drainage-UnDEV}.DEV-SHED-D-2	19.51
{Drainage-UnDEV}.DEV-SHED-D-3	70.72
{Drainage-UnDEV}.DEV-SHED-D-4	30.89
{Drainage-UnDEV}.DEV-SHED-D-5	207.90
{Drainage-UnDEV}.DEV-SHED-E-1	9.20
{Drainage-UnDEV}.DEV-SHED-E-2	7.29
{Drainage-UnDEV}.DEV-SHED-F-1	68.24
{Drainage-UnDEV}.DEV-SHED-F-2	321.28
{Drainage-UnDEV}.DEV-SHED-G-1	6.05
{Drainage-UnDEV}.DEV-SHED-G-2	5.22
{Drainage-UnDEV}.DEV-SHED-G-3	10.11
{Drainage-UnDEV}.DEV-SHED-G-4	5.60
{Drainage-UnDEV}.DEV-SHED-G-5	11.63

{Drainage-UnDEV}.DEV-SHED-G-6	21.09
{Drainage-UnDEV}.DEV-SHED-OFFSITE-S1	398.61
{Drainage-UnDEV}.DEV-SHED-OFFSITE-S2	884.32
{Drainage-UnDEV}.DEV-SHED-OFFSITE-S3	1123.62
{Drainage-UnDEV}.DEV-SHED-OFFSITE-S4	4.31
{Drainage-UnDEV}.DEV-SHED-OFFSITE-S5	20.91
{Drainage-UnDEV}.DEV-SHED-OFFSITE-S6	18.30

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Node Summary
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Node ID	Element Type	Invert Elevation ft	Maximum Elev. ft	Ponded Area ft²	External Inflow
JUNCTION-01	JUNCTION	0.00	312.64	0.00	
JUNCTION-02	JUNCTION	0.00	288.98	0.00	
JUNCTION-03	JUNCTION	0.00	322.97	0.00	
JUNCTION-04	JUNCTION	0.00	313.27	0.00	
JUNCTION-05	JUNCTION	0.00	367.42	0.00	
JUNCTION-06	JUNCTION	0.00	364.15	0.00	
JUNCTION-07	JUNCTION	0.00	584.48	0.00	
JUNCTION-08	JUNCTION	0.00	454.68	0.00	
JUNCTION-09	JUNCTION	0.00	531.82	0.00	
JUNCTION-10	JUNCTION	0.00	343.50	0.00	
JUNCTION-11	JUNCTION	0.00	340.78	0.00	
JUNCTION-12	JUNCTION	0.00	332.02	0.00	
JUNCTION-13	JUNCTION	307.00	317.00	0.00	
JUNCTION-14	JUNCTION	0.00	404.98	0.00	
JUNCTION-15	JUNCTION	264.50	274.50	0.00	
JUNCTION-16	JUNCTION	0.00	276.16	0.00	
JUNCTION-17	JUNCTION	0.00	282.41	0.00	
JUNCTION-18	JUNCTION	278.22	283.22	0.00	
JUNCTION-19	JUNCTION	0.00	270.41	0.00	
JUNCTION-20	JUNCTION	0.00	249.00	0.00	
JUNCTION-21	JUNCTION	0.00	271.62	0.00	
JUNCTION-22	JUNCTION	0.00	273.78	0.00	
JUNCTION-23	JUNCTION	261.85	269.85	0.00	
JUNCTION-24	JUNCTION	0.00	251.95	0.00	
JUNCTION-25	JUNCTION	0.00	289.41	0.00	
JUNCTION-26	JUNCTION	0.00	310.00	0.00	
JUNCTION-27	JUNCTION	0.00	318.00	0.00	
JUNCTION-28	JUNCTION	0.00	265.00	0.00	
JUNCTION-30	JUNCTION	0.00	271.00	0.00	
OUTFALL-16	OUTFALL	0.00	0.00	0.00	
OUTFALL-A1	OUTFALL	0.00	0.00	0.00	
OUTFALL-A2	OUTFALL	0.00	0.00	0.00	
OUTFALL-A3	OUTFALL	0.00	0.00	0.00	
OUTFALL-A4	OUTFALL	0.00	0.00	0.00	
OUTFALL-A5	OUTFALL	0.00	0.00	0.00	
OUTFALL-A6	OUTFALL	0.00	0.00	0.00	
OUTFALL-B-(Reach-1)	OUTFALL	0.00	1.00	0.00	
OUTFALL-C-(Reach-2)	OUTFALL	0.00	1.00	0.00	
OUTFALL-D-(Reach-4)	OUTFALL	0.00	1.00	0.00	
OUTFALL-E1	OUTFALL	0.00	0.00	0.00	
OUTFALL-E2	OUTFALL	0.00	0.00	0.00	
OUTFALL-F-(Reach-6)	OUTFALL	0.00	1.00	0.00	
OUTFALL-G1	OUTFALL	0.00	0.00	0.00	
OUTFALL-G2	OUTFALL	0.00	0.00	0.00	
OUTFALL-G3	OUTFALL	0.00	0.00	0.00	
OUTFALL-G4	OUTFALL	0.00	0.00	0.00	
OUTFALL-G5	OUTFALL	0.00	0.00	0.00	
OUTFALL-G6	OUTFALL	0.00	276.87	0.00	

****

Link Summary

Link ID	From Node	To Node	Element Type	Length ft	Slope %	Manning's Roughness
Link-07	JUNCTION-09	JUNCTION-13	CHANNEL	3333.1	6.6550	0.0320
Link-08	JUNCTION-10	JUNCTION-12	CHANNEL	644.9	2.0903	0.0320
Link-09	JUNCTION-11	JUNCTION-12	CHANNEL	465.0	2.3138	0.0320
Link-10	JUNCTION-12	JUNCTION-13	CHANNEL	889.4	1.6889	0.0320
Link-14	JUNCTION-14	OUTFALL-G6	CHANNEL	920.1	13.9227	0.0320
Link-28	JUNCTION-26	JUNCTION-25	CHANNEL	1706.4	1.2066	0.0320
Link-29	JUNCTION-27	JUNCTION-25	CHANNEL	937.7	3.2622	0.0320
Link-30	JUNCTION-28	JUNCTION-24	CHANNEL	1228.6	1.1436	0.0320
Link-33	JUNCTION-30	JUNCTION-24	CHANNEL	688.5	2.7668	0.0320
Reach-1	JUNCTION-02	JUNCTION-22	CHANNEL	480.1	2.7495	0.0320
Reach-1-(1)(OpenChannel)	JUNCTION-01	JUNCTION-02	CHANNEL	1405.1	1.6839	0.0320
Reach-1(3)	JUNCTION-07	JUNCTION-06	CHANNEL	5631.7	3.9123	0.0320
Reach-1-(3)	JUNCTION-06	JUNCTION-01	CHANNEL	1693.8	3.1001	0.0320
Reach-2(1)	JUNCTION-25	JUNCTION-21	CHANNEL	1150.6	1.5462	0.0320
reach-2-(2)	JUNCTION-04	JUNCTION-26	CHANNEL	151.4	2.1603	0.0320
Reach-2(3)	JUNCTION-08	JUNCTION-04	CHANNEL	5752.9	2.4581	0.0320
Reach-2-Trib-1	JUNCTION-03	JUNCTION-27	CHANNEL	139.7	3.5579	0.0320
Reach-2-Trib-2-1	JUNCTION-05	JUNCTION-04	CHANNEL	1272.8	4.4899	0.0320
Reach-4-(1)	JUNCTION-24	JUNCTION-20	CHANNEL	353.4	0.8347	0.0320
Reach-4-(2)	JUNCTION-16	JUNCTION-28	CHANNEL	397.4	2.8083	0.0320
Reach-4-(SideFlow)	JUNCTION-19	JUNCTION-20	CHANNEL	723.9	2.9686	0.0320
Reach-4-Trib-1	JUNCTION-17	JUNCTION-30	CONDUIT	466.6	2.4452	0.0150
Reach-4-Trib-1-2	JUNCTION-18	JUNCTION-17	CONDUIT	230.1	0.7865	0.0150
Reach-6-(1)	JUNCTION-15	JUNCTION-23	CHANNEL	551.4	0.4806	0.0320
Reach-6-(2)	JUNCTION-13	JUNCTION-15	CHANNEL	3766.5	1.1284	0.0320
SubDrain-Reach-1	JUNCTION-22	OUTFALL-B-(Reach-1)	CHANNEL	109.8	0.0009	0.0320
SubDrain-Reach-2	JUNCTION-21	OUTFALL-C-(Reach-2)	CHANNEL	117.8	0.0008	0.0320
SubDrain-Reach-4	JUNCTION-20	OUTFALL-D-(Reach-4)	CHANNEL	76.7	0.0013	0.0320
SubDrain-Reach-6	JUNCTION-23	OUTFALL-F-(Reach-6)	CHANNEL	109.7	238.7835	0.0320

Cross Section Summary

Link ID	Shape	Depth/ Diameter ft	Width ft	No. of Barrels	Cross Sectional Area ft²	Full Flow Hydraulic Radius ft	Design Flow Capacity cfs
Link-07	TRAPEZOIDAL	3.00	23.00	1	42.00	1.75	731.20
Link-08	TRAPEZOIDAL	8.00	126.00	1	624.00	4.90	12087.63
Link-09	TRAPEZOIDAL	8.00	121.00	1	584.00	4.77	11696.15
Link-10	TRAPEZOIDAL	10.00	115.00	1	750.00	6.39	15577.65
Link-14	TRAPEZOIDAL	2.00	21.00	1	26.00	1.21	511.48
Link-28	TRAPEZOIDAL	5.00	65.00	1	225.00	3.40	2593.67
Link-29	TRAPEZOIDAL	1.00	27.00	1	21.00	0.77	148.36
Link-30	TRAPEZOIDAL	4.00	49.00	1	148.00	2.94	1509.16

Link-33	TRAPEZOIDAL	4.00	59.00	1	188.00	3.12	3099.24
Reach-1	TRAPEZOIDAL	2.00	32.00	1	40.00	1.24	354.97
Reach-1-(1)(OpenChannel)	TRAPEZOIDAL	4.00	31.00	1	92.00	2.80	1100.62
Reach-1(3)	TRAPEZOIDAL	3.00	22.00	1	39.00	1.70	509.77
Reach-1-(3)	TRAPEZOIDAL	3.00	22.00	1	39.00	1.70	453.78
Reach-2(1)	TRAPEZOIDAL	5.00	65.00	1	225.00	3.40	2936.06
reach-2-(2)	TRAPEZOIDAL	5.00	65.00	1	225.00	3.40	3470.45
Reach-2(3)	TRAPEZOIDAL	5.00	55.00	1	175.00	3.11	2715.90
Reach-2-Trib-1	TRAPEZOIDAL	3.00	51.00	1	99.00	1.92	1340.72
Reach-2-Trib-2-1	TRAPEZOIDAL	2.00	21.00	1	26.00	1.21	290.46
Reach-4-(1)	TRAPEZOIDAL	6.00	73.00	1	294.00	3.95	3115.57
Reach-4-(2)	TRAPEZOIDAL	5.00	55.00	1	200.00	3.53	3609.79
Reach-4-(SideFlow)	TRAPEZOIDAL	2.00	31.00	1	46.00	1.46	473.81
Reach-4-Trib-1	CIRCULAR	6.00	6.00	1	28.27	1.50	573.95
Reach-4-Trib-1-2	CIRCULAR	5.00	5.00	1	19.63	1.25	200.17
Reach-6-(1)	TRAPEZOIDAL	8.00	216.00	1	1344.00	6.18	14577.17
Reach-6-(2)	TRAPEZOIDAL	10.00	115.00	1	750.00	6.39	12732.95
SubDrain-Reach-1	TRAPEZOIDAL	1.00	3.00	1	2.00	0.52	0.18
SubDrain-Reach-2	TRAPEZOIDAL	1.00	3.00	1	2.00	0.52	0.18
SubDrain-Reach-4	TRAPEZOIDAL	1.00	3.00	1	2.00	0.52	0.22
SubDrain-Reach-6	TRAPEZOIDAL	1.00	3.00	1	2.00	0.52	93.09

Runoff Quantity Continuity	Volume acre-ft	Depth inches
Total Precipitation	425.798	1.316
Continuity Error (%)	0.438	

Flow Routing Continuity	Volume acre-ft	Volume Mgallons
External Inflow	0.000	0.000
External Outflow	13.467	4.389
Initial Stored Volume	0.000	0.000
Final Stored Volume	0.000	0.000
Continuity Error (%)	-0.027	

****
Runoff Coefficient Computations Report
****

Subbasin {Drainage-UnDEV}.DEV-SHED-A-1

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, 25 years or greater	8.96	D (2-6%)	0.50
Commercial, 25 years or greater	0.55	D (2-6%)	0.89
Composite Area & Weighted Runoff Coeff.	9.51		0.52

Subbasin {Drainage-UnDEV}.DEV-SHED-A-2

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, 25 years or greater	8.98	D (2-6%)	0.50
Commercial, 25 years or greater	1.01	D (2-6%)	0.89
Composite Area & Weighted Runoff Coeff.	9.99		0.54

Subbasin {Drainage-UnDEV}.DEV-SHED-A-3

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, 25 years or greater	9.73	D (2-6%)	0.50
Commercial, 25 years or greater	1.01	D (2-6%)	0.89
Composite Area & Weighted Runoff Coeff.	10.74		0.54

Subbasin {Drainage-UnDEV}.DEV-SHED-A-4

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, 25 years or greater	3.95	D (2-6%)	0.50
Commercial, 25 years or greater	0.55	D (2-6%)	0.89
Composite Area & Weighted Runoff Coeff.	4.50		0.55

Subbasin {Drainage-UnDEV}.DEV-SHED-A-5

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, 25 years or greater	6.83	D (2-6%)	0.50
Commercial, 25 years or greater	0.72	D (2-6%)	0.89
Composite Area & Weighted Runoff Coeff.	7.55		0.54

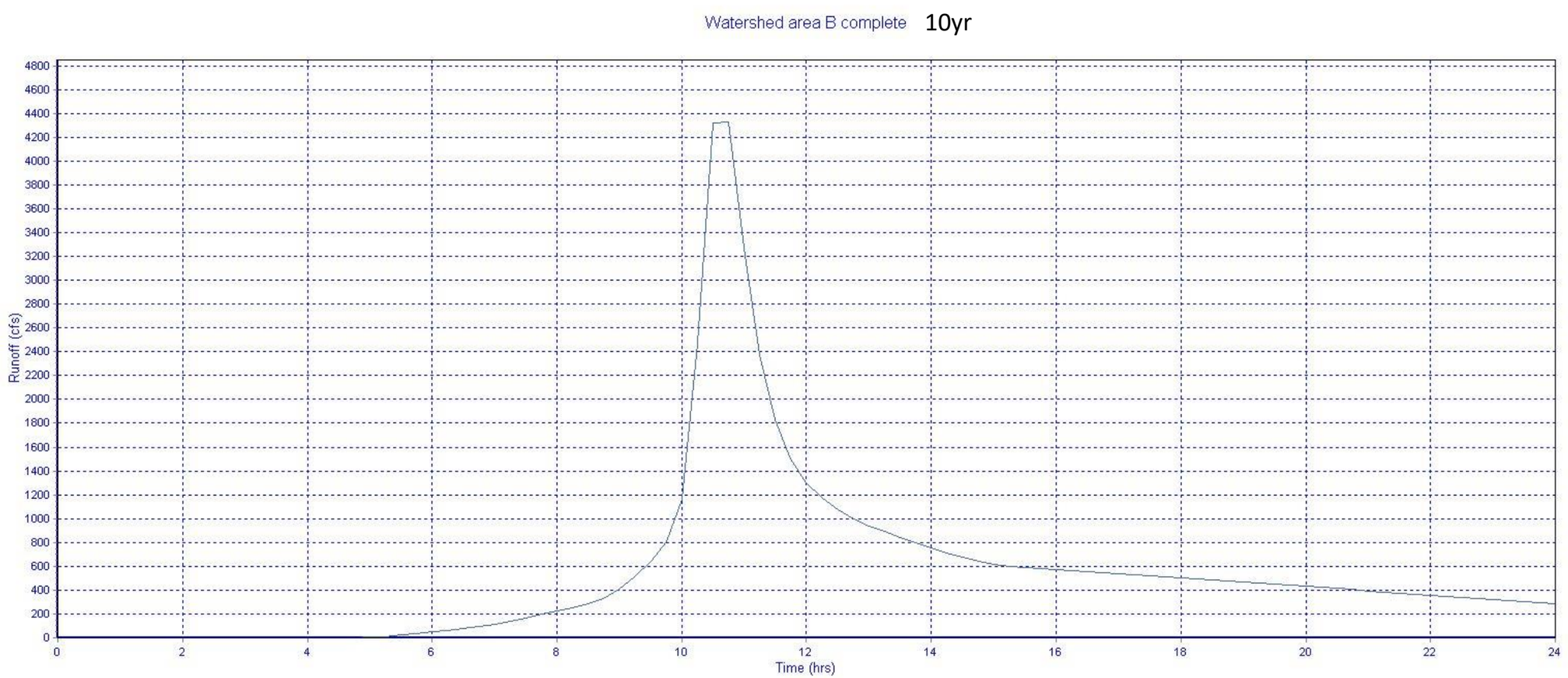
Subbasin {Drainage-UnDEV}.DEV-SHED-A-6

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, 25 years or greater	7.99	D (2-6%)	0.50
Commercial, 25 years or greater	0.73	D (2-6%)	0.89
Composite Area & Weighted Runoff Coeff.	8.72		0.53

Subbasin {Drainage-UnDEV}.DEV-SHED-B-1

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
Pasture, 25 years or greater	20.68	D (2-6%)	0.50
Commercial, 25 years or greater	17.17	D (2-6%)	0.89
Streets, 25 years or greater	6.43	D (2-6%)	0.91

Runoff (cfs): 6.84, 3478.22



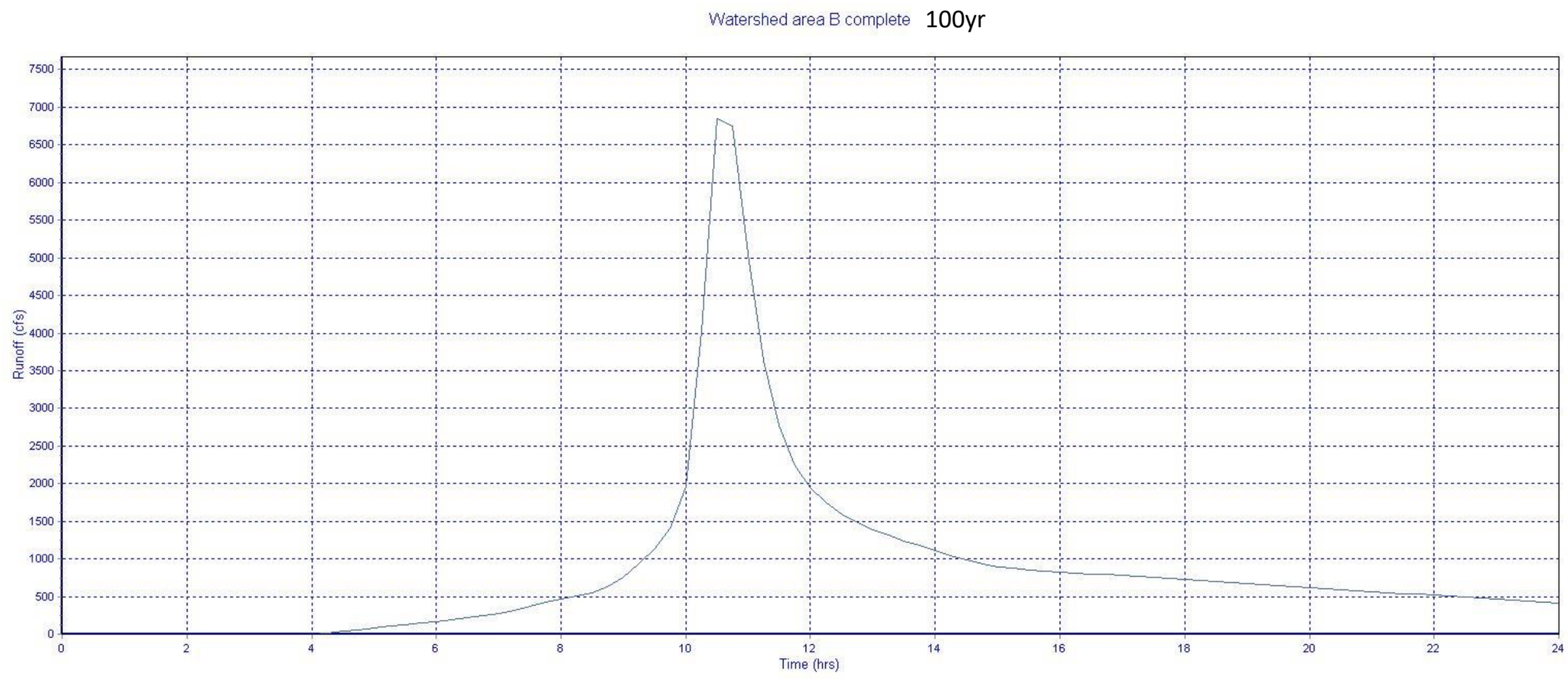
Runoff Summary Table

Time period
From: 05/02/2020, 12:00:00 AM
To: 05/03/2020, 12:00:00 AM

Thresholds
Exceedance: 0
Deficit: 0

Detention storage
Max flow: 0

Element ID	System
Maximum Runoff (cfs)	4329.04
Minimum Runoff (cfs)	0.00
Event Mean Runoff (cfs)	558.47
Duration of Exceedances (hrs)	N/A
Duration of Deficits (hrs)	N/A
Number of Exceedances	N/A
Number of Deficits	N/A
Volume of Exceedance (ft³)	N/A
Volume of Deficit (ft³)	N/A
Total Runoff (ft³)	47621756.9
Detention Storage (ft³)	N/A



Runoff Summary Table

Time period
From: 05/02/2020, 12:00:00 AM
To: 05/03/2020, 12:00:00 AM

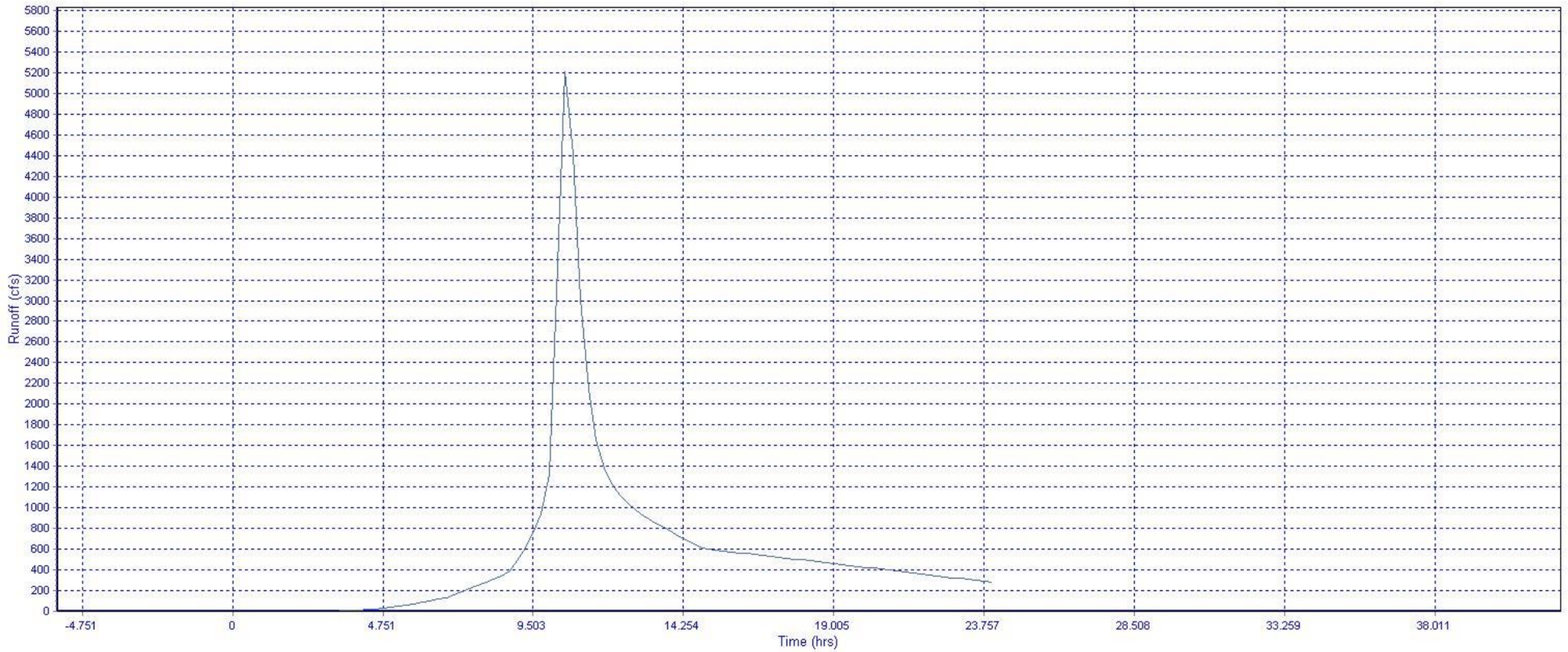
Thresholds
Exceedance: 0
Deficit: 0

Detention storage
Max flow: 0

Element ID	System
Maximum Runoff (cfs)	6848.97
Minimum Runoff (cfs)	0.00
Event Mean Runoff (cfs)	866.97
Duration of Exceedances (hrs)	N/A
Duration of Deficits (hrs)	N/A
Number of Exceedances	N/A
Number of Deficits	N/A
Volume of Exceedance (ft³)	N/A
Volume of Deficit (ft³)	N/A
Total Runoff (ft³)	73942868.13
Detention Storage (ft³)	N/A

Runoff (cfs): -1.1, 5309.03

10yr



Runoff Summary Table

Time period

From: 03/05/2020, 12:00:00 AM

To: 03/06/2020, 12:00:00 AM

Thresholds

Exceedance: 0

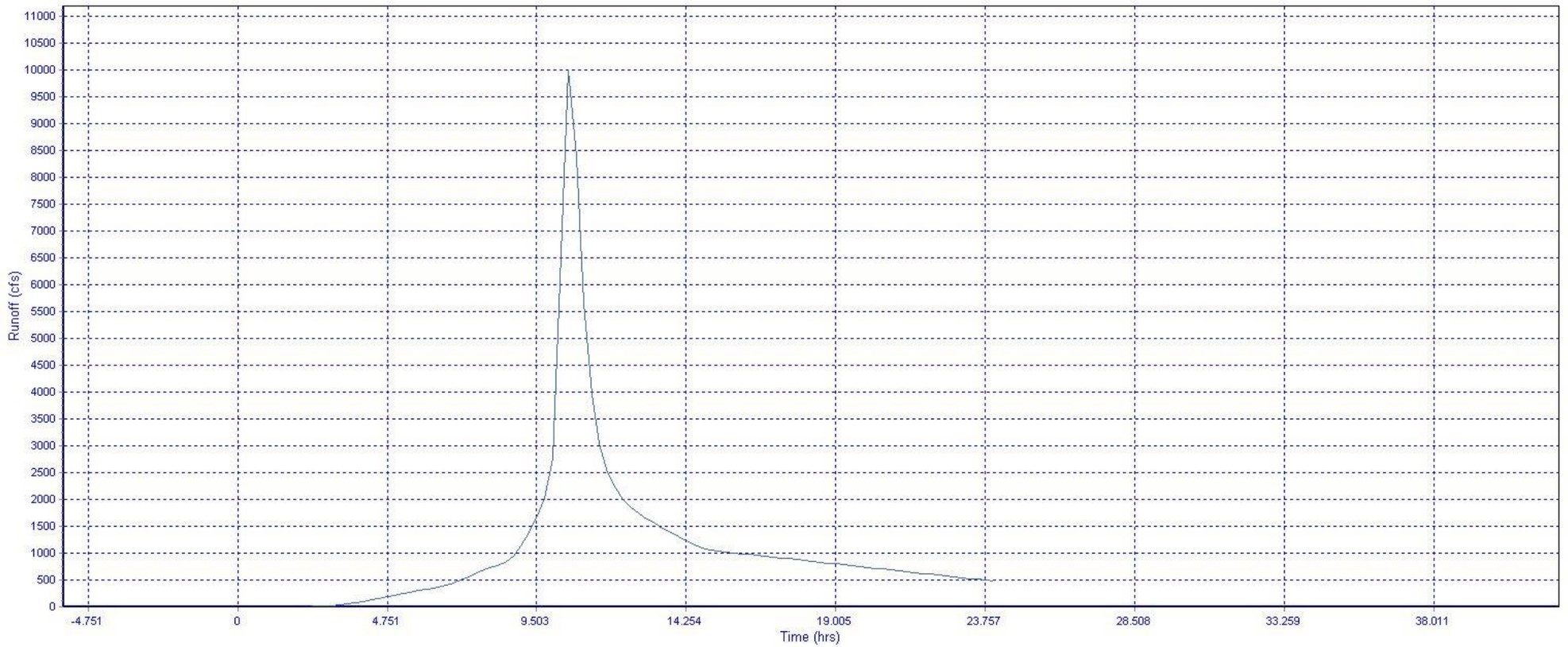
Deficit: 0

Detention storage

Max flow: 0

Element ID	System
Maximum Runoff (cfs)	5208.86
Minimum Runoff (cfs)	0.00
Event Mean Runoff (cfs)	576.34
Duration of Exceedances (hrs)	N/A
Duration of Deficits (hrs)	N/A
Number of Exceedances	N/A
Number of Deficits	N/A
Volume of Exceedance (ft³)	N/A
Volume of Deficit (ft³)	N/A
Total Runoff (ft³)	49151472.13
Detention Storage (ft³)	N/A

100yr



Runoff Summary Table

Time period

From: 03/05/2020, 12:00:00 AM

To: 03/06/2020, 12:00:00 AM

Thresholds

Exceedance: 0

Deficit: 0

Detention storage

Max flow: 0

Element ID	System
Maximum Runoff (cfs)	10007.40
Minimum Runoff (cfs)	0.00
Event Mean Runoff (cfs)	1100.94
Duration of Exceedances (hrs)	N/A
Duration of Deficits (hrs)	N/A
Number of Exceedances	N/A
Number of Deficits	N/A
Volume of Exceedance (ft³)	N/A
Volume of Deficit (ft³)	N/A
Total Runoff (ft³)	93914377.56
Detention Storage (ft³)	N/A

526049.81, 2390217.77

FRAYJI DESIGN GROUP
CIVIL ENGINEERING | PLANNING | SURVEYING

DRAFT

Project No. 28100 - Valleys Edge
Prepared by: T. Sotomayor
Checked by: T. Frayji
Date: Feburary 7, 2020

Exhibit - I.1.0
SHEET: 1 OF 2

Layout Tab secuirity lock - fdg1234

Valleys Edge - Sub-Basin Peak Flow Report for "Rational Method"-(24hr Duration)

SN	Watershed Sub Basin Name	Sub Basin Contributes to Main Water Shed - OUTFALL;	Area		Downstream (Drainage Node ID)	Weighted Runoff Coefficient	IDF Curve	2yr Storm Event				10yr Storm Event				100yr Storm Event				Time of Concentration
								Accumulated Precipitation	Total Runoff	Peak Runoff	Rainfall Intensity	Accumulated Precipitation	Total Runoff	Peak Runoff	Rainfall Intensity	Accumulated Precipitation	Total Runoff	Peak Runoff	Rainfall Intensity	
			(acres)	(Sq. Mi)				(inches)	(inches)	(cfs)	(inches/hr)	(inches)	(inches)	(cfs)	(inches/hr)	(inches)	(inches)	(cfs)	(inches/hr)	(days hh:mm:ss)
1	**UD-OF-SHED-1**	**OnSite Shed "C" - Outfall**	**398.73**	**0.62302**	**AP-OF-1**	**0.3500**	**IDF-NOAA-Weighted**	**3.14**	**1.10**	**530.30**	**3.800**	**4.37**	**1.53**	**739.64**	**5.300**	**7.18**	**2.51**	**1214.12**	**8.700**	**0 00:49:26**
2	UD-OF-SHED-2	OnSite Shed "F" - Outfall	884.33	1.38177	AP-OF-2	0.3400	IDF-NOAA-Weighted	3.87	1.32	**1142.56**	3.800	5.40	1.84	**1593.57**	5.300	8.87	3.02	**2615.86**	8.700	0 01:01:10
3	UD-OF-SHED-3	OnSite Shed "F" - Outfall	1123.63	1.75567	AP-OF-3	0.3300	IDF-NOAA-Weighted	5.04	1.66	**1409.03**	3.800	7.02	2.32	**1965.22**	5.300	11.53	3.80	**3225.93**	8.700	0 01:19:28
4	UD-OF-SHED-4	OnSite Shed "B" - Outfall	4.31	0.00673	AP-OF-4	0.4000	IDF-NOAA-Weighted	2.34	0.94	**6.56**	3.800	3.27	1.31	**9.14**	5.300	5.37	2.15	**15.01**	8.700	0 00:37:02
5	UD-OF-SHED-5	OnSite Shed "F" - Outfall	20.94	0.03272	AP-OF-5	0.4000	IDF-NOAA-Weighted	2.74	1.10	**31.83**	3.800	3.83	1.53	**44.40**	5.300	6.28	2.51	**72.88**	8.700	0 00:43:17
6	UD-OF-SHED-6	OnSite Shed "G6" - Outfall	18.41	0.02877	AP-OF-6	0.7200	IDF-NOAA-Weighted	2.51	1.81	**50.38**	3.800	3.50	2.52	**70.26**	5.300	5.75	4.14	**115.34**	8.700	0 00:39:35
7	UD-OS-SHED-SUB-A1-	***[Individual]*** OnSite Shed "A1" - Outfall	1.64	0.00256	OUTFALL-A-1	0.4000	IDF-NOAA-Weighted	2.47	0.99	**2.49**	3.800	3.45	1.38	**3.47**	5.300	5.66	2.26	**5.69**	8.700	0 00:38:56
8	UD-OS-SHED-SUB-A2-	***[Individual]*** OnSite Shed "A2" - Outfall	10.62	0.01659	OUTFALL-A-2	0.4000	IDF-NOAA-Weighted	2.08	0.83	**16.15**	3.800	2.90	1.16	**22.52**	5.300	4.76	1.90	**36.97**	8.700	0 00:32:52
9	UD-OS-SHED-SUB-A3-	***[Individual]*** OnSite Shed "A3" - Outfall	11.28	0.01763	OUTFALL-A-3	0.4000	IDF-NOAA-Weighted	2.20	0.88	**17.15**	3.800	3.06	1.23	**23.92**	5.300	5.03	2.01	**39.27**	8.700	0 00:34:36
10	UD-OS-SHED-SUB-A4-	***[Individual]*** OnSite Shed "A4" - Outfall	12.22	0.01909	OUTFALL-A-4	0.4000	IDF-NOAA-Weighted	2.16	0.87	**18.57**	3.800	3.02	1.21	**25.90**	5.300	4.95	1.98	**42.52**	8.700	0 00:34:09
11	UD-OS-SHED-SUB-A5-	***[Individual]*** OnSite Shed "A5" - Outfall	4.49	0.00702	OUTFALL-A-5	0.4000	IDF-NOAA-Weighted	2.36	0.95	**6.82**	3.800	3.30	1.32	**9.51**	5.300	5.41	2.17	**15.62**	8.700	0 00:37:17
12	UD-OS-SHED-SUB-A6-	***[Individual]*** OnSite Shed "A6" - Outfall	95.00	0.14844	OUTFALL-A-6	0.3900	IDF-NOAA-Weighted	2.52	0.98	**13.27**	3.800	3.52	1.37	**18.50**	5.300	5.78	2.25	**30.37**	8.700	0 00:39:49
13	UD-OS-SHED-SUB-A7-	***[Individual]*** OnSite Shed "A7" - Outfall	10.50	0.01641	OUTFALL-A-7	0.4000	IDF-NOAA-Weighted	2.70	1.08	**15.96**	3.800	3.77	1.51	**22.26**	5.300	6.19	2.48	**36.54**	8.700	0 00:42:40
14	UD-OS-SHED-SUB-B1-	OnSite Shed "B" - Outfall	6.45	0.01008	AP-OS-B1	0.4000	IDF-NOAA-Weighted	2.66	1.06	**9.80**	3.800	3.71	1.48	**13.67**	5.300	6.09	2.44	**22.45**	8.700	0 00:42:04
15	UD-OS-SHED-SUB-B2-	OnSite Shed "B" - Outfall	106.34	0.16616	AP-OS-B2	0.3800	IDF-NOAA-Weighted	2.89	1.10	**153.56**	3.800	4.03	1.53	**214.17**	5.300	6.62	2.52	**351.56**	8.700	0 00:45:42
16	UD-OS-SHED-SUB-B3-	OnSite Shed "B" - Outfall	18.41	0.02877	AP-OS-B3	0.4000	IDF-NOAA-Weighted	3.00	1.20	**27.99**	3.800	4.18	1.67	**39.04**	5.300	6.86	2.75	**64.08**	8.700	0 00:47:21
17	UD-OS-SHED-SUB-C1-	OnSite Shed "C" - Outfall	172.18	0.26903	AP-OS-C1	0.3500	IDF-NOAA-Weighted	3.77	1.32	**229.00**	3.800	5.26	1.84	**319.39**	5.300	8.63	3.02	**524.28**	8.700	0 00:59:27
18	UD-OS-SHED-SUB-C2-	OnSite Shed "C" - Outfall	56.14	0.08772	AP-OS-C2	0.4000	IDF-NOAA-Weighted	0.32	0.13	**85.33**	3.800	0.44	0.18	**119.01**	5.300	0.73	0.29	**195.35**	8.700	0 00:05:00
19	UD-OS-SHED-SUB-C3-	OnSite Shed "C" - Outfall	111.23	0.17380	AP-OS-C3	0.2900	IDF-NOAA-Weighted	3.04	0.88	**122.58**	3.800	4.24	1.23	**170.96**	5.300	6.96	2.02	**280.64**	8.700	0 00:48:01
20	UD-OS-SHED-SUB-C4-	OnSite Shed "C" - Outfall	43.38	0.06778	AP-OS-C4	0.3300	IDF-NOAA-Weighted	2.93	0.97	**54.40**	3.800	4.09	1.35	**75.87**	5.300	6.72	2.22	**124.54**	8.700	0 00:46:15
21	UD-OS-SHED-SUB-D1-	OnSite Shed "D" - Outfall	22.85	0.03570	AP-OS-D1	0.4000	IDF-NOAA-Weighted	3.20	1.28	**34.73**	3.800	4.46	1.78	**48.44**	5.300	7.32	2.93	**79.51**	8.700	0 00:50:32
22	UD-OS-SHED-SUB-D2-	OnSite Shed "D" - Outfall	13.98	0.02184	AP-OS-D2	0.4000	IDF-NOAA-Weighted	3.98	1.59	**21.24**	3.800	5.55	2.22	**29.63**	5.300	9.11	3.64	**48.63**	8.700	0 01:02:51
23	UD-OS-SHED-SUB-D3-	OnSite Shed "D" - Outfall	142.59	0.22280	AP-OS-D3	0.3000	IDF-NOAA-Weighted	3.12	0.94	**162.55**	3.800	4.36	1.31	**226.72**	5.300	7.15	2.15	**372.16**	8.700	0 00:49:22
24	UD-OS-SHED-SUB-D4-	OnSite Shed "D" - Outfall	66.26	0.10353	AP-OS-D4	0.3800	IDF-NOAA-Weighted	2.97	1.13	**95.68**	3.800	4.14	1.57	**133.45**	5.300	6.79	2.58	**219.07**	8.700	0 00:46:48
25	UD-OS-SHED-SUB-D5-	OnSite Shed "D" - Outfall	75.82	0.11847	AP-OS-D5	0.4000	IDF-NOAA-Weighted	3.42	1.37	**115.25**	3.800	4.77	1.91	**160.74**	5.300	7.83	3.13	**263.86**	8.700	0 00:54:01
26	UD-OS-SHED-SUB-D6-	OnSite Shed "D" - Outfall	50.82	0.07941	AP-OS-D6	0.3700	IDF-NOAA-Weighted	3.16	1.17	**71.46**	3.800	4.40	1.63	**99.66**	5.300	7.23	2.67	**163.60**	8.700	0 00:49:49
27	UD-OS-SHED-SUB-D7-	OnSite Shed "D" - Outfall	19.95	0.03117	AP-OS-D7	0.3900	IDF-NOAA-Weighted	3.06	1.19	**29.56**	3.800	4.27	1.67	**41.23**	5.300	7.01	2.73	**67.68**	8.700	0 00:48:20
28	UD-OS-SHED-SUB-E1-	***[Individual]*** OnSite Shed "E1" - Outfall	12.74	0.01991	AP-OS-E1	0.4000	IDF-NOAA-Weighted	0.59	0.24	**19.37**	3.800	0.82	0.33	**27.02**	5.300	1.35	0.54	**44.35**	8.700	0 00:09:18
29	UD-OS-SHED-SUB-E2-	***[Individual]*** OnSite Shed "E2" - Outfall	17.45	0.02727	AP-OS-E2	0.4000	IDF-NOAA-Weighted	2.91	1.17	**26.52**	3.800	4.06	1.63	**36.99**	5.300	6.67	2.67	**60.73**	8.700	0 00:46:04
30	UD-OS-SHED-SUB-F1-	OnSite Shed "F" - Outfall	72.28	0.11294	AP-OS-F1-B	0.3700	IDF-NOAA-Weighted	3.34	1.23	**101.62**	3.800	4.65	1.72	**141.73**	5.300	7.64	2.83	**232.66**	8.700	0 00:52:42
31	UD-OS-SHED-SUB-F2-	OnSite Shed "F" - Outfall	3.56	0.00556	AP-OS-F2	0.4000	IDF-NOAA-Weighted	3.18	1.27	**5.41**	3.800	4.43	1.77	**7.54**	5.300	7.27	2.91	**12.38**	8.700	0 00:50:13
32	UD-OS-SHED-SUB-F3-	OnSite Shed "F" - Outfall	38.98	0.06091	AP-OS-F3	0.3700	IDF-NOAA-Weighted	3.25	1.20	**54.80**	3.800	4.53	1.68	**76.43**	5.300	7.44	2.75	**125.46**	8.700	0 00:51:23
33	UD-OS-SHED-SUB-F4-	OnSite Shed "F" - Outfall	19.75	0.03086	AP-OS-F4	0.3900	IDF-NOAA-Weighted	3.28	1.28	**29.27**	3.800	4.58	1.79	**40.82**	5.300	7.52	2.93	**67.01**	8.700	0 00:51:48
34	UD-OS-SHED-SUB-F5-	OnSite Shed "F" - Outfall	136.81	0.21377	AP-OS-F5	0.2900	IDF-NOAA-Weighted	1.97	0.57	**150.76**	3.800	2.75	0.80	**210.27**	5.300	4.52	1.31	**345.17**	8.700	0 00:31:12
35	UD-OS-SHED-SUB-F6-	OnSite Shed "F" - Outfall	17.65	0.02758	AP-OS-F6	0.3500	IDF-NOAA-Weighted	1.81	0.63	**23.47**	3.800	2.52	0.88	**32.74**	5.300	4.13	1.45	**53.74**	8.700	0 00:28:28
36	UD-OS-SHED-SUB-F7-	OnSite Shed "F" - Outfall	35.84	0.05600	AP-OS-F7	0.3600	IDF-NOAA-Weighted	2.29	0.83	**49.04**	3.800	3.20	1.15	**68.39**	5.300	5.24	1.89	**112.26**	8.700	0 00:36:08
37	UD-OS-SHED-SUB-F8-	OnSite Shed "F" - Outfall	53.70	0.08391	AP-OS-F8	0.3600	IDF-NOAA-Weighted	2.87	1.03	**73.46**	3.800	4.00	1.44	**102.46**	5.300	6.57	2.37	**168.18**	8.700	0 00:45:19
38	UD-OS-SHED-SUB-G1-	***[Individual]*** OnSite Shed "G1" - Outfall	6.47	0.01011	AP-OS-G1	0.3800	IDF-NOAA-Weighted	2.04	0.77	**9.34**	3.800	2.84	1.08	**13.02**	5.300	4.66	1.77	**21.38**	8.700	0 00:32:10
39	UD-OS-SHED-SUB-G2-	***[Individual]*** OnSite Shed "G2" - Outfall	5.54	0.00866	AP-OS-G2	0.3800	IDF-NOAA-Weighted	1.83	0.69	**8.00**	3.800	2.55	0.97	**11.16**	5.300	4.18	1.59	**18.33**	8.700	0 00:28:46
40	UD-OS-SHED-SUB-G3-	***[Individual]*** OnSite Shed "G3" - Outfall	10.59	0.01655	AP-OS-G3	0.3800	IDF-NOAA-Weighted	1.94	0.74	**15.29**	3.800	2.71	1.03	**21.33**	5.300	4.45	1.69	**35.01**	8.700	0 00:30:43
41	UD-OS-SHED-SUB-G4-	***[Individual]*** OnSite Shed "G4" - Outfall	5.80	0.00906	AP-OS-G4	0.3800	IDF-NOAA-Weighted	1.94	0.74	**8.37**	3.800	2.71	1.03	**11.67**	5.300	4.45	1.69	**19.16**	8.700	0 00:30:43
42	UD-OS-SHED-SUB-G5-	***[Individual]*** OnSite Shed "G5" - Outfall	12.27	0.01917	AP-OS-G5	0.3800	IDF-NOAA-Weighted	2.13	0.81	**17.71**	3.800	2.97	1.13	**24.71**	5.300	4.88	1.86	**40.56**	8.700	0 00:33:38
43	UD-OS-SHED-SUB-G6-	OnSite Shed "G6" - Outfall	21.06	0.03291	AP-OS-G6	0.3600	IDF-NOAA-Weighted	2.29	0.83	**28.81**	3.800	3.20	1.15	**40.18**	5.300	5.24	1.89	**65.96**	8.700	0 00:36:09

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Project No. 28100 - Valleys Edge
Prepared by: T. Sotomayor
Checked by: T. Frayji
Date: Feburary 7, 2020

Exhibit - I.1.0
SHEET: 2 OF 2

Layout Tab secuirity lock - fdg1234

Valleys Edge - Watershed Basins - Peak Flow Report for "Rational Method"(24hr Duration)

SN	Watershed Sub Basin Name	Sub Basin Contributes to Main Water Shed - OUTFALL;	Area		Downstream (Drainage Node ID)	Weighted Runoff Coefficient	IDF Curve	2yr Storm Event				10yr Storm Event				100yr Storm Event				Time of Concentration
								Total Precipitation	Total Runoff	Peak Runoff	Rain Intensity	Total Precipitation	Total Runoff	Peak Runoff	Rain Intensity	Total Precipitation	Total Runoff	Peak Runoff	Rain Intensity	
			(acres)	(Sq. Mi)				(inches)	(inches)	(cfs)	(inches/hr)	(inches)	(inches)	(cfs)	(inches/hr)	(inches)	(inches)	(cfs)	(inches/hr)	(days hh:mm:ss)
1	**UD-OF-SHED-1**	**OnSite Shed "C" - Outfall**	**398.73**	**0.62302**	**AP-OF-1**	**0.3500**	**IDF-NOAA-Weighted**	**3.14**	**1.10**	**530.30**	**3.800**	**4.37**	**1.53**	**739.64**	**5.300**	**7.18**	**2.51**	**1214.12**	**8.700**	**0 00:49:26**
17	UD-OS-SHED-SUB-C1-	OnSite Shed "C" - Outfall	172.18	0.26903	AP-OS-C1	0.3500	IDF-NOAA-Weighted	3.77	1.32	**229.00**	3.800	5.26	1.84	**319.39**	5.300	8.63	3.02	**524.28**	8.700	0 00:59:27
18	UD-OS-SHED-SUB-C2-	OnSite Shed "C" - Outfall	56.14	0.08772	AP-OS-C2	0.4000	IDF-NOAA-Weighted	0.32	0.13	**85.33**	3.800	0.44	0.18	**119.01**	5.300	0.73	0.29	**195.35**	8.700	0 00:05:00
19	UD-OS-SHED-SUB-C3-	OnSite Shed "C" - Outfall	111.23	0.17380	AP-OS-C3	0.2900	IDF-NOAA-Weighted	3.04	0.88	**122.58**	3.800	4.24	1.23	**170.96**	5.300	6.96	2.02	**280.64**	8.700	0 00:48:01
20	UD-OS-SHED-SUB-C4-	OnSite Shed "C" - Outfall	43.38	0.06778	AP-OS-C4	0.3300	IDF-NOAA-Weighted	2.93	0.97	**54.40**	3.800	4.09	1.35	**75.87**	5.300	6.72	2.22	**124.54**	8.700	0 00:46:15
			781.66	**399.33**						**890.04**				**1083.96**				**1523.54**		
2	UD-OF-SHED-2	OnSite Shed "F" - Outfall	884.33	1.38177	AP-OF-2	0.3400	IDF-NOAA-Weighted	3.87	1.32	**1142.56**	3.800	5.40	1.84	**1593.57**	5.300	8.87	3.02	**2615.86**	8.700	0 01:01:10
3	UD-OF-SHED-3	OnSite Shed "F" - Outfall	1123.63	1.75567	AP-OF-3	0.3300	IDF-NOAA-Weighted	5.04	1.66	**1409.03**	3.800	7.02	2.32	**1965.22**	5.300	11.53	3.80	**3225.93**	8.700	0 01:19:28
5	UD-OF-SHED-5	OnSite Shed "F" - Outfall	20.94	0.03272	AP-OF-5	0.4000	IDF-NOAA-Weighted	2.74	1.10	**31.83**	3.800	3.83	1.53	**44.40**	5.300	6.28	2.51	**72.88**	8.700	0 00:43:17
30	UD-OS-SHED-SUB-F1-	OnSite Shed "F" - Outfall	72.28	0.11294	AP-OS-F1-B	0.3700	IDF-NOAA-Weighted	3.34	1.23	**101.62**	3.800	4.65	1.72	**141.73**	5.300	7.64	2.83	**232.66**	8.700	0 00:52:42
31	UD-OS-SHED-SUB-F2-	OnSite Shed "F" - Outfall	3.56	0.00556	AP-OS-F2	0.4000	IDF-NOAA-Weighted	3.18	1.27	**5.41**	3.800	4.43	1.77	**7.54**	5.300	7.27	2.91	**12.38**	8.700	0 00:50:13
32	UD-OS-SHED-SUB-F3-	OnSite Shed "F" - Outfall	38.98	0.06091	AP-OS-F3	0.3700	IDF-NOAA-Weighted	3.25	1.20	**54.80**	3.800	4.53	1.68	**76.43**	5.300	7.44	2.75	**125.46**	8.700	0 00:51:23
33	UD-OS-SHED-SUB-F4-	OnSite Shed "F" - Outfall	19.75	0.03086	AP-OS-F4	0.3900	IDF-NOAA-Weighted	3.28	1.28	**29.27**	3.800	4.58	1.79	**40.82**	5.300	7.52	2.93	**67.01**	8.700	0 00:51:48
34	UD-OS-SHED-SUB-F5-	OnSite Shed "F" - Outfall	136.81	0.21377	AP-OS-F5	0.2900	IDF-NOAA-Weighted	1.97	0.57	**150.76**	3.800	2.75	0.80	**210.27**	5.300	4.52	1.31	**345.17**	8.700	0 00:31:12
35	UD-OS-SHED-SUB-F6-	OnSite Shed "F" - Outfall	17.65	0.02758	AP-OS-F6	0.3500	IDF-NOAA-Weighted	1.81	0.63	**23.47**	3.800	2.52	0.88	**32.74**	5.300	4.13	1.45	**53.74**	8.700	0 00:28:28
36	UD-OS-SHED-SUB-F7-	OnSite Shed "F" - Outfall	35.84	0.05600	AP-OS-F7	0.3600	IDF-NOAA-Weighted	2.29	0.83	**49.04**	3.800	3.20	1.15	**68.39**	5.300	5.24	1.89	**112.26**	8.700	0 00:36:08
37	UD-OS-SHED-SUB-F8-	OnSite Shed "F" - Outfall	53.70	0.08391	AP-OS-F8	0.3600	IDF-NOAA-Weighted	2.87	1.03	**73.46**	3.800	4.00	1.44	**102.46**	5.300	6.57	2.37	**168.18**	8.700	0 00:45:19
			2407.47	**3.76167**						**3071.25**				**4283.57**				**7031.53**		
21	UD-OS-SHED-SUB-D1-	OnSite Shed "D" - Outfall	22.85	0.03570	AP-OS-D1	0.4000	IDF-NOAA-Weighted	3.20	1.28	**34.73**	3.800	4.46	1.78	**48.44**	5.300	7.32	2.93	**79.51**	8.700	0 00:50:32
22	UD-OS-SHED-SUB-D2-	OnSite Shed "D" - Outfall	13.98	0.02184	AP-OS-D2	0.4000	IDF-NOAA-Weighted	3.98	1.59	**21.24**	3.800	5.55	2.22	**29.63**	5.300	9.11	3.64	**48.63**	8.700	0 01:02:51
23	UD-OS-SHED-SUB-D3-	OnSite Shed "D" - Outfall	142.59	0.22280	AP-OS-D3	0.3000	IDF-NOAA-Weighted	3.12	0.94	**162.55**	3.800	4.36	1.31	**226.72**	5.300	7.15	2.15	**372.16**	8.700	0 00:49:22
24	UD-OS-SHED-SUB-D4-	OnSite Shed "D" - Outfall	66.26	0.10353	AP-OS-D4	0.3800	IDF-NOAA-Weighted	2.97	1.13	**95.68**	3.800	4.14	1.57	**133.45**	5.300	6.79	2.58	**219.07**	8.700	0 00:46:48
25	UD-OS-SHED-SUB-D5-	OnSite Shed "D" - Outfall	75.82	0.11847	AP-OS-D5	0.4000	IDF-NOAA-Weighted	3.42	1.37	**115.25**	3.800	4.77	1.91	**160.74**	5.300	7.83	3.13	**263.86**	8.700	0 00:54:01
26	UD-OS-SHED-SUB-D6-	OnSite Shed "D" - Outfall	50.82	0.07941	AP-OS-D6	0.3700	IDF-NOAA-Weighted	3.16	1.17	**71.46**	3.800	4.40	1.63	**99.66**	5.300	7.23	2.67	**163.60**	8.700	0 00:49:49
27	UD-OS-SHED-SUB-D7-	OnSite Shed "D" - Outfall	19.95	0.03117	AP-OS-D7	0.3900	IDF-NOAA-Weighted	3.06	1.19	**29.56**	3.800	4.27	1.67	**41.23**	5.300	7.01	2.73	**67.68**	8.700	0 00:48:20
			392.27	**0.61292**						**530.47**				**739.87**				**1214.51**		
4	UD-OF-SHED-4	OnSite Shed "B" - Outfall	4.31	0.00673	AP-OF-4	0.4000	IDF-NOAA-Weighted	2.34	0.94	**6.56**	3.800	3.27	1.31	**9.14**	5.300	5.37	2.15	**15.01**	8.700	0 00:37:02
14	UD-OS-SHED-SUB-B1-	OnSite Shed "B" - Outfall	6.45	0.01008	AP-OS-B1	0.4000	IDF-NOAA-Weighted	2.66	1.06	**9.80**	3.800	3.71	1.48	**13.67**	5.300	6.09	2.44	**22.45**	8.700	0 00:42:04
15	UD-OS-SHED-SUB-B2-	OnSite Shed "B" - Outfall	106.34	0.16616	AP-OS-B2	0.3800	IDF-NOAA-Weighted	2.89	1.10	**153.56**	3.800	4.03	1.53	**214.17**	5.300	6.62	2.52	**351.56**	8.700	0 00:45:42
16	UD-OS-SHED-SUB-B3-	OnSite Shed "B" - Outfall	18.41	0.02877	AP-OS-B3	0.4000	IDF-NOAA-Weighted	3.00	1.20	**27.99**	3.800	4.18	1.67	**39.04**	5.300	6.86	2.75	**64.08**	8.700	0 00:47:21
			135.51	**0.21173**						**197.91**				**276.02**				**453.10**		
6	UD-OF-SHED-6	OnSite Shed "G6" - Outfall	18.41	0.02877	AP-OF-6	0.7200	IDF-NOAA-Weighted	2.51	1.81	**50.38**	3.800	3.50	2.52	**70.26**	5.300	5.75	4.14	**115.34**	8.700	0 00:39:35
43	UD-OS-SHED-SUB-G6-	OnSite Shed "G6" - Outfall	21.06	0.03291	AP-OS-G6	0.3600	IDF-NOAA-Weighted	2.29	0.83	**28.81**	3.800	3.20	1.15	**40.18**	5.300	5.24	1.89	**65.96**	8.700	0 00:36:09
			39.47	**0.06167**						**79.19**				**110.44**				**181.30**		
7	UD-OS-SHED-SUB-A1-	***[Individual]*** OnSite Shed "A1" - Outfall	1.64	0.00256	OUTFALL-A-1	0.4000	IDF-NOAA-Weighted	2.47	0.99	**2.49**	3.800	3.45	1.38	**3.47**	5.300	5.66	2.26	**5.69**	8.700	0 00:38:56
			1.64	**0.00256**						**2.49**				**3.47**				**5.69**		
8	UD-OS-SHED-SUB-A2-	***[Individual]*** OnSite Shed "A2" - Outfall	10.62	0.01659	OUTFALL-A-2	0.4000	IDF-NOAA-Weighted	2.08	0.83	**16.15**	3.800	2.90	1.16	**22.52**	5.300	4.76	1.90	**36.97**	8.700	0 00:32:52
			10.62	**0.01659**						**16.15**				**22.52**				**36.97**		
9	UD-OS-SHED-SUB-A3-	***[Individual]*** OnSite Shed "A3" - Outfall	11.28	0.01763	OUTFALL-A-3	0.4000	IDF-NOAA-Weighted	2.20	0.88	**17.15**	3.800	3.06	1.23	**23.92**	5.300	5.03	2.01	**39.27**	8.700	0 00:34:36
			11.28	**0.01763**						**17.15**				**23.92**				**39.27**		
10	UD-OS-SHED-SUB-A4-	***[Individual]*** OnSite Shed "A4" - Outfall	12.22	0.01909	OUTFALL-A-4	0.4000	IDF-NOAA-Weighted	2.16	0.87	**18.57**	3.800	3.02	1.21	**25.90**	5.300	4.95	1.98	**42.52**	8.700	0 00:34:09
			12.22	**0.01909**						**18.57**				**25.90**				**42.52**		
11	UD-OS-SHED-SUB-A5-	***[Individual]*** OnSite Shed "A5" - Outfall	4.49	0.00702	OUTFALL-A-5	0.4000	IDF-NOAA-Weighted	2.36	0.95	**6.82**	3.800	3.30	1.32	**9.51**	5.300	5.41	2.17	**15.62**	8.700	0 00:37:17
			4.49	**0.00702**						**6.82**				**9.51**				**15.62**		
12	UD-OS-SHED-SUB-A6-	***[Individual]*** OnSite Shed "A6" - Outfall	95.00	0.14844	OUTFALL-A-6	0.3900	IDF-NOAA-Weighted	2.52	0.98	**13.27**	3.800	3.52	1.37	**18.50**	5.300	5.78	2.25	**30.37**	8.700	0 00:39:49
			95.00	**0.14844**						**13.27**				**18.50**				**30.37**		
13	UD-OS-SHED-SUB-A7-	***[Individual]*** OnSite Shed "A7" - Outfall	10.50	0.01641	OUTFALL-A-7	0.4000	IDF-NOAA-Weighted	2.70	1.08	**15.96**	3.800	3.77	1.51	**22.26**	5.300	6.19	2.48	**36.54**	8.700	0 00:42:40
			10.50	**0.01641**						**15.96**				**22.26**				**36.54**		
28	UD-OS-SHED-SUB-E1-	***[Individual]*** OnSite Shed "E1" - Outfall	12.74	0.01991	AP-OS-E1	0.4000	IDF-NOAA-Weighted	0.59	0.24	**19.37**	3.800	0.82	0.33	**27.02**	5.300	1.35	0.54	**44.35**	8.700	0 00:09:18
			12.74	**0.01991**						**19.37**				**27.02**				**44.35**		
29	UD-OS-SHED-SUB-E2-	***[Individual]*** OnSite Shed "E2" - Outfall	17.45	0.02727	AP-OS-E2	0.4000	IDF-NOAA-Weighted	2.91	1.17	**26.52**	3.800	4.06	1.63	**36.99**	5.300	6.67	2.67	**60.73**	8.700	0 00:46:04
			17.45	**0.02727**						**26.52**				**36.99**				**60.73**		
38	UD-OS-SHED-SUB-G1-	***[Individual]*** OnSite Shed "G1" - Outfall	6.47	0.01011	AP-OS-G1	0.3800	IDF-NOAA-Weighted	2.04	0.77	**9.34**	3.800	2.84	1.08	**13.02**	5.300	4.66	1.77	**21.38**	8.700	0 00:32:10
			6.47	**0.01011**						**9.34**				**13.02**				**21.38**		
39	UD-OS-SHED-SUB-G2-	***[Individual]*** OnSite Shed "G2" - Outfall	5.54	0.00866	AP-OS-G2	0.3800	IDF-NOAA-Weighted	1.83	0.69	**8.00**	3.800	2.55	0.97	**11.16**	5.300	4.18	1.59	**18.33**	8.700	0 00:28:46
			5.54	**0.00866**						**8.00**				**11.16**				**18.33**		
40	UD-OS-SHED-SUB-G3-	***[Individual]*** OnSite Shed "G3" - Outfall	10.59	0.01655	AP-OS-G3	0.3800	IDF-NOAA-Weighted	1.94	0.74	**15.29**	3.800	2.71	1.03	**21.33**	5.300	4.45	1.69	**35.01**	8.700	0 00:30:43
			10.59	**0.01655**						**15.29**				**21.33**				**35.01**		
41	UD-OS-SHED-SUB-G4-	***[Individual]*** OnSite Shed "G4" - Outfall	5.80	0.00906	AP-OS-G4	0.3800	IDF-NOAA-Weighted	1.94	0.74	**8.37**	3.800	2.71	1.03	**11.67**	5.300	4.45	1.69	**19.16**	8.700	0 00:30:43
			5.80	**0.00906**						**8.37**				**11.67**				**19.16**		
42	UD-OS-SHED-SUB-G5-	***[Individual]*** OnSite Shed "G5" - Outfall	12.27	0.01917	AP-OS-G5	0.3800	IDF-NOAA-Weighted	2.13	0.81	**17.71**	3.800	2.97	1.13	**24.71**	5.300	4.88	1.86	**40.56**	8.700	0 00:33:38
			12.27	**0.01917**						**17.71**				**24.71**				**40.56**		

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Project No. 28100 - Valleys Edge
Prepared by: T. Sotomayor
Checked by: T. Frayji
Date: Feburary 7, 2020

Exhibit - I.1.1
SHEET: 1 OF 2

Layout Tab secuirity lock - fdg1234

Valleys Edge - Sub-Basin Peak Flow Report for "SCS TR-55" *Type 1* -(24hr Duration)

SN	Watershed Sub Basin Name	Sub Basin Contributes to Main Water Shed - OUTFALL;	Area		Downstream (Drainage Node ID)	Weighted Curve Number	Rain Gage	Peak Rate Factor	2yr Storm Event			10yr Storm Event			100yr Storm Event			Time of Concentration
									Total Precipitation	Total Runoff	Peak Runoff	Total Precipitation	Total Runoff	Peak Runoff	Total Precipitation	Total Runoff	Peak Runoff	
			(acres)	(Sq. Mi)					(inches)	(inches)	(cfs)	(inches)	(inches)	(cfs)	(inches)	(inches)	(cfs)	(days hh:mm:ss)
1	**{Drainage-UnDEV}.UD-OF-SHED-1**	**OnSite Shed "C" - Outfall**	**398.73**	**0.62302**	**AP-OF-1**	**82.42**	**Type1-24hr-Intensity**	**484**	**3.80**	**2.07**	**318.21**	**5.30**	**3.39**	**537.81**	**8.70**	**6.58**	**1056.02**	**0 00:41:01**
2	{Drainage-UnDEV}.UD-OF-SHED-2	OnSite Shed "F" - Outfall	884.33	1.38177	AP-OF-2	82.00	Type1-24hr-Intensity	484	3.80	2.03	**638.01**	5.30	3.35	**1087.36**	8.70	6.53	**2144.89**	0 00:47:15
3	{Drainage-UnDEV}.UD-OF-SHED-3	OnSite Shed "F" - Outfall	1123.63	1.75567	AP-OF-3	81.80	Type1-24hr-Intensity	484	3.80	2.02	**690.52**	5.30	3.33	**1180.92**	8.70	6.50	**2345.99**	0 01:00:54
4	{Drainage-UnDEV}.UD-OF-SHED-4	OnSite Shed "B" - Outfall	4.31	0.00673	AP-OF-4	83.00	Type1-24hr-Intensity	484	3.80	2.11	**3.75**	5.30	3.45	**6.28**	8.70	6.65	**12.22**	0 00:37:02
5	{Drainage-UnDEV}.UD-OF-SHED-5	OnSite Shed "F" - Outfall	20.94	0.03272	AP-OF-5	83.00	Type1-24hr-Intensity	484	3.80	2.11	**16.69**	5.30	3.45	**27.90**	8.70	6.65	**54.46**	0 00:43:17
6	{Drainage-UnDEV}.UD-OF-SHED-6	OnSite Shed "G6" - Outfall	18.41	0.02877	AP-OF-6	82.99	Type1-24hr-Intensity	484	3.80	2.11	**15.42**	5.30	3.45	**25.82**	8.70	6.65	**50.31**	0 00:39:35
7	{Drainage-UnDEV}.UD-OS-SHED-SUB-A1-	***[Individual]*** OnSite Shed "A1" - Outfall	1.64	0.00256	OUTFALL-A-1	83.00	Type1-24hr-Intensity	484	3.80	2.11	**1.39**	5.30	3.45	**2.32**	8.70	6.65	**4.52**	0 00:38:56
8	{Drainage-UnDEV}.UD-OS-SHED-SUB-A2-	***[Individual]*** OnSite Shed "A2" - Outfall	10.62	0.01659	OUTFALL-A-2	83.00	Type1-24hr-Intensity	484	3.80	2.11	**9.84**	5.30	3.45	**16.53**	8.70	6.65	**32.08**	0 00:32:52
9	{Drainage-UnDEV}.UD-OS-SHED-SUB-A3-	***[Individual]*** OnSite Shed "A3" - Outfall	11.28	0.01763	OUTFALL-A-3	83.00	Type1-24hr-Intensity	484	3.80	2.11	**10.19**	5.30	3.45	**17.03**	8.70	6.65	**33.18**	0 00:34:36
10	{Drainage-UnDEV}.UD-OS-SHED-SUB-A4-	***[Individual]*** OnSite Shed "A4" - Outfall	12.22	0.01909	OUTFALL-A-4	83.00	Type1-24hr-Intensity	484	3.80	2.11	**11.10**	5.30	3.45	**18.58**	8.70	6.65	**36.12**	0 00:34:09
11	{Drainage-UnDEV}.UD-OS-SHED-SUB-A5-	***[Individual]*** OnSite Shed "A5" - Outfall	4.49	0.00702	OUTFALL-A-5	83.00	Type1-24hr-Intensity	484	3.80	2.11	**3.89**	5.30	3.45	**6.51**	8.70	6.65	**12.65**	0 00:37:17
12	{Drainage-UnDEV}.UD-OS-SHED-SUB-A6-	***[Individual]*** OnSite Shed "A6" - Outfall	95.00	0.14844	OUTFALL-A-6	82.95	Type1-24hr-Intensity	484	3.80	2.11	**79.09**	5.30	3.44	**132.64**	8.70	6.64	**258.45**	0 00:39:49
13	{Drainage-UnDEV}.UD-OS-SHED-SUB-A7-	***[Individual]*** OnSite Shed "A7" - Outfall	10.50	0.01641	OUTFALL-A-7	83.00	Type1-24hr-Intensity	484	3.80	2.11	**8.42**	5.30	3.45	**14.13**	8.70	6.65	**27.50**	0 00:42:40
14	{Drainage-UnDEV}.UD-OS-SHED-SUB-B1-	OnSite Shed "B" - Outfall	6.45	0.01008	AP-OS-B1	82.99	Type1-24hr-Intensity	484	3.80	2.11	**5.22**	5.30	3.45	**8.75**	8.70	6.65	**17.02**	0 00:42:04
15	{Drainage-UnDEV}.UD-OS-SHED-SUB-B2-	OnSite Shed "B" - Outfall	106.34	0.16616	AP-OS-B2	82.92	Type1-24hr-Intensity	484	3.80	2.11	**81.78**	5.30	3.44	**137.26**	8.70	6.64	**267.23**	0 00:45:42
16	{Drainage-UnDEV}.UD-OS-SHED-SUB-B3-	OnSite Shed "B" - Outfall	18.41	0.02877	AP-OS-B3	82.99	Type1-24hr-Intensity	484	3.80	2.11	**13.92**	5.30	3.45	**23.30**	8.70	6.65	**45.37**	0 00:47:21
17	{Drainage-UnDEV}.UD-OS-SHED-SUB-C1-	OnSite Shed "C" - Outfall	172.18	0.26903	AP-OS-C1	82.78	Type1-24hr-Intensity	484	3.80	2.10	**112.78**	5.30	3.43	**189.99**	8.70	6.62	**370.78**	0 00:59:27
18	{Drainage-UnDEV}.UD-OS-SHED-SUB-C2-	OnSite Shed "C" - Outfall	56.14	0.08772	AP-OS-C2	83.00	Type1-24hr-Intensity	484	3.80	2.11	**94.06**	5.30	3.45	**156.65**	8.70	6.65	**302.35**	0 00:05:00
19	{Drainage-UnDEV}.UD-OS-SHED-SUB-C3-	OnSite Shed "C" - Outfall	111.23	0.17380	AP-OS-C3	81.20	Type1-24hr-Intensity	484	3.80	1.97	**76.45**	5.30	3.27	**131.65**	8.70	6.43	**263.16**	0 00:48:01
20	{Drainage-UnDEV}.UD-OS-SHED-SUB-C4-	OnSite Shed "C" - Outfall	43.38	0.06778	AP-OS-C4	81.80	Type1-24hr-Intensity	484	3.80	2.02	**31.40**	5.30	3.33	**53.54**	8.70	6.50	**106.25**	0 00:46:15
21	{Drainage-UnDEV}.UD-OS-SHED-SUB-D1-	OnSite Shed "D" - Outfall	22.85	0.03570	AP-OS-D1	82.98	Type1-24hr-Intensity	484	3.80	2.11	**16.60**	5.30	3.45	**27.91**	8.70	6.65	**54.34**	0 00:50:32
22	{Drainage-UnDEV}.UD-OS-SHED-SUB-D2-	OnSite Shed "D" - Outfall	13.98	0.02184	AP-OS-D2	83.00	Type1-24hr-Intensity	484	3.80	2.11	**11.20**	5.30	3.45	**18.80**	8.70	6.65	**36.58**	0 00:42:39
23	{Drainage-UnDEV}.UD-OS-SHED-SUB-D3-	OnSite Shed "D" - Outfall	142.59	0.22280	AP-OS-D3	81.40	Type1-24hr-Intensity	484	3.80	1.99	**97.40**	5.30	3.29	**167.23**	8.70	6.45	**333.70**	0 00:49:22
24	{Drainage-UnDEV}.UD-OS-SHED-SUB-D4-	OnSite Shed "D" - Outfall	66.26	0.10353	AP-OS-D4	82.60	Type1-24hr-Intensity	484	3.80	2.08	**49.50**	5.30	3.41	**83.54**	8.70	6.60	**163.62**	0 00:46:48
25	{Drainage-UnDEV}.UD-OS-SHED-SUB-D5-	OnSite Shed "D" - Outfall	75.82	0.11847	AP-OS-D5	82.92	Type1-24hr-Intensity	484	3.80	2.11	**52.91**	5.30	3.44	**88.91**	8.70	6.64	**173.23**	0 00:54:01
26	{Drainage-UnDEV}.UD-OS-SHED-SUB-D6-	OnSite Shed "D" - Outfall	50.82	0.07941	AP-OS-D6	82.52	Type1-24hr-Intensity	484	3.80	2.08	**36.48**	5.30	3.40	**61.58**	8.70	6.59	**120.95**	0 00:49:49
27	{Drainage-UnDEV}.UD-OS-SHED-SUB-D7-	OnSite Shed "D" - Outfall	19.95	0.03117	AP-OS-D7	82.76	Type1-24hr-Intensity	484	3.80	2.09	**14.74**	5.30	3.42	**24.82**	8.70	6.62	**48.48**	0 00:48:20
28	{Drainage-UnDEV}.UD-OS-SHED-SUB-E1-	***[Individual]*** OnSite Shed "E1" - Outfall	12.74	0.01991	AP-OS-E1	82.92	Type1-24hr-Intensity	484	3.80	2.11	**18.86**	5.30	3.44	**31.50**	8.70	6.64	**61.00**	0 00:09:18
29	{Drainage-UnDEV}.UD-OS-SHED-SUB-E2-	***[Individual]*** OnSite Shed "E2" - Outfall	17.45	0.02727	AP-OS-E2	82.92	Type1-24hr-Intensity	484	3.80	2.11	**13.35**	5.30	3.44	**22.42**	8.70	6.64	**43.76**	0 00:46:04
30	{Drainage-UnDEV}.UD-OS-SHED-SUB-F1-	OnSite Shed "F" - Outfall	72.28	0.11294	AP-OS-F1-B	82.52	Type1-24hr-Intensity	484	3.80	2.08	**50.13**	5.30	3.40	**84.83**	8.70	6.59	**166.41**	0 00:52:42
31	{Drainage-UnDEV}.UD-OS-SHED-SUB-F2-	OnSite Shed "F" - Outfall	3.56	0.00556	AP-OS-F2	83.00	Type1-24hr-Intensity	484	3.80	2.11	**5.96**	5.30	3.45	**9.93**	8.70	6.65	**19.16**	0 00:05:00
32	{Drainage-UnDEV}.UD-OS-SHED-SUB-F3-	OnSite Shed "F" - Outfall	38.98	0.06091	AP-OS-F3	82.52	Type1-24hr-Intensity	484	3.80	2.08	**27.44**	5.30	3.40	**46.38**	8.70	6.59	**91.03**	0 00:51:23
33	{Drainage-UnDEV}.UD-OS-SHED-SUB-F4-	OnSite Shed "F" - Outfall	19.75	0.03086	AP-OS-F4	82.88	Type1-24hr-Intensity	484	3.80	2.10	**14.10**	5.30	3.44	**23.70**	8.70	6.63	**46.25**	0 00:51:48
34	{Drainage-UnDEV}.UD-OS-SHED-SUB-F5-	OnSite Shed "F" - Outfall	136.81	0.21377	AP-OS-F5	81.20	Type1-24hr-Intensity	484	3.80	1.97	**119.69**	5.30	3.27	**206.35**	8.70	6.43	**411.11**	0 00:31:12
35	{Drainage-UnDEV}.UD-OS-SHED-SUB-F6-	OnSite Shed "F" - Outfall	17.65	0.02758	AP-OS-F6	82.20	Type1-24hr-Intensity	484	3.80	2.05	**17.02**	5.30	3.37	**28.80**	8.70	6.55	**56.60**	0 00:28:28
36	{Drainage-UnDEV}.UD-OS-SHED-SUB-F7-	OnSite Shed "F" - Outfall	35.84	0.05600	AP-OS-F7	82.40	Type1-24hr-Intensity	484	3.80	2.07	**30.73**	5.30	3.39	**51.92**	8.70	6.58	**101.81**	0 00:36:08
37	{Drainage-UnDEV}.UD-OS-SHED-SUB-F8-	OnSite Shed "F" - Outfall	53.70	0.08391	AP-OS-F8	82.28	Type1-24hr-Intensity	484	3.80	2.06	**40.25**	5.30	3.38	**68.26**	8.70	6.56	**134.10**	0 00:45:19
38	{Drainage-UnDEV}.UD-OS-SHED-SUB-G1-	***[Individual]*** OnSite Shed "G1" - Outfall	6.47	0.01011	AP-OS-G1	82.68	Type1-24hr-Intensity	484	3.80	2.09	**5.82**	5.30	3.42	**9.81**	8.70	6.61	**19.16**	0 00:33:47
39	{Drainage-UnDEV}.UD-OS-SHED-SUB-G2-	***[Individual]*** OnSite Shed "G2" - Outfall	5.54	0.00866	AP-OS-G2	82.68	Type1-24hr-Intensity	484	3.80	2.09	**5.36**	5.30	3.42	**9.01**	8.70	6.61	**17.56**	0 00:29:37
40	{Drainage-UnDEV}.UD-OS-SHED-SUB-G3-	***[Individual]*** OnSite Shed "G3" - Outfall	10.59	0.01655	AP-OS-G3	82.68	Type1-24hr-Intensity	484	3.80	2.09	**9.84**	5.30	3.42	**16.52**	8.70	6.61	**32.24**	0 00:32:00
41	{Drainage-UnDEV}.UD-OS-SHED-SUB-G4-	***[Individual]*** OnSite Shed "G4" - Outfall	5.80	0.00906	AP-OS-G4	82.68	Type1-24hr-Intensity	484	3.80	2.09	**5.39**	5.30	3.42	**9.05**	8.70	6.61	**17.65**	0 00:32:00
42	{Drainage-UnDEV}.UD-OS-SHED-SUB-G5-	***[Individual]*** OnSite Shed "G5" - Outfall	12.27	0.01917	AP-OS-G5	82.68	Type1-24hr-Intensity	484	3.80	2.09	**10.75**	5.30	3.42	**18.09**	8.70	6.61	**35.33**	0 00:35:35
43	{Drainage-UnDEV}.UD-OS-SHED-SUB-G6-	OnSite Shed "G6" - Outfall	21.06	0.03291	AP-OS-G6	82.40	Type1-24hr-Intensity	484	3.80	2.07	**18.08**	5.30	3.39	**30.60**	8.70	6.58	**60.04**	0 00:35:55

FRAYJI DESIGN GROUP
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DRAFT

Project No. 28100 - Valleys Edge
Prepared by: T. Sotomayor
Checked by: T. Frayji
Date: Feburary 7, 2020

Exhibit - I.1.I
SHEET: 2 OF 2

Layout Tab secuirity lock - fdg1234

Valleys Edge - Watershed Basins - Peak Flow Report for "SCS TR-55" *Type 1* -(24hr Duration)

SN	Watershed Sub Basin Name	Sub Basin Contributes to Main Water Shed - OUTFALL;	Area (acres)	Area (Sq. Mi)	Downstream (Drainage Node ID)	Weighted Curve Number	Rain Gage	Peak Rate Factor	2yr Storm Event Total Precipitation (inches)	2yr Storm Event Total Runoff (inches)	2yr Storm Event Peak Runoff (cfs)	10yr Storm Event Total Precipitation (inches)	10yr Storm Event Total Runoff (inches)	10yr Storm Event Peak Runoff (cfs)	100yr Storm Event Total Precipitation (inches)	100yr Storm Event Total Runoff (inches)	100yr Storm Event Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	**UD-OF-SHED-1**	**OnSite Shed "C" - Outfall**	**398.73**	**0.62302**	**AP-OF-1**	**82.42**	**Type1-24hr-Intensity**	**484**	**3.80**	**2.07**	**318.21**	**5.30**	**3.39**	**537.81**	**8.70**	**6.58**	**1056.02**	**0 00:41:01**
19	UD-OS-SHED-SUB-C3-	OnSite Shed "C" - Outfall	111.23	0.17380	AP-OS-C3	81.20	Type1-24hr-Intensity	484	3.80	1.97	**76.45**	5.30	3.27	**131.65**	8.70	6.43	**263.16**	0 00:48:01
20	UD-OS-SHED-SUB-C4-	OnSite Shed "C" - Outfall	43.38	0.06778	AP-OS-C4	81.80	Type1-24hr-Intensity	484	3.80	2.02	**31.40**	5.30	3.33	**53.54**	8.70	6.50	**106.25**	0 00:46:15
18	UD-OS-SHED-SUB-C2-	OnSite Shed "C" - Outfall	56.14	0.08772	AP-OS-C2	83.00	Type1-24hr-Intensity	484	3.80	2.11	**94.06**	5.30	3.45	**156.65**	8.70	6.65	**302.35**	0 00:05:00
17	UD-OS-SHED-SUB-C1-	OnSite Shed "C" - Outfall	172.18	0.26903	AP-OS-C1	82.78	Type1-24hr-Intensity	484	3.80	2.10	**112.78**	5.30	3.43	**189.99**	8.70	6.62	**370.78**	0 00:59:27
			382.93	**0.59833**							**314.69000**			**531.83000**			**1042.54000**	
2	**UD-OF-SHED-2**	OnSite Shed "F" - Outfall	884.33	1.38177	AP-OF-2	82.00	Type1-24hr-Intensity	484	3.80	2.03	**638.01**	5.30	3.35	**1087.36**	8.70	6.53	**2144.89**	0 00:47:15
3	**UD-OF-SHED-3**	OnSite Shed "F" - Outfall	1123.63	1.75567	AP-OF-3	81.80	Type1-24hr-Intensity	484	3.80	2.02	**690.52**	5.30	3.33	**1180.92**	8.70	6.50	**2345.99**	0 01:00:54
5	**UD-OF-SHED-5**	OnSite Shed "F" - Outfall	20.94	0.03272	AP-OF-5	83.00	Type1-24hr-Intensity	484	3.80	2.11	**16.69**	5.30	3.45	**27.90**	8.70	6.65	**54.46**	0 00:43:17
35	UD-OS-SHED-SUB-F6-	OnSite Shed "F" - Outfall	17.65	0.02758	AP-OS-F6	82.20	Type1-24hr-Intensity	484	3.80	2.05	**17.02**	5.30	3.37	**28.80**	8.70	6.55	**56.60**	0 00:28:28
36	UD-OS-SHED-SUB-F7-	OnSite Shed "F" - Outfall	35.84	0.05600	AP-OS-F7	82.40	Type1-24hr-Intensity	484	3.80	2.07	**30.73**	5.30	3.39	**51.92**	8.70	6.58	**101.81**	0 00:36:08
37	UD-OS-SHED-SUB-F8-	OnSite Shed "F" - Outfall	53.70	0.08391	AP-OS-F8	82.28	Type1-24hr-Intensity	484	3.80	2.06	**40.25**	5.30	3.38	**68.26**	8.70	6.56	**134.10**	0 00:45:19
32	UD-OS-SHED-SUB-F3-	OnSite Shed "F" - Outfall	38.98	0.06091	AP-OS-F3	82.52	Type1-24hr-Intensity	484	3.80	2.08	**27.44**	5.30	3.40	**46.38**	8.70	6.59	**91.03**	0 00:51:23
34	UD-OS-SHED-SUB-F5-	OnSite Shed "F" - Outfall	136.81	0.21377	AP-OS-F5	81.20	Type1-24hr-Intensity	484	3.80	1.97	**119.69**	5.30	3.27	**206.35**	8.70	6.43	**411.11**	0 00:31:12
33	UD-OS-SHED-SUB-F4-	OnSite Shed "F" - Outfall	19.75	0.03086	AP-OS-F4	82.88	Type1-24hr-Intensity	484	3.80	2.10	**14.10**	5.30	3.44	**23.70**	8.70	6.63	**46.25**	0 00:51:48
31	UD-OS-SHED-SUB-F2-	OnSite Shed "F" - Outfall	3.56	0.00556	AP-OS-F2	83.00	Type1-24hr-Intensity	484	3.80	2.11	**5.96**	5.30	3.45	**9.93**	8.70	6.65	**19.16**	0 00:05:00
30	UD-OS-SHED-SUB-F1-	OnSite Shed "F" - Outfall	72.28	0.11294	AP-OS-F1-B	82.52	Type1-24hr-Intensity	484	3.80	2.08	**50.13**	5.30	3.40	**84.83**	8.70	6.59	**166.41**	0 00:52:42
			2407.47	**3.76167**							**1650.54000**			**2816.35000**			**5571.81000**	
26	UD-OS-SHED-SUB-D6-	OnSite Shed "D" - Outfall	50.82	0.07941	AP-OS-D6	82.52	Type1-24hr-Intensity	484	3.80	2.08	**36.48**	5.30	3.40	**61.58**	8.70	6.59	**120.95**	0 00:49:49
27	UD-OS-SHED-SUB-D7-	OnSite Shed "D" - Outfall	19.95	0.03117	AP-OS-D7	82.76	Type1-24hr-Intensity	484	3.80	2.09	**14.74**	5.30	3.42	**24.82**	8.70	6.62	**48.48**	0 00:48:20
23	UD-OS-SHED-SUB-D3-	OnSite Shed "D" - Outfall	142.59	0.22280	AP-OS-D3	81.40	Type1-24hr-Intensity	484	3.80	1.99	**97.40**	5.30	3.29	**167.23**	8.70	6.45	**333.70**	0 00:49:22
24	UD-OS-SHED-SUB-D4-	OnSite Shed "D" - Outfall	66.26	0.10353	AP-OS-D4	82.60	Type1-24hr-Intensity	484	3.80	2.08	**49.50**	5.30	3.41	**83.54**	8.70	6.60	**163.62**	0 00:46:48
25	UD-OS-SHED-SUB-D5-	OnSite Shed "D" - Outfall	75.82	0.11847	AP-OS-D5	82.92	Type1-24hr-Intensity	484	3.80	2.11	**52.91**	5.30	3.44	**88.91**	8.70	6.64	**173.23**	0 00:54:01
22	UD-OS-SHED-SUB-D2-	OnSite Shed "D" - Outfall	13.98	0.02184	AP-OS-D2	83.00	Type1-24hr-Intensity	484	3.80	2.11	**11.20**	5.30	3.45	**18.80**	8.70	6.65	**36.58**	0 00:42:39
21	UD-OS-SHED-SUB-D1-	OnSite Shed "D" - Outfall	22.85	0.03570	AP-OS-D1	82.98	Type1-24hr-Intensity	484	3.80	2.11	**16.60**	5.30	3.45	**27.91**	8.70	6.65	**54.34**	0 00:50:32
			392.27	**0.61292**							**278.83000**			**472.79000**			**930.90000**	
4	**UD-OF-SHED-4**	OnSite Shed "B" - Outfall	4.31	0.00673	AP-OF-4	83.00	Type1-24hr-Intensity	484	3.80	2.11	**3.75**	5.30	3.45	**6.28**	8.70	6.65	**12.22**	0 00:37:02
16	UD-OS-SHED-SUB-B3-	OnSite Shed "B" - Outfall	18.41	0.02877	AP-OS-B3	82.99	Type1-24hr-Intensity	484	3.80	2.11	**13.92**	5.30	3.45	**23.30**	8.70	6.65	**45.37**	0 00:47:21
15	UD-OS-SHED-SUB-B2-	OnSite Shed "B" - Outfall	106.34	0.16616	AP-OS-B2	82.92	Type1-24hr-Intensity	484	3.80	2.11	**81.78**	5.30	3.44	**137.26**	8.70	6.64	**267.23**	0 00:45:42
14	UD-OS-SHED-SUB-B1-	OnSite Shed "B" - Outfall	6.45	0.01008	AP-OS-B1	82.99	Type1-24hr-Intensity	484	3.80	2.11	**5.22**	5.30	3.45	**8.75**	8.70	6.65	**17.02**	0 00:42:04
			135.51	**0.21173**							**104.67000**			**175.59000**			**341.84000**	
6	**UD-OF-SHED-6**	OnSite Shed "G6" - Outfall	18.41	0.02877	AP-OF-6	82.99	Type1-24hr-Intensity	484	3.80	2.11	**15.42**	5.30	3.45	**25.82**	8.70	6.65	**50.31**	0 00:39:35
43	UD-OS-SHED-SUB-G6-	OnSite Shed "G6" - Outfall	21.06	0.03291	AP-OS-G6	82.40	Type1-24hr-Intensity	484	3.80	2.07	**18.08**	5.30	3.39	**30.60**	8.70	6.58	**60.04**	0 00:35:55
			39.47	**0.06167**							**33.50000**			**56.42000**			**110.35000**	
7	UD-OS-SHED-SUB-A1-	***[Individual]*** OnSite Shed "A1" - Outfall	1.64	0.00256	OUTFALL-A-1	83.00	Type1-24hr-Intensity	484	3.80	2.11	**1.39**	5.30	3.45	**2.32**	8.70	6.65	**4.52**	0 00:38:56
			1.64	**0.00256**							**1.39000**			**2.32000**			**4.52000**	
8	UD-OS-SHED-SUB-A2-	***[Individual]*** OnSite Shed "A2" - Outfall	10.62	0.01659	OUTFALL-A-2	83.00	Type1-24hr-Intensity	484	3.80	2.11	**9.84**	5.30	3.45	**16.53**	8.70	6.65	**32.08**	0 00:32:52
			10.62	**0.01659**							**9.84000**			**16.53000**			**32.08000**	
9	UD-OS-SHED-SUB-A3-	***[Individual]*** OnSite Shed "A3" - Outfall	11.28	0.01763	OUTFALL-A-3	83.00	Type1-24hr-Intensity	484	3.80	2.11	**10.19**	5.30	3.45	**17.03**	8.70	6.65	**33.18**	0 00:34:36
			11.28	**0.01763**							**10.19000**			**17.03000**			**33.18000**	
10	UD-OS-SHED-SUB-A4-	***[Individual]*** OnSite Shed "A4" - Outfall	12.22	0.01909	OUTFALL-A-4	83.00	Type1-24hr-Intensity	484	3.80	2.11	**11.10**	5.30	3.45	**18.58**	8.70	6.65	**36.12**	0 00:34:09
			12.22	**0.01909**							**11.10000**			**18.58000**			**36.12000**	
11	UD-OS-SHED-SUB-A5-	***[Individual]*** OnSite Shed "A5" - Outfall	4.49	0.00702	OUTFALL-A-5	83.00	Type1-24hr-Intensity	484	3.80	2.11	**3.89**	5.30	3.45	**6.51**	8.70	6.65	**12.65**	0 00:37:17
			4.49	**0.00702**							**3.89000**			**6.51000**			**12.65000**	
12	UD-OS-SHED-SUB-A6-	***[Individual]*** OnSite Shed "A6" - Outfall	95.00	0.14844	OUTFALL-A-6	82.95	Type1-24hr-Intensity	484	3.80	2.11	**79.09**	5.30	3.44	**132.64**	8.70	6.64	**258.45**	0 00:39:49
			95.00	**0.14844**							**79.09000**			**132.64000**			**258.45000**	
13	UD-OS-SHED-SUB-A7-	***[Individual]*** OnSite Shed "A7" - Outfall	10.50	0.01641	OUTFALL-A-7	83.00	Type1-24hr-Intensity	484	3.80	2.11	**8.42**	5.30	3.45	**14.13**	8.70	6.65	**27.50**	0 00:42:40
			10.50	**0.01641**							**8.42000**			**14.13000**			**27.50000**	
28	UD-OS-SHED-SUB-E1-	***[Individual]*** OnSite Shed "E1" - Outfall	12.74	0.01991	AP-OS-E1	82.92	Type1-24hr-Intensity	484	3.80	2.11	**18.86**	5.30	3.44	**31.50**	8.70	6.64	**61.00**	0 00:09:18
			12.74	**0.01991**							**18.86000**			**31.50000**			**61.00000**	
29	UD-OS-SHED-SUB-E2-	***[Individual]*** OnSite Shed "E2" - Outfall	17.45	0.02727	AP-OS-E2	82.92	Type1-24hr-Intensity	484	3.80	2.11	**13.35**	5.30	3.44	**22.42**	8.70	6.64	**43.76**	0 00:46:04
			17.45	**0.04717**							**13.35000**			**22.42000**			**43.76000**	
38	UD-OS-SHED-SUB-G1-	***[Individual]*** OnSite Shed "G1" - Outfall	6.47	0.01011	AP-OS-G1	82.68	Type1-24hr-Intensity	484	3.80	2.09	**5.82**	5.30	3.42	**9.81**	8.70	6.61	**19.16**	0 00:33:47
			6.47	**0.01011**							**5.82000**			**9.81000**			**19.16000**	
39	UD-OS-SHED-SUB-G2-	***[Individual]*** OnSite Shed "G2" - Outfall	5.54	0.00866	AP-OS-G2	82.68	Type1-24hr-Intensity	484	3.80	2.09	**5.36**	5.30	3.42	**9.01**	8.70	6.61	**17.56**	0 00:29:37
			5.54	**0.00866**							**5.36000**			**9.01000**			**17.56000**	
40	UD-OS-SHED-SUB-G3-	***[Individual]*** OnSite Shed "G3" - Outfall	10.59	0.01655	AP-OS-G3	82.68	Type1-24hr-Intensity	484	3.80	2.09	**9.84**	5.30	3.42	**16.52**	8.70	6.61	**32.24**	0 00:32:00
			10.59	**0.01655**							**9.84000**			**16.52000**			**32.24000**	
41	UD-OS-SHED-SUB-G4-	***[Individual]*** OnSite Shed "G4" - Outfall	5.80	0.00906	AP-OS-G4	82.68	Type1-24hr-Intensity	484	3.80	2.09	**5.39**	5.30	3.42	**9.05**	8.70	6.61	**17.65**	0 00:32:00
			5.80	**0.00906**							**5.39000**			**9.05000**			**17.65000**	
42	UD-OS-SHED-SUB-G5-	***[Individual]*** OnSite Shed "G5" - Outfall	12.27	0.01917	AP-OS-G5	82.68	Type1-24hr-Intensity	484	3.80	2.09	**10.75**	5.30	3.42	**18.09**	8.70	6.61	**35.33**	0 00:35:35
			12.27	**0.01917**							**10.75000**			**18.09000**			**35.33000**	

EXHIBIT J.1.1
COVER SHEET

SCS GRAPHICAL PEAK DISCHARGE METHOD - STORM DISTRIBUTIONS

DRAFT

PROJECT LOCATION
VALLEYS EDGE - SPECIFIC PLAN
CITY OF CHICO, BUTTE COUNTY, CALIFORNIA

IA

III

I

III

III

III

I

I

I

Rainfall Distribution

- Type I
- Type IA
- Type II
- Type III

EXHIBIT J.0
COVER SHEET

NOAA Atlas 14

Precipitation-Frequency Atlas of the United States

Volume 6 Version 2.3: California

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

U.S. Department of Commerce

National Oceanic and Atmospheric Administration

National Weather Service

Silver Spring, Maryland, 2011 revised 2014

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Table of Contents

1. Abstract 1
2. Preface to Volume 6 1
3. Introduction 3
    3.1. Objective 3
    3.2. Approach and deliverables 3
4. Frequency analysis 5
    4.1. Project area 5
    4.2. Precipitation data collection and formatting 6
    4.3. Annual maximum series extraction 8
    4.4. Station screening 10
    4.5. AMS screening and quality control 15
        4.5.1. Outliers 15
        4.5.2. Correction for constrained observations 16
        4.5.3. Inconsistencies across durations 16
        4.5.4. Trend analysis 16
    4.6. Precipitation frequency estimates with confidence limits at stations 17
        4.6.1. Overview of methodology and related terminology 17
        4.6.2. Regionalization 18
        4.6.3. AMS-based estimates 21
        4.6.4. PDS-based estimates 23
        4.6.5. Confidence limits 23
    4.7. Rainfall frequency estimates with confidence limits at stations 24
        4.7.1. Background 24
        4.7.2. Estimates with confidence limits 24
    4.8. Derivation of grids 29
        4.8.1. Mean annual maximum precipitation 29
        4.8.2. Precipitation frequency estimates with confidence limits 30
        4.8.3. Rainfall frequency estimates with confidence limits 32
5. Precipitation Frequency Data Server 33
6. Peer review 34
7. Comparison with previous NOAA publications 34
Acknowledgements acknowledgements-1
A.1 List of stations used to prepare precipitation frequency estimates A.1-1
A.2 Annual maximum series trend analysis A.2-1
A.3 Regional L-moment ratios A.3-1
A.4 PRISM report A.4-1
A.5 Peer review comments and responses A.5-1
A.6 Temporal distributions of annual maxima A.6-1
A.7 Seasonality A.7-1
Glossary glossary-1
References references-1

1. Abstract

NOAA Atlas 14 contains precipitation frequency estimates for the United States and U.S. affiliated territories with associated 90% confidence intervals and supplementary information on temporal distribution of annual maxima, analysis of seasonality and trends in annual maximum series data, etc. It includes pertinent information on development methodologies and intermediate results. The results are published through the Precipitation Frequency Data Server (http://hdsc.nws.noaa.gov/hdsc/pfds).

The Atlas is divided into volumes based on geographic sections of the country. The Atlas is intended as the U.S. Government source of precipitation frequency estimates and associated information for the United States and U.S. affiliated territories.

2. Preface to Volume 6

NOAA Atlas 14 Volume 6 contains precipitation frequency estimates for selected durations and frequencies with 90% confidence intervals and supplementary information on temporal distribution of annual maxima, analysis of seasonality and trends in annual maximum series data, etc., for the state of California. The results are published through the Precipitation Frequency Data Server (http://hdsc.nws.noaa.gov/hdsc/pfds).

NOAA Atlas 14 Volume 6 was developed by the Hydrometeorological Design Studies Center within the Office of Hydrologic Development of the National Oceanic and Atmospheric Administration's National Weather Service. Any use of trade names in this publication is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Citation and version history. This documentation and associated artifacts such as maps, grids, and point-and-click results from the PFDS are part of a whole with a single version number and can be referenced as:

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 (2011). NOAA Atlas 14 Volume 6 Version 2.0, *Precipitation-Frequency Atlas of the United States, California*. NOAA, National Weather Service, Silver Spring, MD.

The version number has the format P.S where P is a primary version number representing a number of successive releases of primary information. Primary information is essentially the data. S is a secondary version number representing successive releases of secondary information. Secondary information includes documentation and metadata. S reverts to zero (or nothing; i.e., Version 2 and Version 2.0 are equivalent) when P is incremented. When new information is completed and added (such as draft documentation) without changing any prior information, the version number is not incremented.

The primary version number is stamped on the artifact or is included as part of the filename where the format does not allow for a version stamp (for example, files with gridded precipitation frequency estimates). All location-specific output from the PFDS is stamped with the version number and date of download.

Table 2.1 lists the version history associated with the NOAA Atlas 14 Volume 6 precipitation frequency project and indicates the nature of changes made.

Table 2.1. Version history of NOAA Atlas 14, Volume 6.

Version no.	**Date**	**Notes**
Version 1.0	July 2010	Draft data used in peer review
Version 2.0	April 2011	Final data released
Version 2.1	December 2012	Paragraph in documentation on areal reduction factors edited
Version 2.2	September 2013	Paragraphs in documentation on development of sub-hourly estimates edited
Version 2.3	January 2014	Seasonality graphs under supplementary information edited

3. Introduction

3.1. Objective

NOAA Atlas 14 Volume 6 provides precipitation frequency estimates for the state of California. The Atlas provides precipitation frequency estimates for 5-minute through 60-day durations at average recurrence intervals of 1-year through 1,000-year. The estimates and associated bounds of 90% confidence intervals are provided at 30-arc seconds resolution. The Atlas also includes information on temporal distributions and seasonal information for annual maxima data used in frequency analysis. In addition, the potential effects of climate change as trends in historic annual maximum series were examined.

The information in NOAA Atlas 14 Volume 6 supersedes precipitation frequency estimates for California contained in the following publications:

a. *NOAA Atlas 14 Volume 1, Precipitation-Frequency Atlas of the United States, Semiarid Southwest* (Bonnin et al., 2004);
b. *Short Duration Rainfall Frequency Relations for California* (Frederick and Miller, 1979);
c. *NOAA Atlas 2 Volume 11, Precipitation Frequency Atlas of the Western United States, California* (Miller et al., 1973);
d. *Technical Paper No. 49, Two- to Ten-Day Precipitation for Return Periods of 2 to 100 Years in the Contiguous United States* (Miller, 1964).

3.2. Approach and deliverables

Precipitation frequency estimates have been computed for a range of frequencies and durations using a regional frequency analysis approach based on L-moment statistics calculated from annual maximum series. This section provides an overview of the approach; greater detail is provided in Section 4.

The annual maximum series were extracted from precipitation measurements recorded at variable or constant time increments from 1-minute to 1-day obtained from various sources. The table in Appendix A.1 gives detailed information on all stations whose data were used in the frequency analysis. The annual maximum series data were screened for erroneous measurements. The 1-day and 1-hour annual maximum series data were also analyzed for potential trends (Appendix A.2).

A region of influence approach was used for the regional L-moments computation at each station across all durations. A variety of probability distribution functions were examined for each region and duration and the most suitable distribution was selected. Distribution parameters, and consequently precipitation frequency estimates, were determined based on the mean of the annual maximum series at the station and the regionally determined higher order L-moments for each duration. Higher order L-moments were smoothed across durations to ensure consistency in precipitation frequency estimates. L-moments for all stations across all durations are listed in Appendix A.3. Partial duration series-based precipitation frequency estimates were calculated indirectly using Langbein's formula.

Empirical equations were developed to estimate frequency estimates for rainfall (i.e., liquid precipitation only) from corresponding precipitation frequency estimates for selected durations up to 24-hours.

A Monte-Carlo simulation approach was used to produce upper and lower bounds of the 90% confidence intervals for the precipitation frequency estimates. Due to the small number of stations recording precipitation at sub-hourly intervals, precipitation frequency estimates and confidence

intervals for sub-hourly durations were computed by applying scaling factors to corresponding estimates at the shortest duration for which measurements were available.

Grids of precipitation frequency estimates and 90% confidence intervals were determined based on mean annual maxima grids and at-station precipitation frequency estimates. The mean annual maxima grid for each duration was derived from at-station mean annual maxima using PRISM interpolation methodology (Appendix A.4). The grids of precipitation frequency estimates and confidence limits for all frequencies were then derived in an iterative process using the Cascade, Residual Add-Back (CRAB) spatial interpolation procedure. The resulting grids were examined and adjusted in cases where inconsistencies occurred between durations and frequencies. Both spatially interpolated and point estimates at selected durations and frequencies were subject to external peer review (Appendix A.5).

Climate regions were delineated based on characteristics of annual maxima data and used in calculations of temporal distributions and seasonality analysis of annual maxima for selected durations. The temporal distributions were computed for each region. They are expressed in probability terms as cumulative percentages of precipitation totals at various time steps (Appendix A.6). The seasonality analysis was done by tabulating the number of annual maxima exceeding precipitation frequency estimates for several selected threshold frequencies in each climate region (Appendix A.7).

NOAA Atlas 14 Volume 6 precipitation frequency estimates for any location in the project area are available in a variety of formats through the Precipitation Frequency Data Server (PFDS) at http://hdsc.nws.noaa.gov/hdsc/pfds (via a point-and-click interface); more details are provided in Section 5. Additional types of results and information available there include:

- ASCII grids of partial duration series-based and annual maximum series-based precipitation frequency estimates and related confidence intervals for a range of durations and frequencies with associated Federal Geographic Data Committee-compliant metadata;
- ASCII grids of partial duration series-based and annual maximum series-based rainfall frequency estimates and associated confidence intervals for a range of frequencies and durations up to 24 hours;
- cartographic maps of partial duration series-based precipitation frequency estimates for selected frequencies and durations;
- annual maximum series used in the analysis;
- temporal distributions;
- seasonality analysis of annual maxima.

Cartographic maps were created to serve as visual aids and are not recommended for estimating precipitation frequency estimates. Users are advised to take advantage of the PFDS interface or the underlying ASCII grids for obtaining precipitation frequency estimates. Precipitation frequency estimates from this Atlas are estimates for a point location and are not directly applicable for an area.

4. Frequency analysis

4.1. Project area

The project area, shown in Figure 4.1.1, encompasses the entire state of California including the southeast semiarid area previously published in NOAA Atlas 14 Volume 1 (shown in figure as the area filled with a horizontal line pattern). The terrain and climates in California are highly varied. California is the home to both the highest (Mt. Whitney) and lowest (Death Valley) points in the contiguous United States. Several mountain ranges dominate the geography. Running parallel to the coast is a Coastal Range with peak elevations above 8,000 feet (2,438 meters). In the north, the Coastal Range merges with the Cascade Range further inland. The Cascades then extend southeastward until they merge into the Sierra Nevada Range which runs parallel to the Coastal Range. Some Sierra Nevada peaks are more than 10,000 feet (3,050 meters) in the south with Mount Whitney at 14,505 feet (4,421 meters). Between the Coastal and Sierra Nevada Ranges is the flat Central Valley averaging 45 miles (72 kilometers) in width. The Central Valley is actually composed of two valleys: the Sacramento Valley to the north and the San Joaquin Valley to the south. The Tehachapi Mountains extend southwestward along the southern end of the Central Valley to merge with the Coastal Range. Further south a series of ranges encircle the LA Basin and also separate a maritime climate to the west and the Mojave Desert to the east. Death Valley in the desert is the lowest area in the North America with elevations going down to 282 feet (86 meters) below sea level.

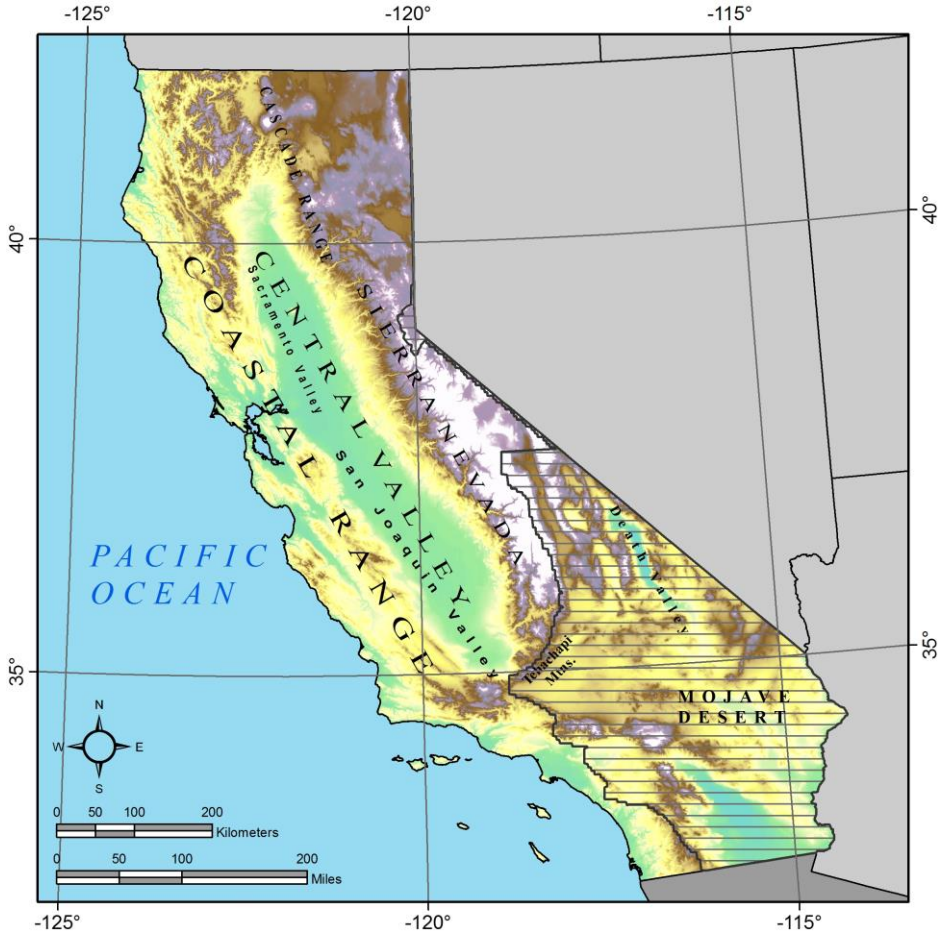


Figure 4.1.1. Project area for NOAA Atlas 14 Volume 6.

Climatology of heavy precipitation. The climate of California is as diverse as its geography: from hot, dry desserts to cold, wet mountain peaks. The seasonal distribution of heavy precipitation is driven by a large area of high pressure that resides over the northeastern Pacific Ocean during the summer months and moves south during the winter months. In the summer, this area of high pressure prevents mid-latitude cyclones from bringing rainfall to much of California. However, during the summer and fall, southern California can be susceptible to the remnants of tropical cyclones which can bring copious amounts of rainfall, although there is no record of an actual hurricane making landfall. During the winter, the high pressure withdraws to the south allowing maritime storms to progress into California, especially over northern portions of the state. Occasionally, a large-scale trough will also allow a series of low-pressure systems to move through the state causing severe inundation. Most extreme precipitation events occur during the winter months.

As moisture-laden storms reach the shoreline, precipitation is orographically enhanced by the western facing Coastal Range Mountains. Beyond these mountains, the low-lying interior Central Valley region is cut off from the maritime moisture and receives much less precipitation. Continuing farther inland to the east, the Sierra Nevada causes a second area of higher extreme precipitation. The Cascade Range, Sierra Nevada and LA Basin mountains serve to cut off moisture to eastern California forming a very dry, desert climate, particularly in the southeast. However, the southeastern desert region is susceptible to the Mexican Monsoons during the summer months where tropical Pacific moisture flows up from the southwest triggering brief but heavy downpours especially at higher elevations.

Fourteen climate regions were delineated and used in portraying the temporal distributions and seasonality of annual maxima data used in the precipitation frequency analysis. The climate regions together with the temporal distribution analysis are described in more detail in Appendix A.6. More details on seasonality analysis are available from Appendix A.7.

4.2. Precipitation data collection and formatting

Precipitation measurements were obtained for 8,278 stations from a number of federal, state, and county agencies, as well as from private citizens. The majority of the stations were from the National Weather Service (NWS) Cooperative Observer Program's database maintained by the National Oceanic and Atmospheric Administration's (NOAA) National Climatic Data Center (NCDC). Each station used in the project was assigned a unique six digits identification number (station ID), where first two digits were common for all stations from the same data provider. Except for NCDC stations, assigned identification numbers do not match identification numbers assigned by agencies that provided the data. A list of all agencies and individuals that provided the data for this project together with the abbreviated names (used in Appendix A.1 which lists all stations used in the analysis) and the common digits of identification numbers for all data sources are shown in Table 4.2.1.

Data came in various formats and were reported at variable or constant time increments from 1-minute to 1-day. Where available, records extended through May 2010. All data were formatted to a common format as one of three base durations that corresponded to the original reporting period: 15-minute, 1-hour, or 1-day. Data reported at intervals shorter than 15-minutes were aggregated to 15-minute increments. CNRFC's 6-hour data were aggregated to 1-day. ALERT data from various local districts reported at variable time intervals and were formatted to all three base durations to avoid loosing information due to distributing values into smaller increments. Table 4.2.2 lists the total number of stations that were obtained and formatted for each reporting interval.

Table 4.2.1. Agencies and individuals that provided data for the project with their abbreviated names and common first two digits of station identification numbers.

Data provider's name	Abbreviation	Common digits of station ID
Alameda County Flood Control District	ALAMEDA COUNTY	81
California Nevada River Forecast Center	CNRFC	96
California Department of Water Resources	DWR	95
City of Roseville, Department of Public Works	ROSEVILLE	86
Contra Costa Flood Control District and Water Conservation District	CONTRA COSTA	85
Dan and Claire Trower, private citizens	WILDER RIDGE	99
Jim Goodridge, retired state climatologist	STATE CLIMATOLOGIST	94
Metro Flood Control District, Fresno	FRESNO COUNTY	87
Los Angeles County Department of Public Works	LA COUNTY	97
Marin County Flood Control and Water Conservation District	MARIN COUNTY	84
National Climatic Data Center	NCDC	02 (Arizona) 04 (California) 26 (Nevada) 35 (Oregon) 76 (Mexico)
Natural Resources Conservation Service	NRCS	98
Orange County California Dept. of Parks & Recreation	ORANGE COUNTY	82
Interagency Remote Automated Weather Stations	RAWS	89
Riverside County Flood Control District	RIVERSIDE COUNTY	90
San Bernardino County Flood Control District	SAN BERNARDINO	79
San Diego County Flood Control District	SAN DIEGO COUNTY	92
Santa Barbara County Flood Control District	SANTA BARBARA	80
Santa Clara Valley Water District	SANTA CLARA	83
U.S. Army Corps of Engineers, Sacramento District	USACE	72
U.S. Geological Survey	USGS	88
Ventura County Watershed Protection District	VENTURA COUNTY	93

Table 4.2.2. The number of stations that were obtained per reporting interval and per base duration to which the data were formatted.

Data reporting interval	Number of stations	Shortest duration after formatting	Number of stations
1-day	4,776	1-day	5426
6-hour	650		
1-hour	2,000	1-hour	2,000
15-minute	435	15-minute	852
5-minute	79		
1-minute	31		
Variable (ALERT)	307		

4.3. Annual maximum series extraction

The precipitation frequency analysis approach used in this project is based on analysis of annual maximum series (AMS) data across a range of durations. Annual maximum series for each station were obtained by extracting the highest precipitation amount for a particular duration in each successive water year (starting on October 1 of the previous calendar year and ending on September 30). The AMS at stations were extracted for all durations equal to and longer than the base duration to which the data were formatted (up to 60 days). AMS for the 1-day through 60-day durations were compiled from daily, hourly and 15-minute records. To accomplish this, hourly and 15-minute data were first aggregated to constrained 1-day (hours 0 to 24) values before extracting 1-day and longer duration annual maxima. Hourly and 15-minute data were used to compile AMS for 1-hour through 12-hour durations. Again, 15-minute data were aggregated to constrained 1-hour (0 to 60 minutes) values before extracting AMS. 15-minute data were also used to compile AMS for 15-minute and 30-minute durations.

The procedure for developing an AMS from a precipitation dataset used specific criteria designed to extract only reasonable maxima if a year was incomplete or had accumulated data. Accumulated data occurred in some records where observations were not taken regularly, so recorded numbers represent accumulated amounts over extended periods of time. Since the precipitation distribution over the period is unknown, the total amount was distributed uniformly across the whole period. All annual maxima that resulted from accumulated data were flagged and went through additional screening to ensure that the incomplete data did not result in erroneously low maxima (Section 4.5.1).

The criteria for AMS extraction were designed to exclude maxima if there were too many missing or accumulated data during the year and more specifically during critical months when precipitation maxima were most likely to occur ("wet season"). Regions were delineated to depict wet seasons by inspecting histograms of annual maxima for the 1-day and 1-hour durations and by assessing the periods in which two-thirds of annual maxima occurred at each station. The final wet season months were allocated using the general wet season regions as depicted in Figure 4.3.1. The wet season months indicated in the figure were assigned to each station in the region.

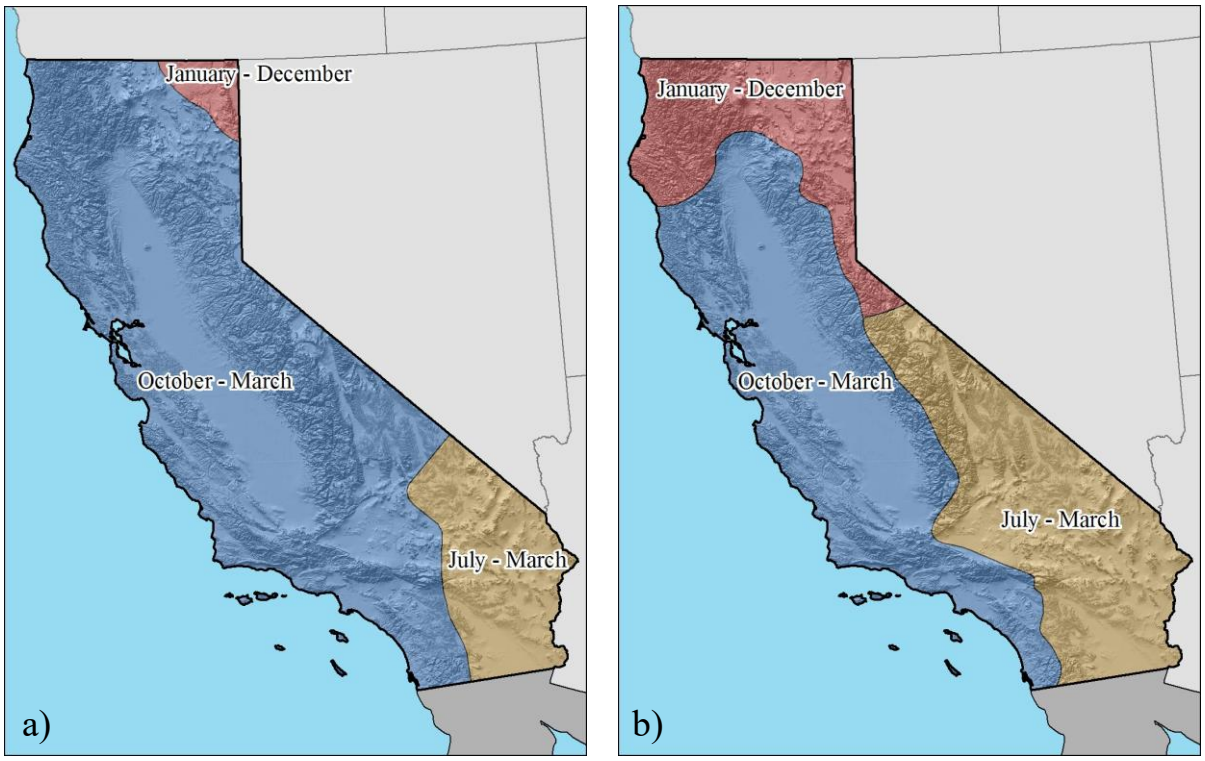


Figure 4.3.1.Wet season designations for a) daily durations; and b) sub-daily durations.

The flowchart in Figure 4.3.2 depicts the AMS extraction criteria for all durations. Various thresholds for acceptable amounts of missing or accumulated data were applied to the year and wet season. The extracted maximum value for a given year had to pass through all of the criteria in the flowchart to be accepted. For example, in a year with less than 20% of measurements missing in the whole year and during the assigned wet season, if more than 66% of measurements were accumulated, then the maxima for that year for that duration was (conditionally) rejected. If the year had between 33% and 66% accumulated data, then it was further screened by assessing the lengths of the accumulated periods. If accumulation periods for more than 33% of the accumulated data were equal to or longer than threshold accumulation period lengths (D_{thresh}), a maximum for that year was rejected. Threshold accumulation period lengths matched the selected duration for durations less than 2 days, were equal to half of duration period for durations between 2 days and 20 days, and were equal 15 days for durations equal to or longer than 30 days. If the year had less than 33% accumulated data, the extracted maximum was passed to another set of criteria for accumulations during its wet season, etc.

If a rejected annual maximum was higher than 95% of the accepted maxima at that station, then it was kept in the series. Also, if a rejected 1-day annual maximum was higher than any accumulated amount in a year, then it was kept in the series. Various codes were assigned to both, accepted and rejected maxima, based on the amount of missing and accumulated data in each year (see Figure 4.3.2) to assist in further quality control of AMS described in Section 4.5.1.

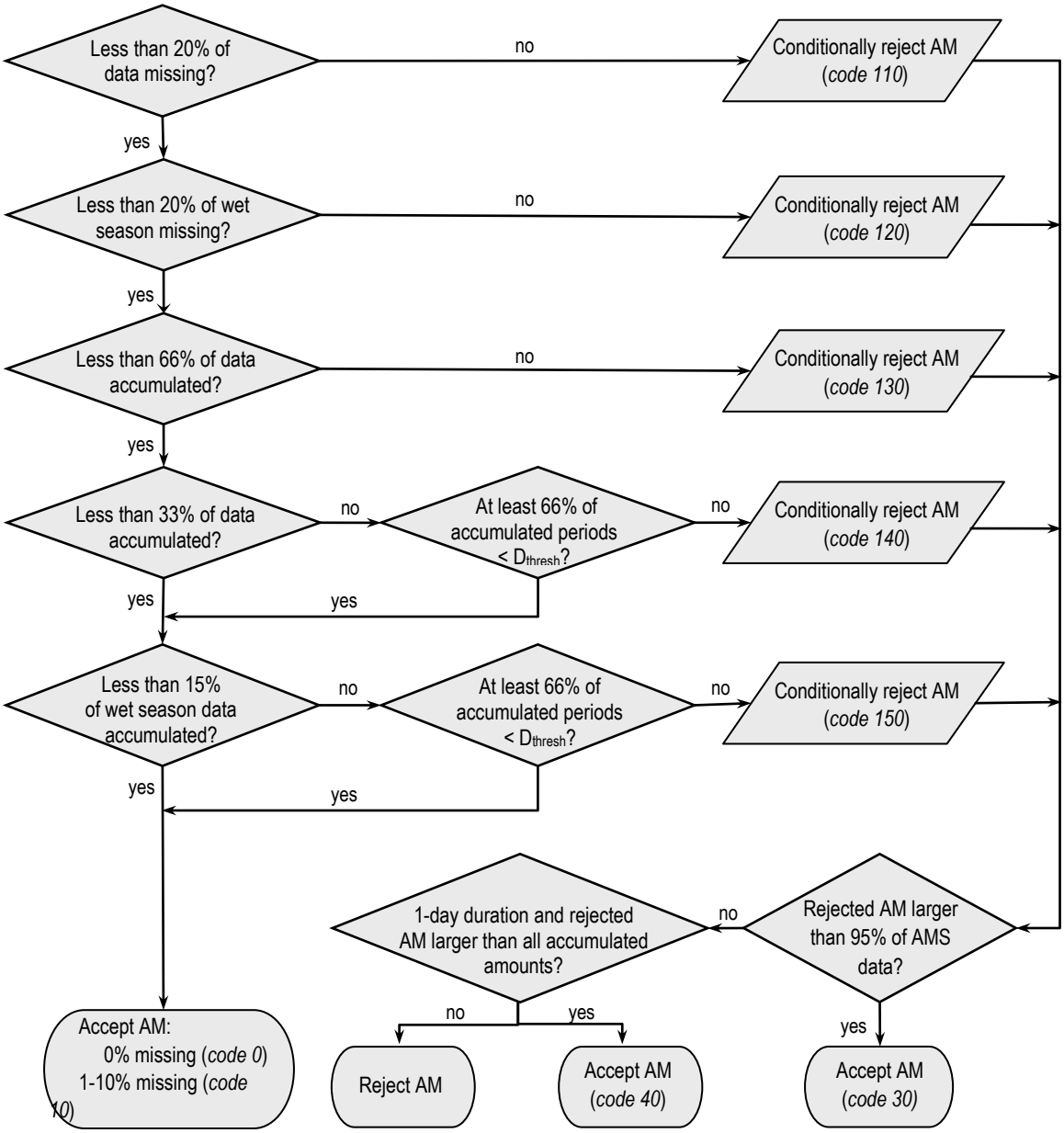


Figure 4.3.2. Flowchart of criteria used to extract annual maxima. Data quality codes were assigned based on acceptance and rejection. D_{thresh} depends on duration.

4.4. Station screening

Station screening was done in the following order: a) examination of geospatial data, b) screening for duplicate stations, c) screening for duplicate records at co-located daily, hourly, and/or 15-minute stations and extending records using data from co-located stations, c) screening nearby stations for

potentially merging records or removing shorter, less reliable records in station dense areas, and d) screening for sufficient number of years with usable data.

Geospatial data. Latitude, longitude, and elevation data for all stations were screened for errors. Several stations had to be re-located because they plotted in the ocean or were clearly misplaced based on inspection of satellite images and maps. Misplacement was typically the result of no seconds recorded in latitude and longitude data. There were also several stations with no elevation data; for those stations, elevation was estimated from high-resolution digital elevation model (DEM) grids.

Duplicate stations. In many instances, the same station was reported by more than one source. For example, a majority of the Department of Water Resources stations were also included in the State Climatologist dataset. Duplicate stations were screened from the final dataset.

Co-located stations. Co-located stations were defined as stations that have the same geospatial data, but report precipitation amounts at different time intervals. The screening of co-located stations was done as follows:

- If co-located 15-minute and hourly stations provided data for the same period and there were no differences in AMS for constrained 1-hour maxima (15-minute data aggregated based on the clock hour), only the 15-minute station was retained and used to extract AMS for all longer durations.
- If a 15-minute or hourly station provided data for the same period as a co-located daily station and there were no differences in AMS for constrained 1-day maxima (15-minute or 1-hour data aggregated from 0 to 24 hours), only the 15-minute or hourly station was retained and used to extract AMS for all longer durations.
- If periods of record at co-located stations were consistent but did not completely overlap, aggregated data from the station with the shorter reporting interval were used to extend the record of the station with the longer reporting interval.
- If the station with the longer reporting interval had a longer period of record, then it was retained in the dataset in addition to the co-located station with the shorter reporting interval.

AMS data consistency across durations was ensured in later quality control procedures (see Section 4.5.3).

Nearby stations. Nearby stations were defined as stations located within 3 miles with consideration to elevation differences. Their records were considered for merging to increase record lengths. Double-mass curve analysis and *t*-tests at the 90% confidence level were used to ensure that the annual maximum series of merged stations were from the same population. In station-dense areas, such as Los Angeles County, some stations were removed from the analysis if a nearby station had a longer record or better quality data.

Record length. Record length is characterized by the number of years for which annual maxima could be extracted (i.e., data years) rather than the entire period of record. Generally, only stations with at least 20 data years were used in frequency analysis. In regions with a dense station network, a minimum of 30 years was applied. Allowances were made for isolated stations.

Figure 4.4.1 shows histograms for the number of stations available for frequency analysis for daily, hourly and sub-hourly durations after all the screenings were done. The average and median record lengths as well as corresponding ranges of record lengths for these stations are given in Table 4.4.1.

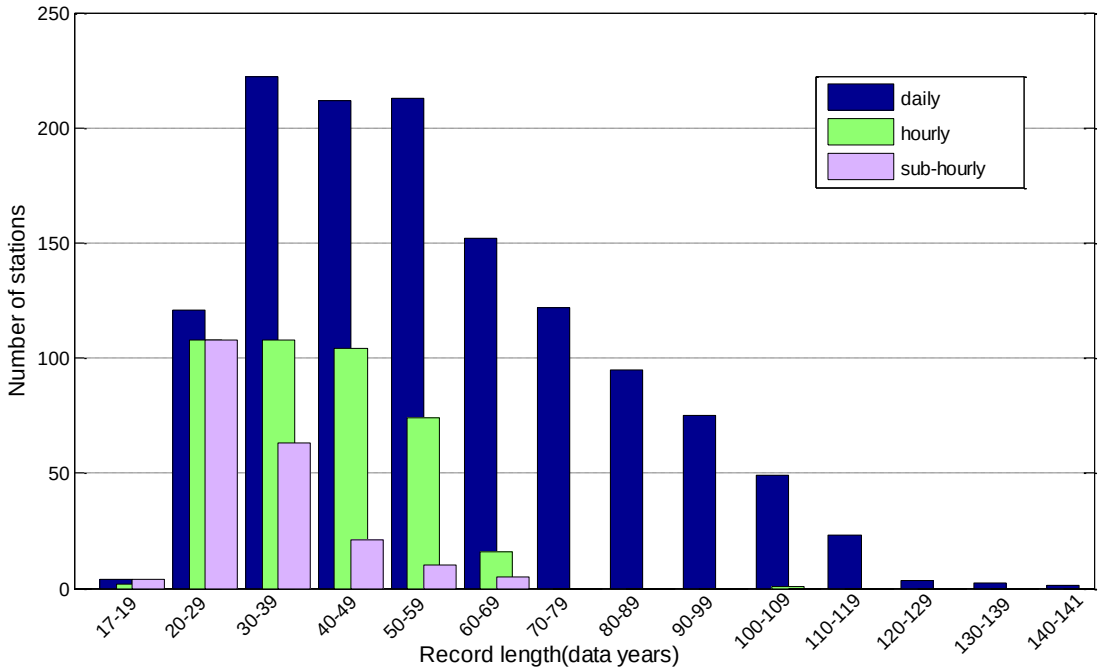


Figure 4.4.1. Number of stations used for precipitation frequency analysis grouped by record length for daily, hourly and sub-hourly durations.

Table 4.4.1. Record length statistics for stations used in frequency analysis for different durations.

Duration (D)	**Number of stations**	**Record length (data years)**		
		average	**median**	**range**
Daily (1-day ≤ D ≤ 60-day)	1,294	57	53	17 – 141
Hourly (1-hr ≤ D < 24-hr)	413	39	37	17 – 101
Sub-hourly (15-min ≤ D < 60-min)	211	31	29	17 – 66

Locations of stations recording precipitation data at 1-day intervals that were used in the frequency analysis are shown in Figure 4.4.2 and locations of hourly and sub-hourly stations are shown in Figure 4.4.3. More detailed information on each station whose data was used to calculate precipitation frequency estimates is given in three tables in Appendix A.1. The first table in the appendix lists stations in California. The second table lists stations in neighboring states at the border with California that were used in the analysis. The third table lists n-minute stations that were not directly used in frequency analysis but assisted in calculation of estimates at very short durations (see Section 4.6.3). Information provided for each station includes: source, name, identification number and data reporting interval, as well as latitude, longitude, elevation, and period of record. All adjusted geospatial data are shown in bold font in the latitude, longitude, and/or elevation columns. Bold font in the period of record column was also used to identify stations whose records were extended with the data from co-located stations or whose records were lengthened by merging with another station. The metadata from the station listed as the 'Post-merge station ID' was retained in the dataset for the merged record; the metadata for this station will reflect the combined periods of records in bold text.

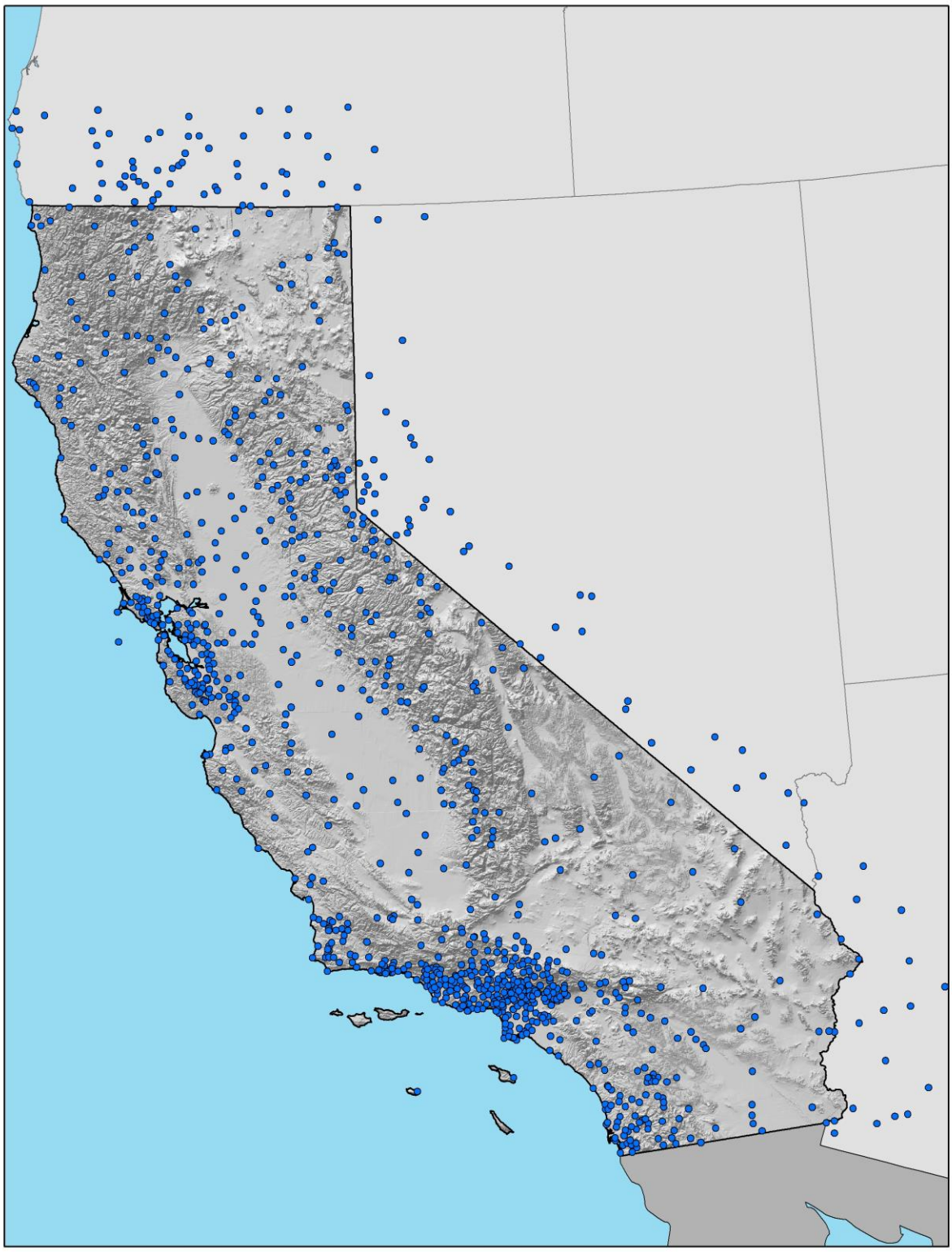


Figure 4.4.2. Map of stations recording at 1-day intervals used in frequency analysis.

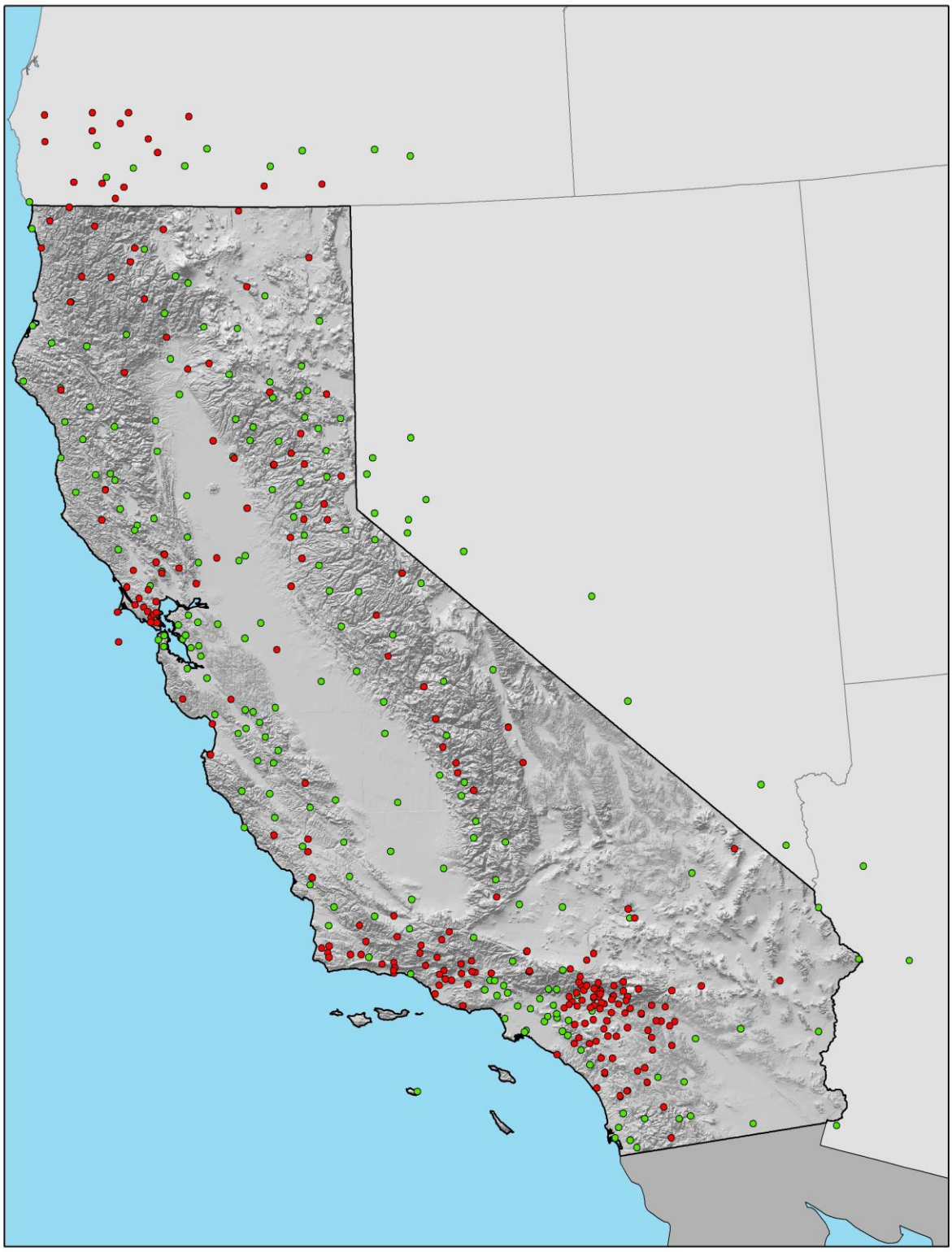


Figure 4.4.3. Map of stations recording at 1-hour (green dots) and sub-hourly or variable intervals (red dots) used in frequency analysis.

4.5. AMS screening and quality control

4.5.1. Outliers

For this project, outliers are defined as annual maxima which depart significantly from the trend of the corresponding remaining maxima. Since data at both high and low extremities can considerably affect precipitation frequency estimates, they have to be carefully investigated and either corrected or removed from the AMS if due to measurement errors. The Grubbs-Beck statistical test for outliers (Interagency Advisory Committee on Water Data, 1982) and the median +/- two standard deviations thresholds were used to identify low and high outliers for all durations (see an example of outlier examination in Figure 4.5.1). Low outliers which frequently came from years with missing and/or accumulated data were presumed untrue maxima and removed from the datasets. All values identified as high outliers were mapped with concurrent measurements at nearby stations. Questionable values that could not be confirmed by measurements at nearby stations were investigated further using climatological observation forms, monthly storm data reports and other historical weather events publications. Depending on the outcome of each investigation, values were either kept as is, corrected, or removed from the datasets. For example, the 1-day amount recorded on October 13, 1962 at station 04-1912, Colfax, CA, identified as a high outlier (as shown in Figure 4.5.1), was confirmed and kept in the dataset.

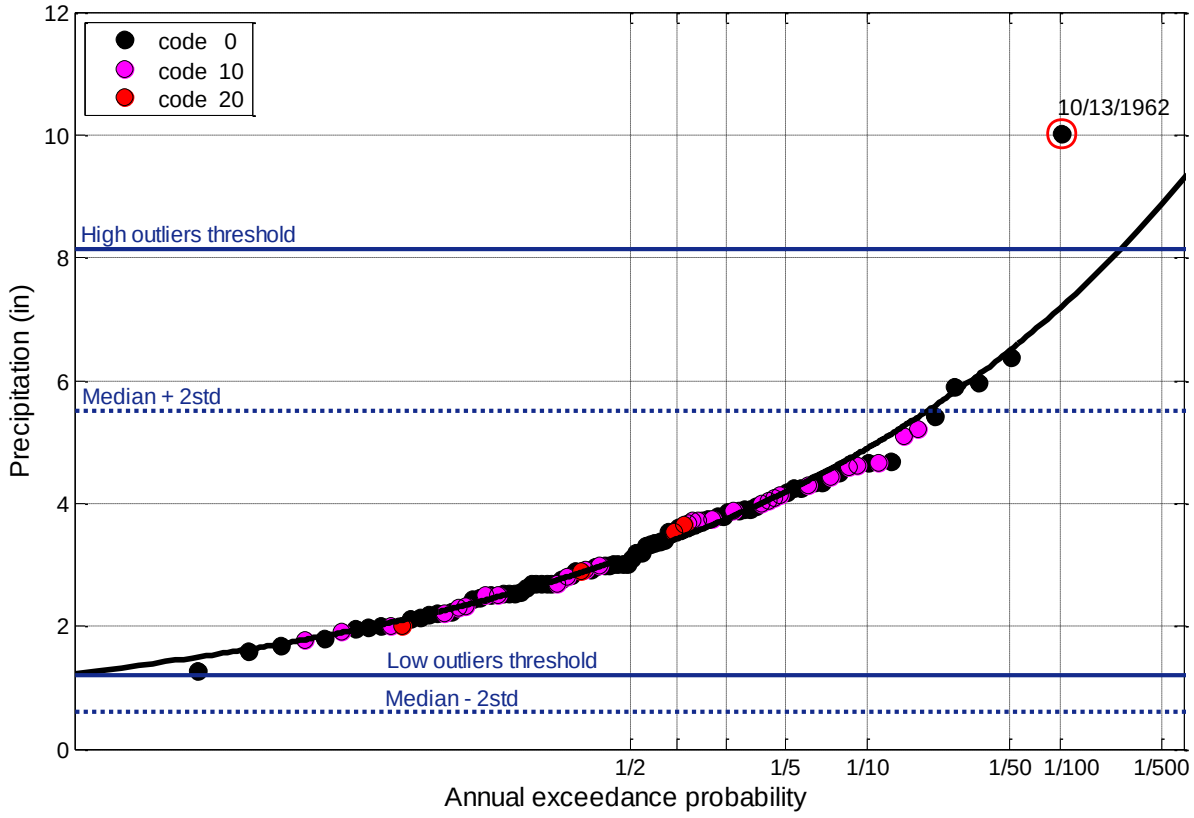


Figure 4.5.1. Outlier examination of 1-day AMS at station 04-1912. Data quality codes were assigned to all annual maxima during the extraction process (Section 4.3).

4.5.2. Correction for constrained observations

Daily durations. The majority of daily AMS data used in this project came from daily stations at which readings were taken once every day at fixed times (constrained observations). Due to the fixed beginning and ending of observation times at daily stations, it is likely that extracted (constrained) annual maxima were lower than the true (unconstrained) maxima, especially for shorter daily durations. To account for the likely failure of capturing the true-interval maxima, correction factors were applied to constrained AMS. Slope coefficients of zero-intercept regression models of concurrent (occurring within +/- 1 day) unconstrained and constrained annual maxima for a given duration at co-located stations were used to estimate correction factors. Correction factors for all daily durations are given in Table 4.5.1.

Table 4.5.1. Correction factors applied to constrained AMS data across daily durations.

Duration (days)	1	2	3	4	7	>7
Correction factor	1.13	1.05	1.04	1.03	1.02	1.00

Hourly durations. Similar adjustment was needed on hourly AMS data to account for the effects of constrained 'clock hour' on observations. Correction factors applied to hourly AMS are given in Table 4.5.2.

Table 4.5.2. Correction factors applied to constrained AMS data across hourly durations.

Duration (hours)	1	2	3	6	>6
Correction factor	1.08	1.04	1.03	1.01	1.00

Sub-hourly durations. No correction factors were applied to durations under 1-hour.

4.5.3. Inconsistencies across durations

At co-located stations it was not uncommon that extracted annual maxima differed during overlapping periods of record. 1-hour AMS at co-located hourly and 15-minute stations and 1-day AMS at co-located daily, hourly, and 15-minute stations were compared for overlapping periods of record. Each year with significantly different annual maxima at co-located stations was investigated. Effort was made to identify the source of the error and to correct erroneous observations across all durations that may be affected.

Annual maxima at each station were also compared across all durations in each year to ensure that extracted amount at a longer duration was at least equal to corresponding amount at the successive shorter duration. Inconsistencies of this type occurred primarily at stations with significant number of missing and/or accumulated data and resulted from different AMS extraction rules (Section 4.3) for different durations, or from the application of correction factors for constrained observations (Section 4.5.2). In those cases, shorter duration precipitation amounts were used to replace annual maxima extracted for the longer duration. Typically, adjustments of this type were very small.

4.5.4. Trend analysis

Precipitation frequency analysis methods used in NOAA Atlas 14 volumes are based on the assumption of a stationary climate over the period of observation (and application). Statistical tests for trends in AMS and the main findings for this project area are described in more detail in Appendix A.2. Briefly, the stationarity assumption was tested by applying a parametric *t*-test and non-parametric Mann-Kendal test for trends in the 1-day and 1-hour annual maximum series data at 5%

significance level. Only stations with at least 50 years of data were tested for trends. Outcomes from both tests were almost identical. Both tests indicated no statistically-significant trends in about 86% of hourly and 92% of daily stations. Tests detected positive trends in 14% of hourly and 5% of daily stations. No negative trends were detected in hourly data, and they were present in about 3% of daily AMS. Spatial maps did not reveal any large cohesive areas with either only positive or negative trends in AMS.

The relative magnitude of any trend in AMS was also assessed for the project area as a whole. AMS were rescaled by corresponding mean values and then regressed against time. The regression results were tested as a set against a null hypothesis of zero serial correlation. The null hypothesis of no trends in AMS data could not be rejected at 5% significance level.

Therefore, the assumption of stationary climate was accepted for this project area and no adjustment of AMS was recommended.

4.6. Precipitation frequency estimates with confidence limits at stations

4.6.1. Overview of methodology and related terminology

Precipitation magnitude-frequency relationships at individual stations have been computed using a regional frequency analysis approach based on L-moment statistics. Frequency analyses were carried out on annual maximum series (AMS) for the following nineteen durations: 5-minute, 10-minute, 15-minute, 30-minute, 1-hour, 2-hour, 3-hour, 6-hour, 12-hour, 1-day, 2-day, 3-day, 4-day, 7-day, 10-day, 20-day, 30-day, 45-day and 60-day. Frequency estimates based on partial duration series (PDS), which include all amounts for a specified duration at a given station above a pre-defined threshold regardless of year, were developed from AMS data using a formula that allows for conversion between AMS and PDS frequencies. To assess the uncertainty in estimates, 90% confidence intervals were constructed on AMS and PDS frequency curves.

Frequency analysis involves mathematically fitting an assumed distribution function to the data. The following distribution functions were analyzed in this project with the aim to identify a distribution that will provide accurate precipitation frequency estimates for the project area across all frequencies and durations: 3-parameter Generalized Extreme Value (GEV), Generalized Normal, Generalized Pareto, Generalized Logistic and Pearson Type III distributions; 4-parameter Kappa distribution; and 5-parameter Wakeby distribution.

When fitting a distribution to a precipitation annual maximum series extracted at a given location (and selected duration), the result is a frequency distribution relating precipitation magnitude to its annual exceedance probability (AEP). The inverse of the AEP is frequently referred to as the average recurrence interval (ARI), also known as return period. When used with the AMS-based frequency analysis, ARI does not represent the "true" average period between exceedances of a given precipitation magnitude, but the average period between years in which a given precipitation magnitude is exceeded at least once. Those two average periods can be considerably different for more frequent events. The 'true' average recurrence interval (ARI) between cases of a particular magnitude can be obtained through frequency analysis of PDS.

Differences in magnitudes of corresponding frequency estimates (i.e., quantiles) from the two series are negligible for ARIs greater than about 15 years, but notable at smaller ARIs (especially for ARI $\leq$ 5 years). Because the PDS can include more than one event in any particular year, the results from a PDS analysis are considered to be more reliable for designs based on frequent events (e.g., Laurenson, 1987). To avoid confusion, herein the term AEP is used with AMS frequency analysis and ARI with PDS frequency analysis. The term 'frequency' is interchangeably used to specify the ARI and AEP.

L-moments (Hosking and Wallis, 1997) provide an alternative way of describing frequency distributions to traditional product moments (conventional moments) or maximum likelihood approach. Since sample estimators of L-moments are linear combinations of ranked observations, they are less susceptible to the presence of outliers in the data than conventional moments and are well suited for the analysis of data that exhibit significant skewness. L-moments typically used to calculate parameters of various frequency distributions include 1st and 2nd order L-moments: L-location (λ_1) and L-scale (λ_2), and the following L-moment ratios: L-CV (τ), L-skewness (τ_3), and L-kurtosis (τ_4). L-CV, which stands for "coefficient of L-variation", is calculated as the ratio of L-scale to L-location (λ_2/λ_1). L-skewness and L-kurtosis represent ratios of the 3rd order (λ_3) and 4th order (λ_4) L-moments to the 2nd order (λ_2) L-moment, respectively, and thus are independent of scale.

One of the primary problems in precipitation frequency analysis is the need to provide estimates for average recurrence intervals that are significantly longer than available records. Regional approaches, which use data from stations that are expected to have similar frequency distributions has been shown to yield more accurate estimates of extreme quantiles than approaches that use only data from a single station. The number of stations used to define a region should be large enough to smooth variability in at-station estimates, but also small enough that regional estimates still adequately represent local conditions. The region of influence approach (Burn, 1990) used in this Volume defines regions such that each station has its own region with a potentially unique combination of nearby stations. Stations are selected based on the maximum allowable distance from the target station that is defined in a geographic space and in a space of selected statistical attribute variables. Like with other regionalization approaches, there is level of subjectivity involved in the process, for example, in choosing attribute variables, selecting the maximum allowable distances as well as attributes' weights and transformations for similarity distance algorithms. One of the main advantages, which is very relevant for the mapping of precipitation frequency estimates, of the region of influence approach is that it results in a smooth transition in estimates across regional boundaries.

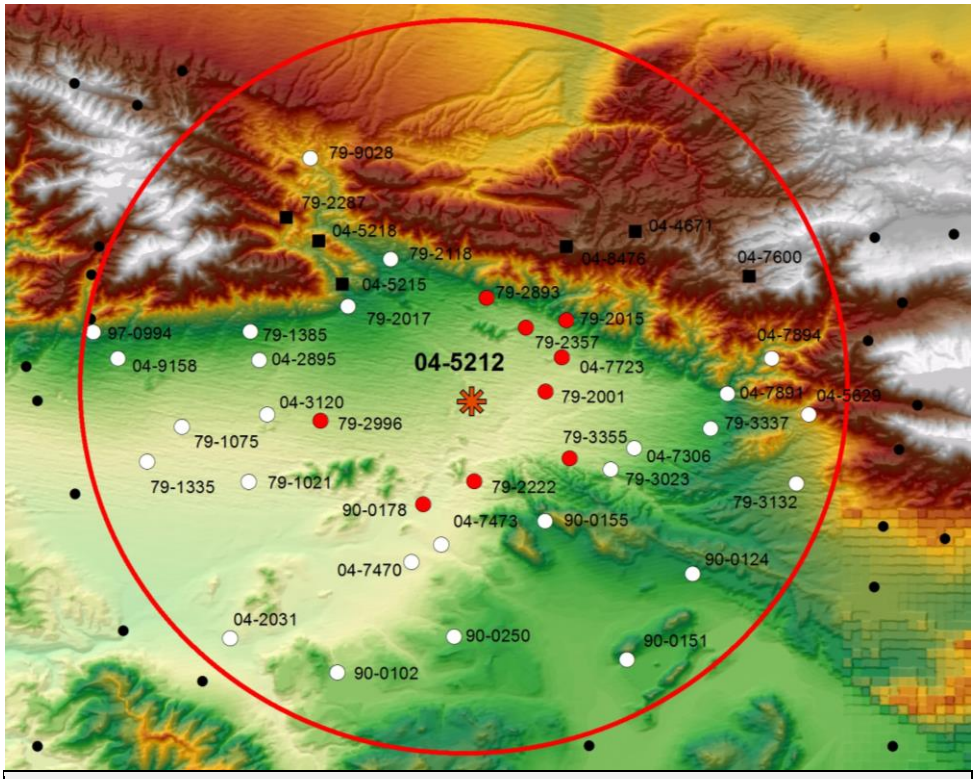
A frequency curve that is calculated from sample data represents some average estimate of the population frequency curve, but there is a high probability that the true value actually lies above or below the sample estimate. Confidence limits determine values between which one would expect the true value to lie with certain confidence. The width of a confidence interval between the upper and lower confidence limits is affected by a number of factors, such as the degree of confidence, sample size, exceedance probability, distribution selection, and so on. Simulation-based procedures were used in this project to estimate confidence limits of a 90% confidence interval on frequency curves.

Precipitation frequency estimates from this Atlas are point estimates, and are not directly applicable for an area. The conversion of a point to an areal estimate is usually done by applying an appropriate areal reduction factor to the average of the point estimates within the subject area. Areal reduction factors are generally a function of the size of an area and the duration of the precipitation. Since there are no areal reduction factors developed by NWS specifically for California, depth-area-duration curves from NOAA Atlas 2 (Miller et al., 1973), that are identical to curves from Technical Paper No. 29 (U.S. Weather Bureau, 1960) developed for the contiguous United States, or from Technical Memorandum HYDRO-40 (Zehr and Myers, 1984) developed for the semiarid Arizona and New Mexico, could be used for that purpose depending upon the climatology of the area of interest. The choice of the appropriate areal reduction factor to use in California is the responsibility of the user.

4.6.2. Regionalization

The region of influence method used in this project uses a maximum allowable distance calculated based on selected geographic and statistical attribute variables. Among stations that were (1) within a 20-mile radius from a target station, (2) at most 2,000 feet higher or lower than the target station, and

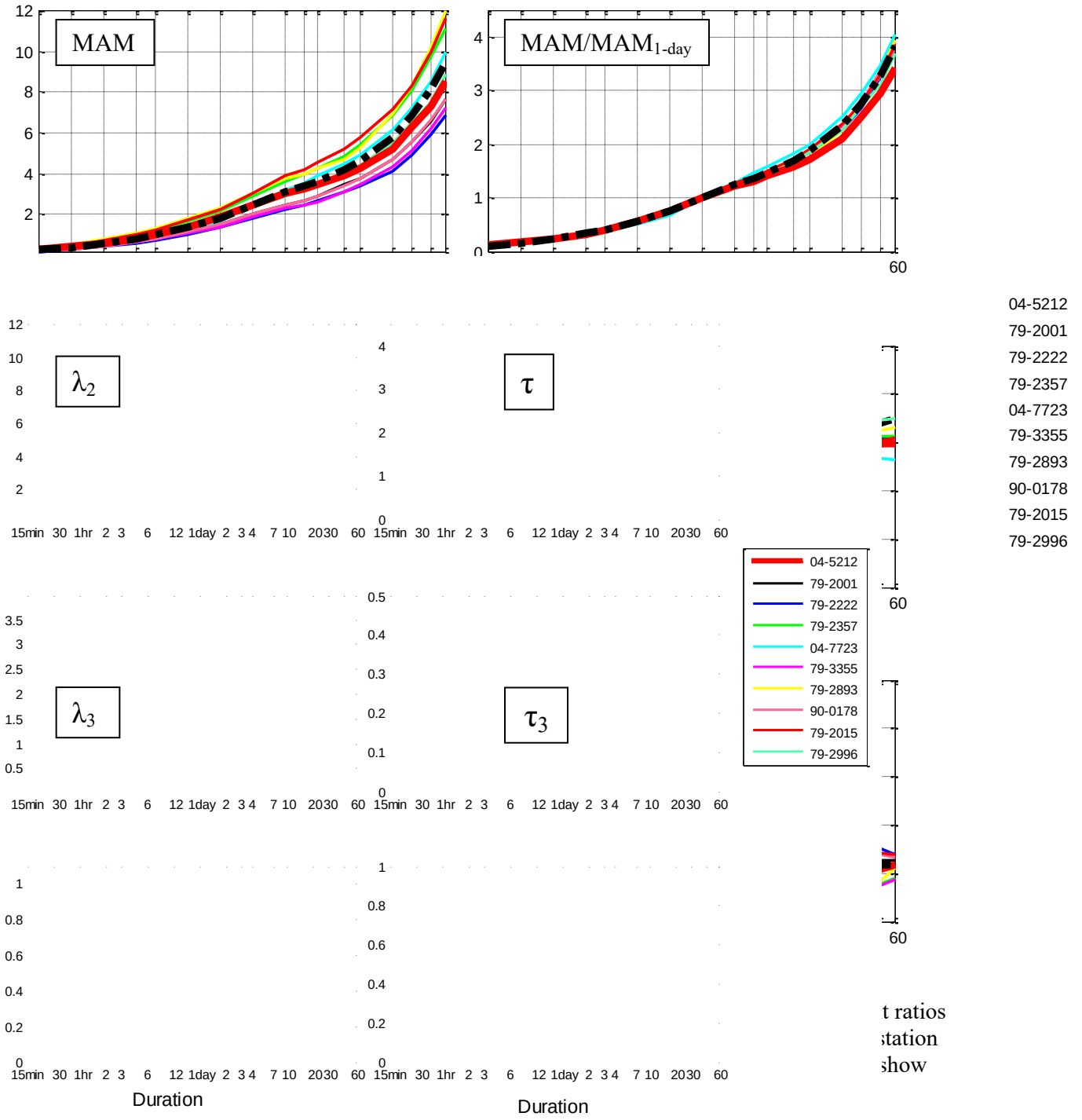
(3) had 1-day mean annual maximum precipitation amounts within ± 1.5 inches of the amount at the target station, the closest 10 stations were recommended for inclusion in the region. The 20-mile maximum distance rule was relaxed for areas with very few stations. Stations were then added to or removed from the regions based on further examination of their locations with respect to mountain ridges, etc. (see an example in Figure 4.6.1) and assessment of similarities/dissimilarities in the progression of relevant L-moment statistics across durations compared with other stations in the region (see Figure 4.6.2). Final numbers of stations per region varied, but except for a few isolated stations, it was typically between 8 and 10 with 400 or more cumulative number of data years.



Enter stations you want to add or remove from the 04-5212 region:_____

Station ID	Distance (mi)	Elev (ft)	Elev diff. (ft)	MAM (in)	MAM diff. (in)	n_{daily}	n_{hourly}
Suggested stations: diamond for target station; red circles for stations in its region							
04-5212	-	1160	-	2.36	-	61	61
79-2001	3.84	1047	-113	1.88	-0.48	51	51
79-2222	4.96	945	-215	1.72	-0.64	44	44
79-2357	5.33	1288	128	2.74	0.39	31	30
04-7723	5.37	1140	-20	2.39	0.04	105	30
79-3355	6.13	1193	33	1.70	-0.66	26	26
79-2893	6.42	1525	365	2.78	0.42	27	27
90-0178	6.84	800	-360	1.86	-0.49	45	45
79-2015	6.97	1747	587	2.84	0.49	46	46
79-2996	7.81	1115	-45	2.27	-0.09	32	33
						$n_{region:}$ 468	393
Additional stations in 20-mile radius that passed geographic criteria (white circles)							
79-3023	8.28	1285	125	2.01	-0.34	45	46
...							

Figure 4.6.1. An example of spatial plot with accompanying interactive table for station 04-5212, Lytle Creek Foothill Blvd., CA.



t ratios
station
show

Regional L-moments calculation. For a given duration, regional estimates of L-moment ratios (L-CV, L-skewness and L-kurtosis) were obtained by averaging corresponding station-specific estimates weighted by record lengths. Regional L-moment ratios were then used to estimate higher order L-moments at each station.

Station dependence. Since stations were selected based on geographic proximity to a target station, it was not uncommon that extracted annual maxima at nearby stations came from the same storm events. Dependence in AMS data for stations within a region was analyzed using a *t*-test at the 90% confidence level for correlation coefficients. Analysis indicated that cross-correlation among stations was statistically significant for a number of regions and that the number of dependent station pairs increased with duration length. Since the impact of station dependence on precipitation frequency estimates is minimal (e.g., Hosking and Wallis, 1997), it was not addressed in the calculation of precipitation frequency estimates. However, it was accounted for during the construction of confidence intervals on estimates where it could have noticeable influence (see Section 4.6.5).

4.6.3. AMS-based estimates

Choice of distribution. A goodness-of-fit test based on L-moment statistics for 3-parameter distributions, as suggested by Hosking and Wallis (1997), was used to assess which of the 3-parameter distributions listed in Section 4.6.1 provide acceptable fit to the AMS data. Based on this test, the GEV distribution, which is a distribution widely used in analysis of extreme events, was a suitable distribution for at least 80% of stations (regions) for each duration. The GEV distribution provided an acceptable fit to AMS data in more cases than any other 3-parameter distribution. Inspection of probability plots for 1-hour, 1-day and 10-day durations, like the one shown in Figure 4.6.3, also indicated that the GEV distribution estimates were often comparable to estimates from the 4-parameter Kappa or 5-parameter Wakeby distributions. Although it is not required to use the same type of distribution across all durations and/or regions, changes in distribution type for different durations or regions may lead to noticeable discontinuities in frequency estimates across durations or between nearby locations, particularly at rarer frequencies. The decision was made to adopt the GEV distribution across all stations and for all durations.

Frequency estimates for hourly and daily durations. For each station and for each duration, regional L-moment statistics were used to calculate the parameters of the GEV distribution and to produce precipitation frequency estimates for the following AEPs: 1/2, 1/5, 1/10, 1/25, 1/50, 1/100, 1/200, 1/500 and 1/1000. This calculation was repeated for all durations and for all stations.

Frequency estimates for sub-hourly durations. The shortest duration at which AMS data were extracted was 15 minutes. L-moments were calculated for the 15-minute and 30-minute durations at stations that had 15-minute AMS data available for at least one station assigned to their region. L-moments were then used to produce precipitation frequency estimates in the same manner as for hourly and daily durations. However, in a number of cases, it was observed that resulting precipitation frequency estimates were implausible, especially for AEPs of 1/100 (1%) or less. The primary cause of this was the sample size, as very few stations with measurements at sub-hourly durations were available, and when they were available, they typically had short periods of record. This resulted in unreliable moments (especially higher-order moments), and consequently, unreliable precipitation frequency estimates. λ_1 moments (i.e., mean annual maxima) were less sensitive to a sample size and were generally in line with corresponding estimates at nearby stations. λ_1 moments were also, for the most part, consistent with the expected progression across hourly and daily durations (see top left panel of Figure 4.6.2). For that reason, mean annual maxima at 15-minute and 30-minute durations were retained for derivation of MAM grids (see Section 4.8.1). At-station quantiles, which were assessed as unreliable, were not interpolated to create precipitation frequency grids; an alternative approach, described in Section 4.8.2 was used for that purpose.

5-minute and 10-minute estimates were calculated using scaling factors from the 15-minute estimates. The scaling factors were an average of all the ratios of 5-minute and 10-minute annual maxima and corresponding 15-minute annual maxima, respectively. To increase sample size when

developing the scaling factors, stations that reported observations at sub-hourly durations (so called n-minute stations) that were not adequate for frequency analysis, typically because their record lengths were too short, were also used; they are listed in Appendix A.1 (Table A.1.3). Average ratios per station did not show any spatially coherent clusters and did not vary much from station to station, so scaling factors were calculated by taking averages of all the ratios in the project area. The scaling factor for 5-minute duration was 0.58 and for 10-minute duration it was 0.82.

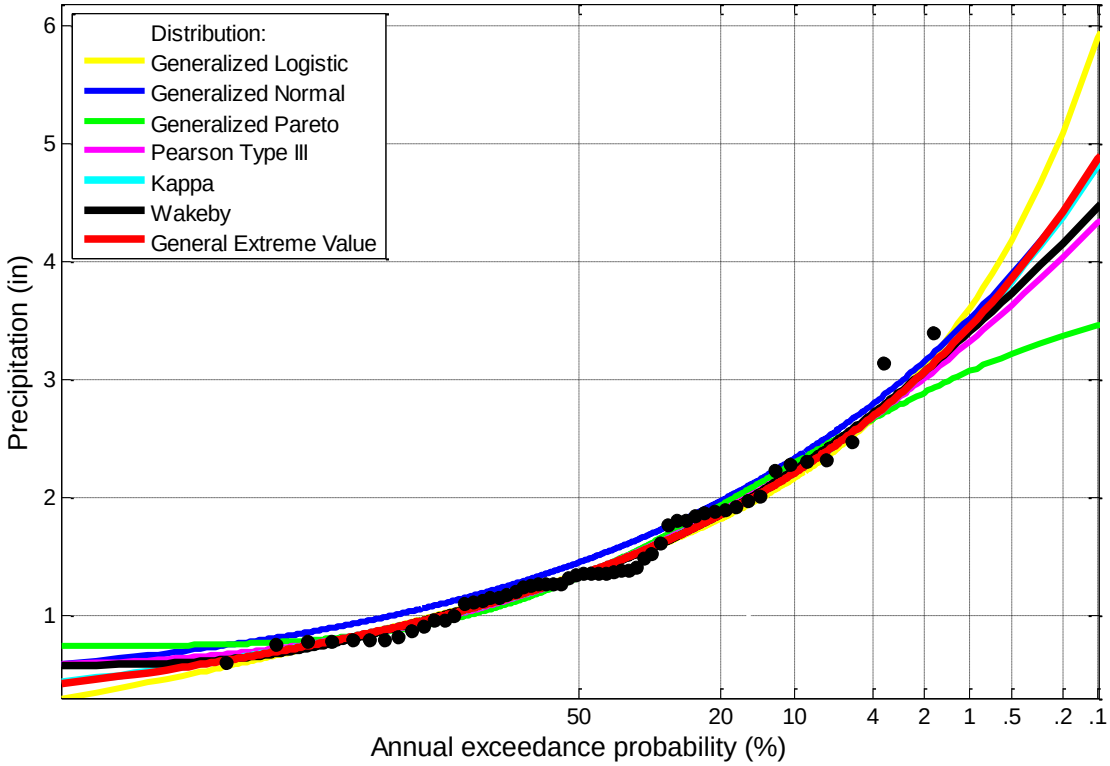


Figure 4.6.3. Probability plots for selected distributions for 1-day AMS at station 04-1476, Canby.

Consistency in frequency estimates across durations. Since regional L-moments, and consequently, precipitation frequency estimates, were calculated independently for each duration, transitions in estimates across durations were not always smooth. At a few stations it was observed that for a given AEP, the quantile for a shorter duration was higher than the quantile at the next longer duration. This anomaly typically occurred at AEPs of 1/100 or less. In the majority of anomalous cases, sampling variability caused L-moments (especially λ_3) to wander more widely from the expected development across durations. Also, in transition from 12-hours to 24-hours, record lengths often changed since fewer hourly data were available compared to daily. When L-moments were smoothed across durations, depth-duration-frequency (DDF) curve patterns improved. Figure 4.6.4 illustrates precipitation depth-duration-frequency curves before and after smoothing L-moments for station 97-1199, Griffith Park Nursery, CA. Appendix A.3 lists the smoothed L-moments used to compute precipitation frequency estimates at each station for 1-hour through 60-day durations.

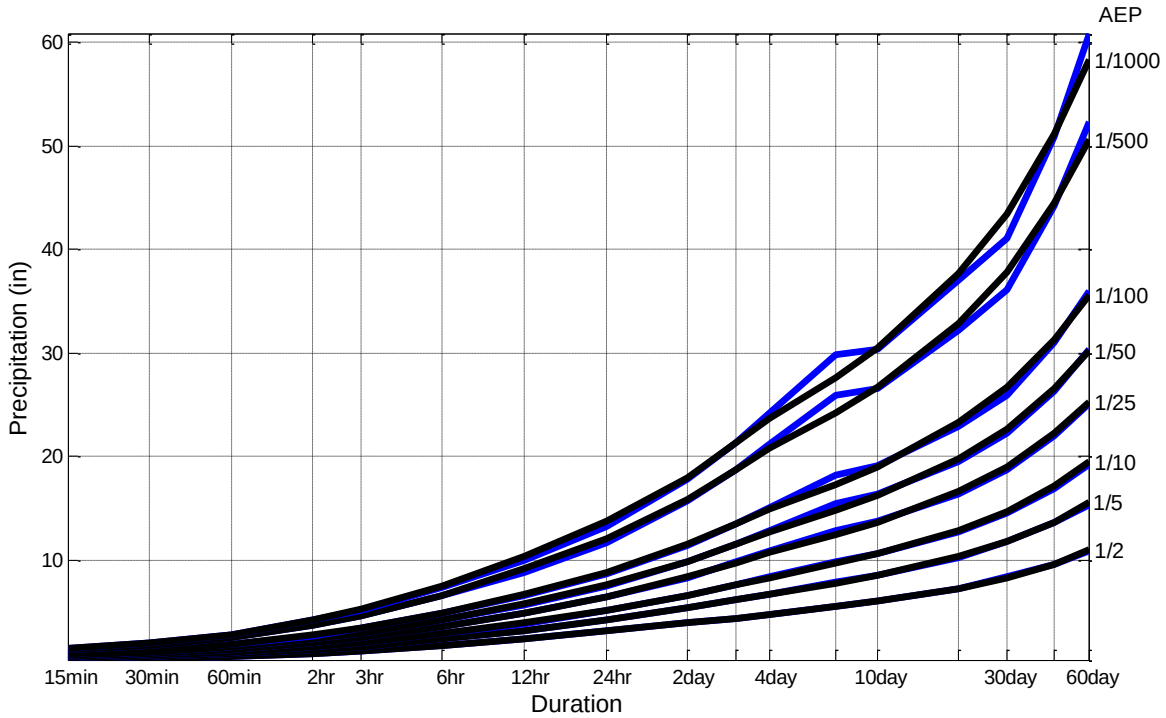


Figure 4.6.4. Precipitation frequency estimates for a range of durations for selected AEPs for station 97-1199. Blue lines represent original estimates; black lines represent estimates obtained after L-moments were smoothed across durations.

4.6.4. PDS-based estimates

PDS-based precipitation frequency estimates were calculated indirectly from the Langbein's formula (Langbein, 1949) that transforms a PDS-based average recurrence interval (ARI) to an annual exceedance probability (AEP):

$$\mathrm{AEP} = 1 - \exp\left(-\frac{1}{\mathrm{ARI}}\right).$$

PDS-based frequency estimates were calculated for the same durations as AMS-based estimates for 1-, 2-, 5-, 10-, 25-, 50-, 100-, 200-, 500- and 1,000-year ARIs. Selected ARIs were first converted to AEPs using the above formula and then used to calculate precipitation frequency estimates following the same regional approach and using the same L-moments that were used in the AMS analysis. For sub-hourly durations for which data were not available, PDS-based based frequency estimates were calculated using the same scaling factors that were used to estimate AMS-based frequency estimates.

4.6.5. Confidence limits

A Monte Carlo simulation procedure, as described in Hosking and Wallis (1997), was used to construct 90% confidence intervals (i.e., 5% and 95% confidence limits) on both AMS-based and PDS-based precipitation frequency curves. Since the station dependence analysis (Section 4.6.2) indicated that AMS data from different stations in a region were frequently highly correlated (especially for longer durations), the algorithm was adjusted to account for inter-station correlation. At each station, 1,000 simulated data sets per duration were used to generate precipitation quantiles. At a given frequency, estimates were sorted from smallest to largest and the 50th value was selected as the lower confidence limit and the 950th value was selected as the upper confidence limit.

Confidence limits for sub-hourly durations for which data were not available were calculated using the same scaling factors that were used to calculate frequency estimates. Since confidence limits were derived for each duration independently, they were smoothed across durations to reduce the effect of sampling variability using similar procedures as for the precipitation frequency estimates.

4.7. Rainfall frequency estimates with confidence limits at stations

4.7.1. Background

Precipitation frequency estimates from Section 4.6 represent precipitation magnitudes regardless of the type of precipitation. For some applications it may be important to differentiate frequency estimates from liquid precipitation (i.e., rainfall) only. For example, rainfall is treated differently from snowfall in watershed modeling because of different runoff producing mechanisms: while the rainfall generates runoff almost immediately, snowfall generally goes into storage until it melts and produces runoff at a later date.

For high elevation areas in California, the contribution of snowfall to the total yearly precipitation amount is significant. However, that does not necessarily directly translate to its significant participation in precipitation annual maximum series (AMS). To explore differences in total and liquid-only precipitation frequency estimates, concurrent rainfall and precipitation AMS were extracted at stations which had information useful for distinguishing the type of precipitation. Rainfall frequency analysis was done for durations up to 24 hours, which are of most interest to design projects relying on peak flows.

4.7.2. Estimates with confidence limits

Estimates for 24-hour duration. Concurrent daily precipitation and snowfall measurements were available from the NCDC's DSI-3200 dataset. 318 stations with at least 40 years of both precipitation and snowfall data were used in this analysis. The number of stations per various elevation ranges is given in Table 4.7.1. Station locations are shown in Figure 4.7.1.

Table 4.7.1. Number of stations used for 24-hour rainfall frequency analysis grouped by elevation.

Elevation (ft)	Number of stations
< 3000	216
3000 - 4000	27
4000 - 5000	48
5000 - 6000	13
6000 - 8000	8
8000 - 10000	6

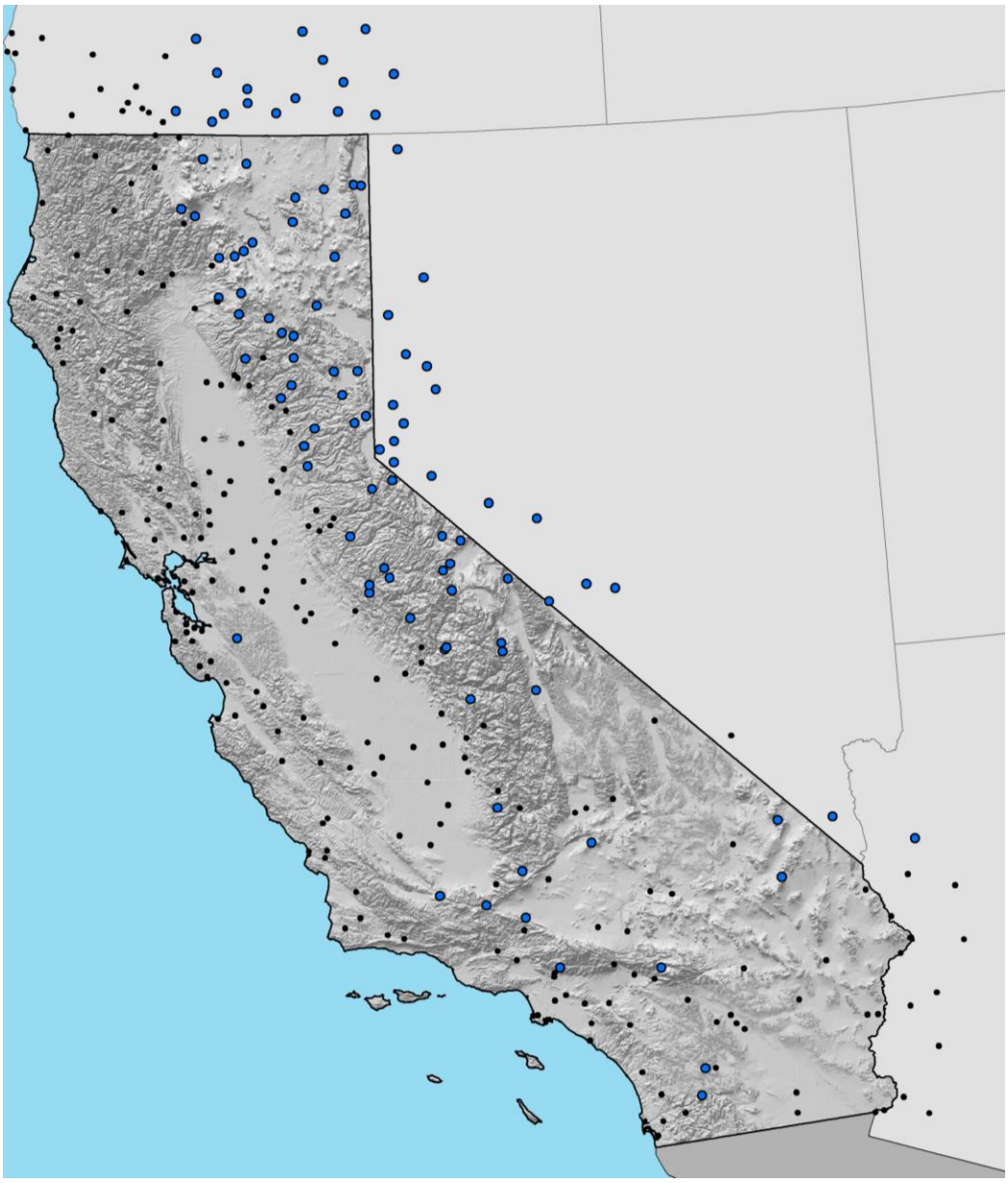


Figure 4.7.1. Map of stations recording both precipitation and snowfall at 1-day interval used for rainfall frequency analysis. Blue dots indicate stations above 3,000 feet and black dots indicate stations below 3,000 feet.

Recorded snowfall amounts were first converted to snow water equivalent using the 10 to 1 rule, which assumes that the density of water is 10 times the density of snowfall. Rainfall amounts were then calculated as a difference between precipitation and snow water equivalent. Frequency analysis was done on at-station rainfall-only AMS and on total precipitation AMS using the Generalized Extreme Value (GEV) distribution with parameters estimated from L-moment statistics. For stations below 3,000 feet, there was very little difference between precipitation and rainfall frequency estimates. As expected, as elevation increased, more snowfall events were observed in the precipitation AMS, but still, snowfall only occasionally ranked among the highest values in the series (see example in Figure 4.7.2). Various types of regression equations were investigated to relate

rainfall frequency estimates with precipitation frequency estimates, elevations and frequencies (AEP or ARI) for stations above 3,000 feet. Precipitation frequency estimates, which were highly correlated among themselves across frequencies (see Section 4.8.2), were also highly correlated with elevation, so elevation was not kept in regression equations. Correlation coefficients were a bit higher when a separate equation was developed for each frequency, and the relationship did not improve much using non-linear equations. The final set of equations, one for each frequency, is in the form: $Rainfall_{frequency,\ duration} = a + b\ Precipitation_{frequency,\ duration}$.

Coefficients *a* and *b* for all equations are shown in Table 4.7.2.; correlation coefficients were all

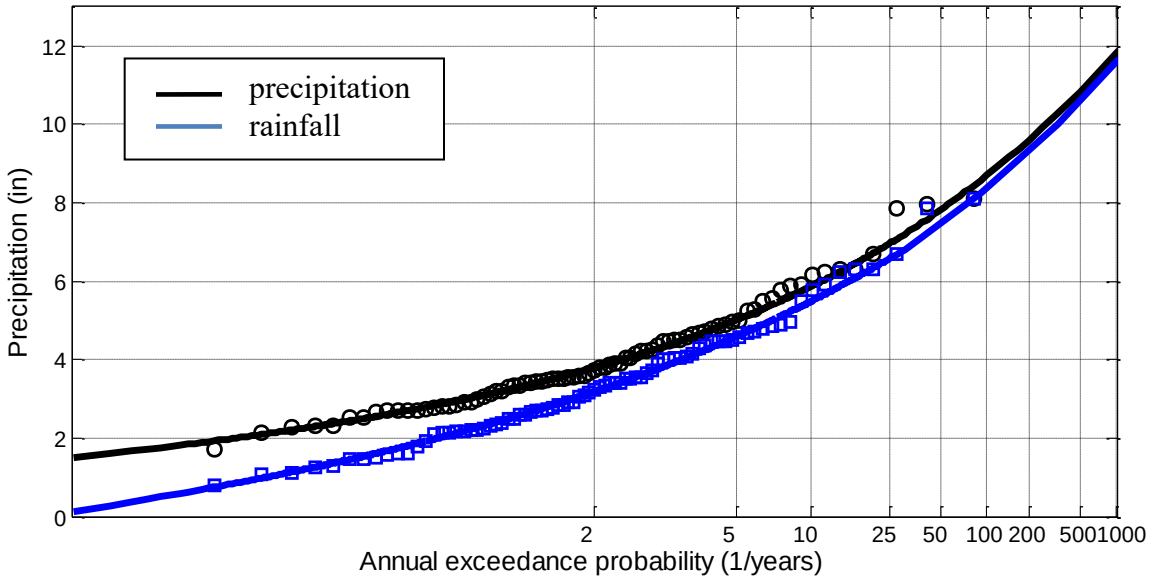


Figure 4.7.2. Probability distributions for the 24-hour precipitation and rainfall annual maximum series at station 04-1277, Calaveras Big Trees, CA (elevation 4,695 ft).

Table 4.7.2. Coefficients for equations relating 24-hour rainfall and precipitation frequency estimates for locations above 3,000 feet.

AEP	ARI (years)	*a* (in)	*b*
-	1	0.064	0.765
1/2	-	0.065	0.771
-	2	0.066	0.778
1/5	-	0.070	0.811
-	5	0.071	0.818
1/10	10	0.081	0.848
1/25	25	0.096	0.873
1/50	50	0.121	0.892
1/100	100	0.173	0.905
1/200	200	0.175	0.920
1/500	500	0.187	0.950
1/1000	1000	0.195	0.965

Since coefficients *a* (intercept values) were negligible relative to the magnitudes of corresponding precipitation frequency estimates, the results can be interpreted in terms of ratios of corresponding rainfall and precipitation frequency estimates. For example, 2-year rainfall frequency estimates are 23% lower than corresponding precipitation frequency estimates for locations above 3,000 feet. The ratios approach 100% for longer ARIs. The results are consistent with findings that most of the highest amounts in the precipitation AMS (which have the most effect on frequency estimates for very long ARIs) are from rainfall events.

Estimates for sub-daily durations. While daily snowfall measurements were readily available from NCDC's dataset, there were a very limited number of hourly stations with any information on type of precipitation, especially with longer periods of record to allow for meaningful statistical analysis of rainfall-only data. Temperature measurements at hourly time steps which could be used to distinguish liquid from solid precipitation were also available for only a limited number of locations, and typically for less than 10 years. Modeled hourly temperature profile data from the North American Regional Reanalysis (NARR) 3-hour gridded dataset (Mesinger et al., 2006; data available from http://www.emc.ncep.noaa.gov/mmb/rreanl/), were insufficient to distinguish between liquid and solid precipitation since ultimately subjective decisions were required in many cases analyzed. In the end, daily maximum and minimum temperature measurements from co-located daily stations were used to classify precipitation amounts as solid or liquid. 96 stations that had at least 30 years of both hourly precipitation and daily temperature data, 37 of which were above 3,000 feet, were used in this analysis. The number of stations per various elevation ranges is given in Table 4.7.3. Station locations are shown in Figure 4.7.3.

Table 4.7.3. Same as Table 4.7.2 but for hourly durations.

Elevation (ft)	Number of stations
< 3000	68
3000 - 4000	10
4000 - 5000	9
5000 - 6000	5
6000 - 8000	4
8000 - 10000	0

Hourly precipitation measurements were categorized as rainfall based on the time of day and the maximum, minimum, or average daily temperature. Measurements were classified as rainfall if taken between 9 pm and 9 am local time and the minimum daily temperature was above 32º F, or if taken between 12 pm and 6 pm and the maximum daily temperature was above 32º F, or if taken at any other time of day and the average daily temperature, calculated as the mean of maximum and minimum temperatures, was above 32º F. Precipitation and rainfall-only AMS were extracted from 1-hour data for selected hourly durations (1-, 2-, 3-, 6-, and 12-hour).

Similar to analysis done for 24-hours, frequency analysis was done on rainfall-only AMS and on total precipitation AMS using the GEV distribution with parameters estimated from L-moment statistics. Using the data from stations above 3,000 feet, regression equations were developed between rainfall frequency estimates and precipitation frequency estimates for different frequencies for each duration. Coefficients *a* and *b* for the equations are shown in Table 4.7.4. A few slope coefficients were slightly adjusted to avoid inconsistencies in estimates across frequencies. As can be seen from the table, differences between rainfall and precipitation frequency estimates are much

smaller than for 24-hour duration, and are almost negligible for shorter durations. Therefore, no adjustment was needed for sub-hourly durations.

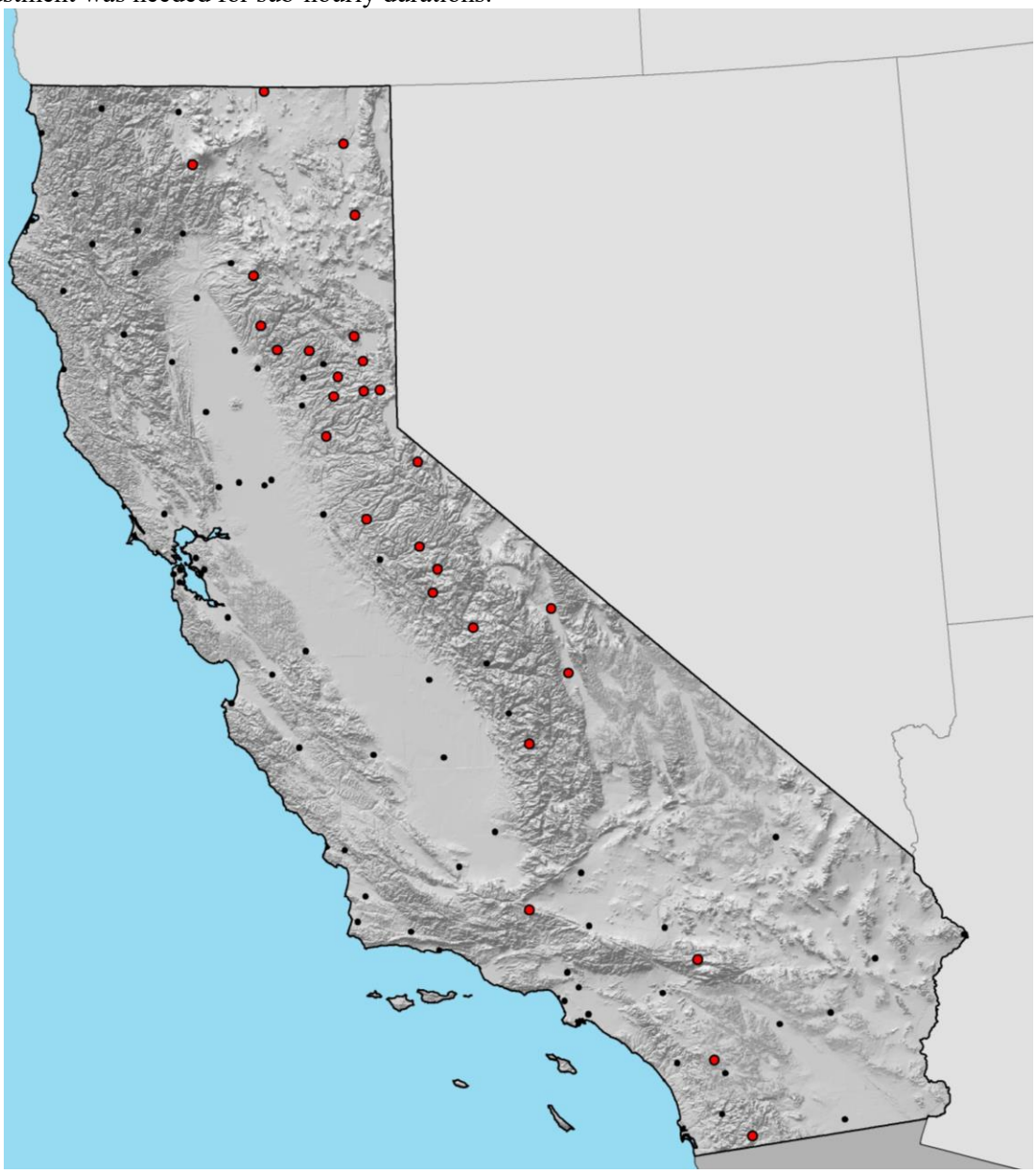


Figure 4.7.3. Map of hourly stations used for rainfall-only frequency analysis. Red dots indicate stations above 3,000 feet and black dots indicate stations below 3,000 feet.

Confidence limits. The same equations developed for rainfall frequency estimates were used to estimate confidence limits for AMS-based and PDS-based rainfall frequency estimates from their corresponding upper and lower limits of precipitation frequency estimates.

Table 4.7.4. Coefficients *a* and *b* for sub-hourly durations for locations above 3000 ft.

AEP	ARI (years)	1-hour		2-hour		3-hour		6-hour		12-hour	
		***a* (in)**	***b***	***a* (in)**	***b***	***a* (in)**	***b***	***a* (in)**	***b***	***a* (in)**	***b***
-	1	0.011	0.984	0.013	0.983	0.018	0.980	0.023	0.971	0.034	0.963
1/2	-	0.011	0.984	0.013	0.983	0.018	0.980	0.023	0.972	0.034	0.964
-	2	0.011	0.985	0.013	0.983	0.019	0.981	0.023	0.973	0.035	0.965
1/5	-	0.012	0.988	0.014	0.986	0.019	0.984	0.025	0.979	0.038	0.972
-	5	0.012	0.988	0.014	0.986	0.019	0.985	0.025	0.979	0.039	0.973
1/10	10	0.013	0.993	0.015	0.992	0.021	0.990	0.027	0.991	0.044	0.984
1/25	25	0.014	0.994	0.017	0.993	0.022	0.992	0.031	0.992	0.052	0.987
1/50	50	0.017	0.996	0.021	0.995	0.027	0.994	0.039	0.995	0.066	0.991
≤1/100	≥100	0	1	0	1	0	1	0	1	0	1

4.8. Derivation of grids

4.8.1. Mean annual maximum precipitation

Mean annual maximum (MAM) grids served as the basis for deriving gridded precipitation frequency estimates at different frequencies and durations. The station mean annual maximum values for the 17 selected durations between 15 minutes and 60 days were spatially interpolated to produce corresponding mean annual maximum grids at 30 arc-seconds (about 800 x 800 meters or 2,642 by 2,642 feet) resolution using a hybrid statistical-geographic approach for mapping climate data named Parameter-elevation Regressions on Independent Slopes Model (PRISM) developed by Oregon State University's PRISM Climate Group (e.g., Daly et al., 2002).

Intermediate review of mean annual maxima grids suggested that in a few areas of varied terrain, where the lack of stations unduly influenced expected spatial patterns, it was beneficial to add mean annual maximum estimates for selected locations to anchor the spatial interpolation. MAMs were estimated for one or more durations at nine locations shown in Table 4.8.1.

Table 4.8.1. Locations where mean annual maxima were estimated to anchor spatial interpolation.

Location ID	Location name	Latitude	Longitude	Elevation (ft)
00-0001	Old Man Mtn	34.5039	-119.4419	4370
00-0002	Bonny Doon Airport	37.0769	-122.1343	2200
00-0003	Mount Diller	40.4642	-121.5461	9000
00-0004	King Peak	40.1569	-124.1242	4050
00-0005	Big Pine Mtn	34.6974	-119.654	6850
00-0006	Cabezo Prieto Peak	36.283	-121.7747	3544
00-0007	Mount Harvard	34.2133	-118.0622	5436
00-0008	San Gorgonio Wilderness	34.1006	-116.8286	14,766
00-0009	Sequia National Park	36.6187	-118.6682	10,665

Appendix A.4 provides detailed information on the PRISM-based methodology for creating mean annual maximum grids. In summary, a unique regression function was developed for each target grid cell to derive mean annual maximum values for each duration that accounted for the difference between an observing station and the target cell's mean annual precipitation, topographic facet,

coastal proximity, the distance of an observing station to the target cell, etc. Because of the limited number of stations recording at durations shorter than 1 day, sub-daily mean annual maximum data were developed for daily-only stations when modeling mean annual maxima for 15-minute through 12-hour durations (see Appendix A.4 for more detail).

Jacknife cross-validation indicated that, for this project area, overall bias was less than 2.5 percent and the mean absolute error was less than 10.5 percent across all durations.

4.8.2. Precipitation frequency estimates with confidence limits

Estimates for 60-minute through 60-day durations. An HDSC-developed spatial interpolation technique termed the Cascade, Residual Add-Back (CRAB) was used to convert mean annual maximum grids into grids of AMS-based and PDS-based precipitation frequency estimates for durations from 60-minutes through 60-days. The procedure is based on the approach developed by the National Climatic Data Center used to derive several maps in the Climate Atlas of the United States (Plantico et al., 2000).

The technique derives grids along the frequency dimension with station precipitation frequency estimates for different durations being separately interpolated. Hence, the evolution of frequency-dependent spatial patterns for a given duration is independent of other durations. The CRAB process utilizes the inherently strong linear relationship that exists between mean annual maxima and precipitation frequency estimates for the 2–year average recurrence interval (ARI), as well as between precipitation frequency estimates for consecutive ARIs. Figure 4.8.1 shows an example of the relationship for the 24-hour duration between the 50-year and 100-year estimates for California. The R^2 value here of 0.99 is very close to 1.0, which was common for all relationships. Since this equation was calculated using all stations in the project area, the slope coefficient of 1.132 can be thought of as an average domain-wide ratio between 100-year and 50-year quantiles for 24-hour duration.

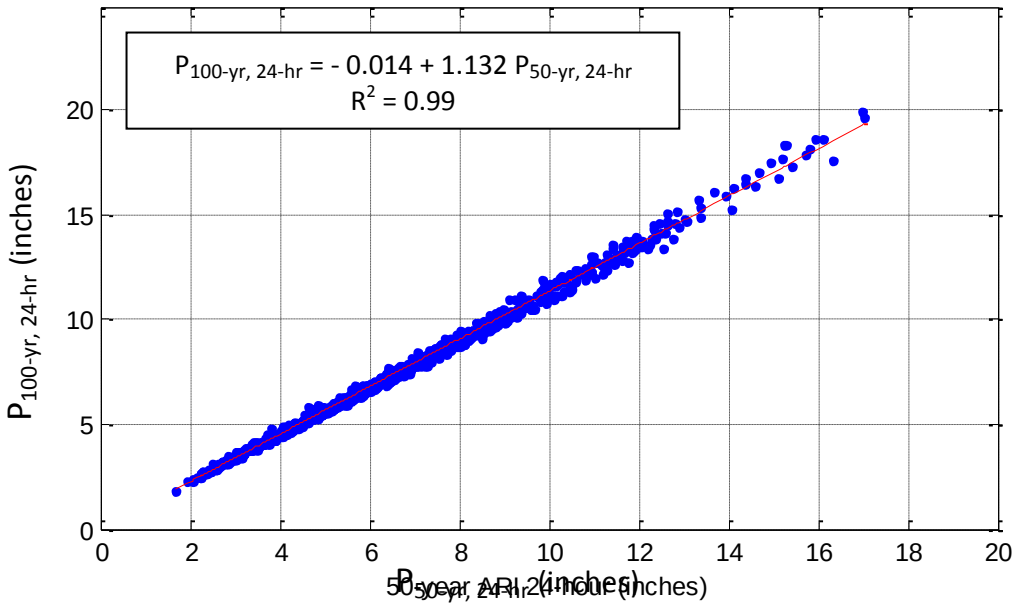


Figure 4.8.1. Scatter plot of 100-year versus 50-year precipitation frequency estimates based on 24-hour annual maximum series. Linear regression line is also shown.

For each duration, the cascade began with the PRISM-derived mean annual maximum (MAM) grid as the initial predictor grid and the 2-year precipitation frequency estimates as the subsequent grid. For a given duration, a single linear regression relationship was developed for mean annual maxima (predictor) and 2-year precipitation frequency estimates (predictant) from all stations in the project area. As a result of spatial smoothing during PRISM interpolation, it was possible that at-station MAM values calculated directly from AMS data were slightly different than corresponding PRISM-derived grid cell MAM estimates. To account for that difference, the PRISM MAMs were extracted for each station location and used in the computation of precipitation frequency estimates. The global linear regression relationship was applied to the MAM grid to establish the initial grid for 2-year estimates.

Residuals were then computed for each station to quantify the difference between at-station estimates and initial gridded estimates. The residuals were normalized by the mean annual maxima and spatially interpolated to a grid using an inverse-distance-weighting (IDW) algorithm. The IDW method used in CRAB estimated the values at ungauged locations based on information from the nine closest stations. Weights were inversely proportional to the power of the distance in miles. The IDW interpolation method was selected because by definition it is an exact interpolator and therefore remains faithful to the normalized residuals at stations. Also, normalized residuals were highly correlated, so a distance-weighting type of interpolation method was appropriate. The normalized residual grid was then multiplied by the original spatially interpolated mean annual maximum grid to obtain a spatially interpolated grid of actual residuals for the entire project area. The spatially interpolated grid of actual residuals was added back to the initial grid of 2-year estimates to create a grid of 2-year precipitation frequency estimates.

In the subsequent run, 2-year precipitation frequency estimates from all stations in the project area became the predictor grid and 5-year estimates became the variable to be predicted, and so forth. 2-year precipitation frequency estimates also served as predictors for 1-year estimates.

To ensure consistency in grid cell values across all durations and frequencies, duration-based and frequency-based internal consistency checks were conducted. Frequency-based internal consistency violations (e.g., 100-year estimate < 50-year estimate) were rare and negligible relative to the precipitation frequency estimates involved. Duration-based internal consistency violations (e.g., 24-hour estimate < 12-hour estimate) were more common, but again violations were small relative to the magnitude of precipitation frequency estimates. For inconsistent cases, the longer duration or rarer frequency grid cell value was adjusted by multiplying the shorter duration or lower frequency grid cell value by 1.01 to provide a 1% difference between the values. One percent was chosen over a fixed factor to allow the difference to change according to the grid cell magnitudes while at the same time providing a minimal, but sufficient, adjustment without changing otherwise compliant data in the process. Grid cell consistency was ensured first across durations and then across frequencies.

Jack-knife cross-validation technique (Shao and Tu, 1995) was used to evaluate CRAB performance for interpolating precipitation frequency estimates. It was cost prohibitive to re-create the PRISM mean annual maximum grids for each cross-validation iteration. For this reason, the cross-validation results reflect the accuracy of the CRAB procedure based on the same mean annual maximum grids. Figure 4.8.2 shows validation results for 100-year, 60-minute estimates as a histogram representing the distribution of differences in 100-year 60-minute estimates with and without each station. For more than 90% of stations in the project area, differences were less than ±2%. The largest differences were up ±10%, but they occurred in less than 1% of all stations. Based on the results shown in the figure, overall, CRAB adequately reproduced values in the absence of station data.

Estimates for sub-hourly durations. Because of the small number of data available for durations shorter than 1-hour, precipitation frequency grids for those durations were developed differently.

Although PRISM MAM grids were available for 30-minute and 15-minute durations, the spatial patterns of precipitation frequency estimates developed though CRAB were considered less reliable. Therefore, the precipitation frequency grids for the 30-minute duration were derived by creating a grid of ratios between 30-minute MAM and 60-minute MAM grids. This ratio grid was then multiplied by the 60-minute precipitation frequency grids for all average recurrence intervals. 15-minute precipitation frequency grids were developed in a similar fashion. The 15-minute precipitation frequency grids were then multiplied by scaling factors of 0.82 and 0.58 (Section 4.6.3) to develop precipitation frequency grids for the 10-minute and 5-minute durations, respectively.

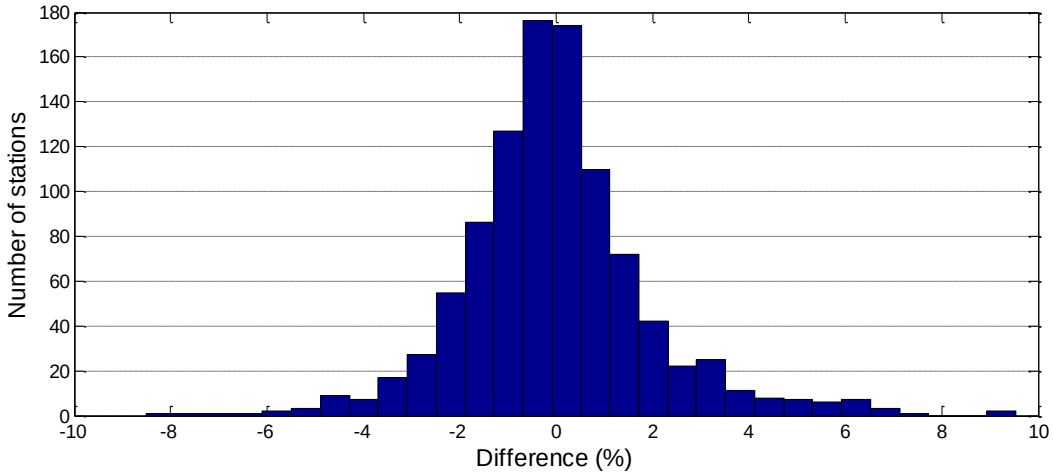


Figure 4.8.2. NOAA Atlas 14 Volume 6 jackknife cross-validation results for 100-year 60-minute estimates.

Confidence limits. For the 60-minute through 60-day durations, grids of upper and lower limits of the 90% confidence interval for the precipitation frequency estimates were also derived using the CRAB procedure. Similar to the precipitation frequency estimates, upper and lower limits exhibited strong linear relationships at consecutive average recurrence intervals. The PRISM-produced mean annual maximum grid for a given duration was used as the predictor for the 2-year upper (lower) limit grids. The global linear regression relationship was applied to the MAM grid to establish the initial grid for 2-year upper (lower) limit estimates. At-station residuals were spatially interpolated and used to develop the upper (lower) limit grids. In the subsequent run, 2-year upper (lower) limit estimates from all stations in the project area become predictor for 5-year upper (lower) limit estimates, and so forth. Like the precipitation frequency grids, frequency-based and duration-based adjustments were made when needed for consistency.

For sub-hourly durations, upper and lower limit grids were derived in the same manner as precipitation frequency grids. Estimates for all average recurrence intervals for the 30-minute and 15-minute limits were derived by multiplying 60-minute upper (lower) limit grids with a grid of the ratios between the 30-minute or 15-minute MAM grids, respectively, and 60-minute MAM grids. Grids for upper (lower) limits for 10-minute and 5-minute durations were then developed by multiplying 15-minute upper (lower) grids by scaling factors of 0.82 and 0.58, respectively.

4.8.3. Rainfall frequency estimates with confidence limits

The regression equations described in Section 4.7 were applied to final grids of precipitation frequency estimates and upper and lower confidence limits to develop corresponding grids for rainfall. The grids were created for 1-, 2-, 3-, 6-, 12- and 24-hour durations.

5. Precipitation Frequency Data Server

NOAA Atlas 14 precipitation frequency estimates are delivered entirely in digital form in order to make the estimates more widely available and to provide them in various formats. The Precipitation Frequency Data Server - PFDS (http://hdsc.nws.noaa.gov/hdsc/pfds/) provides a point-and-click web portal for precipitation frequency estimates and associated information.

In early 2011a major redesign of the PFDS web interface was done to make PFDS pages interactive. Since then, PFDS pages were enhanced on several occasions to improve the usability and readability of PFDS website's content, to increase data download speeds and to provide additional information. In order to keep this section of the documentation up-to-date for all volumes, the PFDS section is offered as a separate document. This document is updated as needed and is available for download from here: http://www.nws.noaa.gov/oh/hdsc/PF_documents/NA14_Sec5_PFDS.pdf.

6. Peer review

A peer review of the California precipitation frequency project's preliminary results was carried out during an eight week period starting on July 22, 2010. The request for review was sent via email to the over 600 members of the HDSC list-server from all over the United States and other interested parties in California. Potential reviewers were asked to evaluate the reasonableness of point precipitation frequency estimates as well as their spatial patterns. The review included the following items:

a. List of all stations used in the analysis. The list included information on station name, state, source of data, assigned station ID, latitude, longitude, elevation, and period of record. It also showed information if the station was merged with another station, if the station was co-located with another station with a different ID, and if metadata at the station were changed.
b. List of all stations that were received by HDSC, but not considered in analysis. This list contained stations that were not used, either because there was another station with a longer period of record nearby, or station data were not reliable, or the station period of record was not long enough and it was not a candidate for merging with any nearby station.
c. At-station depth-duration-frequency curves for a range of durations for which annual maximum series data were extracted.
d. Spatially-interpolated maps of mean annual maxima for 60-minute, 24-hour and 10-day durations.
e. Precipitation frequency estimates for 60-minute, 24-hour and 10-day durations and for 2-year and 100-year average recurrence intervals.

The reviews provided critical feedback that improved estimates. Reviewers' comments regarding station metadata, at-station precipitation frequency estimates and their spatial patterns, and the web interface along with HDSC responses can be found in Appendix A.5.

7. Comparison with previous NOAA publications

The precipitation frequency estimates in NOAA Atlas 14 Volume 6 supersede the estimates for California previously published in the following publications:

a. *NOAA Atlas 14 Volume 1, Precipitation-Frequency Atlas of the United States, Semiarid Southwest* (Bonnin et al., 2004) for the southeastern semiarid areas of California for 5-minute to 60-day durations;
b. *Short Duration Rainfall Frequency Relations for California* (Frederick and Miller, 1979) for the remainder of California for 5-minute through 60-minute durations;
c. *NOAA Atlas 2 Volume 11, Precipitation Frequency Atlas of the Western United States, California* (Miller et al., 1973) for the remainder of California for 60-minute through 24-hour durations;
d. *Technical Paper No. 49, Two- to Ten-Day Precipitation for Return Periods of 2 to 100 Years in the Contiguous United States* (Miller, 1964) for the remainder of California for 2-day through 10-day durations.

Precipitation frequency estimates at 100-year average recurrence interval from NOAA Atlas 14 Volume 6 were examined in relation to corresponding estimates from NOAA Atlas 14 Volume 1 Version 4 for 60-minute and 24-hour durations for the semiarid southwest and with NOAA Atlas 2 Volume 11 estimates for 6-hour and 24-hour durations for the remainder of the state.

Comparison with NOAA Atlas 14 Volume 1 estimates for southeastern California. The maps in Figures 7.1 and 7.2 illustrate the differences in estimates for southeastern California between Volume 6 Version 2 and Volume 1 Version 4 for 60-minute and 24-hour durations at the 100-year average recurrence interval. On average, precipitation frequency estimates for the 60-minute duration for the whole area decreased by 0.21 inches; at specific locations estimates changed between -1.11 and 1.61 inches. 100-year 24-hour precipitation frequency estimates changed between -8.71 and 6.38 inches, and, on average, increased by 0.24 inches for the whole project area.

The differences in estimates between the two volumes are attributed to: 1) the increase in number of stations used in frequency analysis, especially for sub-daily durations, 2) improved data quality control procedures, and 3) improved regional frequency analysis approach. Details on the quality control techniques used on Volume 6 can be found in Section 4.5 and new regional approach is described in Section 4.6.2. Details on approaches used in Volume 1 are presented in the document which is available online (www.nws.noaa.gov/oh/hdsc/PF_documents/Atlas14_Volume1.pdf).

It should also be noted that precipitation frequency estimates in Volume 6 at the California border were not adjusted to make a smooth transition from Volume 6 estimates for California to Volume 1 estimates for Nevada and Arizona.

Comparison with NOAA Atlas 2 estimates for the remainder of California. Differences in 100-year estimates between NOAA Atlas 14 Volume 6 Version 2 and NOAA Atlas 2 Volume 11 were investigated for 6-hour and 24-hour durations, since gridded estimates for NOAA Atlas 2 were available only for those two durations; they are shown in the maps in Figures 7.3 and 7.4.

100-year 6-hour precipitation frequency estimates changed between -2.95 and 3.50 inches; on average, precipitation frequency estimates in NOAA Atlas 14 Volume 6 are about 0.24 inches higher. 100-year 24-hour precipitation frequency estimates changed between -8.63 and 9.00 inches, but on average, estimates increased only by 0.04 inches.

The greatest differences between the two Atlases were observed at ungaged locations therefore due to the type of spatial interpolation used in each project. In addition, different frequency analysis approaches were used in two projects. Finally, there were considerably more stations with longer periods of record lengths available for frequency analysis for NOAA Atlas 14. NOAA Atlas 2 estimates were developed in 1973, so almost 40 additional years of data were available for the update in 2011. A total of 1,294 stations with between 17 to 141 data years were available for the whole state of California for frequency analysis of the 24-hour duration in NOAA Atlas 14, while only 806 daily stations with periods of record (data years may be shorter due to missing data at stations) ranging from 10 to 94 years were used in NOAA Atlas 2.

Regarding hourly durations, frequency estimates in NOAA Atlas 2 were developed from 396 stations and only for the 6-hour duration; ratios were applied to generate 1-hour and 12-hour durations. All but two hourly stations used in NOAA Atlas 2 had fewer than 44 years of record. In contrast, for NOAA Atlas 14, 413 hourly stations with between 17 and 101 data years were directly used in the analysis for all hourly durations.

Finally, frequency estimates for 2-day to 10-day durations published in 1964 in Technical Paper 49, were obtained from only 10 stations in California with 49 years of record on average (an additional 40 stations with at least 18 years of data were used indirectly to develop relationships between 1-day and 10-day frequency estimates). In comparison, all 1,294 stations used for 24-hour duration frequency analysis, were also used in the NOAA Atlas 14 frequency analysis for longer daily durations.

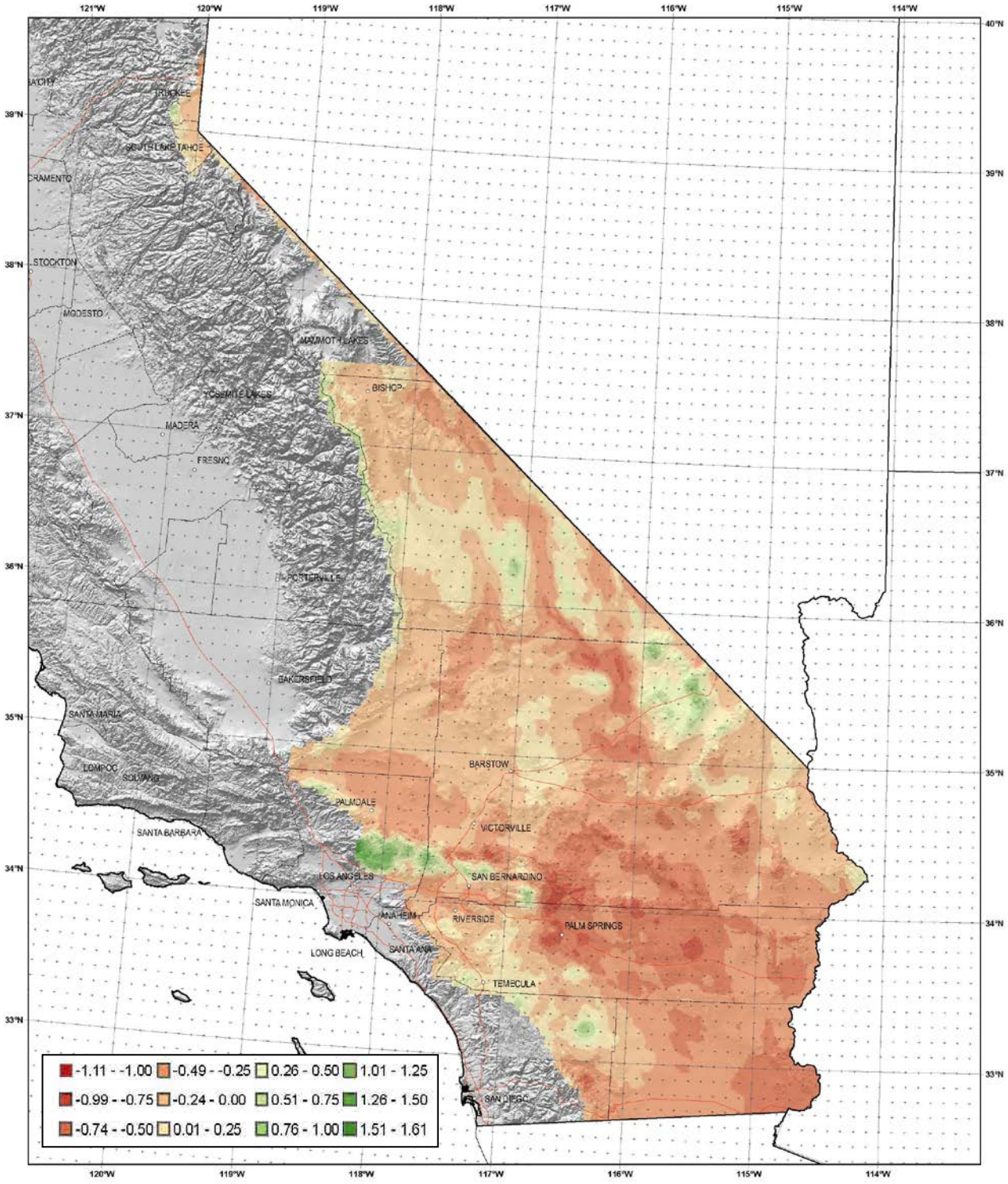


Figure 7.1. Differences in 100-year 60-minute estimates (in inches) between Volume 6 Version 2 and Volume 1 Version 4 for southeast California.

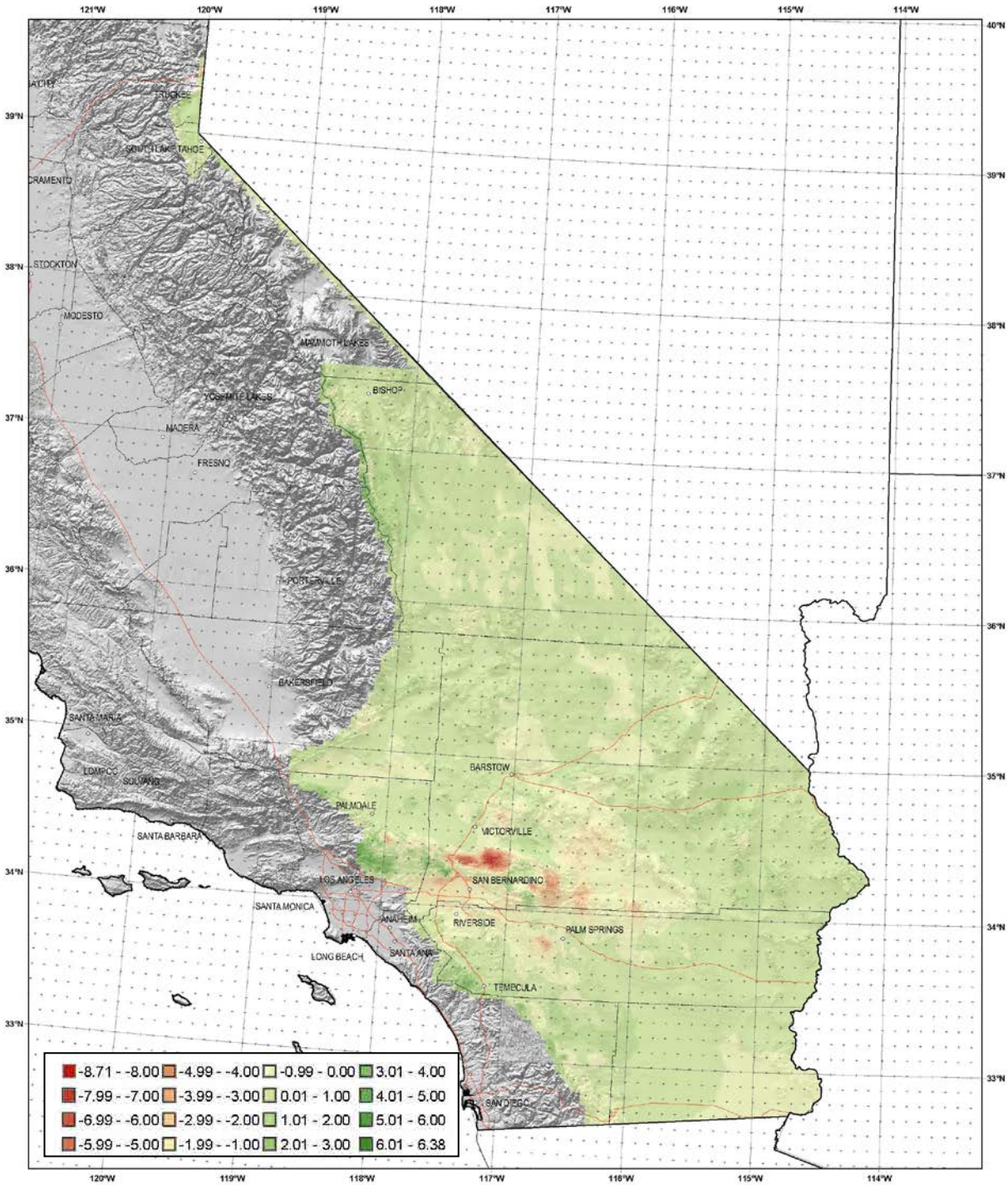


Figure 7.2. Differences in 100-year 24-hour estimates (in inches) between Volume 6 Version 2 and Volume 1 Version 4 for southeast California.

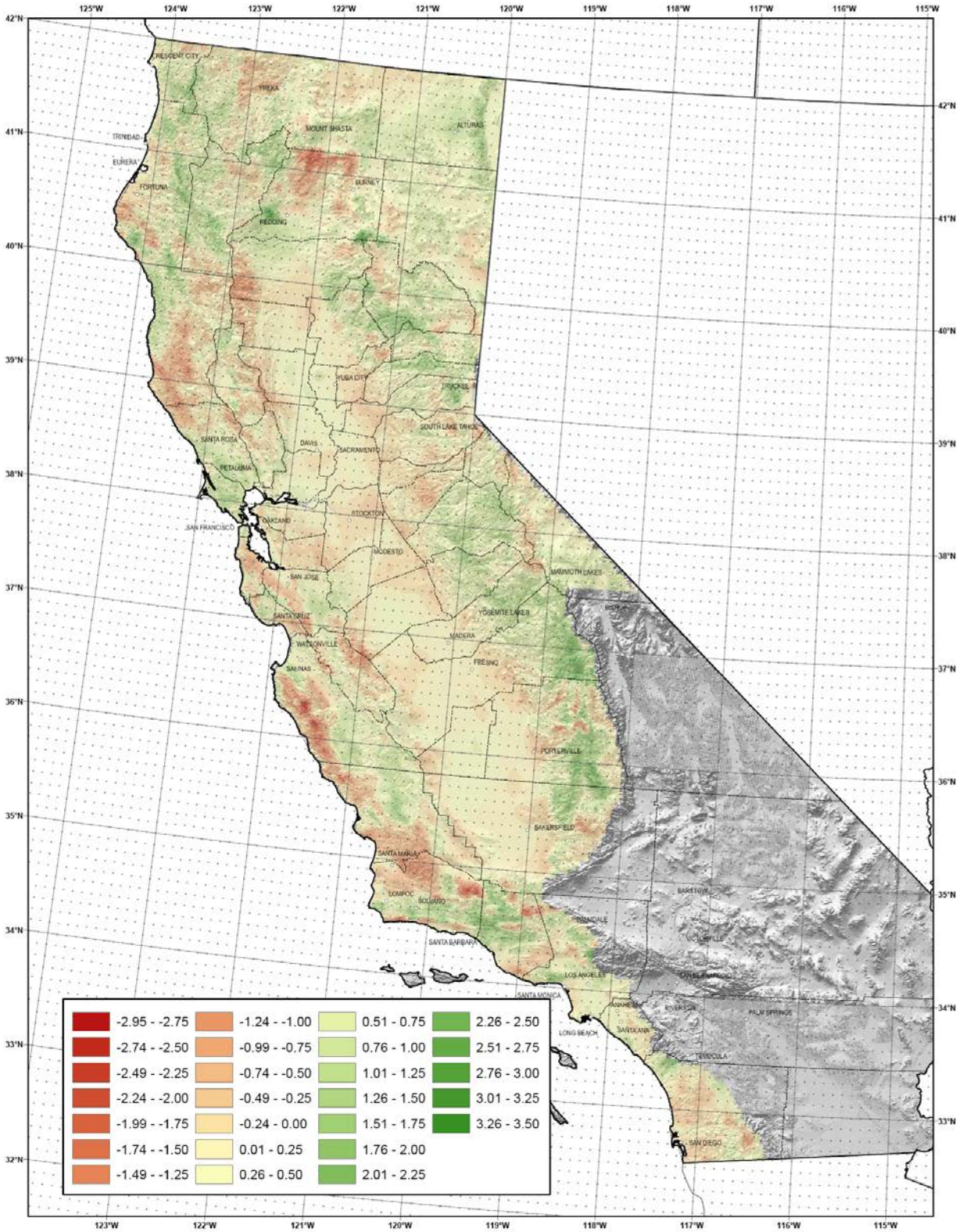


Figure 7.3. Differences in 100-year 6-hour estimates (in inches) between Volume 6 Version 2 and NOAA Atlas 2 Volume 11 for the remainder of California.

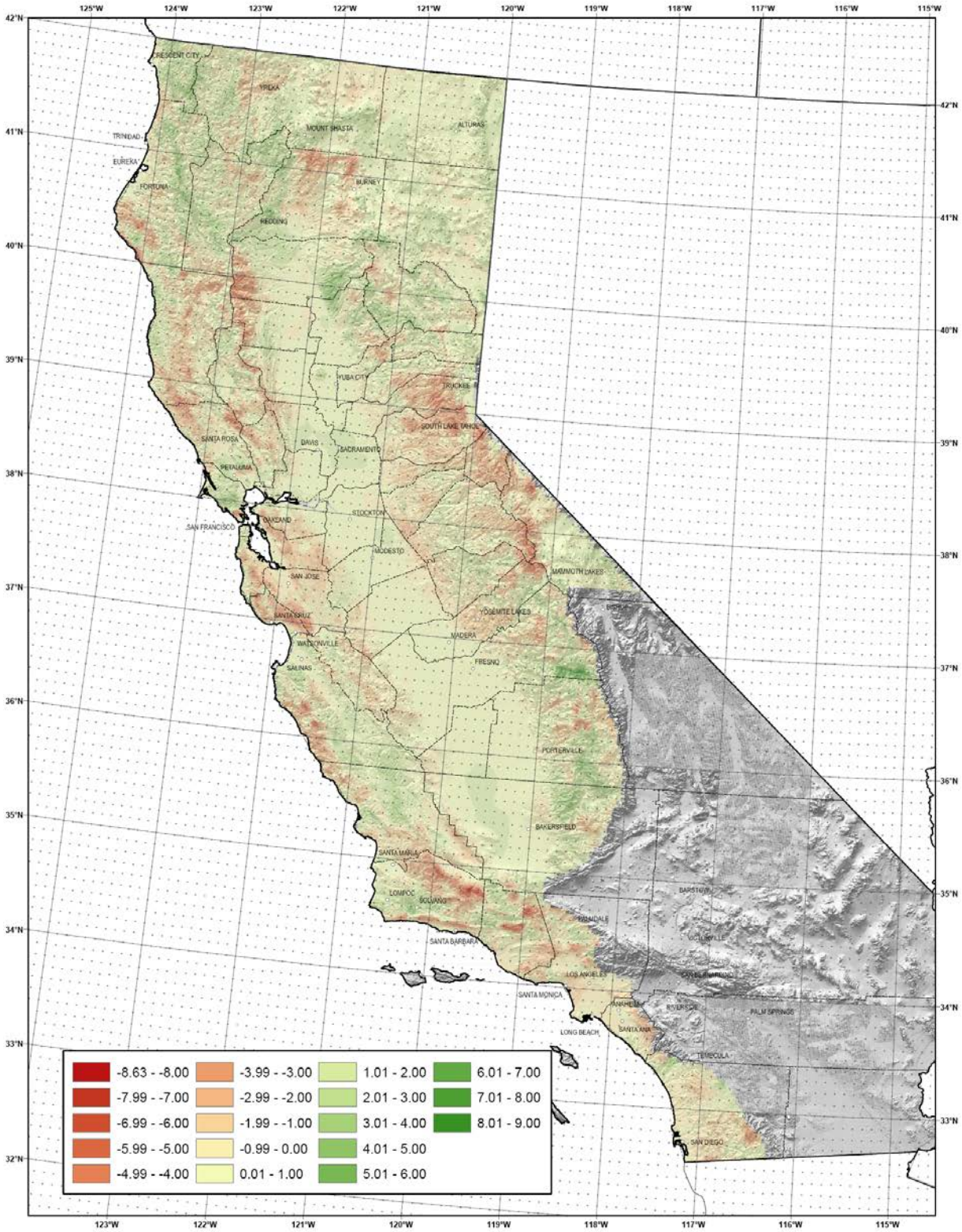


Figure 7.4. Differences in 100-year 24-hour estimates (in inches) between Volume 6 Version 2 and NOAA Atlas 2 Volume 11 for the remainder of California.

Acknowledgments

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Appendix A.1 List of stations used to prepare precipitation frequency estimates

Table A.1.1. List of stations in the state of California used in the analysis showing station name, station ID, post-merge station ID, base duration, source of data, latitude, longitude, elevation, and period of record. Bold font in the latitude, longitude, and elevation fields indicates information that has been adjusted. Bold font in the 'Period of record' field indicates that the station data was extended using data from station that has the same ID in 'Post-merge station ID' column.

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
A CLEAR CREEK CITY SCHOOL	97-0107	97-0109	1-day	LA COUNTY	34.2677	-118.1671	3100	10/1925-10/1957
ACTON CAMP	97-0386		1-day	LA COUNTY	34.4506	-118.1986	2625	**10/1940-02/2008**
ACTON CAMP	97-0391	97-0386	1-day	LA COUNTY	34.4501	-118.1848	2550	10/1940-10/1953
ACTON ESCONDIDO FC261	04-0014	97-0411	1-day	NCDC	34.4947	-118.2714	2970	12/2005-12/2006
ACTON ESCONDIDO FC261	04-0014		1-hour	NCDC	34.4947	-118.2714	2970	07/1948-03/2010
ACTON-ESCONDIDO CANYON	97-0407	97-0410	1-day	LA COUNTY	34.4842	-118.2675	2910	10/1949-10/1968
ACTON-ESCONDIDO CANYON	97-0410	97-0411	1-day	LA COUNTY	34.4845	-118.2673	2960	10/1971-10/1987
ACTON-ESCONDIDO CANYON	97-0411		1-day	LA COUNTY	34.4950	-118.2728	2960	**10/1896-05/2002**
ACTON-HUBBARD	97-1217	97-0420	1-day	LA COUNTY	34.5139	-118.2361	8568	10/1899-10/1960
ACTON-LEE	97-0420		1-day	LA COUNTY	34.5253	-118.2328	3490	**10/1899-10/1985**
ACTON-MELLEN	97-0406	97-0411	1-day	LA COUNTY	34.4975	-118.2656	3075	10/1896-10/1949
ACWD PERALTA WELL FIELD	81-0012		1-hour	ALAMEDA COUNTY	**37.5660**	-121.9784	**50**	**01/1957-06/2002**
ADIN MTN	98-0016		1-day	NRCS	**41.2333**	**-120.7880**	**6190**	10/1984-09/2010
ADIN RS	04-0029		1-day	NCDC	41.1936	-120.9447	4195	3/1894-05/2010
AGOURA	97-0575	97-0576	1-day	LA COUNTY	**34.1356**	**-118.7522**	800	10/1939-03/1987
AGOURA	97-0576		1-day	LA COUNTY	34.1356	-118.7522	800	**10/1939-05/2002**
AGUA CALIENTE	92-0030		1-day	SAN DIEGO COUNTY	32.9567	-116.2972	1220	**05/1966-06/2006**
ALAMITOS	83-6001	96-0247	1-day	SANTA CLARA	37.2471	-121.8706	193	10/1959-06/2000
ALAMITOS	96-0247		1-day	CNRFC	37.2383	-121.8692	184	**10/1959-12/2006**
ALDER SPRINGS (ALS)	72-0001		1-day	USACE	39.6606	-122.7087	4440	10/1964-12/2006
ALDERPOINT	04-0088		1-day	NCDC	40.1833	-123.6167	459	**12/1940-09/2010**
ALHAMBRA	97-0239		1-day	LA COUNTY	34.0944	-118.1281	533	**07/1916-04/2000**
ALHAMBRA CITY HALL	97-0238	97-0239	1-day	LA COUNTY	34.0844	-118.1179	500	10/1926-09/1960
ALISO CANYON OAT MTN FC44	04-0115		1-day	NCDC	34.3167	-118.5500	2367	07/1948-10/1990
ALISO CANYON OAT MTN FC44	04-0115		1-hour	NCDC	34.3167	-118.5500	2367	07/1948-10/1992

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
ALISO CANYON-BLUM RACH	97-0504		1-day	LA COUNTY	34.4592	-118.1556	2900	10/1914-02/1990
ALLSO CANYON - WAGON WHEE	97-0568	97-0571	1-day	LA COUNTY	34.4156	-118.0908	3910	10/1937-09/1954
ALMADEN RESERVOIR	83-6003	83-6004	1-day	SANTA CLARA	37.1591	-121.8427	629	07/1935-03/1973
ALMADEN WATERSHED	83-6004		1-day	SANTA CLARA	37.1572	-121.8444	**642**	**07/1935-07/2010**
ALPINE	04-0136		1-day	NCDC	32.8358	-116.7775	1695	10/1952-05/2010
ALPINE DAM	84-0135		1-day	MARIN COUNTY	37.9420	-122.6380	680	10/1919-09/2004
ALTA MIRA RANCH	97-0334	97-0338	1-day	LA COUNTY	33.9944	-117.9919	845	10/1926-11/1974
ALTADENA	04-0144		1-day	NCDC	34.1819	-118.1383	1127	**11/1889-05/2010**
ALTURAS	04-0161		1-day	NCDC	41.4931	-120.5528	4400	04/1905-05/2010
ALTURAS	04-0161		1-hour	NCDC	41.4931	-120.5528	4400	07/1948-03/2010
ALTURAS	04-0161		15-min	NCDC	41.4931	-120.5528	4400	10/1975-03/2010
ANDERSEN RANCH	97-1276	97-1277	1-day	LA COUNTY	34.4167	-117.8836	4615	01/1943-10/1950
ANGELES CREST GUARD STATI	97-0718	97-0719	1-day	LA COUNTY	34.2335	-118.1836	2300	10/1945-10/1959
ANGELES CREST GUARD STATI	97-0719	97-0720	1-day	LA COUNTY	34.2335	-118.1833	2300	10/1959-10/1975
ANGELES CREST GUARD STATI	97-0720		1-day	LA COUNTY	**34.2347**	**-118.1856**	2300	**10/1945-06/2006**
ANGELES CREST HIGHWAY - C	97-0825	97-0826	1-day	LA COUNTY	34.3344	-117.9678	5900	09/1946-07/1952
ANGELES FOREST-ALISO CYN.	97-0570	97-0571	1-day	LA COUNTY	34.4016	-118.0841	3920	10/1975-10/1996
ANGELES FOREST-ALISO CYN.	97-0571		1-day	LA COUNTY	34.4158	-118.0906	3920	**10/1937-05/2002**
ANGIOLA	04-0204		1-day	NCDC	35.9833	-119.4833	210	8/1899-03/1982
ANGWIN ANG	84-0213	84-0214	1-hour	MARIN COUNTY	38.5710	-122.4340	1815	10/1994-09/2003
ANGWIN PAC UNION COL	04-0212		1-day	NCDC	38.5731	-122.4406	1715	01/1940-05/2010
ANGWIN PAC UNION COL	04-0212		15-min	NCDC	38.5731	-122.4406	1715	05/1971-02/2010
ANGWIN PUC	84-0214		1-hour	MARIN COUNTY	38.5710	-122.4350	1815	**10/1967-09/2004**
ANGWIN PUC	84-0214		15-min	MARIN COUNTY	38.5710	-122.4350	1815	10/1967-09/2004
ANTELOPE LAKE	94-0057		1-hour	STATE CLIMATOLOGIST	40.1800	-120.6070	4960	10/1983-09/2006
ANTIOCH FIBREBRD MILLS	04-0227	04-0232	1-day	NCDC	38.0167	-121.7667	28	12/1915-07/1975
ANTIOCH PUMP PLANT #3	04-0232		1-day	NCDC	37.9856	-121.7458	60	**12/1915-09/2009**
ANZA	04-0235		1-day	NCDC	33.5558	-116.6739	3915	09/1943-02/2005
ANZA	90-0005		15-min	RIVERSIDE COUNTY	33.5514	-116.6750	3915	09/1962-07/2007
APPLE VALLEY	04-0244		1-day	NCDC	34.5167	-117.2167	2935	06/1959-03/1987
ARCADIA PUMPING PLANT #1	97-0309	97-0310	1-day	LA COUNTY	34.1509	-118.0334	611	10/1928-10/1953

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
ARCADIA-ARBORETUM	97-0880		1-day	LA COUNTY	34.1467	-118.0497	565	**10/1925-01/2007**
ARROWHEAD SPRINGS HOTEL	79-2268	79-2015	15-min	SAN BERNARDINO	34.1859	-117.2614	2000	02/1971-08/2010
ARROYO SECO	04-0322		1-day	NCDC	36.2356	-121.4800	940	**01/1915-03/2010**
ARROYO SECO	04-0322		1-hour	NCDC	36.2356	-121.4800	940	12/1948-03/2010
ARROYO SECO- RANGER STATI	97-1272	97-1273	1-day	LA COUNTY	34.2010	-118.1669	1220	05/1934-05/1950
ARROYO SECO RNG STN FC 50	04-0327		1-day	NCDC	34.2167	-118.1667	1220	10/1916-04/1974
ASCOT RESERVOIR	97-0816		1-day	LA COUNTY	34.0794	-118.1872	620	10/1954-10/2006
ASH MOUNTAIN	04-0343		1-day	NCDC	36.4914	-118.8253	1708	01/1927-05/2010
ATLAS PEAK	95-0013		1-day	DWR	38.4330	-122.2500	1660	**07/1948-03/2007**
ATLAS ROAD	84-0368		1-hour	MARIN COUNTY	38.4330	-122.2500	968	10/1939-09/1994
ATLAS ROAD	84-0368		15-min	MARIN COUNTY	38.4330	-122.2500	968	10/1939-09/1994
ATWELL MILL (ATW)	72-0002		1-day	USACE	36.4640	-118.6743	6480	12/1965-12/2006
AUBERRY 2 NW	04-0379		1-day	NCDC	37.0919	-119.5128	2090	07/1915-05/2010
AUBURN	04-0383		1-day	NCDC	38.9072	-121.0839	1292	01/1905-05/2010
AVALON PLEASURE PIER	04-0395		1-day	NCDC	33.3500	-118.3167	25	11/1909-12/1988
AZUSA CITY PARK FC 143	04-0410	04-7776	1-day	NCDC	34.1333	-117.9000	610	03/1963-10/1972
AZUSA PLAT - GLENDORA IRR	97-0487	97-0292	1-day	LA COUNTY	34.1347	-117.9015	675	10/1930-09/1957
AZUSA-CITY PARK	97-0292	04-0410	1-day	LA COUNTY	34.1342	-117.9047	610	10/1930-02/1997
AZUSA-HIBSCH	97-0206	04-0410	1-day	LA COUNTY	34.1334	-117.9004	602	12/1927-10/1961
BACKUS RANCH	04-0418		1-day	NCDC	34.9500	-118.1833	2651	06/1936-02/1963
BADGER	04-0422		1-hour	NCDC	36.6286	-119.0117	3060	07/1948-11/2006
BADGER	04-0422		15-min	NCDC	36.6286	-119.0117	3060	07/1976-11/2006
BAKER	04-0436		1-day	NCDC	**35.2761**	**-116.0628**	**962**	**11/1953-05/2010**
BAKER	04-0436		1-hour	NCDC	**35.2658**	**-116.0736**	**940**	11/1953-08/1990
BAKERSFIELD AP	04-0442		1-day	NCDC	35.4344	-119.0542	489	10/1937-06/2010
BAKERSFIELD AP	04-0442		1-hour	NCDC	35.4344	-119.0542	489	07/1948-03/2010
BALCH POWER HOUSE	04-0449		1-day	NCDC	36.9092	-119.0883	1720	02/1950-05/2010
BALCH POWER HOUSE	04-0449		1-hour	NCDC	36.9092	-119.0883	1720	02/1950-03/2010
BALCH POWER HOUSE	04-0449		15-min	NCDC	36.9092	-119.0883	1720	05/1971-03/2010
BALDY MESA COUNTY YARD #1	79-6383		15-min	SAN BERNARDINO	34.4683	-117.3932	3320	02/1990-05/2010
BANNING BENCH	90-0011		15-min	RIVERSIDE COUNTY	33.9722	-116.9117	3600	06/1974-07/2007

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
BARDSDALE-YOUNG RANCH	93-0096		1-day	VENTURA COUNTY	34.3636	-118.9450	400	10/1931-09/2006
BARLEY FLAT	97-0998	97-0999	1-day	LA COUNTY	34.2679	-118.0677	5550	01/1957-04/1963
BARON RANCH	80-0262		1-day	SANTA BARBARA	34.4833	-120.1292	525	10/1973-02/2007
BARRETT DAM	04-0514	92-0120	1-day	NCDC	32.6833	-116.6667	1621	04/1980-12/1980
BARRETT DAM	92-0120		1-day	SAN DIEGO COUNTY	32.6806	-116.6694	1623	**12/1913-01/2007**
BARSTOW	04-0519	04-0521	1-day	NCDC	34.9000	-117.0333	2162	03/1980-03/1980
BARSTOW	04-0521		1-day	NCDC	34.8928	-117.0219	2220	**01/1903-05/2010**
BARSTOW - DAGGETT AIRPORT	79-4393		15-min	SAN BERNARDINO	34.8571	-116.7950	1927	07/1989-05/2010
BATTLE CREEK ADR	04-0546		15-min	NCDC	40.3983	-122.1453	420	02/1971-03/2010
BEAR DIVIDE	97-1056		1-day	LA COUNTY	34.3597	-118.3936	2700	**10/1937-01/2007**
BEARTRAP MEADOW (BRM)	72-0006		1-day	USACE	36.6764	-118.8588	6800	10/1965-12/2006
BEAUMONT	04-0606		1-day	NCDC	33.9292	-116.9750	2613	**03/1906-11/2006**
BEAUMONT	04-0606		15-min	NCDC	33.9292	-116.9750	2613	04/1940-11/2006
BEAUMONT PUMPING PLANT	04-0607		1-day	NCDC	33.9833	-116.9667	3051	01/1911-10/1975
BEL AIR HOTEL	97-0023	97-0024	1-day	LA COUNTY	34.0836	-118.4346	540	10/1927-10/1973
BEL AIR HOTEL	97-0024		1-day	LA COUNTY	34.0864	-118.4458	540	**10/1927-05/2002**
BELL CANYON - PLATT RANCH	97-0732	97-0733	1-day	LA COUNTY	34.1845	-118.6508	915	02/1946-11/1955
BELL CANYON - RUSHWORTH	97-0733	97-0734	1-day	LA COUNTY	34.1844	-118.6508	925	10/1956-08/1961
BELL CREEK - DRY GULCH RA	97-0734	97-0735	1-day	LA COUNTY	34.1839	-118.6508	945	11/1961-09/1964
BELLEVIEW	97-0712		1-day	LA COUNTY	34.6231	-118.2319	2880	12/1957-04/1995
BELLFLOWER	97-0344	97-0345	1-day	LA COUNTY	33.8678	-118.1175	68	10/1924-10/1937
BELLFLOWER-FIRE STATION	97-0345	97-0346	1-day	LA COUNTY	33.8682	-118.1175	73	01/1940-10/1953
BELLFLOWER-HERALD ENTERPR	97-0346	97-0347	1-day	LA COUNTY	33.8682	-118.1176	90	10/1953-10/1956
BEN LOMOND	83-6006	04-0673	1-day	SANTA CLARA	37.0833	-122.0843	332	10/1963-06/1996
BEN LOMOND 2	04-0674	04-0673	1-day	NCDC	37.0833	-122.1000	502	05/1953-12/1965
BEN LOMOND NO 4	04-0673		1-day	NCDC	37.0856	-122.0797	420	**01/1937-05/2010**
BENSONS FERRY	04-0682		1-day	NCDC	38.2500	-121.4333	20	12/1912-07/1958
BENTON INSPECTION STN	04-0684		1-day	NCDC	37.8428	-118.4783	5460	**10/1964-09/2006**
BERKELEY	04-0693		1-day	NCDC	37.8744	-122.2589	310	1/1893-05/2010
BERKELEY	04-0693		1-hour	NCDC	37.8744	-122.2589	310	07/1948-02/1991
BIEBER	04-0731		1-hour	NCDC	41.1208	-121.1347	4125	07/1948-03/2010

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
BIG BAR 4 E	04-0738		1-day	NCDC	40.7403	-123.2081	**1253**	10/1943-05/2010
BIG BASIN WAY	83-6009		1-day	SANTA CLARA	37.2518	-122.0489	**618**	**08/1915-06/1999**
BIG BEAR LAKE	04-0741		1-day	NCDC	34.2442	-116.9039	6760	07/1960-05/2010
BIG BEAR LAKE DAM	04-0742		1-day	NCDC	34.2414	-116.9744	6815	**12/1914-03/2010**
BIG BEAR LAKE DAM	04-0742		1-hour	NCDC	**34.2417**	**-116.9764**	6815	07/1948-03/2010
BIG BEAR LAKE DAM	04-0742		15-min	NCDC	34.2414	-116.9744	6815	05/1971-09/2008
BIG CREEK 1	95-0026	04-0755	1-day	DWR	37.2050	-119.2400	4878	01/1989-03/2007
BIG CREEK PH 1	04-0755		1-day	NCDC	37.2064	-119.2419	4878	**09/1915-04/2010**
BIG DALTON DAM	97-0353	97-0354	1-day	LA COUNTY	34.1667	-117.8014	1600	09/1929-10/1935
BIG DALTON DAM	97-0354	97-0357	1-day	LA COUNTY	34.1670	-117.8008	1575	10/1935-10/1973
BIG DALTON DAM	97-0357		1-day	LA COUNTY	34.1683	-117.8100	1587	**09/1929-12/2006**
BIG PINES	97-0172	97-0173	1-day	LA COUNTY	34.3679	-117.6838	6860	10/1925-10/1959
BIG PINES PARK FC83B	04-0779		1-hour	NCDC	34.3833	-117.6833	6845	07/1948-10/1996
BIG PINES RECREATION PARK	97-0173	97-0174	1-day	LA COUNTY	34.3679	-117.6839	6860	10/1959-10/1987
BIG PINES RECREATION PARK	97-0174		1-day	LA COUNTY	34.3789	-117.6889	6860	**10/1925-05/2002**
BIG SANTA ANITA DAM	97-0138	97-0139	1-day	LA COUNTY	34.1834	-118.0192	1400	10/1930-10/1963
BIG SUR STATION	04-0790		1-day	NCDC	36.2472	-121.7803	200	01/1915-05/2010
BIG TUJUNGA CYN - BIG TUJ	96-0103	04-0798	1-day	CNRFC	34.2944	-118.1872	2315	01/2000-12/2006
BIG TUJUNGA DAM FC46	04-0798		1-day	NCDC	**34.2947**	**-118.1883**	**2326**	**01/1932-05/2010**
BIG TUJUNGA SPREADING GRO	97-0906	04-9047	1-day	LA COUNTY	34.2778	-118.2981	1400	09/1952-05/1968
BISHOP AP	04-0822		1-day	NCDC	37.3711	-118.3581	4102	01/1948-06/2010
BISHOP AP	04-0822		1-hour	NCDC	37.3711	-118.3581	4102	07/1948-03/2010
BISHOP CREEK INTAKE 2	04-0819		1-day	NCDC	37.2481	-118.5814	8154	10/1959-09/2009
BLACK BUTTE WEATHER (BLBW	72-0004		1-day	USACE	39.8061	-122.3298	437	10/1963-12/2006
BLACK MOUNTAIN 2 WSW	04-0850		1-day	NCDC	37.3167	-122.1667	2120	02/1954-06/1995
BLACK ROAD	83-6010		1-day	SANTA CLARA	37.2090	-122.0434	**1872**	**11/1926-06/1999**
BLODGETT EXP FOREST	04-0883		15-min	NCDC	38.9092	-120.6678	4414	05/1971-03/2010
BLOSSOM VALLEY	92-0210		1-day	SAN DIEGO COUNTY	32.8667	-116.8500	900	**11/1953-06/2006**
BLUE CANYON NYACK AP	04-0897		1-day	NCDC	39.2775	-120.7103	5276	03/1940-06/2010
BLUE CANYON NYACK AP	04-0897		1-hour	NCDC	39.2775	-120.7103	5276	07/1948-03/2010
BLUE LAKES	98-0017		1-day	NRCS	38.6000	**-119.9007**	**8057**	**10/1903-09/2010**

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
BLYTHE	04-0924		1-day	NCDC	33.6131	-114.5972	268	01/1913-05/2010
BLYTHE 7 W	04-0925		1-hour	NCDC	33.6167	-114.7167	390	02/1953-12/1994
BLYTHE AP	04-0927		1-day	NCDC	33.6186	-114.7142	395	07/1948-06/2010
BOCA	04-0931		1-day	NCDC	39.3886	-120.0936	5575	04/1906-05/2010
BODEGA BAY MARINE LAB	84-0934		1-day	MARIN COUNTY	38.3170	-123.0690	40	10/1967-09/1995
BODIE	04-0943		1-day	NCDC	38.2119	-119.0142	8370	2/1895-05/2010
BON TEMPE DAM	84-0969		1-day	MARIN COUNTY	37.9570	-122.6100	723	10/1949-09/2004
BONITA	04-0968	92-0240	1-day	NCDC	32.6667	-117.0333	112	11/1915-12/1970
BONITA ALLEN SCHOOL	92-0240		1-day	SAN DIEGO COUNTY	32.6561	-117.0333	120	**11/1915-04/1992**
BORON	04-0979		1-hour	NCDC	35.0042	-117.6503	2455	12/1959-03/2010
BORREGO C.R.S.	92-0270		1-hour	SAN DIEGO COUNTY	33.2214	-116.3347	500	**10/1963-04/1992**
BORREGO DESERT PARK	04-0983		1-day	NCDC	**33.2678**	**-116.4159**	805	07/1942-05/2010
BOULDER CR LOCAT RCH	04-1005		1-hour	NCDC	37.1422	-122.1964	2175	07/1948-03/2010
BOULDER CR LOCAT RCH	04-1005		15-min	NCDC	37.1422	-122.1964	2175	02/1972-03/2010
BOULEVARD	04-1009	04-1010	1-day	NCDC	32.6667	-116.2833	3353	09/1951-12/1967
BOULEVARD 2	04-1010		1-day	NCDC	32.6667	-116.3000	3600	**12/1924-12/1994**
BOUQUET CANYON - L.A.W.D.	97-0267	97-0268	1-day	LA COUNTY	34.5842	-118.3515	3100	10/1927-10/1930
BOUQUET CANYON RESERVOIR	97-0268		1-day	LA COUNTY	34.5872	-118.3625	3050	**10/1927-09/1978**
BOWMAN DAM	04-1018		1-day	NCDC	39.4539	-120.6556	5385	6/1896-05/2010
BOWMAN DAM	04-1018		1-hour	NCDC	39.4539	-120.6556	5385	07/1948-03/2010
BOWMAN DAM	04-1018		15-min	NCDC	39.4539	-120.6556	5385	05/1971-03/2010
BRAND PARK	97-0340	97-0343	1-day	LA COUNTY	34.1838	-118.2672	1250	10/1931-01/1988
BRAND PARK	97-0343		1-day	LA COUNTY	34.1883	-118.2722	1255	**10/1931-10/2002**
BRAWLEY 2 SW	04-1048		1-day	NCDC	32.9544	-115.5581	-100	06/1910-09/2007
BREA DAM	04-1057		1-hour	NCDC	33.8906	-117.9264	275	07/1948-03/2010
BRENTWOOD 6 SW	04-1060		1-hour	NCDC	37.8833	-121.7667	325	08/1950-08/1986
BRIDGEPORT	04-1072		1-day	NCDC	38.2575	-119.2286	6470	10/1903-05/2010
BRIDGEPORT DAM	04-1075		1-day	NCDC	38.3167	-119.2167	6424	04/1925-06/1957
BRIDGEPORT R S	04-1076		1-hour	NCDC	38.2506	-119.2161	6441	06/1950-03/2010
BRIDGEVILLE 4 NNW	04-1080		1-day	NCDC	40.5194	-123.8217	2100	**01/1939-01/2001**
BRIDGEVILLE HANSON RANCH	04-1082	04-1080	1-day	NCDC	40.5500	-123.8167	2602	01/1939-10/1952

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
BRIGGS TERRACE	97-0511	97-0512	1-day	LA COUNTY	34.2338	-118.2174	2225	10/1958-10/1973
BRIGGS TERRACE	97-0512		1-day	LA COUNTY	34.2381	-118.2242	2200	**11/1933-01/2007**
BRIGGS TERRACE-(PICKENS C	97-0510	97-0511	1-day	LA COUNTY	34.2339	-118.2176	2310	11/1933-10/1958
BROOKS	89-0031		1-hour	RAWS	38.7383	-122.1447	354	**02/1949-09/2010**
BROOKS FARNHAM RANCH	04-1112		1-day	NCDC	38.7667	-122.1500	294	**09/1921-09/2010**
BROOKS FARNHAM RANCH	04-1112	89-0031	1-hour	NCDC	38.7667	-122.1500	294	02/1949-03/1976
BROWN FIELD AIRPORT	92-0405		1-day	SAN DIEGO COUNTY	32.5667	-116.9833	523	07/1963-02/2007
BRUSH CREEK R S	04-1130		1-hour	NCDC	39.6950	-121.3453	3560	07/1948-03/2010
BRYSON	04-1142		1-hour	NCDC	35.7989	-121.0939	925	07/1948-03/2010
BRYSON	04-1142		15-min	NCDC	35.7989	-121.0939	925	04/1976-03/2010
BUCKHORN	04-1149		1-day	NCDC	40.8669	-121.8464	3800	07/1948-05/2010
BUCKHORN FLAT	97-0919		1-day	LA COUNTY	34.3456	-117.9189	6760	11/1953-02/1995
BUCKS CREEK	04-1159		1-day	NCDC	39.9372	-121.3147	1891	07/1959-05/2010
BUELLTON FIRE STATION #31	80-0233		1-day	SANTA BARBARA	34.6131	-120.1967	360	11/1954-04/2007
BUELLTON FIRE STATION #31	80-0233		15-min	SANTA BARBARA	34.6131	-120.1967	360	09/1966-10/2004
BUENA VISTA	04-1170		1-hour	NCDC	36.7667	-121.1833	1640	07/1948-01/1973
BUNNING RANCH (BNR)	72-0005		1-day	USACE	37.3725	-119.8894	1520	10/1975-12/2006
BURBANK VALLEY PUMP PLANT	04-1194		1-day	NCDC	34.1867	-118.3481	655	12/1939-05/2010
BURBANK VALLEY PUMP PLANT	04-1194		1-hour	NCDC	34.1867	-118.3481	655	07/1948-03/2010
BURBANK-FIRE STATION	97-0359		1-day	LA COUNTY	34.1828	-118.3064	680	10/1957-12/1997
BURLINGAME	04-1206		1-day	NCDC	37.5833	-122.3500	10	12/1906-01/1978
BURNEY	04-1214		1-day	NCDC	**40.8803**	**-121.6547**	3198	07/1948-05/2010
BURNT RANCH 1 S	04-1215		1-day	NCDC	40.8000	-123.4667	2150	11/1959-06/1989
BURTON MESA FIRE STATION	80-0205		1-day	SANTA BARBARA	34.6975	-120.4500	240	09/1961-06/2006
BURTON MESA FIRE STATION	80-0205		15-min	SANTA BARBARA	34.6975	-120.4500	240	10/1964-07/2003
BUTTONWILLOW	04-1244		1-day	NCDC	35.4047	-119.4731	269	01/1940-05/2010
C.V.F FONTANA	79-2996		15-min	SAN BERNARDINO	34.0778	-117.4695	1115	11/1977-06/2010
CABAZON	04-1250		1-day	NCDC	33.9167	-116.7833	1801	**03/1906-12/2000**
CABAZON	04-1250		1-hour	NCDC	33.9092	-116.7811	1700	06/1975-12/2000
CABAZON	90-0025		15-min	RIVERSIDE COUNTY	33.9173	-116.7827	1806	06/1975-07/2007
CACHUMA LAKE	04-1253		1-day	NCDC	34.5825	-119.9808	**783**	**10/1951-05/2010**

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
CACHUMA LAKE	04-1253		1-hour	NCDC	34.5825	-119.9808	781	10/1951-09/2002
CAJON JUNCTION	79-9028		15-min	SAN BERNARDINO	34.3121	-117.4785	3118	11/1954-06/2010
CAJON WEST SUMMIT	04-1272		1-hour	NCDC	34.3900	-117.5925	4780	**07/1948-03/2010**
CAJON WEST SUMMIT	04-1272		15-min	NCDC	34.3900	-117.5925	4780	**05/1971-03/2010**
CAJON WEST SUMMIT	79-2052	04-1272	15-min	SAN BERNARDINO	34.3898	-117.5757	4838	10/1980-10/2009
CAL STATE S.B.	79-2893		15-min	SAN BERNARDINO	34.1872	-117.3211	1525	03/1983-06/2010
CALABASAS	97-0011	97-0012	1-day	LA COUNTY	34.1507	-118.6339	950	10/1927-10/1939
CALABASAS	97-0012		1-day	LA COUNTY	34.1567	-118.6372	924	**10/1927-12/2006**
CALAVERAS BIG TREES	04-1277		1-day	NCDC	38.2769	-120.3114	4695	10/1929-05/2010
CALAVERAS RANGER STN	04-1280	95-0093	1-day	NCDC	38.2000	-120.3667	3360	02/1986-02/1986
CALAVERAS RANGER STN	04-1280		1-hour	NCDC	38.2000	-120.3667	3360	07/1948-05/1986
CALAVERAS RS	95-0093		1-day	DWR	38.1980	-120.3670	3360	**07/1948-03/2007**
CALERO	96-0110		1-day	CNRFC	37.1697	-121.7569	550	**10/1957-12/2006**
CALERO RESERVOIR	83-6012	83-6128	1-day	SANTA CLARA	37.1786	-121.7652	483	10/1957-06/1976
CALERO WATERSHED	83-6128	96-0110	1-day	SANTA CLARA	37.1697	-121.7580	552	09/1978-06/1999
CALEXICO 2 NE	04-1288		1-day	NCDC	32.6881	-115.4644	12	08/1904-05/2010
CALICO COUNTY REGIONAL PA	79-6304		15-min	SAN BERNARDINO	34.9516	-116.8642	2340	10/1972-05/2010
CALIF HOT SPRINGS RANGER	04-1300		1-day	NCDC	35.8833	-118.6833	2953	**01/1907-03/1965**
CALISTOGA	04-1312		1-day	NCDC	38.5961	-122.6014	400	03/1906-05/2010
CALLAHAN	04-1316		1-day	NCDC	41.3111	-122.8044	3185	10/1943-05/2010
CAMARILLO-HAUSER	93-0219		1-day	VENTURA COUNTY	34.2278	-119.0264	172	10/1964-09/2006
CAMARILLO-PACIFIC SOD	93-0177		1-day	VENTURA COUNTY	34.1572	-119.0778	20	10/1956-09/2006
CAMARILLO-SPRINGVILLE RAN	93-0003		1-day	VENTURA COUNTY	34.2047	**-119.0687**	73	10/1902-09/1992
CAMP ANGELUS	04-1369		1-hour	NCDC	34.1492	-116.9803	5770	07/1948-03/2010
CAMP ANGELUS	04-1369		15-min	NCDC	34.1492	-116.9803	5770	05/1971-03/2010
CAMP BALDY FC 85 F	04-1373		1-day	NCDC	34.2333	-117.6667	4304	**01/1916-09/1976**
CAMP BALDY GUARD STATION	97-0178	97-0179	1-day	LA COUNTY	34.2389	-117.6572	4320	12/1927-02/1936
CAMP BALDY GUARD STATION	97-0179	97-0180	1-day	LA COUNTY	34.2337	-117.6509	4300	02/1936-01/1937
CAMP BALDY GUARD STATION	97-0180	97-0181	1-day	LA COUNTY	34.2337	-117.6509	4300	01/1937-11/1954
CAMP HI HILL (OPIDS)	97-0131	97-0133	1-day	LA COUNTY	34.2505	-118.0845	4250	10/1935-11/1978
CAMP HI HILL (OPIDS)	97-0133		1-day	LA COUNTY	34.2550	-118.0947	4250	**01/1917-05/2002**

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
CAMP JOSEPHO	97-0904		1-day	LA COUNTY	34.0808	-118.5194	660	11/1952-12/1991
CAMP PARDEE	04-1428		1-day	NCDC	38.2486	-120.8433	658	07/1926-05/2010
CAMP PARDEE	04-1428		1-hour	NCDC	38.2486	-120.8433	658	07/1948-03/2010
CAMP PARDEE	04-1428		15-min	NCDC	38.2486	-120.8433	658	01/1984-03/2010
CAMP RINCON	97-1234	97-1235	1-day	LA COUNTY	34.2339	-117.8510	1530	06/1938-08/1956
CAMP RINCON	97-1235	97-1236	1-day	LA COUNTY	34.2339	-117.8509	1530	09/1956-01/1963
CAMP RINCON	97-1236	97-0518	1-day	LA COUNTY	34.2411	-117.8625	1510	07/1932-02/1978
CAMP RINCON - LUCKEY'S	97-1233	97-1234	1-day	LA COUNTY	34.2339	-117.8510	1500	07/1932-05/1938
CAMP WISHON	04-1470	04-8463	1-hour	NCDC	36.1833	-118.6667	3802	07/1948-12/1960
CAMPBELL WATER COMPANY	83-6014		1-day	SANTA CLARA	37.2874	-121.9600	**196**	**08/1935-07/2010**
CAMPO	04-1424		1-day	NCDC	32.6233	-116.4728	2630	**07/1937-05/2010**
CAMPO	92-0420	04-1424	1-day	SAN DIEGO COUNTY	32.6167	-116.4667	2630	07/1937-02/2007
CAMPTONVILLE 1 SW	04-1460	04-1462	15-min	NCDC	39.4397	-121.0711	2503	11/1994-03/2008
CAMPTONVILLE CAM	94-0079	04-1462	1-hour	STATE CLIMATOLOGIST	39.4510	-121.0480	2755	10/1983-09/2006
CAMPTONVILLE R S	04-1462		1-day	NCDC	39.4500	-121.0500	2755	**02/1907-09/2006**
CAMPTONVILLE R S	04-1462		1-hour	NCDC	39.4500	-121.0500	2755	**07/1948-03/2008**
CAMPTONVILLE R S	04-1462		15-min	NCDC	**39.4533**	**-121.0467**	2755	**05/1971-03/2008**
CANADA LARGA	93-0085		1-day	VENTURA COUNTY	34.3814	-119.2281	760	10/1934-09/2006
CANBY 3 SW	04-1476		1-day	NCDC	41.4219	-120.9017	4310	09/1943-02/2009
CANOGA PARK - PIERCE COLL	97-0902	97-0903	1-day	LA COUNTY	34.1681	-118.5673	800	10/1951-10/1962
CANOGA PARK-PIERCE COLLEG	97-0903		1-day	LA COUNTY	34.1808	-118.5731	800	**10/1951-02/2007**
CANYON DAM	04-1497		1-day	NCDC	**40.1703**	**-121.0883**	4560	01/1914-05/2010
CANYON DAM	04-1497		15-min	NCDC	40.1706	-121.0886	4560	10/1975-03/2010
CARBON CANYON	97-0600	97-0601	1-day	LA COUNTY	34.0338	-118.6349	145	10/1951-10/1964
CARBON CANYON	97-0601		1-day	LA COUNTY	34.0383	-118.6489	50	**10/1951-09/2005**
CARBON CANYON GILMAN	04-1518		1-hour	NCDC	33.9231	-117.7778	1624	06/1955-03/2010
CARBON CANYON WORKMAN	04-1520		1-hour	NCDC	33.9581	-117.7792	1180	09/1949-06/2001
CARIBOU PH	04-1522	95-0061	1-day	NCDC	40.0833	-121.1500	2992	06/1959-06/1977
CARIBOU PH	95-0061		1-day	DWR	40.0850	-121.1500	2986	**06/1959-03/2007**
CARPINTERIA FIRE STATION	80-0208		1-day	SANTA BARBARA	34.3981	-119.5183	15	**12/1948-04/2007**

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
CARPINTERIA POST OFFICE	80-0333	80-0208	1-day	SANTA BARBARA	34.4000	-119.5167	40	09/1939-04/1975
CARPINTERIA RESERVOIR	04-1540		1-hour	NCDC	34.4064	-119.4850	385	11/1968-03/2010
CARPINTERIA RESERVOIR	80-0209	04-1540	15-min	SANTA BARBARA	34.4075	-119.4847	385	10/1964-05/1989
CASE SPRINGS	89-0041		1-day	RAWS	33.4450	-117.4181	2320	10/1966-10/2010
CASE SPRINGS	89-0041		1-hour	RAWS	33.4450	-117.4181	2320	**10/1966-10/2010**
CASE SPRINGS	92-0480	89-0041	1-hour	SAN DIEGO COUNTY	33.4500	-117.4167	2320	10/1966-05/1989
CASITAS RANCH ON COYOTE C	93-0004		1-day	VENTURA COUNTY	34.3669	**-119.3265**	400	10/1927-09/2006
CASTAIC DAM	97-0397		1-day	LA COUNTY	34.4981	-118.6147	1150	10/1972-11/2006
CASTAIC JUNCTION	97-0837	97-0838	1-day	LA COUNTY	34.4340	-118.6006	1001	10/1947-04/1968
CASTAIC JUNCTION	97-0838		1-day	LA COUNTY	34.4383	-118.6119	1005	**10/1947-05/1999**
CASTRO VALLEY	83-6015		1-day	SANTA CLARA	36.9584	-121.6043	**662**	**10/1939-07/2010**
CAT CANYON	80-0408		1-day	SANTA BARBARA	34.8000	-120.2667	1400	10/1951-05/1996
CATER TREATMENT PLANT	80-0229		1-day	SANTA BARBARA	34.4542	-119.7303	500	**11/1944-08/2006**
CATHEDRAL CITY	90-0034		15-min	RIVERSIDE COUNTY	33.7814	-116.4575	284	01/1969-07/2007
CATHEYS VALLEY BULL R RAN	04-1588		1-hour	NCDC	37.4000	-120.0500	1430	07/1948-05/1977
CAZADERO	04-1602	04-1603	1-day	NCDC	38.5333	-123.1333	1060	08/1971-08/1971
CAZADERO 5NW	04-1603		1-day	NCDC	38.5642	-123.1617	1420	**11/1939-08/2008**
CECILVILLE	04-1606		1-day	NCDC	41.1417	-123.1392	2310	11/1954-03/2003
CEDAR PASS	98-0020		1-day	NRCS	41.5833	-120.3000	**7030**	10/1978-09/2010
CEDAR SPRINGS	97-0544	97-0545	1-day	LA COUNTY	34.3558	-117.8761	6780	02/1962-07/1987
CEDAR SPRINGS	97-0545		1-day	LA COUNTY	34.3558	-117.8761	6780	**10/1940-07/1987**
CEDAR SPRINGS - STATE PRI	97-0542	97-0544	1-day	LA COUNTY	34.3550	-117.8756	6665	10/1940-01/1962
CEDARVILLE	04-1614		1-day	NCDC	41.5336	-120.1736	4670	5/1894-05/2010
CELITE	80-0375	80-0259	1-day	SANTA BARBARA	34.5889	**-120.4539**	570	10/1922-05/1996
CELITE PLANT	80-0259		1-day	SANTA BARBARA	34.5889	-120.4539	570	**10/1922-09/2006**
CELITE PLANT	80-0259		15-min	SANTA BARBARA	34.5889	-120.4539	570	10/1971-08/2003
CENTERVILLE PH	04-1624		1-day	NCDC	39.7833	-121.6667	522	04/1914-06/1971
CHALLENGE R S	04-1653		1-day	NCDC	39.4833	-121.2167	2570	12/1937-04/1994
CHASE & TAYLOR	90-0035		15-min	RIVERSIDE COUNTY	33.8450	-117.5744	1055	07/1967-05/2007
CHATSWORTH	97-0056	97-0057	1-day	LA COUNTY	34.2507	-118.6006	960	10/1927-11/1932
CHATSWORTH	97-0057	97-0058	1-day	LA COUNTY	34.2506	-118.6003	965	11/1932-10/1939

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
CHATSWORTH	97-0058	97-0059	1-day	LA COUNTY	34.2506	-118.6003	965	10/1939-07/1946
CHATSWORTH	97-0059	97-0060	1-day	LA COUNTY	34.2506	-118.6005	957	07/1946-05/1970
CHATSWORTH	97-0060	97-0061	1-day	LA COUNTY	34.2506	-118.6010	948	05/1970-08/1985
CHATSWORTH	97-0061	97-0799	1-day	LA COUNTY	34.2569	-118.6106	960	10/1927-10/1988
CHATSWORTH FC 24 F	04-1680		1-day	NCDC	34.2500	-118.6000	950	**10/1927-03/2010**
CHATSWORTH RESERVOIR	97-0054	97-0055	1-day	LA COUNTY	34.2261	-118.6161	865	10/1925-10/1967
CHATSWORTH RESERVOIR	97-0055		1-day	LA COUNTY	34.2289	-118.6217	900	**10/1925-10/2006**
CHATSWORTH RESERVOIR	04-1682		1-hour	NCDC	34.2264	-118.6169	910	07/1948-03/2010
CHERRY VALLEY DAM	04-1697		1-day	NCDC	37.9747	-119.9161	4765	**10/1909-05/2010**
CHESTER	04-1700		1-day	NCDC	40.3033	-121.2422	4530	05/1910-05/2010
CHICO UNIVERSITY FARM	04-1715		1-day	NCDC	39.6911	-121.8211	185	01/1906-05/2010
CHICO UNIVERSITY FARM	04-1715		1-hour	NCDC	39.6911	-121.8211	185	07/1948-03/2010
CHICO UNIVERSITY FARM	04-1715		15-min	NCDC	39.6911	-121.8211	185	05/1973-03/2010
CHILAO-U. S. F~ S. CAMP	97-0589		1-day	LA COUNTY	34.3333	-118.0231	5220	**09/1939-03/1986**
CHINA FLAT	04-1731	04-7698	1-day	NCDC	40.8667	-123.5833	600	06/1955-06/1955
CHINA LAKE ARMITAGE	04-1733		1-day	NCDC	35.6875	-117.6931	2230	**02/1944-03/2007**
CHINO FIRE STATION #1	79-1262		15-min	SAN BERNARDINO	34.0123	-117.6883	730	04/1976-06/2010
CHLLAO - U. S . F. S . CA	97-0588	97-0589	1-day	LA COUNTY	34.3283	-118.0167	5155	09/1939-10/1969
CHLLAO - U. S. F. S. CAMP	97-0586	97-0588	1-day	LA COUNTY	34.3179	-118.0169	5150	09/1939-10/1943
CHLLAO - U. S. F. S. CAMP	97-0587	97-0588	1-day	LA COUNTY	34.3177	-118.0169	5250	02/1943-10/1963
CHOLAME ALLEY RANCH	04-1743		1-hour	NCDC	35.7167	-120.2500	1752	07/1948-06/1985
CHOLLAS RESERVOIR	92-0510		1-day	SAN DIEGO COUNTY	32.7333	-117.0667	430	01/1926-01/2003
CHUCHUPATE RANGER STN	04-1754		1-hour	NCDC	34.8078	-119.0114	5260	07/1948-01/2010
CHUCHUPATE RANGER STN	04-1754		15-min	NCDC	34.8078	-119.0114	5260	05/1971-01/2010
CHULA VISTA	04-1758		1-day	NCDC	32.6400	-117.0858	56	09/1918-05/2010
CITY OF SAN JOSE	83-6086		1-day	SANTA CLARA	37.3416	-121.9038	**80**	**7/1873-07/2010**
CLAREMONT- INDIAN HILL	97-0192	97-0627	1-day	LA COUNTY	34.1228	-117.7197	1403	10/1927-02/1995
CLAREMONT- POMONA COLLEGE	97-0193	97-0196	1-day	LA COUNTY	34.0967	-117.7092	1185	1/1897-10/1990
CLAREMONT-POLICE STATION	97-0196		1-day	LA COUNTY	34.0958	-117.7217	1170	**1/1897-01/2007**
CLAREMONT-SLAUGHTER	97-0627		1-day	LA COUNTY	34.1264	-117.7319	1350	**10/1927-12/2006**
CLARKSBURG	04-1784		1-day	NCDC	38.4167	-121.5333	10	04/1935-11/1974

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
CLEAR CREEK -CITY SCHOOL	97-0109	97-0112	1-day	LA COUNTY	34.2677	-118.1670	3150	12/1957-10/1986
CLEAR CREEK -CITY SCHOOL	97-0112		1-day	LA COUNTY	34.2772	-118.1700	3150	**10/1925-05/2002**
CLEAR LAKE DAM	04-1805		1-day	NCDC	41.9333	-121.0667	4573	05/1907-09/1954
CLEAR LAKE PARK	04-1807		1-day	NCDC	38.9833	-122.7167	1332	07/1911-10/1954
CLEARLAKE 4 SE	04-1806		1-day	NCDC	38.9239	-122.5672	1349	10/1954-05/2010
CLEARLAKE 4 SE	04-1806		1-hour	NCDC	38.9239	-122.5672	1349	10/1954-10/1985
CLOVERDALE	04-1837		1-day	NCDC	38.8167	-123.0167	341	**1/1893-05/2010**
CLOVERDALE	04-1838	04-1837	1-day	NCDC	38.8067	-123.0172	333	11/1955-12/2006
COALINGA	04-1864		1-day	NCDC	36.1356	-120.3606	670	**09/1911-05/2010**
COALINGA	04-1864	04-1867	15-min	NCDC	36.1356	-120.3606	670	10/1979-03/2008
COALINGA 1 SE	04-1867	04-1864	1-day	NCDC	36.1333	-120.3500	659	09/1951-09/1951
COALINGA 1 SE	04-1867		1-hour	NCDC	36.1333	**-120.3413**	659	**07/1948-03/2008**
COARSEGOLD 1 SW	04-1878		1-day	NCDC	37.2503	-119.7053	2230	08/1977-12/2007
COE PARK	83-6017		1-day	SANTA CLARA	37.1866	-121.5457	**2603**	**07/1960-07/2010**
COFFEE CREEK R S	04-1886		1-hour	NCDC	41.0894	-122.7086	2500	11/1960-03/2010
COFFEE CREEK R S	04-1886		15-min	NCDC	41.0894	-122.7086	2500	05/1971-03/2010
COGSWELL DAM	97-0498		1-day	LA COUNTY	34.2436	-117.9597	2300	**10/1931-12/2006**
COIT RANCH	83-6018	96-0418	1-day	SANTA CLARA	37.1506	-121.4196	1711	11/1953-06/1999
COLBY'S	97-0120	97-0123	1-day	LA COUNTY	34.3001	-118.1011	3620	10/1949-05/1987
COLBY'S	97-0123		1-day	LA COUNTY	34.3014	-118.1108	3620	**07/1937-05/2002**
COLBY'S-SLEEPY HOLLOW RAN	97-0119	97-0123	1-day	LA COUNTY	34.3011	-118.1117	3500	07/1937-10/1949
COLDBROOK RANGER STATION	97-0167	97-0168	1-day	LA COUNTY	34.2844	-117.8339	3350	12/1922-03/1938
COLDBROOK RANGER STATION	97-0168		1-day	LA COUNTY	34.2906	-117.8406	3280	**12/1922-11/1989**
COLEMAN FISHERIES STA	04-1907		1-day	NCDC	40.4000	-122.1433	420	11/1943-05/2010
COLFAX	04-1912		1-day	NCDC	39.0911	-120.9481	2380	01/1905-05/2010
COLGATE P H	04-1916		1-day	NCDC	39.3308	-121.1922	595	11/1906-05/2010
COLUSA 2 SSW	04-1948		1-day	NCDC	**39.1875**	**-122.0269**	50	**2/1893-05/2010**
COLUSA BRIDGE	04-1945	04-1948	1-day	NCDC	39.2167	-122.0000	59	09/1952-09/1952
COOSKIE MOUNTAIN	89-0051		1-hour	RAWS	40.2569	-124.2661	2950	05/1985-09/2010
COPCO NO 1 DAM	04-1990		1-day	NCDC	41.9797	-122.3378	2703	05/1959-05/2010
CORCORAN IRRIG DIST	04-2012		1-day	NCDC	36.0975	-119.5817	200	07/1948-05/2010

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
CORCORAN IRRIG DIST	04-2012		1-hour	NCDC	36.0975	-119.5817	200	01/1956-03/2010
CORNING HOUGHTON RANCH	04-2027		1-day	NCDC	39.9000	-122.3500	487	07/1948-05/1984
CORONA	04-2031		1-day	NCDC	33.8833	-117.5500	610	07/1908-07/1988
CORONADO	92-0600		1-day	SAN DIEGO COUNTY	32.6889	-117.1667	25	07/1926-05/2006
CORRAL CANYON - STEWART	97-0866	97-0867	1-day	LA COUNTY	34.0510	-118.7340	1300	11/1949-01/1958
CORRALITOS	04-2048		1-hour	NCDC	36.9897	-121.8050	270	04/1958-03/2010
CORTE MADERA	84-2057		1-day	MARIN COUNTY	37.9250	-122.5330	55	10/1962-09/2004
COVELO	04-2081		1-day	NCDC	39.8158	-123.2444	**1413**	1/1894-05/2010
COVELO EEL RIVER RS	04-2084		1-hour	NCDC	39.8261	-123.0850	1514	07/1948-03/2010
COVINA	04-2088	04-2090	1-day	NCDC	34.0667	-117.8667	600	05/1949-05/1949
COVINA CITY YARD	97-0526		1-day	LA COUNTY	34.0839	-117.8992	508	10/1939-01/2007
COVINA CITY YRD FC387B	04-2090		1-day	NCDC	**34.0917**	**-117.8803**	**607**	**03/1906-05/2010**
COVINA -TEMPLE	97-0325	97-0326	1-day	LA COUNTY	34.0682	-117.8674	575	10/1949-09/1961
COX AVENUE	83-6020		1-day	SANTA CLARA	37.2821	-122.0199	**330**	11/1954-06/1999
COYOTE RESERVOIR	83-6021		1-day	SANTA CLARA	37.1158	-121.5509	**811**	07/1935-06/1992
CRAWFORD RANCH	04-2139		1-hour	NCDC	32.8833	-116.2833	1503	07/1948-07/1985
CRESCENT CITY 3 NNW	04-2147		1-day	NCDC	41.7958	-124.2147	**43**	1/1893-05/2010
CRESCENT CITY 7 ENE	04-2148		1-day	NCDC	41.7942	-124.0850	120	12/1951-05/2002
CRESCENT CITY MNTC STN	04-2150		1-hour	NCDC	41.7667	-124.2000	49	07/1948-12/1983
CRESTLINE FIRE STATION #2	04-2164		15-min	NCDC	34.2428	-117.2708	4560	05/1971-03/2010
CROCKETT	04-2177	85-0013	1-day	NCDC	38.0333	-122.2167	10	10/1952-02/1977
CRYSTAL LAKE-EAST PINE FL	97-0432	97-0433	1-day	LA COUNTY	34.3176	-117.8337	5740	10/1931-03/1950
CRYSTAL LAKE-EAST PINE FL	97-0433	97-0435	1-day	LA COUNTY	34.3272	-117.8367	5770	10/1931-09/1959
CRYSTAL LAKE-EAST PINE FL	97-0434	97-0435	1-day	LA COUNTY	34.3167	-117.8341	5370	10/1959-09/1987
CRYSTAL LAKE-EAST PINE FL	97-0435		1-day	LA COUNTY	34.3172	-117.8411	5370	**10/1931-06/2002**
CSS LAB	98-0022	04-8331	1-day	NRCS	39.3333	-120.3667	**6855**	10/1983-09/2010
CUCAMONGA AT BASELINE	79-1376		15-min	SAN BERNARDINO	34.1214	-117.6205	1466	10/1984-04/2010
CUDDY VALLEY-CUDDY RANCH	93-0244		1-day	VENTURA COUNTY	34.8400	-119.0594	5500	10/1974-09/2005
CULVER CITY	04-2214		1-day	NCDC	34.0050	-118.4128	55	01/1935-05/2010
CULVER CITY	97-1194	97-1195	1-day	LA COUNTY	34.0172	-118.3846	91	10/1930-01/1935
CULVER CITY	97-1196	97-0615	1-day	LA COUNTY	34.0214	-118.3947	100	10/1930-08/1976

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
CULVER CITY-BUS YARD	97-1195	97-1196	1-day	LA COUNTY	34.0167	-118.3838	75	01/1935-10/1968
CUMMINGS	04-2218		1-day	NCDC	39.8333	-123.6333	1289	02/1927-06/1981
CUPERTINO	83-6113	83-6022	1-day	SANTA CLARA	37.3277	-122.0400	255	8/1896-06/1959
CUPERTINO WATER COMPANY	83-6022		1-day	SANTA CLARA	37.3227	-122.0546	**337**	**8/1896-07/2010**
CURTNER RANCH	83-6023		1-day	SANTA CLARA	37.4672	-121.8778	**667**	**10/1936-07/2010**
CUYAMA FIRE STATION #41	80-0436		1-day	SANTA BARBARA	34.9456	-119.6825	2275	11/1954-04/2007
CUYAMA RANCH	80-0221		1-day	SANTA BARBARA	34.9825	-119.6681	2170	12/1947-10/2006
CUYAMA RANCH	04-2248		1-hour	NCDC	34.9833	-119.6667	2172	**12/1947-08/2003**
CUYAMA RANCH	80-0221		15-min	SANTA BARBARA	34.9825	-119.6681	2170	12/1947-08/2003
CUYAMA RANGER STN	04-2249	04-9283	1-hour	NCDC	34.8500	-119.4833	2753	07/1948-03/1967
CUYAMACA	04-2239		1-day	NCDC	32.9897	-116.5872	4640	**8/1887-05/2010**
CUYAMACA	04-2239		15-min	NCDC	32.9897	-116.5872	4640	**09/1967-03/2010**
CUYAMACA RESERVOIR	92-0720	04-2239	1-day	SAN DIEGO COUNTY	32.8578	-116.5867	4590	8/1887-12/2004
CUYAMACA RESERVOIR	92-0720	04-2239	15-min	SAN DIEGO COUNTY	32.8578	-116.5867	4590	09/1967-12/2004
DAGGETT AP	04-2257		1-day	NCDC	34.8536	-116.7858	1917	07/1948-06/2010
DAGGETT POWER PLANT	04-2255		1-hour	NCDC	34.8611	-116.8556	1970	03/1953-01/2010
DAHL RANCH	83-6024		1-day	SANTA CLARA	37.3414	-122.1761	**1826**	**02/1965-07/2010**
DAVIS 2 WSW EXP FARM	04-2294		1-day	NCDC	38.5350	-121.7761	60	1/1893-05/2010
DAVIS 2 WSW EXP FARM	04-2294		1-hour	NCDC	38.5350	-121.7761	60	**07/1948-03/2010**
DAVIS 2 WSW EXP FARM	04-2294		15-min	NCDC	38.5350	-121.7761	60	01/1984-03/2010
DAY	04-2306		1-hour	NCDC	41.2122	-121.3742	3650	07/1948-03/2010
DAY	04-2306		15-min	NCDC	41.2122	-121.3742	3650	01/1984-03/2010
DAY CANYON - ROYER/NESBIT	79-1385		15-min	SAN BERNARDINO	34.1571	-117.5319	1910	10/1987-09/2010
DE LUZ	92-0755		1-day	SAN DIEGO COUNTY	33.4500	-117.3167	470	07/1966-01/2007
DE SABLA	04-2402		1-day	NCDC	**39.8717**	**-121.6108**	2710	03/1906-05/2010
DE SOTO RESERVOIR	97-0799		1-day	LA COUNTY	34.2714	-118.5867	1127	**10/1927-10/2006**
DEATH VALLEY	04-2319		1-day	NCDC	36.4622	-116.8669	**-194**	**06/1911-05/2010**
DEEP CANYON LABORATORY	04-2327		1-day	NCDC	33.6514	-116.3764	1200	01/1963-05/2010
DEEP SPRINGS COLLEGE	04-2331		1-day	NCDC	37.3739	-117.9803	5225	07/1948-05/2007
DEER CREEK FOREBAY	04-2338		1-day	NCDC	39.3000	-120.8333	4455	**01/1907-04/1994**
DEER CREEK PH	04-2334	04-2338	1-day	NCDC	39.3000	-120.8500	3704	04/1970-04/1970

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DEL MAR	92-0745		1-day	SAN DIEGO COUNTY	33.0008	-117.2628	10	**09/1940-02/2007**
DEL MONTE	04-2362		1-day	NCDC	36.6000	-121.8667	45	**01/1911-03/2008**
DEL MONTE	04-2362		1-hour	NCDC	36.6000	-121.8667	45	07/1948-06/1995
DEL MONTE	04-2362	04-5802	15-min	NCDC	36.6000	-121.8667	45	05/1971-06/1995
DEL ROSA FIRE STATION #6	79-2361		15-min	SAN BERNARDINO	34.1336	-117.2527	1165	10/1980-09/2010
DEL ROSA RANGER STATION	79-2015		15-min	SAN BERNARDINO	34.1674	-117.2500	1747	**10/1957-09/2010**
DELANO	04-2346		1-day	NCDC	**35.7683**	**-119.2600**	**302**	03/1906-05/2010
DENAIR 3 NNE	04-2389		1-day	NCDC	37.5667	-120.7833	141	6/1899-06/1984
DES HOT SPR EAST	90-0057		15-min	RIVERSIDE COUNTY	33.9675	-116.4944	1220	10/1957-07/2007
DESCANSO GARDENS	97-0926	97-0927	1-day	LA COUNTY	34.2002	-118.2009	1325	10/1949-10/1955
DESCANSO GARDENS	97-0927		1-day	LA COUNTY	34.2019	-118.2128	1325	**10/1949-01/2007**
DESCANSO RANGER STN	04-2406		1-day	NCDC	32.8500	-116.6167	3500	1/1896-03/1998
DEVIL' S PUNCH BOWL	97-0986	97-0987	1-day	LA COUNTY	34.4015	-117.8512	4750	09/1959-08/1961
DEVILS PUNCH BOWL	97-0987		1-day	LA COUNTY	34.4133	-117.8569	4760	**01/1943-02/1993**
DEVORE C.D.F.	79-2118		15-min	SAN BERNARDINO	34.2220	-117.4067	2080	10/1975-09/2010
DIAMOND BAR	04-2432	04-8436	1-hour	NCDC	34.0000	-117.8000	880	07/1948-11/1985
DISMAL SWAMP	98-0023		1-day	NRCS	**41.9846**	**-120.1654**	**7360**	10/1980-09/2010
DOMINGUEZ WATER CO.	97-0988	97-0989	1-day	LA COUNTY	33.8182	-118.2175	30	11/1955-01/1993
DOMINGUEZ WATER CO.	97-0989		1-day	LA COUNTY	33.8317	-118.2250	30	**11/1955-05/2002**
DONNER MEMORIAL ST PARK	04-2467		1-day	NCDC	39.3239	-120.2331	5937	11/1953-05/2010
DOS PUEBLOS RANCH	80-0226		1-day	SANTA BARBARA	34.4467	-119.9517	160	10/1946-03/2007
DOULTON TUNNEL	80-0231		1-day	SANTA BARBARA	34.4569	-119.5639	1775	10/1926-04/2007
DOWNEY FIRE STN FC107C	04-2494		1-day	NCDC	33.9297	-118.1456	110	**03/1906-05/2010**
DOWNEY-FIRE DEPARTMENT	97-0229	04-2494	1-day	LA COUNTY	33.9300	-118.1464	110	10/1974-01/2007
DOWNIEVILLE	04-2500		1-day	NCDC	39.5633	-120.8239	2915	09/1908-05/2010
DOWNIEVILLE	04-2500		1-hour	NCDC	39.5633	-120.8239	2915	07/1948-03/2010
DOWNIEVILLE	04-2500		15-min	NCDC	39.5633	-120.8239	2915	05/1971-03/2010
DOYLE	04-2504		1-day	NCDC	40.0244	-120.1044	4240	01/1923-05/2010
DOYLE 4 SSE	04-2506		1-day	NCDC	39.9717	-120.0828	4390	07/1956-05/2010
DRY CANYON RESERVOIR	97-0274	97-0275	1-day	LA COUNTY	34.4676	-118.5178	1507	10/1921-10/1960
DRY CANYON RESERVOIR	97-0275		1-day	LA COUNTY	34.4819	-118.5256	1511	**10/1921-02/1990**

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DUDLEYS	04-2539		1-day	NCDC	37.7500	-120.1000	3002	08/1908-01/1976
DUNNIGAN	04-2568		1-day	NCDC	38.8833	-121.9667	49	03/1906-12/1978
DUNSMUIR	04-2572	04-2574	1-day	NCDC	41.2167	-122.2667	2421	08/1971-06/1978
DUNSMUIR TREATMENT PLANT	04-2574		1-day	NCDC	41.1833	**-122.2836**	2170	**03/1906-05/2010**
EAGLE CREEK (EGL)	72-0010		1-day	USACE	35.9837	-118.6448	6650	11/1964-12/2006
EAGLE MOUNTAIN	04-2598		1-day	NCDC	33.8089	-115.4508	973	11/1933-05/2010
EAGLE ROCK - EDISON COMPA	97-0663		1-day	LA COUNTY	34.1506	-118.1825	**1085**	10/1934-09/1981
EAGLE ROCK RESERVOIR	97-0803	97-0804	1-day	LA COUNTY	34.1345	-118.1839	865	09/1952-10/1953
EAST CAMINO CIELO - EL DE	80-0255		1-day	SANTA BARBARA	34.4917	-119.6958	3300	05/1978-04/2007
EAST PARK RESERVOIR	04-2640		1-day	NCDC	39.3592	-122.5178	1205	11/1910-08/2003
EASTMAN LAKE WEATHER (BUC	72-0007		1-day	USACE	37.2090	-119.9784	540	10/1975-12/2006
EBBETTS PASS	98-0024		1-day	NRCS	**38.5447**	-119.8000	**8765**	10/1978-09/2010
ECHO PEAK	98-0025		1-day	NRCS	**38.8447**	**-120.0833**	**7670**	10/1980-09/2010
EL CAJON	04-2706		1-day	NCDC	32.8139	-116.9750	405	**09/1952-05/2010**
EL CAJON 2 E	04-2705		1-day	NCDC	32.7833	-116.9167	531	**2/1899-04/1992**
EL CAPITAN DAM	92-0900		1-day	SAN DIEGO COUNTY	32.8822	-116.8069	770	**07/1935-01/2007**
EL CAPITAN DAM	04-2709		1-hour	NCDC	32.8839	-116.8164	600	05/1956-11/1992
EL CARISO GUARD STATION (	90-0062		15-min	RIVERSIDE COUNTY	33.6506	-117.4131	2660	06/1978-07/2007
EL CENTRO 2 SSW	04-2713		1-day	NCDC	32.7669	-115.5617	-30	03/1932-05/2010
EL CENTRO 2 SSW	04-2713		1-hour	NCDC	32.7669	-115.5617	-30	07/1948-04/2008
EL ESTERO TREATMENT PLANT	80-0225	04-7902	15-min	SANTA BARBARA	34.4167	-119.6833	5	11/1952-04/1972
EL MIRAGE	04-2771		1-day	NCDC	34.5892	-117.6303	2950	05/1971-05/2010
EL MONTE CHAMBER OF COMME	97-0230	97-0231	1-day	LA COUNTY	34.0674	-118.0336	285	10/1925-10/1936
EL MONTE FIRE DEPARTMENT	97-0231	97-0232	1-day	LA COUNTY	34.0673	-118.0335	301	10/1936-10/1955
EL MONTE FIRE STATION	97-0232	97-0233	1-day	LA COUNTY	34.0675	-118.0342	275	10/1955-10/1963
EL MONTE FIRE STATION	97-0233		1-day	LA COUNTY	34.0750	-118.0417	275	**10/1925-12/2006**
EL RIO-COUNTY YARD	93-0231		1-day	VENTURA COUNTY	34.2411	-119.1771	79	10/1966-09/2006
ELECTRA P H	04-2728		1-day	NCDC	38.3306	-120.6706	715	01/1904-07/1997
ELIZABETH LAKE CANYON-WAR	97-0277		1-day	LA COUNTY	34.6078	-118.5611	2075	03/1928-10/1997
ELK VALLEY	04-2749		1-day	NCDC	**41.9881**	**-123.7183**	**1708**	**02/1938-12/2007**
ELK VALLEY	04-2749		15-min	NCDC	41.9875	-123.7175	1705	01/1971-03/2010

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
ELLERY LAKE	04-2756		1-day	NCDC	37.9356	-119.2306	9645	11/1924-09/2009
ELLIOTT	04-2760		1-day	NCDC	38.2333	-121.2000	92	07/1926-10/1993
ELSINORE	04-2805		1-day	NCDC	33.6692	-117.3319	1285	3/1897-05/2010
ELSINORE	04-2805		15-min	NCDC	33.6692	-117.3319	1285	01/1940-03/2009
ENCINO RESERVOIR	97-0448	97-0449	1-day	LA COUNTY	34.1349	-118.5014	1000	10/1928-10/1946
ENCINO RESERVOIR	97-0449	97-0451	1-day	LA COUNTY	34.1349	-118.5015	1000	10/1946-10/1959
ENCINO RESERVOIR	97-0451		1-day	LA COUNTY	34.1489	-118.5158	1075	**10/1928-10/2006**
ENGLEBRIGHT WEATHER (ENGW	72-0011		1-day	USACE	39.2398	-121.2525	850	10/1954-12/2006
ESCONDIDO	92-1020		1-hour	SAN DIEGO COUNTY	33.1167	-117.0833	660	**11/1964-06/2006**
ESCONDIDO	92-0036		15-min	SAN DIEGO COUNTY	33.1228	-117.0883	640	**12/1967-06/2006**
ESCONDIDO	92-1020	92-0036	15-min	SAN DIEGO COUNTY	33.1167	-117.0833	660	12/1967-06/1984
ESCONDIDO 2	92-0960		1-day	SAN DIEGO COUNTY	33.1228	-117.0883	640	8/1897-12/2004
ESCONDIDO CANYON	97-0002		1-day	LA COUNTY	34.0486	-118.7736	1050	**10/1927-10/1986**
ESCONDIDO PATROL STATION	97-0001	97-0002	1-day	LA COUNTY	34.0348	-118.7674	1025	10/1927-06/1945
ETIWANDA	04-2895		1-hour	NCDC	34.1317	-117.5239	1390	07/1948-06/2001
ETNA	04-2899		1-hour	NCDC	41.4556	-122.8983	2950	07/1948-03/2010
ETNA	04-2899		15-min	NCDC	41.4556	-122.8983	2950	01/1984-03/2010
EUREKA WFO WOODLEY IS	04-2910		1-hour	NCDC	**40.8097**	-124.1603	20	07/1948-03/2010
EVERGREEN (MIRASSOU)	83-6057		1-day	SANTA CLARA	37.3158	-121.7777	**271**	10/1942-06/1999
EXCHEQUER DAM	04-2920		1-day	NCDC	37.5850	-120.2672	442	12/1950-05/2010
EXETER FAUVER RANCH	04-2922		1-hour	NCDC	36.3500	-119.0667	439	07/1948-08/1988
FAIRFIELD	04-2934		1-day	NCDC	38.2736	-122.0681	40	12/1950-05/2010
FAIRFIELD	84-2933		1-hour	MARIN COUNTY	38.2830	-122.0330	110	10/1939-09/2004
FAIRFIELD	84-2933		15-min	MARIN COUNTY	38.2830	-122.0330	110	10/1939-09/2004
FAIRMONT	04-2941		1-day	NCDC	34.7042	-118.4275	3060	02/1909-08/2009
FALL RIVER MILLS	04-2964		1-day	NCDC	41.0081	-121.4350	3300	05/1923-05/2010
FALLBROOK	04-2958		1-hour	NCDC	33.3500	-117.2500	660	**01/1940-06/2006**
FALLBROOK	04-2958		15-min	NCDC	**33.3613**	-117.2500	660	**05/1967-10/1997**
FALLBROOK (AIR PARK)	92-0035	04-2958	15-min	SAN DIEGO COUNTY	33.3631	-117.2500	675	09/1982-06/2006
FALLBROOK AIR PARK	92-1050	04-2958	1-hour	SAN DIEGO COUNTY	33.3631	-117.2500	675	07/1939-06/1984
FALLBROOK AIR PARK	92-1050	04-2958	15-min	SAN DIEGO COUNTY	33.3631	-117.2500	675	05/1967-06/1984

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
FALLBROOK FIRE DEPT.	92-1080		1-day	SAN DIEGO COUNTY	33.3833	-117.2481	604	03/1960-06/1996
FALLEN LEAF	98-0026		1-day	NRCS	**38.9420**	-120.0500	**6236**	10/1979-09/2010
FALLING SPRINGS	97-0118	97-0168	1-day	LA COUNTY	34.3017	-117.8389	4010	10/1928-02/1975
FERGUSON RANCH	04-3020		1-day	NCDC	40.3500	-122.4500	801	**01/1952-01/1987**
FIDDLETOWN DEXTER RCH	04-3038		1-day	NCDC	38.5236	-120.7061	2160	**01/1938-05/2010**
FIDDLETOWN DEXTER RCH	04-3038		1-hour	NCDC	38.5236	-120.7061	2160	07/1948-03/2010
FIDDLETOWN DEXTER RCH	04-3038		15-min	NCDC	38.5236	-120.7061	2160	05/1971-03/2010
FIGUEROA MOUNTAIN	80-0421		1-day	SANTA BARBARA	34.7333	-120.0000	3200	**07/1948-12/2007**
FIGUEROA MOUNTAIN	04-3048		1-hour	NCDC	34.7347	-120.0072	3200	07/1948-03/2010
FIGUEROA MOUNTAIN	04-3048		15-min	NCDC	34.7347	-120.0072	3200	05/1971-03/2010
FILLMORE-FISH HATCHERY	93-0171		1-day	VENTURA COUNTY	34.3935	-118.8840	465	10/1956-09/2006
FILLMORE-FISH HATCHERY	93-0171		15-min	VENTURA COUNTY	34.3935	-118.8840	465	02/1976-01/2007
FILLMORE-LEAVENS & GOODEN	93-0094		1-day	VENTURA COUNTY	34.3917	-118.8400	600	10/1931-09/2006
FILLMORE-RANCHO SESPE	93-0039		1-day	VENTURA COUNTY	**34.3743**	**-118.9543**	360	07/1912-09/2006
FIVE POINTS 5 SSW	04-3083		1-day	NCDC	36.3642	-120.1561	285	12/1942-04/2010
FLINTRIDGE FIRE STATION	97-0426	97-0427	1-day	LA COUNTY	34.1683	-118.1846	1345	08/1930-09/1940
FLINTRIDGE FIRE STATION	97-0427		1-day	LA COUNTY	34.1825	-118.1964	1345	**08/1930-10/1974**
FLOOD CONTROL DIST.	85-0007		1-day	CONTRA COSTA	37.9875	-122.0850	160	**09/1971-06/2008**
FLORENCE LAKE	04-3093		1-hour	NCDC	37.2739	-118.9733	7325	07/1948-03/2010
FLOWERS MOUNTAIN (FLM)	72-0012		1-day	USACE	37.9201	-120.6804	1480	10/1971-10/2006
FOLSOM	04-3111	04-3113	1-day	NCDC	38.6833	-121.1833	249	10/1955-10/1955
FOLSOM DAM	04-3113		1-day	NCDC	38.7000	-121.1667	350	**1/1893-04/1993**
FONTANA 5N (GETCHELL)	79-2017		15-min	SAN BERNARDINO	34.1796	-117.4448	2020	09/1958-09/2010
FONTANA KAISER	04-3120		1-day	NCDC	34.0833	-117.5167	1102	03/1951-08/1984
FORESTHILL RANGER STN	04-3134		1-day	NCDC	39.0100	-120.8450	3015	12/1937-05/2010
FORT BIDWELL	04-3157		1-day	NCDC	**41.5200**	**-120.0900**	**4732**	05/1911-05/2010
FORT BRAGG 5 N	04-3161		1-day	NCDC	**39.5092**	-123.7567	**123**	5/1895-05/2010
FORT BRAGG 5 N	04-3161		1-hour	NCDC	39.5094	-123.7567	120	07/1948-03/2010
FORT DICK	04-3173	95-0109	1-day	NCDC	41.8667	-124.1500	46	11/1951-12/1988
FORT JONES 6 ESE	04-3176		1-hour	NCDC	41.5833	-122.7167	3323	07/1948-11/1976
FORT JONES RANGER STN	04-3182		1-day	NCDC	41.6000	-122.8478	2725	01/1936-05/2009

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
FORT JONES RANGER STN	04-3182		15-min	NCDC	**41.5920**	-122.8478	2725	11/1976-03/2010
FORT ROSS	04-3191		1-day	NCDC	**38.5150**	**-123.2447**	112	10/1895-05/2010
FOUR TREES FOR	94-0063		1-hour	STATE CLIMATOLOGIST	**39.8277**	**-121.3063**	5150	10/1983-09/2006
FRAZIER PARK 9 SW	04-3219		15-min	NCDC	34.7333	-119.1039	5150	**09/1966-03/2010**
FRENCH GULCH	04-3242		1-day	NCDC	40.7000	-122.6333	1102	01/1952-11/1982
FRENCHMAN DAM FRD	94-0064		1-hour	STATE CLIMATOLOGIST	**39.8997**	-120.1830	5517	10/1983-09/2006
FRESNO YOSEMITE INTL	04-3257		1-hour	NCDC	36.7800	-119.7194	333	07/1948-03/2010
FRIANT GOVERNMENT CAMP	04-3261		1-day	NCDC	36.9969	-119.7072	410	10/1912-05/2010
FULLERTON HILLCREST RE	04-3288		1-day	NCDC	33.8833	-117.9167	331	**03/1933-03/2010**
GARBERVILLE	04-3320		1-day	NCDC	40.1000	-123.8000	340	11/1917-03/1985
GARDEN VALLEY 2 S	04-3338	04-4484	1-day	NCDC	38.8333	-120.8500	1942	11/1946-07/1972
GARROD RANCH	83-6026		1-day	SANTA CLARA	37.2760	-122.0588	846	08/1935-06/1976
GASQUET RS	04-3357		1-day	NCDC	41.8453	**-123.9647**	**387**	07/1948-05/2010
GASQUET RS	04-3357		15-min	NCDC	41.8453	-123.9650	384	01/1971-03/2010
GEM LAKE	04-3369		1-day	NCDC	37.7519	-119.1403	8970	11/1924-09/2009
GEORGETOWN	04-3381	04-3384	1-day	NCDC	38.9167	-120.8333	2723	11/1967-11/1967
GEORGETOWN	04-3381	04-3384	1-hour	NCDC	38.9167	-120.8333	2723	07/1948-12/1967
GEORGETOWN R S	04-3384		1-day	NCDC	38.9331	-120.8008	3001	**1/1893-05/2010**
GEORGETOWN R S	04-3384		1-hour	NCDC	38.9331	-120.8008	3001	**07/1948-03/2010**
GIANT FOREST	04-3397	72-0014	1-day	NCDC	36.5667	-118.7667	6414	06/1921-11/1968
GIANT FOREST (GNF)	72-0014		1-day	USACE	36.5629	-118.7703	6400	**06/1921-12/2006**
GIBRALTAR DAM	80-0230		1-day	SANTA BARBARA	34.5233	-119.6819	1500	09/1919-04/2007
GIBRALTAR DAM 2	04-3402		15-min	NCDC	34.5225	-119.6822	1550	05/1971-03/2010
GILLESPIE FIELD	92-1170	04-2706	1-day	SAN DIEGO COUNTY	32.8167	-116.9667	385	09/1952-06/1979
GILROY	04-3417		1-day	NCDC	37.0067	-121.5633	194	03/1906-05/2010
GILROY 8 NE	04-3419		1-hour	NCDC	37.0328	-121.4317	1050	07/1948-03/2010
GLEN ANNIE CANYON	80-0376		1-day	SANTA BARBARA	34.4500	-119.8667	120	11/1965-05/2006
GLENDALE-JACKSON	97-0351		1-day	LA COUNTY	34.1650	-118.2503	550	10/1926-01/2007
GLENDORA IRRIGATING COMPA	97-0440	97-0441	1-day	LA COUNTY	34.1339	-117.8515	782	10/1929-10/1967
GLENDORA-CITY HALL	97-0441		1-day	LA COUNTY	34.1358	-117.8644	785	**10/1882-01/2007**

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
GLENDORA-ENGLEWILD RANCH	97-0162		1-day	LA COUNTY	34.1561	-117.8492	1165	10/1925-10/1990
GLENDORA-WEST	97-1171	97-0441	1-day	LA COUNTY	34.1397	-117.8592	822	10/1882-10/1987
GLENNVILLE	04-3463		1-day	NCDC	35.7269	-118.7006	3140	**09/1909-05/2010**
GLENNVILLE FULTON R S	04-3465		1-hour	NCDC	35.7250	-118.6797	3500	07/1948-12/2006
GLENNVILLE MORROW RCH	04-3468	04-3463	1-day	NCDC	35.7000	-118.7333	3271	09/1909-06/1951
GOLD ROCK RANCH	04-3489		1-day	NCDC	32.8833	-114.8667	485	02/1964-04/1996
GOLD RUN 2 SW	04-3491		1-day	NCDC	39.1650	-120.8567	3320	01/1905-05/2010
GOLDSTONE ECHO NO 2	04-3498		1-day	NCDC	35.2814	-116.7844	2950	12/1973-07/2006
GOLETA FIRE STATION #14	80-0440	80-0310	1-day	SANTA BARBARA	34.4431	-119.8556	60	10/1941-04/2007
GOLETA WATER DISTRICT	80-0334		1-day	SANTA BARBARA	34.4333	-119.8000	50	09/1951-02/2007
GONZALES 9 ENE	04-3502		1-hour	NCDC	36.5333	-121.2833	2352	07/1948-04/1976
GORMAN	97-0458	97-0459	1-day	LA COUNTY	34.7972	-118.8519	3830	05/1932-09/1947
GORMAN	97-0459	97-0461	1-day	LA COUNTY	34.7878	-118.8328	3680	10/1946-01/1973
GORMAN - SHERIFF	97-0460	97-0461	1-day	LA COUNTY	34.7846	-118.8508	3835	10/1972-06/1987
GORMAN - SHERIFF	97-0461		1-day	LA COUNTY	34.7964	-118.8575	3835	**05/1932-04/2002**
GRANT GROVE	04-3551		1-day	NCDC	36.7394	-118.9631	6600	07/1940-05/2010
GRANT GROVE	04-3551		1-hour	NCDC	36.7394	-118.9631	6600	07/1948-09/1980
GRASS VALLEY	04-3571	04-3573	1-day	NCDC	39.2167	-121.0667	2641	09/1966-09/1966
GRASS VALLEY NO 2	04-3573		1-day	NCDC	39.2042	-121.0681	2400	**1/1893-05/2010**
GRASS VALLEY NO 2	04-3573		1-hour	NCDC	39.2042	-121.0681	2400	09/1966-03/2010
GRATON	04-3578		1-day	NCDC	38.4306	**-122.8647**	200	01/1926-05/2010
GREENLAND RANCH	04-3603	04-2319	1-day	NCDC	36.4500	-116.8667	-999	06/1911-03/1961
GREEN-VERDUGO PUMPING PLA	97-0950		1-day	LA COUNTY	34.2569	-118.3364	1340	01/1955-10/2006
GREENVIEW	04-3614		1-day	NCDC	41.5519	-122.9236	2820	08/1941-05/2008
GREENVILLE R S	04-3621		1-day	NCDC	**40.1408**	**-120.9506**	**3590**	3/1894-05/2008
GRIFFITH PARK - FERN DELL	97-0757		1-day	LA COUNTY	34.1200	-118.3056	750	**01/1930-05/1989**
GRIFFITH PARK NURSERY	97-1199		1-day	LA COUNTY	34.1217	-118.2844	850	01/1930-10/1989
GRIFFITH TUNNEL	97-0403	97-0757	1-day	LA COUNTY	34.1222	-118.3031	1100	01/1930-10/1961
GRIZZLEY RIDGE GRZ	94-0065		1-hour	STATE CLIMATOLOGIST	39.9160	-120.6400	6900	10/1983-09/2006
GROVELAND	04-3666		1-day	NCDC	37.8333	-120.2167	2802	**01/1905-03/2010**

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
GROVELAND 2	04-3669		1-hour	NCDC	37.8444	-120.2258	2800	07/1948-03/2010
GROVELAND R S	04-3672		1-day	NCDC	37.8231	-120.0983	3145	**12/1906-05/2008**
GUADALUPE - UNION OIL	80-0407		1-day	SANTA BARBARA	34.9833	-120.6333	40	10/1957-06/1993
GUADALUPE RESERVOIR	83-6032		1-day	SANTA CLARA	37.2004	-121.8838	549	**01/1936-07/2010**
GUASTI PARK	79-1075		15-min	SAN BERNARDINO	34.0719	-117.5928	995	04/1975-09/2010
GUERNEVILLE	04-3683	04-3684	1-day	NCDC	38.5039	-122.9969	60	11/1939-04/1971
GUERNEVILLE FIRE DEPT	04-3684		1-day	NCDC	38.5039	-122.9969	65	**11/1939-02/1983**
HACIENDA HEIGHTS	97-0337	97-0338	1-day	LA COUNTY	33.9844	-117.9841	875	11/1949-10/1995
HACIENDA HEIGHTS	97-0338	97-1209	1-day	LA COUNTY	33.9944	-117.9911	875	11/1949-09/1997
HAGAN'S MEADOW	98-0028		1-day	NRCS	38.8500	-119.9333	8000	10/1978-09/2010
HAINES CNYN UPR FC367	04-3704		1-day	NCDC	34.2667	-118.2500	3442	01/1949-01/1979
HAIWEE	04-3710		1-day	NCDC	36.1389	-117.9528	3825	06/1923-05/2010
HALF MOON BAY	04-3714		1-day	NCDC	37.4725	-122.4433	27	07/1939-05/2010
HAMILTON AF BASE	04-3734	84-3435	1-day	NCDC	38.0667	-122.5167	13	09/1959-02/1964
HAMILTON AFB	84-3435		1-day	MARIN COUNTY	38.0670	-122.5170	0	**10/1948-09/1971**
HAMILTON BRANCH FIRE DEPT	04-3725		1-hour	NCDC	40.2667	-121.0833	4560	04/1953-10/1985
HANFORD 1 S	04-3747		1-day	NCDC	**36.3158**	**-119.6369**	**237**	9/1899-05/2010
HANSEN DAM	04-3751	97-0584	1-day	NCDC	34.2608	-118.3864	1087	04/1949-06/1960
HANSEN DAM	97-0584		1-day	LA COUNTY	34.2689	-118.3997	1110	**02/1929-01/2007**
HANSEN DAM	04-3751		1-hour	NCDC	34.2608	-118.3864	1087	07/1948-03/2010
HAPPY CAMP RS	04-3761		1-day	NCDC	41.8042	-123.3758	1120	03/1914-05/2010
HAPPY CAMP RS	04-3761		1-hour	NCDC	41.8042	-123.3758	1120	07/1948-03/2010
HAPPY CAMP RS	04-3761		15-min	NCDC	41.8042	-123.3758	1120	05/1971-03/2010
HARRISON GULCH R S	04-3791		1-day	NCDC	40.3636	-122.9650	2750	10/1943-01/2009
HARRISON GULCH R S	04-3791		1-hour	NCDC	40.3636	-122.9650	2750	11/1948-03/2010
HARRISON GULCH R S	04-3791		15-min	NCDC	40.3636	-122.9650	2750	05/1971-03/2010
HAT CREEK	04-3824		1-day	NCDC	40.9317	-121.5433	3015	01/1921-04/2010
HAT CREEK RANGER STN	04-3821		1-hour	NCDC	40.8000	-121.5000	3353	07/1948-10/1978
HAYFIELD PUMPING PLANT	04-3855		1-day	NCDC	33.7044	-115.6289	1370	07/1933-05/2010
HAYFIELD PUMPING PLANT	04-3855		1-hour	NCDC	33.7044	-115.6289	1370	07/1948-06/2009
HAYFORK 2 W	04-3859		1-day	NCDC	40.5525	-123.2122	2300	01/1915-10/2006

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
HAYWARD 4 ESE	04-3863		1-hour	NCDC	37.6667	-122.0000	530	07/1948-05/1988
HEALDSBURG	04-3875		1-day	NCDC	38.6175	-122.8731	108	2/1893-05/2010
HEART BAR FEDERAL PARK	79-3259		15-min	SAN BERNARDINO	34.1590	-116.7975	6688	12/1966-09/2010
HEAVENLY VALLEY	98-0029		1-day	NRCS	**38.9134**	**-119.9200**	**8582**	10/1978-09/2010
HEISE COUNTY PARK	92-1190		1-day	SAN DIEGO COUNTY	33.0333	-116.5833	4200	08/1973-02/2007
HELL HOLE	04-3891		15-min	NCDC	39.0583	-120.4150	4850	05/1971-03/2010
HEMET	04-3896		1-day	NCDC	**33.7381**	**-116.8939**	**1811**	01/1917-05/2010
HENNIGER FLATS	97-0373		1-day	LA COUNTY	34.1939	-118.0881	2550	**10/1929-01/2007**
HENNINGER FLATS	97-0371	97-0372	1-day	LA COUNTY	34.1844	-118.0838	2560	10/1929-01/1939
HENNINGER FLATS	97-0372	97-0373	1-day	LA COUNTY	34.1843	-118.0838	2550	01/1939-10/1964
HENSHAW DAM	92-1200		1-day	SAN DIEGO COUNTY	33.2386	-116.7617	2703	**07/1911-01/2007**
HENSHAW DAM	04-3914		1-hour	NCDC	33.2372	-116.7614	2700	**07/1948-06/2006**
HENSHAW DAM	04-3914	92-0052	15-min	NCDC	33.2372	-116.7614	2700	05/1971-10/1992
HENSHAW DAM	92-0052		15-min	SAN DIEGO COUNTY	33.2386	-116.7617	2750	**05/1971-06/2006**
HERNANDEZ 2 NW	04-3925		1-day	NCDC	36.4167	-120.9167	2162	05/1943-07/1980
HERNANDEZ 7 SE	04-3928		1-hour	NCDC	36.3056	-120.7047	2765	07/1948-03/2010
HERNANDEZ 7 SE	04-3928		15-min	NCDC	36.3056	-120.7047	2765	05/1972-03/2010
HETCH HETCHY	04-3939		1-day	NCDC	**37.9471**	**-119.7849**	3870	10/1910-05/2010
HETCH HETCHY	04-3939		1-hour	NCDC	**37.9471**	**-119.7849**	3870	07/1948-03/2010
HETCH HETCHY	04-3939		15-min	NCDC	**37.9471**	**-119.7849**	3870	01/1984-03/2010
HICKS VALLEY	84-3941		1-day	MARIN COUNTY	38.1330	-122.7000	400	10/1977-09/2004
HIDDEN DAM WEATHER STATIO	72-0016		1-day	USACE	37.1145	-119.8935	561	10/1975-12/2006
HIGHGROVE STEAM PLANT	79-2222		15-min	SAN BERNARDINO	34.0233	-117.3322	945	01/1966-08/2010
HIGHLAND PARK	97-0537		1-day	LA COUNTY	34.1183	-118.1775	620	10/1939-04/2001
HILTS SLASH DISPOSAL	04-3987		1-day	NCDC	42.0000	-122.6333	2904	08/1939-12/1984
HOBERGS	04-4010		1-day	NCDC	38.8500	-122.7167	2963	10/1939-06/1974
HOCKETT MEADOW (HCK)	72-0015		1-day	USACE	36.3708	-118.6521	8647	10/1965-12/2006
HODGES DAM	92-1230		1-day	SAN DIEGO COUNTY	33.0681	-117.1028	327	07/1918-01/2007
HOEGEE' S	97-0135		1-day	LA COUNTY	34.2089	-118.0339	2412	02/1925-01/1990
HOLLISTER 1 SW	04-4022	04-4025	1-day	NCDC	36.8333	-121.4167	279	10/1951-09/1974
HOLLISTER 2	04-4025		1-day	NCDC	**36.8483**	**-121.4214**	275	**1/1895-05/2010**

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
HOLLISTER 2	04-4025		1-hour	NCDC	36.8486	-121.4222	275	07/1948-03/2010
HOLLISTER 9 ENE	04-4035		1-hour	NCDC	36.9103	-121.2550	2600	03/1962-01/2000
HOLLYWOOD DAM	97-0376		1-day	LA COUNTY	34.1178	-118.3319	750	10/1929-10/2006
HOLLYWOOD-CITY ENGINEERIN	97-0283	97-0761	1-day	LA COUNTY	34.0911	-118.3250	305	11/1931-12/1963
HONEYDEW	95-0172		1-day	DWR	**40.2375**	**-124.1322**	370	**11/1959-09/2010**
HONEYDEW 1 SW	04-4074	95-0172	1-day	NCDC	40.2375	-124.1322	370	11/1959-09/1972
HONEYDEW 3S	99-1010		1-day	WILDER RIDGE	40.2007	-124.1019	1600	01/1980-12/2010
HOOPA	04-4082		1-day	NCDC	41.0500	-123.6667	361	**07/1948-03/2010**
HOOPA	04-4082		1-hour	NCDC	41.0500	-123.6667	361	**07/1948-03/2010**
HOOPA	04-4089		15-min	NCDC	41.0483	-123.6778	333	01/1971-03/2010
HOPLAND 8 NE	04-4097		1-hour	NCDC	39.0167	-123.0000	2513	07/1948-09/1976
HOSSACK MEADOW (HSS)	72-0017		1-day	USACE	36.1812	-118.6205	7100	10/1963-12/2006
HUASNA	04-4144		1-hour	NCDC	35.0833	-120.3833	730	07/1948-06/1993
HUENEME LIGHTHOUSE NEAR P	93-0017		1-day	VENTURA COUNTY	**34.1453**	**-119.2096**	10	10/1890-09/2006
HULLVILLE	04-4156		1-day	NCDC	39.4167	-122.9500	1932	10/1909-07/1937
HUNTINGTON LAKE	04-4176		1-day	NCDC	37.2275	-119.2206	7020	**09/1915-04/2010**
HUNTINGTON LAKE	04-4176		1-hour	NCDC	37.2275	-119.2206	7020	07/1948-03/2010
HUNTINGTON LAKE	04-4176		15-min	NCDC	37.2275	-119.2206	7020	05/1971-03/2010
HURKEY CREEK PARK NWS AUT	90-0089		15-min	RIVERSIDE COUNTY	33.6756	-116.6797	4390	12/1961-07/2007
HYAMPOM	04-4191		1-hour	NCDC	40.6164	-123.4567	1275	07/1948-03/2010
IDRIA	04-4204		1-day	NCDC	36.4167	-120.6667	2651	05/1918-12/1976
IDYLLWILD NWS AUTOMATIC	90-0090		15-min	RIVERSIDE COUNTY	33.7472	-116.7144	5397	12/1940-07/2007
IMPERIAL	04-4223		1-day	NCDC	32.8489	-115.5667	-64	12/1901-05/2010
IMPERIAL BEACH N.A.S.	92-1260		1-day	SAN DIEGO COUNTY	32.5667	-117.1167	27	07/1955-06/1988
INDEPENDENCE	04-4232		1-day	NCDC	36.7981	-118.2036	3950	1/1893-05/2010
INDEPENDENCE	04-4232		1-hour	NCDC	**36.8000**	**-118.2000**	**3944**	07/1948-03/2010
INDEPENDENCE	04-4232		15-min	NCDC	36.7981	-118.2036	3950	07/1976-03/2010
INDEPENDENCE CAMP	98-0031		1-day	NRCS	39.4500	-120.2833	7000	10/1978-09/2010
INDEPENDENCE CREEK	98-0032		1-day	NRCS	39.4833	**-120.2693**	**6456**	10/1980-09/2010
INDEPENDENCE LAKE	98-0033		1-day	NRCS	**39.4186**	-120.3167	**8352**	10/1978-09/2010
INDIO FIRE STATION	04-4259		1-day	NCDC	33.7086	-116.2153	-21	3/1894-05/2010

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
INGLEWOOD COURTHOUSE	97-0246		1-day	LA COUNTY	33.9647	-118.3536	90	**10/1919-10/1990**
INGLEWOOD FIRE STATION	97-0242	97-0243	1-day	LA COUNTY	33.9515	-118.3511	125	10/1939-10/1950
INGLEWOOD FIRE STATION	97-0243	97-0244	1-day	LA COUNTY	33.9515	-118.3504	155	10/1950-10/1960
INGLEWOOD FIRE STATION	97-0244	97-0246	1-day	LA COUNTY	33.9516	-118.3504	135	10/1960-10/1972
INGLEWOOD FIRE STATION	97-0245	97-0246	1-day	LA COUNTY	33.9515	-118.3506	153	10/1972-01/1988
INGLEWOOD HIGH SCHOOL	97-0241	97-0242	1-day	LA COUNTY	33.9511	-118.3506	117	10/1919-10/1939
INSKIP INN	04-4274		1-day	NCDC	40.0000	-121.5333	4823	02/1907-04/1954
INVERNESS	84-4277		1-day	MARIN COUNTY	38.0900	-122.8520	150	10/1925-09/1984
INYOKERN	04-4278		1-day	NCDC	35.6522	-117.8244	2440	11/1940-05/2010
INYOKERN ARMITAGE	04-4280	04-1733	1-day	NCDC	35.6833	-117.6833	2238	06/1978-06/1978
IOWA HILL	04-4288		1-day	NCDC	39.1181	**-120.8406**	3100	1/1893-08/2007
IRON MOUNTAIN	04-4297		1-day	NCDC	34.1472	-115.1219	922	01/1935-05/2010
IRON MOUNTAIN	04-4297		1-hour	NCDC	34.1472	-115.1219	922	07/1948-06/2009
IRON MOUNTAIN	04-4297		15-min	NCDC	34.1472	-115.1219	922	03/1978-06/2009
ISABELLA WEATHER STATION	72-0018		1-day	USACE	35.6461	-118.4769	2666	10/1952-12/2006
ISLA VISTA - UCSB	80-0200	04-7905	1-day	SANTA BARBARA	34.4150	-119.8461	100	09/1951-05/2006
IVY DR_123	81-0066	81-0068	1-day	ALAMEDA COUNTY	37.8550	-122.1517	700	07/1960-06/1989
JACUMBA	92-1320		1-day	SAN DIEGO COUNTY	32.6167	-116.1833	2800	07/1962-02/2007
JAMESON LAKE	80-0232		1-day	SANTA BARBARA	34.4908	-119.5089	2060	10/1925-10/2006
JESS VALLEY	04-4374		1-day	NCDC	41.2683	-120.2947	5400	08/1948-05/2010
JOHNSONDALE	04-4389		1-day	NCDC	35.9667	-118.5333	4682	**12/1954-09/2010**
JULIAN CDF	04-4412		1-day	NCDC	33.0764	-116.5925	4215	**1/1893-05/2010**
JULIAN MANZANITA RANCH	04-4415	04-4412	1-day	NCDC	33.0667	-116.6333	4222	12/1949-12/1949
JULIAN WYNOLA	04-4418	04-4412	1-day	NCDC	33.1000	-116.6500	3650	09/1951-08/1988
JULIAN WYNOLA	92-1350		1-day	SAN DIEGO COUNTY	33.1000	-116.6500	3650	07/1949-06/1989
KAGEL CANYON PATROL STATI	97-0622		1-day	LA COUNTY	34.2958	-118.3750	1450	10/1947-12/2006
KEARNY MESA	92-1410		1-hour	SAN DIEGO COUNTY	32.8131	-117.1244	425	**01/1964-06/2006**
KEE RANCH	04-4467		1-day	NCDC	34.1667	-116.5333	4334	07/1948-01/1979
KELSEY 1 N	04-4484		1-day	NCDC	38.8089	-120.8208	2000	**11/1946-05/2010**
KELSEYVILLE	04-4488		1-day	NCDC	38.9833	-122.8333	1391	11/1893-02/1975
KENT LAKE	84-4502		1-day	MARIN COUNTY	37.9900	-122.7080	360	10/1953-09/2004

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
KENTFIELD	04-4500		1-day	NCDC	37.9569	-122.5439	145	01/1902-05/2010
KERLINGER	04-4508		1-day	NCDC	37.6833	-121.4333	177	12/1947-02/1985
KERN RIVER PH 1	04-4520		1-day	NCDC	**35.4608**	**-118.7784**	970	12/1906-08/1991
KERN RIVER PH 3	04-4523		1-day	NCDC	35.7831	-118.4389	2703	10/1946-06/2009
KETTLE ROCK KTL	94-0067		1-hour	STATE CLIMATOLOGIST	40.1320	-120.7100	7300	10/1983-09/2006
KETTLEMAN STATION	04-4536		1-day	NCDC	36.0725	-120.0878	508	01/1941-09/2001
KING CITY	04-4555		1-day	NCDC	36.2069	-121.1378	320	07/1902-05/2010
KING CITY	04-4555		1-hour	NCDC	36.2069	-121.1378	320	07/1948-01/1999
KLAMATH	04-4577		1-hour	NCDC	41.5786	-124.0747	28	07/1948-04/2007
KLAMATH	04-4577		15-min	NCDC	41.5786	-124.0747	28	05/1971-04/2007
KNEELAND 10 SSE	04-4587		1-hour	NCDC	40.6425	-123.9144	2450	06/1954-03/2010
KNIGHTS LANDING	04-4591		1-day	NCDC	38.8000	-121.7167	30	11/1906-05/1958
KTYD TOWERS	80-0227		15-min	SANTA BARBARA	34.4706	-119.6756	2400	10/1968-08/2003
KYBURZ STRAWBERRY	04-4616		1-hour	NCDC	**38.7913**	-120.1500	5705	07/1948-04/1980
LA CANADA-BRADFORD	97-1159	97-1160	1-day	LA COUNTY	34.2005	-118.1844	1275	10/1912-12/1940
LA CANADA-BRADFORD	97-1160	97-1161	1-day	LA COUNTY	34.2004	-118.2005	1275	12/1940-01/1941
LA CANADA-BRADFORD	97-1161	97-1162	1-day	LA COUNTY	34.2003	-118.1843	1255	01/1941-11/1955
LA CRESCENTA	97-0392	97-0393	1-day	LA COUNTY	34.2175	-118.2341	1565	02/1930-09/1966
LA CRESCENTA	97-0393	97-0394	1-day	LA COUNTY	34.2225	-118.2369	1565	02/1930-10/1967
LA CRESCENTA	97-0394		1-day	LA COUNTY	34.2222	-118.2444	1440	**02/1930-01/2007**
LA CUMBRE WATER COMPANY	80-0338		1-day	SANTA BARBARA	34.4333	-119.7667	240	10/1947-08/2006
LA FRESA - S.C.E. CO. SUB	97-0828		1-day	LA COUNTY	33.8686	-118.3319	65	10/1946-02/1993
LA HABRA - CITRUS ASSOCIA	97-1283		1-day	LA COUNTY	33.9283	-117.9450	300	**10/1925-12/2007**
LA HABRA HEIGHTS-MUTUAL W	97-0952		1-day	LA COUNTY	33.9486	-117.9642	445	**10/1919-01/2007**
LA JOLLA	92-1470		1-day	SAN DIEGO COUNTY	32.8500	-117.2667	200	07/1963-02/2007
LA MESA	04-4735		1-day	NCDC	32.7675	-117.0233	530	1/1899-02/2006
LA MLRADA-STANDARD OIL CO	97-0297		1-day	LA COUNTY	33.8869	-118.0156	86	01/1923-11/1976
LA PANZA	89-0099		1-hour	RAWS	35.3811	-120.1875	1630	**07/1948-02/2008**
LA PANZA RANCH	04-4767	89-0099	1-hour	NCDC	35.3833	-120.1667	1552	07/1948-06/1975
LA PORTE	04-4773		1-day	NCDC	39.6833	-120.9833	4984	**4/1894-09/2006**

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
LA PORTE	04-4773		1-hour	NCDC	39.6833	-120.9833	4984	**11/1958-09/2006**
LA PORTE LAP	94-0086	04-4773	1-hour	STATE CLIMATOLOGIST	39.6820	-120.9830	4975	10/1983-09/2006
LA TUNA CANYON	97-0977	97-0978	1-day	LA COUNTY	34.2335	-118.3167	1250	01/1960-10/1962
LA VERNE LEADER (LORDSBUR	97-0328	97-0329	1-day	LA COUNTY	**34.1003**	**-117.7686**	1054	10/1911-03/1947
LA VERNE POLICE DEPARTMEN	97-0329	97-0330	1-day	LA COUNTY	34.1001	-117.7670	1050	09/1947-10/1968
LA VERNE-FIRE STATION	97-0330		1-day	LA COUNTY	34.1017	-117.7722	1050	**10/1911-01/2007**
LAFRES_122	81-0068		1-day	ALAMEDA COUNTY	37.8847	-122.1398	470	**07/1960-03/2009**
LAGUNA BEACH	04-4647		1-day	NCDC	**33.5453**	**-117.7814**	**44**	03/1928-07/2008
LAGUNA BEACH NO 2	04-4650		1-hour	NCDC	33.5567	-117.8006	210	07/1948-05/2008
LAGUNA BEACH NO 2	04-4650		15-min	NCDC	33.5567	-117.8006	210	05/1971-05/2008
LAGUNA-BELL-S.C.E. CO. SU	97-1226		1-day	LA COUNTY	33.9769	-118.1467	140	10/1930-05/1992
LAGUNITAS LAKE	84-4652		1-day	MARIN COUNTY	37.9400	-122.5950	785	10/1878-09/2004
LAGUNITAS LAKE	84-4652		1-hour	MARIN COUNTY	37.9440	-122.5950	785	10/1930-09/1986
LAGUNITAS LAKE	84-4652		15-min	MARIN COUNTY	37.9440	-122.5950	785	10/1930-09/1986
LAKE ARROWHEAD	04-4671		1-day	NCDC	34.2467	-117.1883	5205	08/1941-05/2009
LAKE BARD	93-0227		1-day	VENTURA COUNTY	34.2422	**-118.8290**	1010	09/1966-09/2006
LAKE CITY	04-4675		1-day	NCDC	41.6333	-120.2167	4613	03/1929-10/1960
LAKE ELEANOR	04-4679	04-1697	1-day	NCDC	37.9667	-119.8833	4662	10/1957-10/1957
LAKE ELSMAN	83-6038		1-day	SANTA CLARA	37.1298	-121.9312	**1158**	09/1951-06/1999
LAKE KAWEAH WEATHER (TRMW	72-0040		1-day	USACE	36.4159	-119.0057	570	10/1961-12/2006
LAKE KITTRIDGE	83-6039		1-day	SANTA CLARA	37.1895	-122.0130	1380	05/1915-06/1999
LAKE MATHEWS	90-0102		15-min	RIVERSIDE COUNTY	33.8528	-117.4542	1400	10/1961-07/2007
LAKE MCKENZIE	83-6110	83-6010	1-day	SANTA CLARA	37.2209	-122.0531	1817	11/1926-06/1959
LAKE MENDOCINO DAM	04-4689		15-min	NCDC	39.2003	-123.1864	670	05/1972-03/2010
LAKE MENDOCINO WEATHER (C	72-0009		1-day	USACE	39.2032	-123.1851	670	12/1958-12/2006
LAKE MENDOCINO WEATHER (C	72-0009		1-hour	USACE	39.2032	-123.1851	670	**10/1972-12/2006**
LAKE MOUNTAIN	04-4690		1-hour	NCDC	40.0167	-123.4000	3163	07/1948-11/1969
LAKE PIRU	97-1040	97-1041	1-day	LA COUNTY	34.4673	-118.7506	1145	10/1964-05/1973
LAKE SABRINA	04-4705		1-day	NCDC	37.2131	-118.6136	9065	01/1925-09/2009
LAKE SHERWOOD ESTATES	97-0517	93-0121	1-day	LA COUNTY	34.1406	-118.8753	960	10/1949-02/2004

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
LAKE SHERWOOD-ESTATES	93-0121		1-day	VENTURA COUNTY	34.1483	**-118.8442**	900	**10/1934-09/2006**
LAKE SOLANO	04-4712		1-day	NCDC	38.4919	-122.0039	190	10/1962-05/2010
LAKE SOLANO	04-4712		1-hour	NCDC	38.4919	-122.0039	190	10/1962-03/2010
LAKE SPAULDING	04-4713		1-day	NCDC	39.3183	-120.6392	5156	01/1902-05/2003
LAKE WOHLFORD	04-4726		1-hour	NCDC	33.1667	-117.0000	1500	**07/1948-06/2006**
LAKE WOHLFORD	04-4726	92-0037	15-min	NCDC	33.1667	-117.0000	1500	05/1971-10/1992
LAKEPORT	04-4701		1-day	NCDC	39.0333	-122.9167	1315	01/1920-06/2001
LAKESIDE 2E	92-1590		1-day	SAN DIEGO COUNTY	32.8500	-116.8833	690	07/1952-02/2007
LANCASTER - CALTRANS	97-0612	97-0613	1-day	LA COUNTY	34.6683	-118.1334	2395	10/1940-10/1960
LANCASTER ATC	04-4749		1-day	NCDC	34.7411	-118.2117	2338	04/1974-06/2010
LANCASTER-STATE HWY MAINT	97-0613		1-day	LA COUNTY	34.6825	-118.1339	2395	**10/1940-01/2007**
LANKERSHIM GENERATING PLA	97-1188	97-0352	1-day	LA COUNTY	34.1849	-118.3838	732	01/1929-12/1955
LAS LLAJAS CANYON	93-0234		1-day	VENTURA COUNTY	**34.3021**	**-118.6903**	1200	**10/1927-09/2006**
LAS PLUMAS	04-4812		1-day	NCDC	39.6833	-121.4833	**912**	11/1913-09/1967
LATHROP SAN JOAQUIN BDGE	04-4823		1-day	NCDC	37.7833	-121.3000	27	03/1906-12/1950
LATIGO CANYON-BEACH RACH	97-0594		1-day	LA COUNTY	34.0931	-118.8144	1700	**10/1934-02/1997**
LAVA BEDS NAT MONUMENT	04-4838		1-day	NCDC	41.7400	-121.5067	4770	10/1959-05/2010
LAYTONVILLE	04-4851		1-hour	NCDC	39.7000	-123.4833	1650	07/1948-03/1988
LE GRAND	04-4884		1-day	NCDC	37.2333	-120.2500	259	6/1899-12/1980
LEAVITT LAKE	98-0034		1-day	NRCS	**38.2833**	**-119.6227**	**9617**	10/1989-09/2010
LEAVITT MEADOWS	98-0035		1-day	NRCS	**38.3073**	-119.5500	**7198**	10/1980-09/2010
LEBEC	04-4863		1-day	NCDC	34.8328	-118.8650	3585	07/1948-05/2010
LECHUZA PATROL STATION	97-1239	97-1240	1-day	LA COUNTY	34.0677	-118.8680	1530	10/1939-05/1956
LECHUZA PATROL STATION	97-1240		1-day	LA COUNTY	34.0772	-118.8797	1620	**10/1939-02/2005**
LECHUZA PTRL ST FC352B	04-4867		1-hour	NCDC	34.0764	-118.8803	1600	07/1948-11/1997
LECHUZA PTRL ST FC352B	04-4867		15-min	NCDC	34.0764	-118.8803	1600	05/1971-11/1997
LEE VINING	04-4881		1-day	NCDC	37.9567	-119.1194	6797	05/1988-05/2010
LEFFINGWELL RANCH-EAST WH	97-1210	97-1211	1-day	LA COUNTY	33.9341	-117.9842	253	10/1919-10/1956
LEFFINGWELL RANCH-EAST WH	97-1211	97-0952	1-day	LA COUNTY	33.9406	-117.9917	253	10/1919-10/1958
LEGGETT LEG	94-0270		1-hour	STATE CLIMATOLOGIST	39.8670	-123.7170	747	**07/1972-09/2007**

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
LEMON COVE	04-4890		1-day	NCDC	36.3817	-119.0264	513	3/1899-05/2010
LEROY ANDERSON DAM	83-6041		1-day	SANTA CLARA	37.1647	-121.6269	**638**	**10/1950-07/2010**
LEWIS RANCH	97-1277	97-0987	1-day	LA COUNTY	34.4200	-117.8864	4615	01/1943-10/1987
LINDSAY	04-4957		1-day	NCDC	36.2033	**-119.0544**	**435**	12/1913-05/2010
LITTLE GLEASON	97-0932		1-day	LA COUNTY	34.3786	-118.1492	5600	10/1954-11/2002
LITTLE ROCK	97-0466	97-0467	1-day	LA COUNTY	34.5336	-117.9678	2805	10/1937-10/1959
LITTLE ROCK	97-0467	97-0468	1-day	LA COUNTY	34.5335	-117.9674	2815	10/1959-10/1967
LITTLE ROCK - SYCAMORE CA	97-0916	97-0917	1-day	LA COUNTY	34.4164	-117.9714	2421	11/1953-10/1963
LITTLE ROCK CREEK	97-0295	97-0296	1-day	LA COUNTY	34.5056	-118.0278	3020	10/1928-08/1965
LITTLE ROCK CREEK	97-0296	97-0852	1-day	LA COUNTY	34.4958	-118.0258	3120	08/1965-10/1975
LITTLE ROCK CREEK ABOVE D	97-0852		1-day	LA COUNTY	34.4781	-118.0233	3280	**10/1928-01/1993**
LITTLE ROCK CREEK ABOVE S	97-0851	97-0852	1-day	LA COUNTY	34.4642	-118.0192	3330	02/1948-04/1961
LITTLE ROCK-SCHWAB	97-0468		1-day	LA COUNTY	34.5367	-117.9786	2800	**10/1937-01/2007**
LITTLE ROCK-SYCAMORE CAMP	97-0917		1-day	LA COUNTY	34.4172	-117.9703	4000	**11/1953-10/1996**
LIVERMORE	04-4997		1-day	NCDC	**37.6922**	**-121.7692**	480	01/1903-05/2010
LLANO	97-0631	97-0632	1-day	LA COUNTY	34.4838	-117.8344	3382	04/1957-10/1959
LLANO	97-0632		1-day	LA COUNTY	34.4869	-117.8339	3390	**10/1940-01/2007**
LOBDELL LAKE	98-0036		1-day	NRCS	**38.4413**	-119.3667	**9233**	10/1978-09/2010
LOCKWOOD 1 N	04-5017		1-day	NCDC	35.9667	-121.0833	1060	09/1943-05/1978
LOCKWOOD 1 N	04-5017		1-hour	NCDC	35.9667	-121.0833	1060	07/1948-12/1979
LOCKWOOD MESA	04-5023	92-0745	1-day	NCDC	32.9833	-117.2500	210	01/1956-07/1965
LOCKWOOD MESA	92-1680	92-2850	1-day	SAN DIEGO COUNTY	32.9833	-117.2500	205	10/1948-12/1965
LOCKWOOD VALLEY-COUNTY YA	93-0209		1-day	VENTURA COUNTY	**34.7326**	**-119.1032**	5150	10/1960-09/2005
LOCKWOOD VALLEY-COUNTY YA	93-0209	04-3219	15-min	VENTURA COUNTY	**34.7333**	**-119.1028**	5150	09/1966-10/2005
LODGEPOLE	04-5026		1-day	NCDC	36.6044	-118.7325	6735	11/1968-05/2010
LODI	04-5032		1-day	NCDC	38.1061	-121.2878	40	1/1893-05/2010
LOG SPRINGS (LGS)	72-0019		1-day	USACE	39.8262	-122.7930	5050	10/1964-12/2006
LOMA LINDA FIRE DEPARTMEN	79-3355		15-min	SAN BERNARDINO	34.0442	-117.2471	1193	11/1983-08/2010
LOMPOC	04-5064		1-day	NCDC	**34.6536**	**-120.4511**	95	03/1917-05/2010
LOMPOC - CALTRANS MAINT.	80-0385	80-0439	1-day	SANTA BARBARA	34.6631	-120.4739	100	11/1954-05/1996
LOMPOC - MIGUELITO CANYON	80-0251		1-day	SANTA BARBARA	34.5861	-120.4950	1080	11/1946-08/2005

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
LOMPOC FLOOD CONTROL	80-0439		1-day	SANTA BARBARA	34.6672	-120.4672	100	**11/1954-04/2007**
LOMPOC HILLS	80-0411		1-day	SANTA BARBARA	34.7333	-120.4167	1200	09/1966-06/2000
LONE PINE COTTONWOOD PH	04-5067		15-min	NCDC	36.4431	-118.0433	3790	12/1977-03/2010
LONG BARN EXPERMENT STN	04-5078	04-6893	1-hour	NCDC	38.1833	-120.0167	5203	07/1948-02/1964
LONG BEACH - 37TH AND GAV	97-0654	97-0655	1-day	LA COUNTY	33.8174	-118.1671	71	04/1937-10/1959
LONG BEACH #1	97-1285	97-1286	1-day	LA COUNTY	33.7679	-118.1343	15	10/1925-10/1935
LONG BEACH #1	97-1286		1-day	LA COUNTY	33.7794	-118.1433	15	**10/1925-10/1980**
LONG BEACH DAUGHERTY AP	04-5085		1-day	NCDC	33.8117	-118.1464	31	01/1949-06/2010
LONG BEACH DAUGHERTY AP	04-5085		1-hour	NCDC	33.8117	-118.1464	31	08/1968-03/2010
LONG BEACH-ALAMITOS LAND	97-1191	97-1192	1-day	LA COUNTY	33.7668	-118.1841	150	10/1947-10/1969
LONG BEACH-ALAMITOS LAND	97-1192		1-day	LA COUNTY	33.7669	-118.1967	220	**10/1894-10/1990**
LONG BEACH-CITY HALL-VETE	97-0379	97-0380	1-day	LA COUNTY	33.7670	-118.1843	30	11/1928-10/1946
LONG BEACH-JOTHAM BIXBY C	97-1190	97-1191	1-day	LA COUNTY	33.7668	-118.1843	30	10/1894-10/1947
LOOMIS RACH-ALDER CREEK	97-0124	97-0126	1-day	LA COUNTY	34.3349	-118.0348	4325	10/1916-10/1949
LOOMIS RACH-ALDER CREEK	97-0126		1-day	LA COUNTY	**34.3489**	**-118.0506**	4325	**10/1916-10/1997**
LORAINE	04-5098		1-hour	NCDC	35.3000	-118.4333	2720	07/1948-04/1987
LOS ALAMITOS	97-0960		1-day	LA COUNTY	33.8097	-118.0764	25	**10/1910-07/1992**
LOS ALAMITOS	97-1293	97-0960	1-day	LA COUNTY	**NaN**	**-118.0690**	20	10/1910-10/1932
LOS ALAMOS	04-5107		1-day	NCDC	34.7456	-120.2800	565	4/1894-04/2008
LOS ANGELES COUNTRY CLUB	97-1072		1-day	LA COUNTY	34.0694	-118.4214	380	09/1919-09/2006
LOS ANGELES DOWNTOWN/USC	04-5115		1-day	NCDC	**34.0217**	**-118.2914**	**171**	04/1906-06/2010
LOS ANGELES DOWNTOWN/USC	04-5115		1-hour	NCDC	34.0511	-118.2353	230	07/1948-03/2010
LOS ANGELES INTERNATIONAL	97-0728		1-day	LA COUNTY	**33.9432**	-118.3847	126	**03/1918-03/2010**
LOS ANGELES INTERNATIONAL	97-0729	97-0730	1-day	LA COUNTY	33.9342	-118.3837	126	10/1948-10/1968
LOS ANGELES INTL AP	04-5114		1-hour	NCDC	33.9381	-118.3889	97	07/1948-03/2010
LOS ANGELES-96TH AND CENT	97-0444	97-0445	1-day	LA COUNTY	33.9349	-118.2505	121	10/1930-04/1987
LOS ANGELES-96TH AND CENT	97-0445		1-day	LA COUNTY	33.9489	-118.2547	121	**10/1930-05/2002**
LOS ANGELES-CLARK MEMORIA	97-1220	97-1221	1-day	LA COUNTY	34.0333	-118.3014	203	04/1930-04/1938
LOS ANGELES-CLARK MEMORIA	97-1221	97-0620	1-day	LA COUNTY	34.0333	-118.3128	203	04/1930-12/1987
LOS ANGELES-DUCOMMUN ST.	97-0703		1-day	LA COUNTY	34.0525	-118.2369	306	9/1877-10/2006
LOS ANGELES-EAST VALLEY	97-1005	97-0352	1-day	LA COUNTY	34.2083	-118.4097	780	12/1957-10/2006

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
LOS ANGELES-HANCOCK PARK	97-1180	97-1181	1-day	LA COUNTY	34.0513	-118.3505	175	02/1929-10/1948
LOS ANGELES-HANCOCK PARK	97-1181	97-1182	1-day	LA COUNTY	34.0514	-118.3506	175	10/1948-10/1951
LOS ANGELES-HANCOCK PARK	97-1182	97-1183	1-day	LA COUNTY	34.0514	-118.3506	175	10/1951-06/1954
LOS ANGELES-HANCOCK PARK	97-1183	97-1184	1-day	LA COUNTY	34.0514	-118.3508	175	06/1954-11/1962
LOS ANGELES-HILLCREST COU	97-0615		1-day	LA COUNTY	34.0483	-118.4017	185	**10/1930-02/2005**
LOS ANGELES-U.S.C	97-0620		1-day	LA COUNTY	34.0206	-118.2875	208	**04/1930-12/2006**
LOS BANOS	04-5118		1-day	NCDC	**37.0564**	**-120.8667**	120	03/1906-05/2010
LOS BANOS ARBURUA RCH	04-5119		1-day	NCDC	36.8806	-120.9422	860	10/1932-05/2010
LOS BANOS DET RESV	04-5120		1-day	NCDC	36.9897	-120.9297	407	07/1968-12/2007
LOS GATOS	04-5123		1-day	NCDC	37.2319	-121.9592	365	1/1893-05/2010
LOS GATOS CK - LEXINGTON	96-0317		1-day	CNRFC	37.2017	-121.9881	665	**11/1915-12/2006**
LOS PRIETOS R.S.	04-5147		1-day	NCDC	34.5444	-119.7914	1024	07/1943-10/2004
LOST HILLS	04-5151		1-hour	NCDC	35.6169	-119.6892	288	07/1948-03/2003
LOVELAND RESERVOIR	92-1710		1-day	SAN DIEGO COUNTY	32.7833	-116.7833	1430	07/1943-08/2006
LOWER FRANKLIN RESERVOIR	97-0796		1-day	LA COUNTY	34.0953	-118.4111	585	10/1948-10/2006
LOWER OTAY RESERVOIR	04-5162	92-2160	1-day	NCDC	32.6167	-116.9333	540	09/1940-10/1956
LOWER OTAY RESERVOIR	92-2160		1-day	SAN DIEGO COUNTY	32.6092	-116.9272	540	**01/1914-01/2007**
LOWER OTAY RESERVOIR	92-2160		1-hour	SAN DIEGO COUNTY	32.6092	-116.9272	540	**12/1941-05/1985**
LUCIA WILLOW SPRINGS	04-5184		1-hour	NCDC	35.8781	-121.4497	355	07/1948-03/2010
LYTLE CREEK AT FOOTHILL B	79-2159		15-min	SAN BERNARDINO	34.1075	-117.3341	1225	10/1979-08/2010
LYTLE CREEK FIRE STATION	79-2287		15-min	SAN BERNARDINO	34.2594	-117.5000	3420	10/1974-06/2010
LYTLE CREEK FOOTHILL BLVD	04-5212		1-hour	NCDC	34.0950	-117.3347	1160	**07/1948-08/2010**
LYTLE CREEK PH	04-5215		1-day	NCDC	34.2000	-117.4500	2251	04/1906-08/1967
LYTLE CREEK R S	04-5218		1-day	NCDC	34.2383	-117.4803	2730	**04/1921-12/2007**
LYTLE CREEK R S	04-5218		1-hour	NCDC	**34.2343**	**-117.4803**	2730	01/1949-09/2008
LYTLE CREEK R S	04-5218		15-min	NCDC	**34.2343**	**-117.4803**	2730	05/1971-09/2008
MAD RIVER RANGER STN	04-5244		1-day	NCDC	40.4500	-123.5333	2675	11/1943-09/1988
MADELINE	04-5231		1-day	NCDC	41.0167	-120.5000	5325	09/1908-02/1975
MADERA	04-5233		1-day	NCDC	36.9539	-120.0378	270	01/1928-05/2010
MAGIC MOUNTAIN	97-0802		1-day	LA COUNTY	34.3883	-118.3242	4720	10/1966-01/2006
MAGOON (MGN)	72-0021		1-day	USACE	37.4894	-119.8122	3150	10/1975-12/2006

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MAHATTAN BEACH	97-0925		1-day	LA COUNTY	33.8833	-118.3886	182	10/1953-01/2007
MAHNKE	04-5258		1-hour	NCDC	38.8542	-122.7778	2390	01/1956-03/2010
MAIN STATION	83-6052		1-day	SANTA CLARA	37.3317	-121.8977	84	10/1914-06/1999
MALIBU BEACH-DUNNE	97-0865		1-day	LA COUNTY	34.0333	-118.7117	160	05/1949-10/2000
MANDEVILLE CANYON ROAD	97-0772		1-day	LA COUNTY	34.1067	-118.5028	1160	10/1947-03/1989
MANZANITA LAKE	04-5311		1-day	NCDC	**40.5411**	**-121.5767**	5750	01/1949-05/2010
MANZANITA MOUNTAIN	80-0249		15-min	SANTA BARBARA	34.8939	-120.0817	3190	10/1968-07/2003
MARICOPA	04-5338		1-day	NCDC	35.0833	-119.3833	675	09/1911-07/1993
MARIPOSA	04-5346	04-5352	1-day	NCDC	37.4833	-119.9667	2011	1/1893-09/1984
MARIPOSA R S	04-5352		1-day	NCDC	37.4950	-119.9858	2100	**1/1893-03/2006**
MARKLEEVILLE	04-5356		1-day	NCDC	38.6919	-119.7803	5530	**08/1909-05/2004**
MARKLEEVILLE	04-5356		1-hour	NCDC	38.6919	-119.7803	5530	07/1948-05/2004
MARKLEY COVE	04-5360		1-day	NCDC	**38.4917**	**-122.1242**	480	03/1970-05/2010
MARTINEZ 2 S	04-5371		1-hour	NCDC	37.9700	-122.1275	230	07/1948-09/2005
MARTINEZ FIRE STN	04-5377	04-5378	1-day	NCDC	38.0167	-122.1333	30	12/1969-12/1969
MARTINEZ WATER PLANT	04-5378		1-day	NCDC	38.0131	-122.1142	40	**03/1906-05/2010**
MARYSVILLE	04-5385		1-day	NCDC	39.1458	-121.5853	57	2/1897-10/2007
MATHER	04-5400		1-day	NCDC	**37.8850**	-119.8561	4510	10/1947-05/2010
MATILIJA CANYON	93-0207		1-day	VENTURA COUNTY	**34.5033**	**-119.3543**	1540	07/1960-09/2006
MATILIJA DAM	93-0134		1-day	VENTURA COUNTY	**34.4838**	**-119.3057**	1020	10/1948-09/2006
MATILIJA DAM	04-5417		15-min	NCDC	34.4839	-119.3056	1060	05/1971-07/2008
MC CLOUD	04-5449		1-day	NCDC	41.2514	-122.1383	3280	10/1909-05/2010
MC CLOUD	04-5449		1-hour	NCDC	41.2514	-122.1383	3280	07/1948-08/1975
MEADOW LAKE	04-5496		1-day	NCDC	37.0833	-119.4333	4482	07/1948-12/1975
MECCA	92-1800		1-day	SAN DIEGO COUNTY	33.5333	-116.0500	180	01/1942-12/2004
MECCA FIRE STATION	04-5502		1-day	NCDC	33.5714	-116.0767	**-180**	09/1905-05/2010
MEINERS OAKS-COUNTY FIRE	93-0218		1-day	VENTURA COUNTY	34.4446	-119.2843	730	10/1964-09/2006
MENDOTA DAM	04-5528		1-day	NCDC	36.7833	-120.3667	171	07/1948-09/1984
MENTONE C.D.F.	79-3337		15-min	SAN BERNARDINO	34.0704	-117.1213	1765	11/1975-09/2010
MERCED	04-5532		1-day	NCDC	37.2858	-120.5117	153	6/1899-05/2010
MERCED 2	04-5535		1-hour	NCDC	37.3053	-120.4858	170	07/1948-05/2006

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MERCEY HOT SPRINGS	04-5550		1-day	NCDC	36.7000	-120.8667	1171	10/1932-11/1967
MESCAL CREEK	97-0592		1-day	LA COUNTY	**34.4681**	**-117.7472**	3570	**10/1949-08/2000**
MESCAL CREEK - FORT TEJON	97-0590	97-0591	1-day	LA COUNTY	34.4668	-117.7347	3840	10/1949-09/1960
MESCAL CREEK - FORT TEJON	97-0591	97-0592	1-day	LA COUNTY	34.4681	-117.7475	3840	10/1949-09/1965
MICHIGAN BLUFF	04-5586		1-hour	NCDC	39.0500	-120.7333	3481	07/1948-10/1985
MIDDLETOWN 4 SE	04-5598		1-day	NCDC	38.7250	-122.5517	1118	1/1893-05/2010
MIDDLEWATER	04-5602		1-day	NCDC	35.5000	-119.8167	801	09/1911-03/1962
MIGUELITO	83-6054		1-day	SANTA CLARA	37.3862	-121.8133	**464**	**12/1929-07/2010**
MIGUELITO DEBRIS BASIN	80-0258		1-day	SANTA BARBARA	34.6331	-120.4667	105	09/1961-03/2007
MIGUELITO DEBRIS BASIN	80-0258		15-min	SANTA BARBARA	34.6331	-120.4667	105	10/1970-01/2003
MILFORD LAUFMAN RS	04-5623		1-hour	NCDC	40.1414	-120.3533	4860	07/1948-03/2010
MILFORD LAUFMAN RS	04-5623		15-min	NCDC	40.1414	-120.3533	4860	06/1982-03/2010
MILL CREEK 2	04-5629		1-day	NCDC	34.0833	-117.0333	2943	01/1904-08/1967
MILL CREEK INTAKE	04-5632		1-hour	NCDC	34.0914	-116.9364	4945	07/1948-11/2005
MILL CREEK INTAKE	04-5632		15-min	NCDC	34.0914	-116.9364	4945	05/1971-11/2005
MILL CREEK SUMMIT R S	04-5637		15-min	NCDC	34.3928	-118.0753	5020	01/1972-11/2007
MILL VALLEY	84-5647		1-hour	MARIN COUNTY	37.8960	-122.5270	10	10/1957-09/1995
MILL VALLEY	84-5647		15-min	MARIN COUNTY	37.8960	-122.5270	10	10/1957-09/1995
MILLBERRY	83-6055		1-day	SANTA CLARA	37.1172	-121.9177	1847	08/1941-06/1977
MILO 5 NE	04-5669		1-hour	NCDC	36.2756	-118.7675	3100	01/1957-08/2006
MILPITAS (SILVA)	83-6056		1-day	SANTA CLARA	37.4361	-121.8677	**216**	01/1938-06/1999
MINERAL	04-5679		1-day	NCDC	40.3458	-121.6092	4875	12/1909-05/2010
MINERAL	04-5679		1-hour	NCDC	40.3458	-121.6092	4875	07/1948-03/2010
MINT CANYON - WARMUTH	97-0829	97-0823	1-day	LA COUNTY	**34.5125**	**-118.3542**	**2400**	11/1946-01/1985
MINT CANYON FIRE STATION	97-0823		1-day	LA COUNTY	34.5097	-118.3611	2300	**11/1946-06/2005**
MIRA LOMA SPACE CENTER	79-1021		15-min	SAN BERNARDINO	34.0231	-117.5334	804	12/1966-09/2010
MIRAMAR DAM	92-1830		1-day	SAN DIEGO COUNTY	32.9167	-117.1000	722	07/1961-01/2007
MIRAMAR MCAS	92-1840		1-day	SAN DIEGO COUNTY	32.8667	-117.1333	459	07/1945-02/2007
MIRANDA 4 SE	04-5711		15-min	NCDC	40.1814	-123.7758	263	05/1971-03/2010
MIRANDA SPENGLER RANCH	04-5713		1-day	NCDC	40.2000	**-123.7802**	361	**11/1939-03/2008**
MIRANDA SPENGLER RANCH	04-5713		1-hour	NCDC	40.2000	**-123.7820**	361	**07/1948-03/2008**

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MITCHELL CAVERNS	04-5721		1-day	NCDC	**34.9434**	**-115.5135**	4350	03/1958-05/2010
MODESTO 2	04-5741		1-hour	NCDC	37.6256	-121.0314	89	07/1948-03/2010
MODESTO 2	04-5741		15-min	NCDC	37.6256	-121.0314	89	06/1972-03/2010
MODESTO AP	04-5738		1-day	NCDC	37.6242	-120.9506	73	03/1906-06/2010
MOFFETT FIELD	04-5747		1-day	NCDC	37.4167	-122.0500	25	**03/1945-07/2010**
MOJAVE	04-5756		1-day	NCDC	35.0492	-118.1619	2735	**02/1904-05/2010**
MOJAVE	04-5756		1-hour	NCDC	35.0492	-118.1619	2735	11/1959-03/2010
MONITOR PASS	98-0037		1-day	NRCS	**38.6700**	**-119.6100**	8350	10/1990-09/2010
MONO LAKE	04-5779		1-day	NCDC	38.0000	-119.1500	6449	01/1944-02/1988
MONROVIA-FIVE POINTS	97-0941		1-day	LA COUNTY	34.1661	-117.9936	962	10/1958-09/2000
MONTAGUE 5 NE	04-5785		1-hour	NCDC	41.7806	-122.4717	2635	07/1948-03/2010
MONTAGUE 5 NE	04-5785		15-min	NCDC	41.7806	-122.4717	2635	03/1972-03/2010
MONTANA RACH	97-0358		1-day	LA COUNTY	33.8431	-118.1192	47	10/1915-01/2007
MONTE NIDO	97-0579	97-0580	1-day	LA COUNTY	34.0678	-118.6843	600	10/1939-08/1987
MONTE NIDO	97-0580		1-day	LA COUNTY	34.0781	-118.6931	600	**10/1939-05/2002**
MONTECITO WATER DISTRICT	80-0325		1-day	SANTA BARBARA	34.4333	-119.6333	230	10/1925-03/2007
MONTEREY	04-5795		1-day	NCDC	36.5903	-121.9100	385	03/1906-05/2010
MONTEREY NWSFO	04-5802		15-min	NCDC	36.5925	-121.8556	122	**05/1971-03/2010**
MONTEREY PARK-FIRE STATIO	97-0443		1-day	LA COUNTY	34.0408	-118.1283	305	**10/1930-11/2003**
MONTEVINA RESERVOIR	83-6058	96-0317	1-day	SANTA CLARA	37.1995	-121.9921	694	11/1915-06/1999
MONTGOMERY CREEK	04-5809	04-7580	1-day	NCDC	40.8167	-121.9333	2103	07/1948-09/1951
MONTGOMERY CREEK	04-5809	04-7580	1-hour	NCDC	40.8167	-121.9333	2103	07/1948-05/1961
MONTGOMERY FIELD	92-1890		1-day	SAN DIEGO COUNTY	32.8167	-117.1500	350	07/1961-02/2007
MOORPARK-DOWNING RANCH	93-0191		1-day	VENTURA COUNTY	34.3261	**-118.8959**	1040	10/1955-09/2006
MOORPARK-EVERETT	93-0192		1-day	VENTURA COUNTY	34.2564	-118.8478	635	10/1955-09/2006
MOORPARK-SOIL CONSERVATIO	93-0141		1-day	VENTURA COUNTY	34.2783	**-118.8776**	520	10/1948-09/2006
MORENA DAM	04-5840		1-hour	NCDC	32.6817	-116.5208	3075	07/1948-02/2008
MORENA DAM	04-5840		15-min	NCDC	32.6817	-116.5208	3075	05/1971-02/2008
MORENA RESERVOIR	92-1920		1-day	SAN DIEGO COUNTY	32.6833	-116.5167	3075	**10/1926-03/2004**
MORENO EAST	90-0124		15-min	RIVERSIDE COUNTY	33.9408	-117.1372	1840	07/1975-05/2007
MORGAN HILL	04-5853		1-hour	NCDC	37.1364	-121.6025	375	07/1948-03/2010

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MORGAN HILL	04-5853		15-min	NCDC	37.1364	-121.6025	375	05/1971-03/2010
MORGAN HILL 12E	96-0418		1-day	CNRFC	37.1506	-121.4183	1696	**11/1953-12/2006**
MORGAN HILL 2 E	04-5844		1-day	NCDC	37.1333	-121.6167	230	**03/1906-03/2010**
MORRIS DAM	97-0532		1-day	LA COUNTY	34.1814	-117.8786	1210	10/1934-12/2006
MORRO BAY FIRE DEPT	04-5866		1-day	NCDC	35.3669	-120.8447	115	02/1959-05/2010
MOUNT DANAHER	04-5909		1-day	NCDC	38.7500	-120.6667	3412	10/1943-05/1973
MOUNT DANAHER	04-5909		1-hour	NCDC	38.7500	-120.6667	3412	07/1948-04/1975
MOUNT DIABLO JUNCTION	04-5915		1-day	NCDC	**37.8667**	**-121.9323**	2170	04/1952-05/2010
MOUNT HAMILTON	04-5933		1-day	NCDC	37.3436	-121.6425	4206	07/1948-05/2010
MOUNT HEBRON RNG STN	04-5941		1-day	NCDC	41.7836	-122.0447	4250	03/1907-05/2010
MOUNT LAGUNA C.R.S.	92-1950		1-day	SAN DIEGO COUNTY	32.8658	-116.4164	6000	**09/1967-04/2004**
MOUNT LAGUNA C.R.S.	92-1950		1-hour	SAN DIEGO COUNTY	32.8658	-116.4164	6000	**09/1967-03/1992**
MOUNT SAINT MARY'S COLLEG	97-1225		1-day	LA COUNTY	34.0861	-118.4825	1025	10/1939-04/1974
MOUNT SAN ANTONIO COLLEGE	97-0399	97-0400	1-day	LA COUNTY	34.0348	-117.8348	780	02/1930-10/1956
MOUNT SHASTA	04-5983		1-day	NCDC	41.3206	-122.3081	3590	**07/1948-05/2010**
MOUNT SHASTA	04-5983		1-hour	NCDC	41.3206	-122.3081	3590	08/1948-03/2010
MOUNTAIN HOME (MNH)	72-0022		1-day	USACE	36.2422	-118.7173	5560	10/1963-12/2006
MOUNTAIN PASS	04-5890		1-day	NCDC	**35.4703**	**-115.5436**	4730	02/1955-04/2007
MOUNTAIN PASS	79-9008		15-min	SAN BERNARDINO	35.4715	-115.5429	4735	10/1981-06/2010
MT DIABLO PEAK	85-0006		1-day	CONTRA COSTA	37.8800	-121.9183	3690	**07/1975-06/2008**
MT TAMALPIAS 2SW	84-5996		1-hour	MARIN COUNTY	37.9000	-122.6000	1480	10/1939-09/2004
MT TAMALPIAS 2SW	84-5996		15-min	MARIN COUNTY	37.9000	-122.6000	1480	10/1939-09/2004
MT TAMILPIAS 2SW	84-5996		1-day	MARIN COUNTY	37.9000	-122.6000	1480	10/1947-09/1995
MT WILSON CBS	04-6006		1-day	NCDC	34.2308	-118.0711	5710	**10/1933-05/2010**
MT. SAN ANTONIO COLLEGE	97-0401	97-0402	1-day	LA COUNTY	34.0349	-117.8337	780	10/1963-10/1969
MT. SAN ANTONIO COLLEGE	97-0402		1-day	LA COUNTY	34.0447	-117.8386	720	**02/1930-10/2006**
MT. SAN ANTONIO COLLEGE-S	97-0400	97-0401	1-day	LA COUNTY	34.0347	-117.8345	755	10/1956-10/1963
MT. WILSON-AIRWAYS	97-0501	04-6006	1-day	LA COUNTY	34.2267	-118.0658	5709	10/1939-06/1986
MT. WILSON-OBSERVATORY	97-0500	04-6006	1-day	LA COUNTY	34.2256	-118.0558	5675	10/1933-10/1979
MUIR WOODS	04-6027		1-day	NCDC	37.8978	-122.5689	220	12/1940-05/2010
MURRAY RESERVOIR	92-2010		1-day	SAN DIEGO COUNTY	32.7819	-117.0472	578	07/1915-01/2007

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
NACASIO TOWN 1SE	84-6188		1-hour	MARIN COUNTY	38.0449	-122.6896	265	10/1953-09/1980
NACASIO TOWN 1SE	84-6188		15-min	MARIN COUNTY	38.0449	-122.6896	265	10/1953-09/1980
NAPA STATE HOSPITAL	04-6074		1-day	NCDC	**38.2778**	**-122.2647**	35	1/1893-05/2010
NAVARRO 1 NW	04-6105		1-hour	NCDC	39.1733	-123.5642	150	02/1958-03/2010
NEEDLES	04-6115		1-hour	NCDC	**34.8302**	**-114.5937**	**489**	02/1953-03/2010
NEEDLES AP	04-6118		1-day	NCDC	34.7675	-114.6189	890	07/1948-06/2010
NEENACH-ERSTAD	97-0641		1-day	LA COUNTY	34.7744	-118.5986	3062	**12/1893-12/2001**
NEVADA CITY	04-6136		1-day	NCDC	39.2467	-121.0008	2781	2/1893-05/2010
NEW CUYAMA CALTRANS	80-0402		1-day	SANTA BARBARA	34.9600	-119.7100	2003	11/1954-10/2006
NEW HOGAN WEATHER (NHGW)	72-0025		1-day	USACE	38.1508	-120.8177	554	10/1963-12/2006
NEWARK	04-6144		1-day	NCDC	37.5147	-122.0325	10	**05/1906-05/2010**
NEWBURY PARK-JENNY DRIVE	93-0188		1-day	VENTURA COUNTY	34.1853	**-118.9487**	665	10/1927-09/2006
NEWHALL - S.P.R.R.	97-1299	97-0083	1-day	LA COUNTY	34.3797	-118.5267	1270	1/1897-10/1941
NEWHALL S FC32CE	04-6162		15-min	NCDC	34.3869	-118.5342	1243	05/1971-09/2004
NEWHALL-SOLEDAD	97-0081	97-0082	1-day	LA COUNTY	34.3835	-118.5182	1243	10/1927-10/1944
NEWHALL-SOLEDAD	97-0082	97-0083	1-day	LA COUNTY	34.3835	-118.5182	1243	10/1944-10/1946
NEWHALL-SOLEDAD DIV.HDQTR	97-0083		1-day	LA COUNTY	34.3853	-118.5317	1243	**1/1897-02/2006**
NEWMAN	04-6168		1-day	NCDC	37.2811	-121.0178	90	06/1902-05/2010
NEWMARK-S.C.E. CO. SUBSTA	97-0442	97-0443	1-day	LA COUNTY	34.0346	-118.1179	375	10/1930-08/1951
NEWPORT BEACH HARBOR	04-6175		1-day	NCDC	33.6025	-117.8803	10	01/1921-04/2010
NICASIO DAM	84-6187		1-day	MARIN COUNTY	38.1080	-122.7200	315	10/1970-09/2004
NICASIO TOWN 1SSE	84-6188		1-day	MARIN COUNTY	38.0449	-122.6896	265	10/1953-09/2004
NICHOLAS CANYON	97-1008	97-1009	1-day	LA COUNTY	34.0348	-118.9016	340	06/1958-05/1981
NICHOLAS CANYON	97-1009		1-day	LA COUNTY	34.0478	-118.9158	340	**06/1958-09/2005**
NICHOLS DEBRIS BASIN	97-0760	97-0761	1-day	LA COUNTY	34.1006	-118.3509	478	12/1947-09/1958
NICHOLS DEBRIS BASIN	97-0761		1-day	LA COUNTY	34.1028	-118.3564	440	**11/1931-05/1989**
NICOLAUS	04-6193	04-6194	1-day	NCDC	38.9000	-121.5833	49	11/1962-11/1962
NICOLAUS 2	04-6194		1-day	NCDC	38.9261	-121.5447	43	**11/1911-05/2010**
NILAND	04-6197		1-day	NCDC	33.2775	-115.5239	-60	10/1914-05/2010
NOEL SPRINGS (NLS)	72-0026		1-day	USACE	39.5375	-122.6683	5000	10/1964-12/2006
NOJOQUI FALLS PARK	80-0236		1-day	SANTA BARBARA	34.5339	-120.1778	720	11/1965-01/2007

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
NORTH FORK RS	04-6252		1-day	NCDC	**37.2328**	**-119.5097**	**2645**	03/1904-05/2010
NORTH HOLLYWOOD PUMPING P	97-0352		1-day	LA COUNTY	34.1942	-118.3881	717	**01/1929-10/2006**
NORTH HOLLYWOOD-BLIX	97-0030	97-0031	1-day	LA COUNTY	34.1513	-118.3512	596	10/1906-10/1920
NORTH HOLLYWOOD-BLIX	97-0031	97-0032	1-day	LA COUNTY	34.1564	-118.3656	593	10/1906-04/1984
NORTH HOLLYWOOD-LAKESIDE	97-0032		1-day	LA COUNTY	34.1461	-118.3536	550	**10/1906-01/2007**
NORTHRIDGE ANDREWS	97-0063	97-0064	1-day	LA COUNTY	34.2179	-118.5348	795	10/1937-10/1963
NORTHRIDGE-L.A. D. W. P.	97-0064		1-day	LA COUNTY	34.2311	-118.5411	810	**10/1937-10/2006**
NORWALK	97-0281		1-day	LA COUNTY	33.8978	-118.0667	85	10/1926-10/1975
NOVATO 8WNW	84-6290		1-day	MARIN COUNTY	38.1330	**-122.7470**	350	10/1948-09/1995
NOVATO 8WNW	84-6290		1-hour	MARIN COUNTY	38.1330	-122.7470	350	10/1942-09/1995
NOVATO 8WNW	84-6290		15-min	MARIN COUNTY	38.1330	-122.7470	350	10/1942-09/1995
NOVATO FS 1	84-6292		1-hour	MARIN COUNTY	38.1050	-122.5370	35	10/1957-09/1994
NOVATO FS 1	84-6292		15-min	MARIN COUNTY	38.1050	-122.5370	35	10/1957-09/1994
OAK FLAT GUARD STATION	97-1010		1-day	LA COUNTY	34.5989	-118.7208	2800	10/1958-05/1994
OAK GLEN	79-3015		15-min	SAN BERNARDINO	34.0519	-116.9527	4680	03/1946-08/2010
OAK GROVE F. S.	92-2050		1-day	SAN DIEGO COUNTY	33.3833	-116.7833	2751	**10/1957-12/2004**
OAK GROVE F. S.	92-2050		15-min	SAN DIEGO COUNTY	33.3833	-116.7833	2751	09/1978-12/2004
OAK KNOLL R S NO 2	04-6329	04-6328	1-day	NCDC	41.8500	-122.8833	1700	10/1972-01/1998
OAK KNOLL W C	04-6328		1-day	NCDC	41.8392	-122.8503	1980	**11/1943-05/2010**
OAK VIEW-COUNTY FIRE STAT	93-0140		1-day	VENTURA COUNTY	34.3951	-119.3002	520	10/1949-09/2006
OAK WILDE	97-0114	97-0720	1-day	LA COUNTY	34.2436	-118.1853	2175	10/1953-03/1983
OAKDALE WOODWARD DAM	04-6305		1-day	NCDC	37.8667	-120.8667	220	03/1906-12/1967
OAKHURST (OHK)	72-0027		1-day	USACE	37.3459	-119.6753	2360	10/1975-12/2006
OAKLAND	04-6332	04-9185	1-day	NCDC	37.7833	-122.1667	440	07/1958-07/1958
OAKLAND MUSEUM	04-6336		1-day	NCDC	37.7983	-122.2642	30	10/1970-05/2010
OAKLAND WSO AP	04-6335		1-hour	NCDC	37.7333	-122.2000	6	07/1948-07/1986
OAKVILLE 4 SW	04-6354	04-6356	1-hour	NCDC	38.3833	-122.4667	1470	08/1949-09/1963
OAKVILLE 4 SW N0 2	04-6356		1-hour	NCDC	38.4000	-122.4667	1685	**08/1949-04/1988**
OAKVILLE 4SW	84-6354		15-min	MARIN COUNTY	38.3830	-122.4670	1465	10/1939-09/1987
OCCIDENTAL	04-6370		1-day	NCDC	38.3858	-122.9661	865	05/1943-05/2010
OCEANSIDE MARINA	04-6377		1-day	NCDC	33.2097	-117.3950	10	10/1909-05/2010

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
OCEANSIDE PUMPING PLT	04-6379		1-hour	NCDC	33.2103	-117.3536	30	02/1952-01/2008
OCEANSIDE PUMPING PLT	04-6379		15-min	NCDC	33.2103	-117.3536	30	05/1976-01/2008
OCOTILLO 2	04-6390		1-day	NCDC	32.7461	-116.0006	410	06/1971-02/2003
OJAI VALLEY NEAR OJAI	93-0030		1-day	VENTURA COUNTY	34.4533	**-119.2276**	900	10/1905-09/2006
OJAI-THACHER SCHOOL	93-0059		1-day	VENTURA COUNTY	34.4653	-119.1800	1440	10/1915-09/2006
OLD TOPANGA	97-0898	97-0899	1-day	LA COUNTY	34.1010	-118.6178	1000	11/1967-08/1972
OLD TOPANGA	97-0899	97-0900	1-day	LA COUNTY	34.1010	-118.6178	1010	03/1974-10/1979
OLD TOPANGA - GRAY	97-0897	97-0898	1-day	LA COUNTY	34.1010	-118.6178	1010	04/1952-09/1967
OLIVE VIEW SANITARIUM	97-0539	97-0540	1-day	LA COUNTY	34.3175	-118.4349	1425	10/1955-05/1980
OLIVE VIEW SANITARIUM	97-0540		1-day	LA COUNTY	34.3247	-118.4486	1425	**10/1955-09/1998**
OLIVENHAIN	92-2140		1-day	SAN DIEGO COUNTY	33.0500	-117.2667	220	10/1943-02/2007
ONO	04-6455		1-day	NCDC	40.4833	-122.6167	978	01/1952-03/1984
ONTARIO FIRE STATION #3	79-1335		15-min	SAN BERNARDINO	34.0411	-117.6239	860	01/1979-09/2010
ORAGE COUNTY RESERVOIR	97-0965		1-day	LA COUNTY	33.9353	-117.8828	660	11/1954-07/2006
ORANGE COUNTY RESERVOIR	04-6473		1-hour	NCDC	33.9378	-117.8850	660	07/1948-03/2010
ORANGE COVE	04-6476		1-day	NCDC	36.6167	-119.3000	430	06/1931-11/1990
ORCUTT RANCH	97-0080		1-day	LA COUNTY	34.3244	-118.5706	2850	10/1927-10/1982
ORICK PRAIRIE CREEK PARK	04-6498		1-day	NCDC	41.3619	-124.0192	160	05/1937-05/2010
ORLAND	04-6506		1-day	NCDC	39.7458	-122.1997	254	03/1903-05/2010
ORLEANS	04-6508		1-day	NCDC	41.3089	**-123.5317**	**403**	04/1903-05/2010
ORLEANS RS	04-6513		15-min	NCDC	41.3039	-123.5356	430	01/1971-03/2010
OROVILLE	04-6521		1-day	NCDC	39.5178	-121.5531	171	**3/1893-05/2010**
OROVILLE	04-6521		15-min	NCDC	39.5178	-121.5531	171	**05/1971-03/2010**
OROVILLE 1 N	04-6522	04-6521	1-day	NCDC	39.5167	-121.5500	269	04/1953-04/1953
OROVILLE RANGER STN	04-6528		1-hour	NCDC	39.5333	-121.5667	302	07/1948-04/1979
OROVILLE RANGER STN	04-6528	04-6521	15-min	NCDC	39.5333	-121.5667	302	05/1971-04/1979
OTAY RANCH	92-2150		1-day	SAN DIEGO COUNTY	32.6388	-116.9833	500	12/1938-04/1988
OXNARD AIRPORT	93-0168		15-min	VENTURA COUNTY	34.2016	-119.2070	34	12/1956-01/2007
OXNARD-WATER DEPARTMENT	93-0032		1-day	VENTURA COUNTY	34.2014	**-119.1759**	53	10/1902-09/2006
OZENA	04-6576	93-0174	1-day	NCDC	34.7000	-119.3167	3714	02/1904-07/1964
OZENA	80-0399	04-6576	1-day	SANTA BARBARA	34.6917	-119.3167	3705	09/1910-08/1982

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
OZENA GUARD STATION	93-0174		1-day	VENTURA COUNTY	34.6825	**-119.3532**	3600	**02/1904-03/2008**
OZENA GUARD STATION	04-6577		15-min	NCDC	34.6828	-119.3531	3590	11/1975-03/2010
PACIFIC HOUSE	04-6597		1-day	NCDC	38.7583	-120.5031	3450	11/1941-05/2010
PACOIMA CANYON - CITY ROA	97-0723		1-day	LA COUNTY	34.3617	-118.3069	3175	10/1945-12/1982
PACOIMA DAM	97-0086		1-day	LA COUNTY	34.3300	-118.3994	1500	12/1915-01/2007
PACOIMA WAREHOUSE-FORESTE	97-1187	97-0584	1-day	LA COUNTY	34.2558	-118.4067	955	02/1929-10/1988
PACOLMA CANYON	97-0562	97-0563	1-day	LA COUNTY	34.3347	-118.3669	2067	10/1937-03/1941
PACOLMA CANYON	97-0563	97-0564	1-day	LA COUNTY	34.3347	-118.3515	2200	03/1941-05/1950
PACOLMA CANYON	97-0564	97-0565	1-day	LA COUNTY	34.3348	-118.3672	2100	05/1950-10/1957
PACOLMA CANYON	97-0565	97-0566	1-day	LA COUNTY	34.3349	-118.3674	2100	10/1957-06/1959
PACOLMA CANYON	97-0566	97-0567	1-day	LA COUNTY	34.3347	-118.3514	2125	06/1959-10/1965
PACOLMA CANYON	97-0567	97-1056	1-day	LA COUNTY	34.3475	-118.3700	2075	10/1937-05/1978
PADUA HILLS	97-0484	97-0858	1-day	LA COUNTY	34.1343	-117.6847	1768	10/1925-11/1948
PADUA HILLS PATROL STATIO	97-0858	97-0859	1-day	LA COUNTY	34.1348	-117.6848	1850	11/1948-08/1964
PADUA HILLS PATROL STATIO	97-0859	97-0994	1-day	LA COUNTY	34.1478	-117.6986	1800	10/1925-05/1998
PAICINES 4 W	04-6610		1-day	NCDC	**36.7150**	**-121.3492**	905	07/1948-05/2010
PALM SPRINGS	04-6635		1-day	NCDC	33.8275	-116.5097	425	03/1906-05/2010
PALMDALE	04-6624		1-day	NCDC	34.5878	-118.0942	2596	01/1903-05/2010
PALMDALE	04-6624		1-hour	NCDC	**34.5833**	**-118.1000**	2596	02/1963-03/2010
PALMDALE	04-6624		15-min	NCDC	34.5878	-118.0942	2596	01/1984-03/2010
PALMDALE - DEPT OF AIRPOR	97-0748	97-0749	1-day	LA COUNTY	34.6172	-118.0833	2528	10/1946-07/1974
PALMDALE-F.A.A. AIRPORT	97-0749		1-day	LA COUNTY	34.6222	-118.0833	2528	**10/1946-01/2007**
PALMER CANYON - NUFER	97-0830	97-0831	1-day	LA COUNTY	34.1511	-117.7002	2175	12/1946-10/1948
PALO ALTO	04-6642	04-6646	1-day	NCDC	37.4333	-122.1667	59	03/1906-08/1953
PALO ALTO	04-6646		1-day	NCDC	37.4436	**-122.1403**	25	**03/1906-05/2010**
PALO ALTO	04-6642	04-6646	1-hour	NCDC	37.4333	-122.1667	59	07/1948-08/1953
PALO ALTO	04-6646		1-hour	NCDC	37.4436	**-122.1403**	25	**07/1948-03/1975**
PALOMA	04-6650		1-day	NCDC	36.3503	-121.5400	1775	05/1943-01/1999
PALOMAR MOUNTAIN OBSVTRY	04-6657		1-day	NCDC	**33.3581**	**-116.8654**	5550	01/1901-05/2010
PALOMAR MOUNTAIN OBSVTRY	04-6657		1-hour	NCDC	**33.3581**	**-116.8654**	5550	07/1948-03/2010
PALOMAR MOUNTAIN OBSVTRY	04-6657		15-min	NCDC	**33.3581**	**-116.8654**	5550	12/1972-03/2010

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
PALOS VERDES ES FC43D	04-6663		1-day	NCDC	33.7997	-118.3911	216	01/1949-05/2010
PALOS VERDES FIRE STATION	97-0833	97-0834	1-day	LA COUNTY	33.7507	-118.3503	1275	03/1947-03/1954
PALOS VERDES FIRE STATION	97-0834		1-day	LA COUNTY	33.7569	-118.3531	1272	**03/1947-10/2005**
PANOCHE 2 W	04-6675		1-day	NCDC	36.6067	-120.8842	1400	12/1949-05/2010
PARADISE	04-6685		1-day	NCDC	**39.7536**	**-121.6239**	1750	05/1957-05/2010
PARADISE DEBRIS BASIN	97-1162	97-1163	1-day	LA COUNTY	34.2006	-118.1833	1250	11/1955-03/1956
PARKER RESERVOIR	04-6699		1-day	NCDC	34.2903	-114.1708	738	01/1934-05/2010
PARKER RESERVOIR	04-6699		1-hour	NCDC	34.2903	-114.1708	738	07/1948-06/2009
PARKFIELD	04-6703		1-day	NCDC	35.8833	-120.4333	1480	02/1943-02/1975
PASADENA	04-6719		1-day	NCDC	**34.1481**	**-118.1444**	864	1/1893-05/2010
PASADENA - ALLEN	97-1301	97-1302	1-day	LA COUNTY	34.1677	-118.1006	1070	1/1899-08/1949
PASADENA - ALLEN	97-1302	97-0643	1-day	LA COUNTY	34.1769	-118.1061	1070	1/1899-04/1955
PASADENA - CAL TECH	97-0472	97-0473	1-day	LA COUNTY	34.1338	-118.1171	763	10/1930-05/1937
PASADENA - CAL TECH	97-0473	97-0474	1-day	LA COUNTY	34.1337	-118.1174	752	04/1937-10/1944
PASADENA - CAL TECH	97-0474	97-0475	1-day	LA COUNTY	34.1336	-118.1171	745	09/1944-04/1947
PASADENA - CAL TECH	97-0475	97-0471	1-day	LA COUNTY	34.1337	-118.1174	800	03/1947-09/1950
PASADENA - CALTECH	97-0471		1-day	LA COUNTY	34.1372	-118.1236	800	**10/1930-10/1995**
PASADENA - CHLORINE PLANT	97-0645	97-0646	1-day	LA COUNTY	34.2075	-118.1667	1181	02/1916-10/1973
PASADENA - HOFFNER	97-0670	97-0671	1-day	LA COUNTY	34.1672	-118.1677	985	10/1938-10/1945
PASADENA - HURLBUT FIRE S	97-0647	97-0648	1-day	LA COUNTY	34.1300	-118.1533	780	02/1939-10/1972
PASADENA #10 - JONES	97-0643	04-0144	1-day	LA COUNTY	34.1675	-118.1214	985	11/1889-10/1961
PASADENA FIRE STATION	97-0648		1-day	LA COUNTY	34.1208	-118.1347	779	**02/1939-12/2006**
PASADENA-CHLORINE PLANT	97-0646		1-day	LA COUNTY	34.2011	-118.1636	1160	**02/1916-12/2006**
PASADENA-JOURDAN	97-0797		1-day	LA COUNTY	34.1478	-118.0872	860	01/1949-01/2007
PASCOES (PSC)	72-0031		1-day	USACE	35.9615	-118.3576	9120	10/1971-12/2006
PASKENTA RANGER STN	04-6726		1-day	NCDC	39.8875	-122.5539	755	**10/1937-12/2007**
PASKENTA RANGER STN	04-6726		1-hour	NCDC	39.8875	-122.5539	755	12/1949-03/2010
PASO ROBLES	04-6730		1-day	NCDC	35.6278	-120.6856	700	1/1894-05/2010
PASO ROBLES	04-6730		15-min	NCDC	35.6278	-120.6856	700	10/1977-03/2010
PASO ROBLES 5 NW	04-6736		1-hour	NCDC	35.6833	-120.7500	1040	07/1948-09/1976
PASO ROBLES MUNI AP	04-6742		1-day	NCDC	35.6697	-120.6283	810	07/1948-06/2010

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
PATTIWAY	04-6754		1-day	NCDC	34.9333	-119.3833	3868	12/1915-11/1987
PEABODY RANCH	83-6075	96-0251	1-day	SANTA CLARA	37.0454	-121.5115	453	10/1931-06/2000
PEABODY RANCH	96-0251		1-day	CNRFC	37.0456	-121.5094	472	**10/1931-12/2006**
PECHSTEIN RESERVOIR	92-2310		1-day	SAN DIEGO COUNTY	33.1833	-117.1833	830	07/1954-01/2007
PENGROVE FS	84-6792		1-day	MARIN COUNTY	38.2960	-122.6660	90	10/1972-09/2005
PERRIS CDF	90-0152		15-min	RIVERSIDE COUNTY	33.7875	-117.2292	1452	10/1985-07/2007
PERRIS RESERVOIR	90-0151		15-min	RIVERSIDE COUNTY	33.8644	-117.1958	1625	03/1964-07/2007
PERRY RANCH (PRY)	72-0030		1-day	USACE	38.1491	-120.9233	315	**08/1926-12/2006**
PETALUMA AIRPORT	04-6826		1-day	NCDC	38.2578	-122.6078	20	2/1893-05/2010
PETALUMA AIRPORT	04-6826		1-hour	NCDC	38.2578	-122.6078	20	06/1964-03/2010
PETALUMA FS2	84-6833		1-hour	MARIN COUNTY	38.2220	-122.6330	16	10/1943-09/2003
PETALUMA FS2	84-6833		15-min	MARIN COUNTY	38.2220	-122.6330	16	10/1943-09/2003
PHOENIX LAKE	84-6853		1-day	MARIN COUNTY	37.9560	-122.5750	175	10/1908-09/2004
PICO RIVERA - ROBINSON	97-0556	97-0879	1-day	LA COUNTY	33.9925	-118.0817	170	10/1925-10/1959
PICO RIVERA - ROBINSON	97-0554	97-0555	1-day	LA COUNTY	33.9843	-118.0682	173	10/1925-10/1943
PICO RIVERA - ROBINSON	97-0555	97-0556	1-day	LA COUNTY	33.9839	-118.0683	170	10/1943-10/1952
PIEDRA BLANCA GUARD STATI	93-0152		1-day	VENTURA COUNTY	34.5605	**-119.1503**	3065	10/1949-09/2006
PIEDRA BLANCA GUARD STATI	93-0152		15-min	VENTURA COUNTY	34.5605	-119.1661	3065	04/1959-09/2006
PIGEON PASS	90-0155		15-min	RIVERSIDE COUNTY	33.9878	-117.2689	1910	04/1956-07/2007
PINE CANYON PATROL STATIO	97-0496		1-day	LA COUNTY	34.6733	-118.4292	3286	08/1931-11/1987
PINE CREST STATION	80-0386		1-day	SANTA BARBARA	34.4636	-119.7075	970	9/1897-03/1979
PINE FLAT WEATHER STATION	72-0029		1-day	USACE	36.8235	-119.3374	610	10/1953-12/2006
PINE MOUNTAIN INN	04-6910		1-hour	NCDC	34.6103	-119.3667	4220	01/1965-03/2010
PINE MOUNTAIN INN	04-6910		15-min	NCDC	**34.6083**	-119.3667	4220	05/1971-03/2010
PINECREST SUMMIT R S	04-6893		1-hour	NCDC	38.1869	-120.0056	5600	**07/1948-03/2010**
PINECREST-STRAWBERRY	95-0263		1-day	DWR	38.2000	-119.9840	5620	**01/1945-09/2006**
PINNACLES NATL MONUMENT	04-6926		1-day	NCDC	36.4817	-121.1822	1307	01/1937-05/2010
PINYON FLAT	90-0157		15-min	RIVERSIDE COUNTY	33.5856	-116.4472	4000	08/1977-07/2007
PIRU 2 ESE	04-6940		1-day	NCDC	34.4061	**-118.7569**	**712**	**10/1928-05/2010**
PIRU CANYON	93-0172		1-day	VENTURA COUNTY	34.5133	**-118.7576**	1120	10/1956-09/2006
PIRU CANYON	93-0172		15-min	VENTURA COUNTY	34.5133	-118.7567	1120	02/1976-01/2007

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
PIRU CITRUS ASSOC	93-0036		1-day	VENTURA COUNTY	34.4100	-118.7950	700	10/1926-09/2006
PIRU TELEMETERING	04-6942		15-min	NCDC	34.3997	**-118.7170**	800	06/1971-07/2008
PIRU-CAMULOS RANCH	93-0101	04-6940	1-day	VENTURA COUNTY	34.4061	-118.7561	725	10/1928-09/2006
PIRU-CAMULOS RANCH	93-0101		15-min	VENTURA COUNTY	34.4061	-118.7561	725	02/1976-01/2007
PIRU-NEWHALL RANCH	93-0025		1-day	VENTURA COUNTY	34.4014	-118.7233	825	10/1927-09/2006
PIRU-TEMESCAL GUARD STATI	97-1041	96-0513	1-day	LA COUNTY	34.4673	-118.7506	1150	10/1973-09/2000
PISMO BEACH	04-6943		1-day	NCDC	35.1597	-120.6831	39	07/1949-11/2005
PIT #5 PH (PG&E)	95-0267	04-6946	1-day	DWR	40.9870	-121.9780	1458	07/1996-03/2007
PIT RIVER P H 5	04-6946		1-day	NCDC	**40.9867**	**-121.9769**	1458	**01/1945-05/2010**
PIUTE BUTTE	97-1269	97-0632	1-day	LA COUNTY	34.5006	-117.8492	2680	10/1940-03/1985
PLACERVILLE	04-6960		1-day	NCDC	38.6956	-120.8244	1850	01/1900-05/2010
PLACERVILLE DISP PLANT	04-6964		1-hour	NCDC	38.7311	-120.8461	1560	06/1963-03/2010
PLACERVILLE DISP PLANT	04-6964		15-min	NCDC	38.7311	-120.8461	1560	05/1971-03/2010
PLACERVILLE IFG	04-6962		1-day	NCDC	38.7333	-120.7333	2755	02/1955-12/1991
PLUMAS EUREKA ST PARK	04-6998		15-min	NCDC	39.7578	-120.6964	5165	05/1971-03/2010
POINT ARENA	04-7009		1-day	NCDC	38.9000	-123.7000	100	08/1938-04/1988
POINT ARGUELLO LIGHT STN	04-7016		1-day	NCDC	34.5833	-120.6500	89	07/1948-12/1978
POINT CONCEPTION	80-0438		1-day	SANTA BARBARA	34.4500	-120.4750	80	10/1946-04/1972
POINT MUGU-USN	93-0223		1-day	VENTURA COUNTY	**34.1128**	**-119.1203**	5	07/1946-10/2005
POINT PIEDRAS BLANCA	04-7024		1-day	NCDC	35.6667	-121.2833	59	08/1938-09/1975
POINT REYES LH	84-7027		1-day	MARIN COUNTY	37.9950	-123.0170	490	10/1897-09/1939
POINT REYES LH	84-7027		1-hour	MARIN COUNTY	37.9950	-123.0170	510	10/1905-09/1926
POINT REYES LH	84-7027		15-min	MARIN COUNTY	37.9950	-123.0170	510	10/1905-09/1926
POINT REYES PTR	84-7088		1-day	MARIN COUNTY	38.0830	-122.9400	80	10/1990-09/2004
POINT REYES STATION	84-7028		1-hour	MARIN COUNTY	38.0670	-122.8000	31	10/1974-09/1994
POINT REYES STATION	84-7028		15-min	MARIN COUNTY	38.0670	-122.8000	31	10/1974-09/1994
POINT VICENTE LIGHTHOUSE	97-0098	97-0099	1-day	LA COUNTY	33.7342	-118.4011	125	10/1925-01/1980
POINT VICENTE LIGHTHOUSE	97-0099		1-day	LA COUNTY	33.7417	-118.4106	125	**10/1925-05/2002**
POISON FLAT	98-0038		1-day	NRCS	38.5000	-119.6333	7900	10/1980-09/2010
POMONA FAIRPLEX	04-7050		1-day	NCDC	**34.0817**	**-117.7658**	1040	11/1893-10/2009
PORTERVILLE	04-7077		1-day	NCDC	36.0678	-119.0200	393	06/1902-06/2004

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
PORTOLA	04-7085		1-day	NCDC	39.8053	-120.4719	4850	03/1915-05/2010
PORTOLA	04-7085		1-hour	NCDC	39.8053	-120.4719	4850	10/1954-03/2010
POSEY 3 E	04-7096		1-day	NCDC	35.8000	-118.6333	4960	09/1954-03/1987
POTRERO CANYON-SUNRAY DX	97-0885		1-day	LA COUNTY	34.3972	-118.6383	1150	10/1951-04/1992
POTRERO COUNTY PARK	92-2430		1-day	SAN DIEGO COUNTY	32.6167	-116.6167	2400	07/1920-11/1986
POTRERO HEIGHTS	97-0314	97-0315	1-day	LA COUNTY	34.0343	-118.0682	297	10/1941-10/1950
POTRERO HEIGHTS	97-0315	97-0316	1-day	LA COUNTY	34.0343	-118.0681	285	10/1950-10/1963
POTTER VALLEY 3 SE	04-7108		1-hour	NCDC	39.3000	-123.0667	1100	12/1952-03/1986
POTTER VALLEY POWERHOUSE	04-7109		1-day	NCDC	**39.3619**	**-123.1286**	**1018**	09/1937-05/2010
POTTER VALLEY POWERHOUSE	04-7109		1-hour	NCDC	39.3625	-123.1281	1015	02/1953-04/2009
POWAY C.R.S.	92-2460		1-hour	SAN DIEGO COUNTY	32.9494	-117.0628	440	**12/1962-06/2006**
POWAY VALLEY	04-7111		1-day	NCDC	33.0175	-117.0292	648	1/1893-05/2010
PRADO DAM	04-7123		1-hour	NCDC	33.8903	-117.6453	560	07/1948-03/2010
PRIEST VALLEY	04-7150		1-day	NCDC	36.1883	-120.6953	2300	12/1903-05/2010
PUDDINGSTONE DAM	97-0200	97-0201	1-day	LA COUNTY	34.0842	-117.8006	1030	10/1927-10/1954
PUENTE HILLS-ALTA MIRA RA	97-0332	97-0333	1-day	LA COUNTY	33.9844	-117.9841	860	10/1926-11/1961
PUENTE HILLS-ALTA MIRA RA	97-0333	97-0334	1-day	LA COUNTY	33.9844	-117.9842	840	10/1961-12/1967
PUENTE HILLS-WEISEL RANCH	97-1206	97-1207	1-day	LA COUNTY	33.9502	-117.9175	635	10/1925-10/1932
PUENTE HILLS-WEISEL RANCH	97-1207	97-1208	1-day	LA COUNTY	33.9504	-117.9172	725	10/1932-06/1939
PUENTE HILLS-WEISEL RANCH	97-1208	97-1209	1-day	LA COUNTY	33.9502	-117.9174	625	06/1939-10/1959
PUENTE HILLS-WEISEL RANCH	97-1209		1-day	LA COUNTY	33.9522	-117.9239	645	**10/1926-09/1997**
PUERTA LA CRUZ	92-2550		1-day	SAN DIEGO COUNTY	33.3128	-116.6847	2926	08/1961-01/2007
PUNCH BOWL RANCH	97-0985	97-0986	1-day	LA COUNTY	34.4012	-117.8509	4825	01/1956-08/1959
PURITAN ICE COMPANY	80-0352		1-day	SANTA BARBARA	34.9583	-120.5667	80	10/1920-03/2004
PYRAMID RESERVOIR	97-0553		1-day	LA COUNTY	34.6761	-118.7797	2505	**11/1936-11/2006**
QUINCY	04-7195		1-day	NCDC	39.9367	-120.9475	3420	4/1895-05/2010
RAILROAD FLAT (RRF)	72-0035		1-day	USACE	38.3133	-120.5453	2720	10/1965-12/2006
RAMONA F.D.	92-2645		1-day	SAN DIEGO COUNTY	33.0500	-116.8667	1450	**01/1949-12/2004**
RAMONA SPAULDING	92-2670	92-2645	1-day	SAN DIEGO COUNTY	33.0667	-116.8500	1480	01/1949-12/1973
RANCHITA	04-7244		1-day	NCDC	33.2333	-116.5333	4114	**07/1948-09/2007**
RANCHITA	92-2700	04-7244	1-day	SAN DIEGO COUNTY	33.2333	-116.5333	4040	04/1948-06/1982

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RANCHO MATILIJA NEAR OJAI	93-0020		1-day	VENTURA COUNTY	34.4283	**-119.3142**	650	10/1925-09/2006
RANCHO SAN JULIAN	80-0389		1-day	SANTA BARBARA	34.5333	-120.3333	600	09/1919-05/1994
RANCHO SISQUOC	80-0415		1-day	SANTA BARBARA	34.8500	-120.2167	600	10/1947-06/2000
RANDSBURG	04-7253		1-day	NCDC	35.3692	-117.6525	3570	09/1937-05/2010
RATTLESNAKE CANYON	97-0924		1-day	LA COUNTY	34.0833	-118.8653	1290	11/1953-08/1992
RATTLESNAKE RTL	94-0074		1-hour	STATE CLIMATOLOGIST	40.1170	-121.0500	6100	10/1983-09/2006
RAYWOOD FLATS	04-7279		1-day	NCDC	34.0500	-116.8167	7073	01/1919-12/1959
RED BLUFF	04-7290	04-7292	1-day	NCDC	40.1833	-122.2333	287	12/1948-12/1948
RED BLUFF MUNI AP	04-7292		1-day	NCDC	40.1519	-122.2536	353	**1/1892-06/2010**
RED BLUFF MUNI AP	04-7292		1-hour	NCDC	40.1519	-122.2536	353	07/1948-03/2010
REDDING 5 SSE	04-7295		1-hour	NCDC	40.5000	-122.3667	425	01/1958-01/1992
REDDING FIRE STN 2	04-7296		1-day	NCDC	40.5833	-122.4000	581	1/1893-04/1979
REDDING MUNICIPAL AP	04-7304		1-day	NCDC	40.5175	-122.2986	497	**01/1958-06/2010**
REDLANDS	04-7306		1-day	NCDC	34.0528	-117.1894	1318	4/1898-05/2010
REDLANDS - ROTH	79-3023		15-min	SAN BERNARDINO	34.0340	-117.2104	1285	11/1963-08/2010
REDONDO BEACH CITY HALL	97-0092	97-0093	1-day	LA COUNTY	33.8340	-118.3839	90	10/1958-10/1963
REDONDO BEACH-CITY HALL	97-0093		1-day	LA COUNTY	33.8453	-118.3889	70	**10/1918-01/2006**
REDONDO CITY HALL	97-0091	97-0092	1-day	LA COUNTY	33.8341	-118.3839	50	10/1918-10/1958
REDWOOD CITY	04-7339		1-day	NCDC	37.4767	-122.2386	31	04/1906-05/2010
REPRESA	04-7370		1-day	NCDC	38.6944	-121.1611	295	3/1893-05/2010
RICHARDSON GR ST PK	04-7404		1-day	NCDC	**40.0261**	**-123.7931**	**503**	11/1961-05/2010
RICHMOND	04-7414		1-day	NCDC	37.9192	-122.3772	20	12/1950-05/2010
RIDGE ROUTE-STATE HIGHWAY	97-0552	97-0553	1-day	LA COUNTY	34.6783	-118.7725	2650	11/1936-03/1967
RIO HONDO SPREADING GROUN	97-0844	97-0845	1-day	LA COUNTY	33.9849	-118.1009	159	10/1947-10/1951
RIO HONDO SPREADING GROUN	97-0845	97-0846	1-day	LA COUNTY	33.9840	-118.1009	155	11/1951-03/1953
RIO HONDO SPREADING GROUN	97-0846	97-0847	1-day	LA COUNTY	33.9840	-118.1009	155	04/1953-04/1954
RIO VISTA	04-7446		1-day	NCDC	38.1500	-121.7000	39	2/1893-05/1977
RIVERSIDE CITRUS EXP STN	04-7473		1-day	NCDC	33.9669	-117.3614	986	07/1948-09/2009
RIVERSIDE CITRUS EXP STN	04-7473		1-hour	NCDC	33.9669	-117.3614	986	07/1948-10/2009
RIVERSIDE FIRE STA 3	04-7470		1-day	NCDC	33.9511	-117.3881	840	1/1893-06/2009

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RIVERSIDE NORTH	90-0178		15-min	RIVERSIDE COUNTY	34.0028	-117.3778	800	05/1962-07/2007
ROBBS PEAK P H	04-7489		15-min	NCDC	38.9028	-120.3767	5120	05/1971-03/2010
ROCKLIN	04-7516		1-day	NCDC	38.8000	-121.2333	249	09/1904-06/1976
RODEO FIRE	85-0013		1-day	CONTRA COSTA	38.0350	-122.2700	30	**10/1952-06/2008**
ROGERS CAMP (RGC)	72-0034		1-day	USACE	36.1073	-118.6332	6240	09/1964-12/2006
ROUND MOUNTAIN	04-7580	04-7581	1-day	NCDC	40.8167	-121.9333	2103	01/1952-06/1970
ROUND MOUNTAIN	04-7581		1-day	NCDC	40.7956	-121.9350	2100	**07/1948-03/2010**
ROUND MOUNTAIN	04-7580		1-hour	NCDC	40.8167	-121.9333	2103	**07/1948-03/2010**
RUBICON #2	98-0039		1-day	NRCS	39.0000	-120.1333	7500	10/1980-09/2010
RUNNING SPRINGS 1 E	04-7600		1-hour	NCDC	34.2067	-117.0864	5965	07/1948-03/2010
RUNNING SPRINGS 1 E	04-7600		15-min	NCDC	34.2067	-117.0864	5965	05/1971-03/2010
SACRAMENTO 5 ESE	04-7633		1-day	NCDC	38.5556	-121.4169	38	7/1877-06/2010
SACRAMENTO 5 ESE	04-7633		1-hour	NCDC	38.5556	-121.4169	38	01/1936-03/2010
SACRAMENTO AP	04-7630		1-hour	NCDC	38.5069	-121.4950	15	07/1948-03/2010
SAGEHEN CREEK	04-7641		1-day	NCDC	39.4317	-120.2406	6337	06/1953-06/2007
SAINT HELENA	04-7643		1-day	NCDC	**38.5067**	**-122.4714**	225	10/1907-05/2010
SAINT HELENA 4 WSW	04-7646		1-hour	NCDC	38.4931	-122.5383	1780	07/1948-03/2010
SAINT HELENA 4 WSW	04-7646		15-min	NCDC	38.4931	-122.5383	1780	05/1971-03/2010
SAINT JOHN	04-7656		1-day	NCDC	39.7167	-122.0000	151	11/1907-01/1963
SAINT MARYS COLLEGE	04-7661	85-0014	1-day	NCDC	37.8333	-122.1000	620	07/1981-07/1981
SALINAS AP	04-7669		1-day	NCDC	36.6636	-121.6081	74	2/1878-06/2010
SALINAS DAM	04-7672		1-day	NCDC	**35.3372**	-120.5039	**1365**	07/1948-04/2010
SALINAS NO 2	04-7668		1-day	NCDC	36.6594	-121.6656	45	05/1958-05/2010
SALSIPUEDES GAGING STATIO	80-0398		1-day	SANTA BARBARA	34.5833	-120.4000	250	10/1949-10/2006
SALT SPRINGS PH (OBSERVER	95-0341	95-0338	1-day	DWR	38.5000	-120.2170	3700	01/1989-11/1999
SALT SPRINGS PH (PG&E)	95-0338	04-7689	1-day	DWR	38.4980	-120.2190	3700	07/1996-03/2007
SALT SPRINGS PWR HOUSE	04-7689		1-day	NCDC	**38.4980**	**-120.2190**	3700	**01/1943-03/2007**
SALYER RANGER STN	04-7698		1-day	NCDC	40.8833	-123.5833	620	**07/1909-11/1968**
SAN ANSELMO	84-7707		15-min	MARIN COUNTY	37.9760	-122.5620	100	10/1957-09/1994
SAN ANTONIO CANYON-SIERRA	97-1306		1-day	LA COUNTY	34.2081	-117.6739	3110	01/1901-10/1974
SAN ANTONIO CN MOUTH	04-7711		1-day	NCDC	**34.1687**	**-117.6744**	2392	03/1917-08/1967

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SAN ANTONIO DAM	97-0994		1-day	LA COUNTY	34.1567	-117.6722	2120	**10/1925-01/2007**
SAN BENITO	04-7719		1-hour	NCDC	36.5092	-121.0869	1355	07/1948-07/2001
SAN BERNARDINO C.D.F.	79-2357		15-min	SAN BERNARDINO	34.1605	-117.2858	1288	02/1980-08/2010
SAN BERNARDINO COUNTY FLO	79-2001		15-min	SAN BERNARDINO	34.1038	-117.2685	1047	10/1958-04/2010
SAN BERNARDINO F S 226	04-7723		1-day	NCDC	34.1344	-117.2539	1140	1/1893-08/2004
SAN CLEMENTE DAM	04-7731		1-day	NCDC	36.4375	-121.7092	600	01/1940-05/2010
SAN DIEGO NWS	92-2820		1-day	SAN DIEGO COUNTY	32.7136	-117.1700	62	**10/1850-12/2004**
SAN DIEGO NWS	92-2820		1-hour	SAN DIEGO COUNTY	32.7136	-117.1700	62	01/1905-12/2004
SAN DIEGUITO CNTY PARK	92-2850		1-day	SAN DIEGO COUNTY	33.0000	-117.2333	320	**10/1948-06/1988**
SAN DIEGUITO RESERVOIR	92-2880		1-day	SAN DIEGO COUNTY	33.0333	-117.2000	250	07/1926-12/1999
SAN DIMAS - ORANGE GROWER	97-1309	97-0199	1-day	LA COUNTY	34.1007	-117.8014	925	10/1908-10/1929
SAN DIMAS DAM	95-0325		1-day	DWR	34.1530	-117.7710	1350	**10/1927-03/2007**
SAN DIMAS DAM	97-0187	97-0188	1-day	LA COUNTY	34.1503	-117.7671	1350	10/1927-10/1956
SAN DIMAS DAM	97-0188	95-0325	1-day	LA COUNTY	34.1503	-117.7671	1350	10/1956-12/2006
SAN DIMAS GUARD STATION	97-0183	97-0184	1-day	LA COUNTY	34.1668	-117.7667	1485	10/1925-12/1960
SAN DIMAS TANBARK FLAT	04-7750		1-hour	NCDC	34.2000	-117.7667	2801	07/1948-11/1985
SAN DIMAS-FIRE WARDEN	97-0199		1-day	LA COUNTY	34.1072	-117.8053	955	**10/1908-01/2007**
SAN FELIPE HWY STN	04-7755		1-hour	NCDC	37.0167	-121.3333	371	07/1948-11/1975
SAN FERNANDO	04-7759		1-day	NCDC	34.2833	-118.4667	971	03/1906-03/1974
SAN FERNANDO PH 3	04-7762		1-hour	NCDC	34.3133	-118.4928	1250	07/1948-03/2010
SAN FERNANDO-LEMON ASSOCI	97-0067	97-0068	1-day	LA COUNTY	34.2671	-118.4515	950	10/1922-10/1947
SAN FRANCISCO DOWNTOWN	04-7772		1-day	NCDC	37.7694	-122.4333	175	01/1921-06/2010
SAN FRANCISCO DOWNTOWN	04-7772		1-hour	NCDC	37.7694	-122.4333	175	07/1948-03/2010
SAN FRANCISCO OCEANSIDE	04-7767		1-day	NCDC	37.7278	-122.5044	8	07/1948-05/2010
SAN FRANCISCO OCEANSIDE	04-7767		1-hour	NCDC	37.7278	-122.5044	8	07/1948-03/2010
SAN FRANCISCO WB AP	83-6085		1-day	SANTA CLARA	37.6166	-122.3844	8	07/1948-12/1990
SAN FRANCISCO WSO AP	04-7769		1-hour	NCDC	37.6581	-122.4378	8	07/1948-03/2010
SAN GABRIEL CANYON PH	04-7776		1-day	NCDC	34.1553	-117.9078	744	**12/1901-05/2010**
SAN GABRIEL DAM	97-0165	97-0383	1-day	LA COUNTY	34.2011	-117.8508	1460	11/1922-04/1939
SAN GABRIEL DAM	97-0383		1-day	LA COUNTY	34.2053	-117.8606	1481	**11/1922-01/2007**
SAN GABRIEL DAM FC425B	04-7779		1-hour	NCDC	34.2053	-117.8608	1481	07/1948-03/2010

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
SAN GABRIEL DAM NO. 1	97-0382	97-0383	1-day	LA COUNTY	34.2006	-117.8507	1470	10/1937-10/1941
SAN GABRIEL DAM NUMBER 2	97-0497	97-0498	1-day	LA COUNTY	34.2344	-117.9511	2335	10/1931-12/1947
SAN GABRIEL-BRUINGTON -OR	97-0363		1-day	LA COUNTY	34.1050	-118.1089	472	10/1929-01/2007
SAN GABRIEL-EAST FORK	97-0518		1-day	LA COUNTY	34.2358	-117.8050	1600	**07/1932-09/1987**
SAN GABRIEL-OPIDS RANCH	97-0130	97-0133	1-day	LA COUNTY	**34.2550**	**-118.0947**	4380	01/1917-09/1935
SAN GREGORIO 2 SE	04-7807		1-day	NCDC	**37.3117**	**-122.3617**	275	06/1954-11/2007
SAN JACINTO	04-7810	04-7813	1-day	NCDC	33.7833	-116.9667	1542	10/1951-05/1978
SAN JACINTO NWS AUTOMATIC	90-0186		15-min	RIVERSIDE COUNTY	33.7867	-116.9583	1556	01/1940-07/2007
SAN JACINTO RS	04-7813		1-day	NCDC	33.7869	-116.9583	1560	**1/1893-05/2010**
SAN JOAQUIN EXP RANGE	04-7817		1-hour	NCDC	37.0908	-119.7231	1050	07/1948-11/2007
SAN JOSE	04-7821		1-day	NCDC	37.3497	-121.9033	67	**1/1893-06/2010**
SAN JOSE	04-7821		1-hour	NCDC	37.3497	-121.9033	67	07/1948-03/2010
SAN JUAN BAUTISTA 3 SS	04-7834		1-hour	NCDC	36.8000	-121.5167	550	07/1948-01/1988
SAN JUAN GUARD STN	04-7837		1-hour	NCDC	33.5922	-117.5125	730	07/1948-05/2008
SAN LUIS DAM	04-7846		1-hour	NCDC	37.0533	-121.0578	277	01/1964-07/2008
SAN LUIS OBISPO POLYTECH	04-7851		1-day	NCDC	35.3056	-120.6639	315	2/1893-05/2010
SAN LUIS OBISPO POLYTECH	04-7851		1-hour	NCDC	35.3056	-120.6639	315	07/1948-03/2010
SAN MARCOS PASS	80-0390		1-day	SANTA BARBARA	34.5111	-119.8239	2200	**10/1941-05/2007**
SAN MARCOS PASS	80-0425	80-0390	1-day	SANTA BARBARA	34.5083	-119.8125	2100	10/1941-05/1994
SAN MARCOS PASS	04-7859		15-min	NCDC	34.5119	-119.8228	2300	05/1971-03/2010
SAN MARINO - COOPER	97-0685	97-0240	1-day	LA COUNTY	34.1167	-118.1303	608	10/1924-09/1959
SAN MARTIN (CHAPMAN)	83-6088		1-day	SANTA CLARA	**37.0766**	**-121.5555**	**389**	**10/1924-07/2010**
SAN MATEO	04-7864		1-day	NCDC	37.5333	-122.3000	20	03/1906-12/1978
SAN MIGUEL WOLF RANCH	04-7867		1-hour	NCDC	35.7528	-120.6828	720	12/1973-03/2010
SAN MIGUEL WOLF RANCH	04-7867		15-min	NCDC	35.7528	-120.6828	720	10/1981-03/2010
SAN NICOLAS ISLAND	04-7870		1-day	NCDC	33.2500	-119.4500	**502**	**08/1933-12/1976**
SAN NICOLAS ISLAND	04-7870		1-hour	NCDC	33.2500	-119.4500	568	07/1948-12/1976
SAN PASQUAL ANIMAL PRK	92-3121		1-day	SAN DIEGO COUNTY	33.0833	-116.9500	580	**10/1966-12/2004**
SAN PEDRO	04-7876		1-day	NCDC	33.7167	-118.2667	10	03/1906-08/1964
SAN PEDRO-CITY RESERVOIR	97-0824		1-day	LA COUNTY	33.7436	-118.2964	150	10/1944-12/2006
SAN RAFAEL	84-7880		1-day	MARIN COUNTY	37.9730	-122.5250	25	10/1877-09/2005

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
SAN RALAEL CIVIC CENTER	84-7881		1-hour	MARIN COUNTY	37.9960	-122.5300	120	10/1963-09/1994
SAN RALAEL CIVIC CENTER	84-7881		15-min	MARIN COUNTY	37.9960	-122.5300	120	10/1963-09/1994
SAN VICENTE RESERVOIR	92-3150		1-day	SAN DIEGO COUNTY	32.9153	-116.9264	680	07/1942-01/2007
SANDBERG	04-7735		1-hour	NCDC	34.7436	-118.7242	4510	07/1948-05/1983
SANDBERG PTRL FC130B	04-7734		1-day	NCDC	34.7500	-118.7167	4025	01/1949-06/1988
SANDBERG-AIRWAYS STATION	97-0745		1-day	LA COUNTY	34.7464	-118.7247	4517	10/1937-09/2006
SANTA ANA FIRE STATION	04-7888		1-day	NCDC	33.7442	-117.8667	135	04/1906-05/2010
SANTA ANA P.H. #3	79-3162		15-min	SAN BERNARDINO	34.1076	-117.0983	1950	05/1980-09/2010
SANTA ANA RIVER P H 3	04-7891		1-hour	NCDC	34.1017	-117.1061	1984	**07/1948-09/2010**
SANTA ANA RIVER PH 1	04-7894		1-day	NCDC	34.1333	-117.0667	2772	12/1903-04/1967
SANTA ANITA CANYON-CHANTR	97-0894		1-day	LA COUNTY	34.1961	-118.0222	2175	10/1957-07/1999
SANTA ANITA DAM	97-0139		1-day	LA COUNTY	34.1842	-118.0200	1400	**10/1930-12/2006**
SANTA BARBARA	04-7902		1-hour	NCDC	34.4167	-119.6844	5	07/1948-03/2010
SANTA BARBARA	04-7902		15-min	NCDC	34.4167	-119.6844	5	**11/1952-03/2010**
SANTA BARBARA - CALTRANS	80-0335		1-day	SANTA BARBARA	34.4333	-119.7500	160	11/1954-03/2007
SANTA BARBARA - DOWNTOWN	80-0234		1-day	SANTA BARBARA	34.4253	-119.7033	100	11/1867-04/2007
SANTA BARBARA - TROUT CLU	80-0242		1-day	SANTA BARBARA	34.4897	-119.8000	1200	09/1950-01/2007
SANTA BARBARA BOTANICAL G	80-0321	80-0229	1-day	SANTA BARBARA	34.4539	-119.7069	800	11/1944-02/2007
SANTA BARBARA COUNTY ROAD	80-0211		1-day	SANTA BARBARA	34.4469	-119.7753	300	10/1964-02/2007
SANTA BARBARA LEMON	80-0310		1-day	SANTA BARBARA	34.4333	-119.8333	35	**10/1936-04/2007**
SANTA BARBARA MUNI AP	04-7905		1-day	NCDC	34.4258	-119.8425	9	**01/1941-06/2010**
SANTA BARBARA POTRERO	80-0238		15-min	SANTA BARBARA	34.7719	-119.6361	5300	12/1968-07/2003
SANTA CLARA UNIVERSITY	04-7912	04-7821	1-day	NCDC	37.3500	-121.9333	89	05/1976-05/1976
SANTA CRUZ	04-7916		1-day	NCDC	36.9906	-121.9911	130	1/1893-05/2010
SANTA FE DAM	04-7926		1-hour	NCDC	34.1119	-117.9706	425	07/1948-03/2010
SANTA FELICA DAM	96-0513		1-day	CNRFC	34.4644	-118.7492	1078	**10/1964-12/2006**
SANTA MARGARITA BOOST	04-7933		1-day	NCDC	35.3742	-120.6375	**1148**	**12/1942-04/2010**
SANTA MARGARITA BOOST	04-7933		15-min	NCDC	35.3742	-120.6375	1100	05/1971-03/2010
SANTA MARIA	04-7940	80-0410	1-day	NCDC	34.9500	-120.4333	220	04/1959-04/1959
SANTA MARIA - ALMAR RANCH	80-0349		1-day	SANTA BARBARA	34.8500	-120.3667	900	01/1963-05/2005
SANTA MARIA CITY	80-0380		1-day	SANTA BARBARA	34.9500	-120.4333	224	09/1906-04/2007

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
SANTA MARIA FLOOD YARD	80-0198		1-day	SANTA BARBARA	34.8822	-120.4486	280	09/1950-04/2007
SANTA MARIA PUBLIC AP	04-7946		1-hour	NCDC	34.8994	-120.4486	242	07/1948-03/2010
SANTA MONICA	04-7950	97-0651	1-day	NCDC	34.0167	-118.4833	59	11/1900-12/1979
SANTA MONICA	97-0649	97-0651	1-day	LA COUNTY	34.0012	-118.4841	94	02/1927-10/1939
SANTA MONICA	97-0650	97-0651	1-day	LA COUNTY	34.0012	-118.4841	94	10/1939-10/1959
SANTA MONICA	97-0651		1-day	LA COUNTY	34.0119	-118.4908	94	**11/1900-10/2006**
SANTA MONICA - OUTLOOK	97-1252	97-0650	1-day	LA COUNTY	34.0015	-118.4843	100	12/1934-10/1935
SANTA MONICA MTS-DEALS FL	93-0232		1-day	VENTURA COUNTY	34.0875	**-118.9681**	1475	10/1968-09/2006
SANTA PAULA - AGRICULTURE	93-0019	93-0245	1-day	VENTURA COUNTY	34.3539	-119.0631	282	10/1930-09/1991
SANTA PAULA CANYON-FERNDA	93-0173		15-min	VENTURA COUNTY	34.4281	-119.0903	980	02/1976-12/2006
SANTA PAULA-LIMONEIRA RAN	93-0018		1-day	VENTURA COUNTY	34.3317	**-119.1309**	295	10/1904-09/2006
SANTA PAULA-UWCD	93-0245		1-day	VENTURA COUNTY	34.3450	-119.0767	260	**10/1930-09/2006**
SANTA PAULA-UWCD	93-0245		15-min	VENTURA COUNTY	34.3450	-119.0767	260	09/1975-12/2006
SANTA ROSA	04-7965		1-day	NCDC	38.4381	-122.6978	174	06/1902-05/2010
SANTA ROSA PLATEAU	90-0199		15-min	RIVERSIDE COUNTY	33.5047	-117.2875	2040	11/1989-07/2007
SANTA ROSA VALLEY-WORTHIN	93-0049		1-day	VENTURA COUNTY	**34.2483**	**-118.9412**	275	10/1928-09/2006
SANTA SUSANA AIRPORT	93-0193		1-day	VENTURA COUNTY	34.2708	-118.7067	965	10/1955-09/2006
SANTA YNEZ	04-7976		1-hour	NCDC	34.6078	-120.0692	600	07/1948-03/2010
SANTA YNEZ	04-7976		15-min	NCDC	34.6078	-120.0692	600	05/1971-03/2010
SANTIAGO DAM	04-7987		1-hour	NCDC	33.7869	-117.7217	855	07/1948-06/2001
SANTIAGO PEAK	04-7993	82-0201	15-min	NCDC	33.7108	-117.5361	5638	07/1971-11/2005
SANTIAGO PEAK	82-0201		15-min	ORANGE COUNTY	33.7108	-117.5331	5660	**07/1971-01/2007**
SARATOGA GAP MAINTENANCE	83-6094		1-day	SANTA CLARA	37.2694	-122.1261	**2243**	10/1936-06/1984
SARATOGA RESERVOIR	83-6120	83-6009	1-day	SANTA CLARA	37.2519	-122.0505	635	08/1915-06/1952
SATICOY FIRE STATION	93-0175		1-day	VENTURA COUNTY	34.2856	-119.1550	185	10/1956-09/2006
SATICOY FIRE STATION	93-0175		15-min	VENTURA COUNTY	34.2856	-119.1550	185	02/1976-01/2007
SAUGUS POWER PLANT 1	04-8014		1-day	NCDC	34.5894	-118.4547	**2089**	07/1918-05/2010
SAUGUS-S. C. E. CO. SUBST	97-0331		1-day	LA COUNTY	34.4225	-118.5739	1096	10/1928-01/1994
SAWDAY RANCH	92-3180		1-day	SAN DIEGO COUNTY	32.7500	-116.4833	3200	07/1949-02/1997
SAWMILL MOUNTAIN	97-0421		1-day	LA COUNTY	34.7208	-118.5833	3700	10/1931-11/2006
SAWPIT DAM	97-0152	97-0154	1-day	LA COUNTY	34.1676	-117.9837	1378	10/1934-10/1965

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SAWPIT DAM	97-0154	97-0155	1-day	LA COUNTY	34.1675	-117.9835	1375	10/1965-10/2001
SAWPIT DAM	97-0155		1-day	LA COUNTY	34.1750	-117.9853	1375	**11/1926-05/2002**
SAWTELLE-SOLDIERS HOME	97-0254	97-0259	1-day	LA COUNTY	34.0569	-118.4547	347	10/1896-11/1932
SAWTELLE-SOLDIERS HOME	97-0255	97-0256	1-day	LA COUNTY	34.0507	-118.4505	326	11/1932-01/1940
SAWTELLE-SOLDIERS HOME	97-0256	97-0257	1-day	LA COUNTY	34.0507	-118.4505	355	10/1940-10/1944
SAWTELLE-SOLDIERS HOME	97-0257	97-0258	1-day	LA COUNTY	34.0507	-118.4505	355	10/1944-10/1962
SAWTELLE-SOLDIERS HOME	97-0258	97-0259	1-day	LA COUNTY	34.0505	-118.4506	355	10/1962-10/1968
SAWTELLE-SOLDIERS HOME	97-0259		1-day	LA COUNTY	34.0558	-118.4556	345	**10/1896-03/1992**
SAWYERS BAR RS	04-8025		1-day	NCDC	41.3011	-123.1331	2169	**03/1931-09/2007**
SAWYERS BAR RS	04-8025		15-min	NCDC	41.3011	**-123.1498**	2169	01/1971-03/2010
SCOTIA	04-8045		1-day	NCDC	40.4833	-124.1039	133	01/1926-05/2010
SCRIPPS PIER (UCSD)	92-3195		1-day	SAN DIEGO COUNTY	32.8667	-117.2500	25	07/1926-06/1988
SE FARALLON	84-8376		1-day	MARIN COUNTY	37.7000	-123.0000	46	10/1948-09/1972
SE FARALLON	84-8376		1-hour	MARIN COUNTY	37.7000	-123.0000	27	10/1903-09/1978
SE FARALLON	84-8376		15-min	MARIN COUNTY	37.7000	-123.0000	27	10/1903-09/1978
SEA CLIFF	93-0221		1-day	VENTURA COUNTY	34.3464	**-119.4188**	50	09/1966-09/2006
SEARSVILLE LAKE	04-8068		1-day	NCDC	37.4000	-122.2333	351	09/1925-12/1972
SEBASTOPOL	04-8072		1-hour	NCDC	38.4086	-122.8211	68	07/1948-03/2010
SEBASTOPOL	04-8072		15-min	NCDC	38.4086	-122.8211	68	05/1971-03/2010
SEMINOLE HOT SPRINGS	97-0003	97-0004	1-day	LA COUNTY	34.1007	-118.7841	875	12/1927-10/1947
SEMINOLE HOT SPRINGS	97-0004	97-0005	1-day	LA COUNTY	34.1006	-118.7841	975	10/1947-10/1966
SEMINOLE HOT SPRINGS	97-0005	97-0006	1-day	LA COUNTY	34.1006	-118.7841	900	12/1966-02/1968
SEPULVEDA AND RAYEN	97-0022		1-day	LA COUNTY	34.2311	-118.4678	828	11/1952-02/2000
SEPULVEDA CANYON AT MULHO	97-0039	97-0040	1-day	LA COUNTY	34.1181	-118.4841	1425	10/1927-10/1987
SEPULVEDA CANYON AT MULHO	97-0040		1-day	LA COUNTY	34.1308	-118.4906	1425	**10/1927-06/2002**
SEPULVEDA DAM	97-0618		1-day	LA COUNTY	34.1683	-118.4697	683	10/1939-12/2006
SEPULVEDA DAM	04-8092		1-hour	NCDC	34.1661	-118.4736	680	07/1948-03/2010
SESPE-WESTATES	93-0224		1-day	VENTURA COUNTY	**34.4792**	**-118.8823**	2800	06/1966-09/2006
SESPE-WESTATES	93-0224		15-min	VENTURA COUNTY	34.4850	-118.8850	2800	09/1966-12/2006
SEVEN MILE RESERVOIR	83-6097		1-day	SANTA CLARA	37.2477	-121.9577	**315**	**11/1915-07/2010**
SEVEN OAKS	04-8105		1-day	NCDC	34.1833	-116.9500	5082	12/1909-03/1955

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SHASTA DAM	04-8135		1-day	NCDC	40.7142	-122.4161	1075	01/1943-05/2010
SHASTA DAM	04-8135		1-hour	NCDC	40.7142	-122.4161	1075	07/1948-03/2010
SHASTA DAM	04-8135		15-min	NCDC	40.7142	-122.4161	1075	05/1971-03/2010
SHEEP RANCH (SHR)	72-0039		1-day	USACE	38.2105	-120.4643	2370	10/1965-12/2006
SHELTER COVE	04-8162	04-8163	1-day	NCDC	40.0333	-124.0667	110	11/1959-04/1974
SHELTER COVE AV	04-8163		1-day	NCDC	40.0331	-124.0728	246	**11/1959-06/2007**
SHINGLE SPRINGS	04-8173		1-day	NCDC	38.6667	-120.9167	1381	03/1906-11/1972
SHINGLETOWN 2 E	04-8175		1-day	NCDC	40.5000	-121.8500	3556	**11/1958-09/2006**
SHOP	92-3210		1-day	SAN DIEGO COUNTY	33.2756	-116.6967	2798	08/1961-01/2007
SHOSHONE	04-8200		1-day	NCDC	**35.9717**	**-116.2708**	**1546**	12/1972-05/2010
SIERRA CITY	04-8207		1-day	NCDC	39.5678	-120.6228	4240	03/1910-05/2000
SIERRA MADRE #2 - BLUMER	97-1311	97-1165	1-day	LA COUNTY	34.1706	-118.0547	1100	10/1888-10/1922
SIERRA MADRE-CARTER	97-1165	97-0455	1-day	LA COUNTY	34.1717	-118.0503	1110	10/1896-06/1941
SIERRA MADRE-CARTER	97-1167	97-1168	1-day	LA COUNTY	34.1673	-118.0509	1220	07/1948-03/1952
SIERRA MADRE-MIRA MONTE P	97-0454	97-0455	1-day	LA COUNTY	34.1670	-118.0348	985	10/1930-10/1958
SIERRA MADRE-MIRA MONTE P	97-0455		1-day	LA COUNTY	34.1697	-118.0475	985	**10/1888-01/2007**
SIERRA MADRE-PEGLER RACH	97-0143	97-0880	1-day	LA COUNTY	34.1575	-118.0433	658	10/1925-09/1981
SIERRAVILLE R S	04-8218		1-day	NCDC	39.5833	-120.3706	4975	**12/1909-05/2010**
SIERRAVILLE R S	04-8218		1-hour	NCDC	39.5833	-120.3706	4975	07/1948-03/2010
SIGNAL HILL FC 415	04-8230		1-hour	NCDC	33.7967	-118.1683	100	07/1948-03/2010
SIGNAL HILL-CITY HALL	97-0557		1-day	LA COUNTY	33.7969	-118.1675	140	10/1939-03/2001
SILVER LAKE RESERVOIR	97-0499		1-day	LA COUNTY	34.1022	-118.2650	445	10/1930-10/2006
SILVERADO RANGER STATION	04-8243		1-hour	NCDC	33.7425	-117.6600	1095	07/1948-03/2010
SIMI HILLS-ROCKETDYNE LAB	93-0249		1-day	VENTURA COUNTY	34.2353	**-118.6759**	1910	10/1958-09/2003
SIMI SANITATION PLANT	04-8261		15-min	NCDC	34.2839	-118.8119	660	10/1975-03/2010
SISQUOC FIRE STATION #23	80-0256		1-day	SANTA BARBARA	34.8664	-120.2936	420	10/1947-04/2007
SKAGGS SPRINGS LAS LOMAS	04-8272		1-day	NCDC	**38.6746**	-123.1333	1932	10/1939-01/1978
SLACK CANYON	04-8276	04-8277	1-hour	NCDC	36.0833	-120.6667	1732	10/1955-09/1976
SLACK CREEK	04-8277		1-hour	NCDC	36.0667	-120.6500	1952	**07/1948-02/1990**
SLEEPY HOLLOW DAIRY	84-8286		1-day	MARIN COUNTY	38.1600	-122.4910	150	10/1929-09/1974
SMITH RIVER AT DR FINE BR	95-0109		1-day	DWR	41.8830	-124.1330	63	**11/1951-03/2007**

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
SNOW CREEK	04-8315	04-8317	1-day	NCDC	33.8833	-116.6833	1280	01/1957-01/1957
SNOW CREEK UPPER	04-8317		1-day	NCDC	33.8725	-116.6797	1940	**03/1919-06/2007**
SO ENTRANCE YOSEMITE N.P.	04-8380		1-day	NCDC	37.5075	-119.6336	5137	07/1941-05/2010
SODA SPRINGS	04-8331		1-day	NCDC	39.3167	-120.3833	6755	**02/1914-09/2010**
SODA SPRINGS	04-8331	04-8332	1-hour	NCDC	39.3167	-120.3833	6755	07/1948-12/1958
SODA SPRINGS 1 E	04-8332		1-hour	NCDC	39.3256	-120.3672	6885	**07/1948-03/2010**
SOLEDAD	04-8338		1-day	NCDC	36.4333	-121.3167	210	03/1906-12/1983
SOLEDAD CANYON	97-0549		1-day	LA COUNTY	34.4397	-118.2925	2150	**05/1939-11/2006**
SOLEDAD CANYON - ECKLES	97-0548	97-0549	1-day	LA COUNTY	34.4338	-118.2844	2250	05/1939-10/1961
SOLEDAD PASS	97-0920		1-day	LA COUNTY	34.4931	-118.0911	3520	01/1954-05/1998
SOLVANG CITY WATER DISTRI	80-0393		1-day	SANTA BARBARA	34.5958	-120.1389	496	10/1964-05/2003
SOMIS-AGGEN RANCH	93-0002	93-0190	1-day	VENTURA COUNTY	34.2689	-119.0011	375	10/1903-09/1972
SOMIS-BALCOM CANYON	93-0206		1-day	VENTURA COUNTY	34.3136	-118.9717	800	10/1960-09/2006
SOMIS-BARD	93-0190		1-day	VENTURA COUNTY	34.2828	**-119.0078**	460	**10/1903-09/2006**
SOMIS-DEBONI	93-0189		1-day	VENTURA COUNTY	34.2847	-119.0722	520	10/1955-09/2006
SONOMA	84-8351		1-day	MARIN COUNTY	38.2990	-122.4620	97	10/1885-09/2005
SONOMA ST HOSPITAL	84-8353		1-day	MARIN COUNTY	38.3450	-122.5250	440	10/1958-09/2003
SONORA JUNCTION	04-8355		1-hour	NCDC	38.3511	-119.4500	6886	09/1959-03/2010
SONORA JUNCTION	04-8355		15-min	NCDC	**38.3564**	-119.4500	6886	01/1984-03/2010
SONORA PASS	98-0040		1-day	NRCS	38.3167	-119.6000	8800	10/1978-09/2010
SONORA RS	04-8353		1-day	NCDC	37.9672	-120.3872	1675	12/1903-05/2010
SOULEJULE RESERVOIR	84-8374		1-day	MARIN COUNTY	38.1500	-122.7830	350	10/1977-09/2004
SOUTH LAKE	04-8406		1-day	NCDC	37.1683	-118.5706	9580	12/1924-09/2009
SOUTH MOUNTAIN-SHELL OIL	93-0238		1-day	VENTURA COUNTY	34.3314	**-119.0087**	2240	10/1970-09/2006
SOUTH MOUNTAIN-SHELL OIL	93-0238		15-min	VENTURA COUNTY	34.3314	-119.0078	2240	02/1976-12/2006
SOUTH PASADENA	97-0684	97-0685	1-day	LA COUNTY	34.1183	-118.1183	657	10/1924-01/1931
SOUTH PASADENA - MASH	97-0682	97-0683	1-day	LA COUNTY	34.1003	-118.1343	557	07/1916-07/1923
SOUTH PASADENA - MASH	97-0683	97-0239	1-day	LA COUNTY	34.1028	-118.1428	557	07/1916-12/1947
SOUTH PASADENA-CITY HALL	97-0240		1-day	LA COUNTY	34.1161	-118.1514	690	**10/1924-01/1987**
SPADRA LANTERMAN HOSPITAL	04-8436		1-hour	NCDC	34.0419	-117.8097	676	**07/1948-03/2010**
SPRATT CREEK	98-0041		1-day	NRCS	**38.6754**	-119.8167	**6115**	10/1980-09/2010

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
SPRECKELS HWY BRIDGE	04-8446		1-day	NCDC	36.6311	-121.6714	21	01/1908-07/1988
SPRINGVILLE R S	04-8460		1-hour	NCDC	36.1422	-118.8114	1050	07/1948-08/2006
SPRINGVILLE TULE HD	04-8463		1-day	NCDC	36.1933	-118.6567	4070	**1/1896-09/2006**
SPRINGVILLE TULE HD	04-8463		1-hour	NCDC	36.1933	-118.6567	4070	**07/1948-09/2006**
SPRINGVILLE TULE HD	04-8463		15-min	NCDC	36.1933	-118.6567	4070	10/1971-09/2006
SQUAW VALLEY G.C.	98-0042		1-day	NRCS	**39.1873**	**-120.2627**	**8029**	10/1980-09/2010
SQUIRREL INN 1	04-8476		1-day	NCDC	34.2333	-117.2500	5243	**11/1909-03/2010**
SQUIRREL INN 2	04-8479	04-8476	1-day	NCDC	34.2333	-117.2333	5682	12/1971-12/1971
ST MARY'S COLLEGE	85-0014		1-day	CONTRA COSTA	37.8417	-122.1067	620	**12/1942-06/2008**
ST. MARY'S COLLEGE	83-6080	85-0014	1-day	SANTA CLARA	37.8333	-122.1011	600	07/1963-06/1983
STAFFORD LAKE	84-8500		1-day	MARIN COUNTY	38.1180	-122.6360	150	10/1955-09/1991
STANDISH HICKEY ST PK	04-8490		1-day	NCDC	**39.8778**	**-123.7275**	**853**	05/1959-05/2010
STANWOOD FIRE STATION	80-0228		1-day	SANTA BARBARA	34.4450	-119.6883	630	11/1953-02/2007
STANWOOD FIRE STATION	80-0228		15-min	SANTA BARBARA	34.4450	-119.6883	630	11/1953-08/2003
STEVENS CREEK RESERVOIR	83-6100		1-day	SANTA CLARA	37.3026	-122.0937	**1096**	**12/1936-07/2010**
STIRLING CITY RS	04-8544	04-9540	1-day	NCDC	39.9042	-121.5281	3520	11/1903-08/1966
STIRLING CITY RS	04-8544		1-hour	NCDC	39.9042	-121.5281	3520	10/1957-03/2010
STOCKTON 2	04-8557		1-day	NCDC	37.9500	-121.2667	20	1/1893-09/1948
STOCKTON AP	04-8558		1-day	NCDC	37.8892	-121.2258	26	10/1948-06/2010
STOCKTON AP	04-8558		1-hour	NCDC	37.8892	-121.2258	26	11/1948-03/2010
STOCKTON FIRE STN # 4	04-8560		1-day	NCDC	37.9994	-121.3178	12	03/1906-04/2010
STONE CANYON RESERVOIR	97-0375		1-day	LA COUNTY	34.1058	-118.4536	865	10/1956-10/2006
STONY GORGE RESERVOIR	04-8587		1-day	NCDC	**39.5858**	**-122.5339**	800	11/1926-05/2010
STONY GORGE RESERVOIR	04-8587		1-hour	NCDC	39.5861	-122.5342	800	07/1948-03/2010
STONYFORD	04-8580		1-day	NCDC	39.3753	-122.5461	1170	01/1915-03/2008
STRAWBERRY VALLEY	04-8606		1-day	NCDC	39.5631	-121.1078	3808	11/1948-05/2010
SUCCESS DAM WEATHER STATI	72-0036		1-day	USACE	**36.0580**	**-118.9180**	540	07/1959-12/2006
SUGARLOAF STATE PARK	84-8634		1-day	MARIN COUNTY	38.4370	-122.5070	1240	10/1978-09/2005
SULPHUR MOUNTAIN - MEHER	93-0163		1-day	VENTURA COUNTY	34.4117	**-119.1701**	2570	10/1956-09/2006
SUN CITY	90-0212		15-min	RIVERSIDE COUNTY	33.7153	-117.1903	1426	05/1970-07/2007
SUNNYVALE	83-6083		1-day	SANTA CLARA	37.3788	-122.0086	**60**	07/1949-06/1999

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
SUNSET DAM	97-0089	97-0090	1-day	LA COUNTY	34.2005	-118.2835	1610	10/1927-04/1939
SUNSET DEBRIS BASIN	97-0090		1-day	LA COUNTY	34.2050	-118.2847	1610	**10/1927-12/1977**
SUNSET RIDGE	97-0680		1-day	LA COUNTY	**34.3180**	**-118.2673**	2110	03/1939-12/2006
SUNSET STATE BEACH	04-8680		1-hour	NCDC	36.8975	-121.8347	80	11/1956-03/2010
SUNSET STATE BEACH	04-8680		15-min	NCDC	36.8975	-121.8347	80	05/1971-03/2010
SURF	80-0361		1-day	SANTA BARBARA	34.7000	-120.5833	50	**03/1906-10/2006**
SURF 2 ENE	04-8697	80-0361	1-day	NCDC	34.6806	-120.5364	110	03/1906-09/1951
SURF 2 ENE	04-8697		1-hour	NCDC	34.6806	-120.5364	110	07/1948-10/2006
SURF 2 ENE	04-8697		15-min	NCDC	34.6806	-120.5364	110	04/1978-10/2006
SUSANA KNOLLS-COUNTY FIRE	93-0187		1-day	VENTURA COUNTY	34.2621	**-118.6698**	1085	10/1955-09/2006
SUSANVILLE 1 WNW	04-8703		1-hour	NCDC	40.4239	-120.6747	4555	09/1952-03/2010
SUSANVILLE 2SW	04-8702		1-day	NCDC	40.4167	-120.6631	4184	1/1893-05/2010
SUTHERLAND DAM	92-3270		1-day	SAN DIEGO COUNTY	33.1181	-116.7889	2540	07/1951-01/2007
SUTTER HILL CDF	04-8713		1-day	NCDC	38.3772	-120.8008	1586	10/1943-05/2010
SWEETWATER RESERVOIR	92-3300		1-day	SAN DIEGO COUNTY	32.6833	-117.0000	310	**7/1888-07/2006**
SWEETWATER RESERVOIR	92-3300		1-hour	SAN DIEGO COUNTY	32.6833	-117.0000	310	**02/1965-10/1992**
TABLE MOUNTAIN	97-0169	97-0170	1-day	LA COUNTY	34.3814	-117.6847	7500	01/1926-10/1948
TACHEVAH DAM	90-0216		15-min	RIVERSIDE COUNTY	33.8319	-116.5578	580	09/1967-07/2007
TAFT	04-8752		1-day	NCDC	35.1400	-119.4492	987	**07/1948-05/2010**
TAFT	04-8752		1-hour	NCDC	35.1400	-119.4492	987	07/1948-10/1989
TAHOE CITY	04-8758		1-day	NCDC	39.1678	-120.1428	6230	09/1903-05/2010
TAMARACK	04-8781	98-0017	1-day	NCDC	38.6000	-119.9333	8064	10/1903-11/1948
TANBARK FLATS	97-0305		1-day	LA COUNTY	34.2056	-117.7611	2750	03/1928-10/1995
TAPO CANYON - SANTA SUSAN	93-0196		1-day	VENTURA COUNTY	34.3283	**-118.6992**	1520	10/1956-09/2006
TAPO MUTUAL WATER CO	93-0062	93-0234	1-day	VENTURA COUNTY	34.2981	-118.7211	1080	10/1927-09/1966
TEHACHAPI	04-8826		1-day	NCDC	35.1333	-118.4500	4017	1/1893-06/1997
TEHACHAPI AIRPORT	04-8832		1-hour	NCDC	35.1308	-118.4325	3960	07/1948-03/2010
TEHACHAPI AIRPORT	04-8832		15-min	NCDC	35.1308	-118.4325	3960	05/1972-03/2010
TEJON RANCHO	04-8839		1-day	NCDC	35.0233	-118.7497	1425	1/1895-05/2010
TEMECULA NWS AUTO	90-0217		15-min	RIVERSIDE COUNTY	33.4967	-117.1492	1020	01/1974-07/2007
TEMPLE CITY FIRE STATION	97-0619		1-day	LA COUNTY	34.1086	-118.0569	404	12/1948-02/1996

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
TEN INCH WEIR	92-3360		1-day	SAN DIEGO COUNTY	33.2822	-116.7336	2735	08/1961-01/2007
TEPUSQUET CANYON ROAD	80-0416		1-day	SANTA BARBARA	34.9156	-120.2239	840	10/1945-04/1996
TERMO 1 E	04-8873		1-day	NCDC	40.8667	-120.4333	5300	**12/1927-05/1999**
TERMO 1 E	04-8873		1-hour	NCDC	40.8667	-120.4333	5300	07/1948-02/2000
THE GEYSERS	04-8885		1-hour	NCDC	38.8039	-122.8128	1740	07/1948-03/2010
THERMAL FCWOS	04-8892		1-day	NCDC	33.6278	-116.1600	**-118**	05/1950-05/2003
THERMAL FCWOS	04-8892		1-hour	NCDC	**33.6358**	**-116.1639**	**-118**	06/1950-12/2000
THOUSAND OAKS-CONEJO FIRE	93-0128		1-day	VENTURA COUNTY	34.1711	**-118.8440**	870	10/1942-09/2006
THOUSAND PALMS	90-0222		15-min	RIVERSIDE COUNTY	33.8200	-116.3928	240	01/1959-07/2007
THREE RIVERS 6 SE	04-8912		1-hour	NCDC	36.3675	-118.8475	1935	01/1957-03/2010
THREE RIVERS 6 SE	04-8912		15-min	NCDC	36.3675	-118.8475	1935	10/1977-03/2010
THREE RIVERS ED PH 2	04-8914		1-day	NCDC	36.4667	-118.8833	951	**08/1909-03/2010**
THREE RIVERS EDISON PH 1	04-8917		1-hour	NCDC	36.4650	-118.8619	1140	07/1948-03/2010
THREE RIVERS EDISON PH 1	04-8917		15-min	NCDC	36.4650	-118.8619	1140	04/1982-03/2010
TIBERON COHEN	84-8920		1-day	MARIN COUNTY	37.8860	-122.5530	600	10/1956-09/1998
TIBERON FLINT	84-8921	84-8922	1-day	MARIN COUNTY	37.8820	-122.4430	125	10/1952-09/1957
TIBERON TOPHAM	84-8922		1-day	MARIN COUNTY	37.8740	-122.4530	400	**10/1958-09/1981**
TIGER CREEK PH	04-8928		1-day	NCDC	38.4461	-120.4992	2355	12/1906-11/1998
TIGER CREEK PH	04-8928	94-0130	1-hour	NCDC	38.4461	-120.4992	2355	07/1948-12/1998
TIGER CREEK PH TCP	94-0130		1-hour	STATE CLIMATOLOGIST	38.4500	-120.4930	2360	**07/1948-09/2008**
TOCALOMA PUMP	84-8943		1-day	MARIN COUNTY	38.0500	-122.7580	100	10/1976-09/2004
TOMALES FD	84-8954		1-hour	MARIN COUNTY	38.2470	-122.9030	80	10/1969-09/1994
TOMALES FD	84-8954		15-min	MARIN COUNTY	38.2470	-122.9030	80	10/1969-09/1994
TOPANGA CANYON OUTLET	97-0955	97-0956	1-day	LA COUNTY	34.0341	-118.5682	50	02/1955-05/1955
TOPANGA CANYON OUTLET	97-0956	97-0957	1-day	LA COUNTY	34.0341	-118.5682	50	11/1955-05/1956
TOPANGA CANYON OUTLET	97-0957	97-0958	1-day	LA COUNTY	34.0342	-118.5679	25	10/1957-04/1960
TOPANGA PATROL STATION	97-0014	97-0015	1-day	LA COUNTY	34.0834	-118.5849	745	06/1927-11/1975
TOPANGA PATROL STATION	97-0015		1-day	LA COUNTY	34.0842	-118.5992	745	**06/1927-04/2002**
TORRANCE AIRPORT	04-8973		1-day	NCDC	33.8017	-118.3411	**90**	06/1957-01/2010
TRABUCO CANYON	04-8992		1-hour	NCDC	33.6583	-117.5894	970	07/1948-05/2008

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TRABUCO CANYON	04-8992		15-min	NCDC	33.6583	-117.5894	970	05/1971-05/2008
TRACY CARBONA	04-8999		1-day	NCDC	37.6819	-121.3467	135	03/1906-05/2010
TRACY CITY PRESS	04-8997		1-hour	NCDC	37.7422	-121.4289	135	10/1951-07/1981
TRACY PUMPING PLANT	04-9001		1-day	NCDC	37.7967	-121.5828	61	02/1955-05/2010
TRAMWAY VALLEY STA	90-0224		15-min	RIVERSIDE COUNTY	33.8369	-116.6125	2700	07/1977-04/2007
TRINITY LAKE	95-0077	04-9026	1-day	DWR	40.8010	-122.7620	2370	11/1962-03/2007
TRINITY RIVER HATCHERY	04-9026		1-day	NCDC	40.7264	-122.7947	**1861**	**11/1962-05/2010**
TRIPAS CANYON	93-0242		1-day	VENTURA COUNTY	34.3675	**-118.7648**	2500	10/1971-09/2006
TRONA	04-9035		1-day	NCDC	35.7636	-117.3908	1695	01/1920-05/2010
TROUGH SPRINGS (TRS)	72-0041		1-day	USACE	39.2961	-122.6553	4000	10/1964-12/2006
TRUCKEE #2	98-0045		1-day	NRCS	**39.2887**	**-120.1833**	**6509**	10/1980-09/2010
TRUCKEE RS	04-9043		1-day	NCDC	**39.3331**	**-120.1731**	**5823**	09/1904-05/2009
TRUCKEE RS	04-9043		1-hour	NCDC	39.3311	-120.1892	6020	07/1948-03/2010
TRUCKEE RS	04-9043		15-min	NCDC	39.3311	-120.1892	6020	05/1971-03/2010
TUJUNGA	04-9047		1-day	NCDC	34.2667	-118.2833	1820	**12/1945-03/1987**
TUJUNGA - HILL CREEK SUMI	97-0869	97-0870	1-day	LA COUNTY	34.3841	-118.0681	4950	10/1949-10/1970
TUJUNGA - TANGUAY	97-0820	97-0906	1-day	LA COUNTY	34.2675	-118.2972	1605	12/1945-04/1960
TUJUNGA CANYON - SOLOMON	97-0905	97-0906	1-day	LA COUNTY	34.2678	-118.2845	1500	09/1952-06/1964
TUJUNGA CANYON - VALHALLA	97-0695	97-0696	1-day	LA COUNTY	34.2839	-118.2177	1850	10/1935-11/1953
TUJUNGA CANYON-VOGEL FLAT	97-0696		1-day	LA COUNTY	34.2867	-118.2256	1850	**10/1935-11/2006**
TUJUNGA MILL FC 470	04-9049		1-hour	NCDC	34.3833	-118.0833	4645	**07/1948-11/2007**
TUJUNGA-MILL CREEK SUMIT-	97-0870	97-0871	1-day	LA COUNTY	34.3903	-118.0806	4970	10/1949-09/1986
TUJUNGA-MILL CREEK SUMMIT	97-0871		1-day	LA COUNTY	34.3894	-118.0803	4990	**10/1949-01/2002**
TULELAKE	04-9053		1-day	NCDC	41.9600	-121.4744	4035	01/1932-05/2010
TULELAKE	04-9053		1-hour	NCDC	41.9600	-121.4744	4035	07/1948-03/2010
TULELAKE	04-9053		15-min	NCDC	41.9600	-121.4744	4035	01/1984-03/2010
TUOLUMNE GROVELAND RS	04-9065	04-3672	1-day	NCDC	37.8333	-120.1000	3123	12/1906-06/1955
TURLOCK #2	04-9073		1-day	NCDC	37.5006	-120.8550	115	1/1893-05/2010
TURNER CT; HAYWARD	81-0055		1-hour	ALAMEDA COUNTY	37.6477	-122.0979	60	**09/1956-06/2006**
TUSTIN IRVINE RANCH	04-9087		1-day	NCDC	33.7025	-117.7539	235	01/1902-06/2003
TWENTYNINE PALMS	04-9099		1-day	NCDC	34.1281	-116.0369	1975	05/1935-05/2010

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
TWENTYNINE PALMS COUNTY Y	79-9004		15-min	SAN BERNARDINO	34.1523	-116.0546	1895	05/1962-06/2010
TWIN LAKES	04-9105		1-day	NCDC	38.7086	-120.0403	8000	06/1919-08/2000
TWITCHELL DAM	04-9111		1-day	NCDC	**34.9878**	**-120.3208**	582	03/1962-05/2010
U C L A	04-9152		1-day	NCDC	34.0697	-118.4428	430	03/1933-05/2010
UHL RS	04-9120		1-hour	NCDC	35.8856	-118.6461	3725	01/1965-03/2010
UKIAH	04-9122		1-day	NCDC	39.1467	-123.2103	**636**	1/1893-05/2010
UKIAH 4 WSW	04-9124		1-day	NCDC	**39.1267**	**-123.2719**	**1823**	08/1951-05/2010
UNION OIL - BATTLES PLANT	80-0410		1-day	SANTA BARBARA	34.9333	-120.4000	255	**1/1893-06/1995**
UNION OIL - ORCUTT	80-0406		1-day	SANTA BARBARA	34.8667	-120.4500	340	11/1946-06/1995
UNION OIL - ORCUTT HILL	80-0409		1-day	SANTA BARBARA	34.8500	-120.4500	720	11/1961-06/1993
UNION SUGAR	80-0387		1-day	SANTA BARBARA	34.9167	**-120.5080**	160	10/1899-04/1993
UPLAND	04-9157	04-9158	1-day	NCDC	34.1333	-117.6833	1841	09/1959-09/1959
UPLAND 3 N	04-9158		1-day	NCDC	34.1333	-117.6500	1611	**01/1903-04/2010**
UPPER FRAKLIN CANYON RESE	97-0025	97-0026	1-day	LA COUNTY	34.1170	-118.4011	867	10/1927-10/1939
UPPER FRAKLIN CANYON RESE	97-0026	97-0027	1-day	LA COUNTY	34.1174	-118.4008	870	09/1939-10/1940
UPPER FRAKLIN CANYON RESE	97-0027	97-0028	1-day	LA COUNTY	34.1171	-118.4011	867	10/1940-10/1975
UPPER FRAKLIN CANYON RESE	97-0028		1-day	LA COUNTY	34.1194	-118.4097	867	**10/1927-10/2006**
UPPER LAKE 2 N	04-9173		1-day	NCDC	39.1906	-122.8964	1335	1/1893-10/2006
UPPER LAKE 7 W	04-9167		1-day	NCDC	39.1833	-123.0333	1564	07/1948-07/1988
UPPER MATTOLE	04-9177		1-day	NCDC	40.2500	-124.1833	255	1/1893-04/1986
UPPER OJAI SUMMIT-COUNTY	93-0065		1-day	VENTURA COUNTY	34.4364	-119.1342	1560	10/1924-01/2006
UPPER OJAI-HAPPY VALLEY	93-0064		1-day	VENTURA COUNTY	**34.4372**	**-119.1899**	**1280**	10/1900-09/2006
UPPER OTAY RESERVOIR	92-2190		1-day	SAN DIEGO COUNTY	32.6500	-116.9333	590	07/1938-03/1985
UPPER SAN LEANDRO FLTR	04-9185		1-day	NCDC	37.7719	-122.1675	394	**6/1895-05/2010**
UPPER SAN LEANDRO FLTR	04-9185		1-hour	NCDC	37.7719	-122.1675	394	07/1948-04/1990
UPPER STONE CANYON	97-0765		1-day	LA COUNTY	34.1242	-118.4542	943	10/1947-05/1989
UPPER TRES PINOS	04-9189		1-hour	NCDC	36.6333	-121.0333	2021	07/1948-03/1977
UTC	83-6102		1-day	SANTA CLARA	37.2338	-121.6905	**886**	**07/1961-07/2010**
UVAS CK - UVAS RES	96-0611		1-day	CNRFC	37.0656	-121.6875	500	**11/1961-12/2006**
UVAS RESERVOIR	83-6104	96-0611	1-day	SANTA CLARA	37.0660	-121.6896	409	11/1961-06/2000
V NOTCH WEIR	92-3450		1-day	SAN DIEGO COUNTY	33.2433	-116.7114	2765	08/1961-01/2007

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
VACAVILLE	04-9200		1-day	NCDC	38.3956	-121.9608	110	1/1893-12/2009
VALYERMO RANGER STN	04-9251		1-day	NCDC	34.4500	-117.8500	3704	05/1915-12/1971
VENADO	04-9273		1-hour	NCDC	38.6139	-123.0167	1260	07/1948-03/2010
VENICE-CITY YARDS	97-0271	97-0272	1-day	LA COUNTY	33.9838	-118.4509	17	05/1905-08/1950
VENICE-FIRE STATION	97-0272		1-day	LA COUNTY	33.9922	-118.4608	55	**05/1905-04/1978**
VENTUCOPA RANGER STN	04-9283		1-hour	NCDC	34.8500	-119.4833	2753	**07/1948-11/1972**
VENTURA COUNTY GOVERNMENT	96-0626		1-day	CNRFC	34.2681	-119.2089	280	**10/1924-12/2006**
VENTURA-DEL MAR RANCH	93-0006	96-0626	1-day	VENTURA COUNTY	34.2783	-119.2028	315	10/1924-09/1998
VENTURA-DOWNTOWN (VENTURA	93-0066		1-day	VENTURA COUNTY	34.2808	**-119.3009**	40	7/1873-09/2006
VENTURA-HALL CANYON	93-0167		1-day	VENTURA COUNTY	34.2810	-119.2584	180	10/1956-09/2006
VENTURA-KINGSTON RESERVOI	93-0122		1-day	VENTURA COUNTY	34.3433	-119.2950	215	10/1934-09/2006
VENTURA-OLD OLIVAS ADOBE	93-0216		1-day	VENTURA COUNTY	34.2433	-119.2422	37	10/1964-09/2006
VENTURA-SEXTON CANYON	93-0230		1-day	VENTURA COUNTY	34.3147	-119.2272	880	10/1971-09/2006
VERA CANYON - ROBLEE	97-0522	97-0523	1-day	LA COUNTY	34.0682	-118.8173	1500	10/1934-10/1937
VIA HUERTO ROAD	80-0346		1-day	SANTA BARBARA	34.4167	-119.7833	200	11/1955-01/1997
VICTORVILLE PUMP PLANT	04-9325		1-day	NCDC	34.5350	-117.3058	2858	01/1917-09/2009
VICTORVILLE PUMP PLANT	04-9325		1-hour	NCDC	34.5350	-117.3058	2858	07/1948-02/2008
VICTORVILLE PUMP PLANT	04-9325		15-min	NCDC	34.5350	-117.3058	2858	02/1978-02/2008
VINCENT PATROL STATION	97-0260		1-day	LA COUNTY	34.4881	-118.1408	3135	10/1927-01/2007
VINTON	04-9351		1-day	NCDC	39.8056	-120.1858	4950	03/1950-05/2010
VIRGINIA LAKES RIDGE	98-0046		1-day	NRCS	**38.0580**	**-119.2246**	**9445**	10/1978-09/2010
VISALIA	04-9367		1-day	NCDC	36.3283	-119.2992	325	2/1895-05/2010
VISTA 2 NNE	04-9378		1-day	NCDC	33.2294	-117.2269	510	08/1957-05/2010
VISTA E RESERVOIR	92-3540		1-day	SAN DIEGO COUNTY	33.2167	-117.2167	752	**08/1936-01/2007**
VOLLMERS	04-9386		1-day	NCDC	40.9500	-122.4500	1342	12/1937-10/1975
VOLLMERS	04-9386		1-hour	NCDC	40.9500	-122.4500	1342	07/1948-10/1975
VOLTA POWER HOUSE	04-9390		1-day	NCDC	**40.4583**	**-121.8664**	2220	11/1926-05/2010
VOLTA POWER HOUSE	04-9390		1-hour	NCDC	40.4569	-121.8656	2220	07/1948-03/2010
VOLTA POWER HOUSE	04-9390		15-min	NCDC	40.4569	-121.8656	2220	05/1971-03/2010
W FORK SAN LUIS REY	92-3648		1-day	SAN DIEGO COUNTY	33.2833	-116.7483	2790	08/1961-01/2007
WALLACE	04-9418	72-0030	1-day	NCDC	38.2000	-120.9667	331	08/1926-06/1977

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
WALNUT	97-0216	97-0217	1-day	LA COUNTY	34.0001	-117.8672	475	01/1926-10/1942
WALNUT CREEK 2 ENE	04-9426		1-hour	NCDC	37.9000	-122.0167	220	07/1948-11/1983
WALNUT CREEK 2 ESE	04-9423		1-day	NCDC	37.8833	-122.0333	**245**	**1/1893-11/1983**
WALNUT-SOUTH HILLS PATROL	97-0217	97-0218	1-day	LA COUNTY	34.0003	-117.8671	488	02/1942-10/1959
WARD CREEK #3	98-0047		1-day	NRCS	**39.1420**	**-120.2080**	**6655**	10/1978-09/2010
WARNER RANCH	92-3624		1-day	SAN DIEGO COUNTY	33.2425	-116.6656	2854	07/1961-01/2007
WARNER SPRINGS	04-9447		1-day	NCDC	33.2833	-116.6333	3182	04/1906-03/1977
WARNER SPRINGS	92-3636		1-hour	SAN DIEGO COUNTY	33.2833	-116.6333	3165	**02/1941-05/1978**
WASCO	04-9452		1-day	NCDC	**35.5944**	**-119.3536**	345	01/1901-05/2010
WASIOJA FORBES RANCH	04-9456		1-day	NCDC	34.9667	-119.8667	**2360**	**01/1904-12/1973**
WASIOJA FORBES RANCH	04-9456	04-9457	1-hour	NCDC	34.9667	-119.8667	2362	07/1948-11/1955
WASIOJA PATTERSON RANCH	04-9457	04-9458	1-hour	NCDC	34.9833	-119.9000	2182	11/1955-07/1960
WASIOJA PHOENIX RANCH	04-9458		1-hour	NCDC	34.9833	-119.9000	2372	**07/1948-12/1973**
WATSONVILLE WATERWORKS	04-9473		1-day	NCDC	**36.9308**	**-121.7692**	95	01/1908-05/2010
WAWONA RANGER STATION	04-9482		1-hour	NCDC	37.5400	-119.6522	3985	07/1948-06/2006
WAWONA RANGER STATION	04-9482		15-min	NCDC	37.5400	-119.6522	3985	04/1971-06/2006
WEAVERVILLE	04-9490		1-day	NCDC	**40.7222**	**-122.9331**	**1968**	1/1894-05/2010
WEAVERVILLE	04-9490		1-hour	NCDC	40.7350	-122.9392	2040	07/1948-03/2010
WEED FIRE DEPT	04-9499		1-day	NCDC	41.4333	-122.3833	3589	04/1957-07/1989
WELDON 1 WSW	04-9512		1-hour	NCDC	35.6667	-118.3000	2680	07/1948-03/1986
WEST ARCADIA	97-0235	97-0236	1-day	LA COUNTY	34.1176	-118.0671	527	10/1942-10/1943
WEST ARCADIA	97-0236	97-0237	1-day	LA COUNTY	34.1174	-118.0667	547	10/1943-10/1949
WEST ARCADIA	97-0237		1-day	LA COUNTY	34.1283	-118.0728	547	**10/1942-01/2007**
WEST AZUSA	97-0551		1-day	LA COUNTY	34.1147	-117.9156	505	12/1941-02/2007
WEST BRANCH	04-9540		1-day	NCDC	39.9333	-121.5333	3222	**03/1907-12/2007**
WEST POINT	04-9582		1-day	NCDC	38.3775	-120.5453	2775	2/1894-05/2010
WESTFALL RANGER STATION (	72-0043		1-day	USACE	37.4499	-119.6513	4880	10/1975-12/2006
WESTHAVEN	04-9560		1-day	NCDC	36.2272	-119.9967	285	12/1925-09/1999
WESTWOOD	04-9599		1-day	NCDC	40.3000	-121.0000	5072	01/1921-04/1953
WHEATLAND	04-9604		1-day	NCDC	**39.0167**	**-121.4333**	84	**1/1893-03/2010**
WHEATLAND 2 NE	04-9605		1-hour	NCDC	39.0278	-121.3908	105	07/1948-03/2010

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
WHEATLAND 2 NE	04-9605		15-min	NCDC	39.0278	-121.3908	105	10/1980-03/2010
WHEELER CANYON	93-0225		1-day	VENTURA COUNTY	34.3908	-119.1450	900	06/1966-09/2006
WHEELER CANYON	93-0225		15-min	VENTURA COUNTY	34.3908	-119.1450	900	09/1966-12/2006
WHISKEYTOWN RESERVOIR	04-9621		1-day	NCDC	40.6117	-122.5281	1295	04/1960-05/2010
WHITE MOUNTAIN 2	04-9633		1-day	NCDC	37.5833	-118.2333	**2470**	10/1955-10/1980
WHITEWATER NORTH	90-0233		15-min	RIVERSIDE COUNTY	33.9897	-116.6556	2200	08/1977-07/2007
WHITTIER CITY YD FC106C	04-9660		1-day	NCDC	**33.9758**	**-118.0219**	**446**	**10/1925-05/2010**
WHITTIER NAROWS DAM	97-0992	97-0993	1-day	LA COUNTY	34.0171	-118.0833	255	10/1956-10/1957
WHITTIER NARROWS DAM	97-0993		1-day	LA COUNTY	34.0247	-118.0839	239	**10/1956-12/2006**
WHITTIER NARROWS DAM	04-9666		1-hour	NCDC	34.0200	-118.0839	200	09/1972-03/2010
WHITTIER-WOOD	97-0879	04-9660	1-day	LA COUNTY	33.9978	-118.0528	280	09/1950-03/1981
WILDROSE R S	04-9671		1-day	NCDC	36.2656	-117.1853	4100	01/1969-01/2000
WILLIAMS	04-9677		1-day	NCDC	39.1500	-122.1500	85	03/1906-10/1988
WILLIAMS	04-9677		1-hour	NCDC	39.1500	-122.1500	85	09/1952-10/1988
WILLITS 1 NE	04-9684		1-day	NCDC	39.4194	-123.3425	**1353**	03/1902-05/2010
WILLITS HOWARD FOREST RS	04-9685	94-0273	1-hour	NCDC	39.3500	-123.3167	1925	07/1948-09/1989
WILLITTS WIL	94-0273		1-hour	STATE CLIMATOLOGIST	39.3500	-123.3170	1925	**07/1948-09/2007**
WILLOWS 6 W	04-9699		1-day	NCDC	39.5231	-122.3058	233	10/1906-05/2010
WINCHESTER	90-0248		15-min	RIVERSIDE COUNTY	33.7069	-117.0900	1465	12/1940-07/2007
WINTERS	04-9742		1-day	NCDC	38.5228	-121.9683	135	03/1906-05/2010
WOFFORD HEIGHTS KERN	04-4527	04-9754	1-day	NCDC	35.7333	-118.4333	2651	04/1956-04/1956
WOFFORD HEIGHTS KERNVILLE	04-9754		1-day	NCDC	35.7167	-118.4500	2733	**1/1894-07/1983**
WOHLFORD DAM	92-0037		15-min	SAN DIEGO COUNTY	33.1664	-117.0031	1480	**05/1971-06/2006**
WOHLFORD RESERVOIR	92-3660	92-0037	15-min	SAN DIEGO COUNTY	33.1667	-117.0000	1500	10/1975-03/1984
WOODACRE FD	84-9770		1-hour	MARIN COUNTY	38.0070	-122.6420	430	10/1963-09/1994
WOODACRE FD	84-9770		15-min	MARIN COUNTY	38.0070	-122.6420	430	10/1963-09/1994
WOODACRE FS	84-9770		1-day	MARIN COUNTY	38.0070	-122.6420	430	10/1958-09/2003
WOODCREST	90-0250		15-min	RIVERSIDE COUNTY	33.8847	-117.3503	1557	10/1955-07/2007
WOODFORDS	04-9775		1-day	NCDC	38.7833	-119.8000	5650	11/1909-08/1990
WOODLAND 1 WNW	04-9781		1-day	NCDC	38.6828	-121.7942	69	03/1906-05/2010

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
WRIGHTS	04-9814		1-day	NCDC	37.1333	-121.9500	1600	04/1906-05/1986
WRIGHTWOOD FIRE DEPARTMEN	97-1007		1-day	LA COUNTY	34.3594	-117.6325	5960	10/1957-08/2000
YORBA LINDA	04-9847		1-day	NCDC	33.8900	-117.8189	350	10/1912-06/2007
YORKVILLE	04-9851		1-hour	NCDC	38.9053	-123.2314	1100	07/1948-04/2005
YORKVILLE	04-9851		15-min	NCDC	38.9053	-123.2314	1100	05/1971-04/2005
YOSEMITE PARK HDQTRS	04-9855		1-day	NCDC	37.7500	-119.5897	**4018**	08/1906-05/2010
YOSEMITE PARK HDQTRS	04-9855		1-hour	NCDC	37.7500	-119.5897	3966	07/1948-03/2010
YREKA	04-9866		1-day	NCDC	41.7036	-122.6408	2625	2/1893-05/2010
YUCAIPA WATER COMPANY	79-3132		15-min	SAN BERNARDINO	34.0216	-117.0447	2710	02/1961-09/2010
YUCCA VALLEY C.D.F.	79-9002		15-min	SAN BERNARDINO	34.1238	-116.4093	3420	12/1966-06/2010
ZUM BEACH	97-0481		1-day	LA COUNTY	34.0208	-118.8283	15	09/1968-01/2007
ZUMA CANYON	97-0523	97-0524	1-day	LA COUNTY	34.0683	-118.8177	1500	10/1937-10/1952
ZUMA CANYON	97-0524	97-0594	1-day	LA COUNTY	34.0828	-118.8272	1500	10/1934-02/1990
02D1002--77B--VANNOY CV	81-0001		1-day	ALAMEDA COUNTY	37.7062	-122.0609	330	01/1964-06/2008
02D1003--77A--WALNUT RD	81-0002		1-day	ALAMEDA COUNTY	37.7154	-122.0867	405	09/1973-06/2009
02D1004--70--JENSEN RANCH	81-0003		1-day	ALAMEDA COUNTY	37.7189	-122.0225	850	09/1906-05/1995
03D1004--71--HAYWARD HIGH	81-0007	81-0060	1-day	ALAMEDA COUNTY	37.6783	-122.0817	110	10/1914-06/1966
05D1004--55--NEWARK STATI	81-0013	81-0017	1-day	ALAMEDA COUNTY	37.5167	-122.0333	10	11/1914-11/1934
05D1004--SFWD3--NILES CAN	81-0014		1-day	ALAMEDA COUNTY	37.5808	-121.9624	115	01/1923-05/1996
05D8001--55B--LESLIE SALT	81-0017	04-6144	1-day	ALAMEDA COUNTY	37.5216	-122.0308	10	01/1963-06/2008
06D1004--51--MISSION CREE	81-0019		1-day	ALAMEDA COUNTY	37.5246	-121.8866	1400	11/1952-06/2009
07D5001--SFWD2--PLEASANTO	81-0020		1-day	ALAMEDA COUNTY	37.6619	-121.8931	325	01/1923-01/2001
07D5002--SFWD4--SUNOL	81-0021		1-day	ALAMEDA COUNTY	37.5917	-121.8978	220	09/1908-05/2007
07D5004--SFWD47--SAN ANTO	81-0023		1-day	ALAMEDA COUNTY	37.5752	-121.8458	449	01/1968-06/2007
07D5005--SFWD7--CALAVERAS	81-0024		1-day	ALAMEDA COUNTY	37.4937	-121.8221	805	01/1916-05/2007
07D5006--109--GERBER RANC	81-0025		1-day	ALAMEDA COUNTY	37.3750	-121.4877	2200	01/1913-02/2002
07D6004--24--PATTERSON PL	81-0029		1-day	ALAMEDA COUNTY	37.6952	-121.6820	685	10/1963-04/2008
07D6005--32--DUBLIN BLVD	81-0030		1-day	ALAMEDA COUNTY	37.6966	-121.9433	450	10/1952-06/2005
12D4002--81A--EBMUD CHABO	81-0037		1-day	ALAMEDA COUNTY	37.7311	-122.1236	225	7/1888-04/2008
13D1001--81B--DONOVAN DR	81-0038		1-day	ALAMEDA COUNTY	37.7230	-122.1755	15	**07/1948-06/2003**
35D1001--80B--EBMUD UPPER	81-0040		1-day	ALAMEDA COUNTY	37.7658	-122.0974	490	07/1950-06/2009

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
40D6001--101--TASSAJARA	81-0044		1-day	ALAMEDA COUNTY	37.8085	-121.8943	850	10/1960-04/2008
78A_MEAD_WY_TRYM_ST_HAYWA	81-0060		1-day	ALAMEDA COUNTY	37.6756	-122.0639	305	**10/1914-06/2005**

Table A.1.2. List of stations in the buffer states of Arizona, Nevada and Oregon used in the analysis showing station name, station ID, post-merge station ID, base duration, source of data, latitude, longitude, elevation, and period of record. Bold font in the latitude, longitude, and elevation fields indicates information that has been adjusted. Bold font in the 'Period of record' field indicates that the station data was extended using data from station that has the same ID in 'Post-merge station ID' column.

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
ARIZONA								
AGUILA	02-0060		1-day	NCDC	33.9433	-113.1875	2165	05/1924-05/2010
ALAMO DAM	02-0100		1-day	NCDC	34.2281	-113.5778	1290	**03/1965-05/2010**
ALAMO DAM	02-0100		1-hour	NCDC	34.2303	-113.5767	1290	03/1965-03/2010
BOUSE	02-0949		1-day	NCDC	33.7667	-113.9333	1194	10/1932-05/2010
BULLHEAD CITY	02-1050		1-day	NCDC	35.1411	-114.5686	531	11/1977-05/2010
DATELAND WHITEWING RCH	02-2434		1-day	NCDC	32.9711	-113.4981	520	06/1972-05/2010
EHRENBERG	02-2787		1-day	NCDC	33.6000	-114.5333	280	10/1941-01/1977
KINGMAN #2	02-4645		1-day	NCDC	35.2000	-114.0167	3539	05/1901-09/1993
KINGMAN NO 2	02-4645		1-hour	NCDC	35.2000	-114.0167	3539	08/1967-10/1993
KOFA MINE	02-4702		1-day	NCDC	33.2742	-113.9653	1775	05/1952-05/2010
LAKE HAVASU CITY	02-4761		1-day	NCDC	34.5028	-114.3600	468	09/1967-05/2010
MOHAWK	02-5627		1-day	NCDC	32.7333	-113.7667	541	07/1900-05/1951
PARKER	02-6250		1-day	NCDC	34.1547	-114.2897	420	10/1893-05/2010
QUARTZSITE	02-6865		1-day	NCDC	33.6667	-114.2333	879	05/1908-05/2010
SALOME 6 SE	02-7460		1-day	NCDC	33.7833	-113.6167	1800	12/1907-04/1957
TACNA 3 NE	02-8396		1-day	NCDC	32.7225	-113.9192	324	02/1969-05/2010
WELLTON	02-9211		1-day	NCDC	32.6667	-114.1333	259	03/1922-12/1980
WIKIEUP	02-9309		1-day	NCDC	34.7333	-113.6167	2125	07/1925-05/2010
WILLOW BEACH	02-9376		1-day	NCDC	35.8686	-114.6611	740	10/1967-09/2007
YUCCA 1 NNE	02-9645		1-day	NCDC	34.8775	-114.1344	1950	01/1950-05/2010
YUMA CITRUS STN	02-9652		1-day	NCDC	32.6114	-114.6350	191	09/1920-03/2006
YUMA PROVING GROUND	02-9654		1-day	NCDC	32.8356	-114.3942	324	01/1955-05/2010
YUMA QUARTERMASTER DEPOT	02-9656		1-day	NCDC	32.7278	-114.6217	160	1/1893-05/2010
YUMA VALLEY	02-9657		1-day	NCDC	32.7167	-114.7167	120	11/1930-12/1992
YUMA WSO AP	02-9660		1-hour	NCDC	32.6834	-114.6000	206	09/1948-07/1996
NEVADA								

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
AMARGOSA FARMS-GAREY	26-0150		1-day	NCDC	36.5717	-116.4619	2450	12/1965-05/2010
BEATTY	26-0714		1-day	NCDC	36.9167	-116.7500	3304	11/1917-11/1972
BEATTY 8 N	26-0718		1-day	NCDC	36.9950	-116.7189	3550	12/1972-07/2008
BEATTY 8 N	26-0718		1-hour	NCDC	36.9950	**-116.7183**	3550	11/1972-12/2008
BIG MEADOW	98-0052		1-day	NRCS	39.4500	-119.9500	**8249**	10/1983-09/2010
BOULDER CITY	26-1071		1-day	NCDC	35.9800	-114.8464	2500	09/1931-07/2004
CARSON CITY	26-1485		1-day	NCDC	39.1464	-119.7678	4651	1/1893-05/2010
DESERT NATL WILDLIFE RNG	26-2243		1-day	NCDC	36.4378	-115.3597	2920	04/1940-02/2010
DUFURRENA	26-2394		1-day	NCDC	41.8681	-119.0144	4800	09/1959-05/2010
DYER	26-2431		1-day	NCDC	37.6150	-118.0106	4900	02/1903-05/2010
FERNLEY	26-2840		1-day	NCDC	39.6167	-119.2500	4163	**4/1895-05/1974**
GERLACH	26-3090		1-day	NCDC	40.6539	-119.3581	3950	01/1948-05/2010
GLENBROOK	26-3205		1-day	NCDC	39.0753	-119.9411	6350	01/1901-05/2010
GOLDFIELD	26-3285		1-day	NCDC	37.7081	-117.2331	5690	02/1906-11/2009
HAWTHORNE	26-3512	26-3515	1-day	NCDC	38.5175	-118.6300	4330	06/1992-12/2006
HAWTHORNE	26-3512	26-3515	1-hour	NCDC	38.5175	-118.6300	4330	08/1954-12/2005
HAWTHORNE AIRPORT	26-3515		1-day	NCDC	38.5500	-118.6667	4220	**2/1888-05/2010**
HAWTHORNE AIRPORT	26-3515		1-hour	NCDC	38.5500	-118.6667	4220	**07/1948-04/2010**
INDIAN SPRINGS	26-3980		1-day	NCDC	36.5833	-115.6833	3123	11/1913-06/1964
LAHONTAN DAM	26-4349		1-day	NCDC	39.4689	-119.0644	4150	04/1911-01/2010
LAS VEGAS	26-4429		1-day	NCDC	36.1667	-115.1333	2011	6/1895-08/1956
LAS VEGAS AP	26-4436		1-hour	NCDC	**36.0833**	**-115.1667**	**2162**	01/1949-03/2010
LEWERS RANCH	26-4542		1-day	NCDC	39.2333	-119.8500	5203	1/1893-10/1944
MARLETTE LAKE	26-4858	98-0069	1-day	NCDC	39.1667	-119.9167	8005	07/1952-07/1952
MARLETTE LAKE	98-0069		1-day	NRCS	**39.1667**	-119.9000	**7880**	**12/1913-09/2010**
MINA	26-5168		1-day	NCDC	38.3867	-118.1058	4550	3/1896-05/2010
MINDEN	26-5191		1-day	NCDC	38.9547	-119.7758	4709	06/1906-05/2010
MINDEN	26-5191		1-hour	NCDC	38.9547	-119.7758	4709	07/1948-03/2010
MOUNT ROSE CHRISTMAS TREE	26-5441		1-hour	NCDC	39.3422	-119.8636	7235	01/1971-03/2010
MT ROSE SKI AREA	98-0070		1-day	NRCS	39.3167	-119.8833	8850	10/1980-09/2010
NIXON	26-5605		1-day	NCDC	39.8333	-119.3500	3904	05/1928-11/1974

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
PAHRUMP	26-5890		1-day	NCDC	36.2786	-116.0033	2674	03/1914-05/2010
PALMETTO	26-5931		1-day	NCDC	37.4667	-117.7667	5906	3/1890-09/1951
RED ROCK CANYON SP	26-6691		1-day	NCDC	36.0686	-115.4603	3780	05/1977-05/2010
RENO AIRPORT	26-6779		1-day	NCDC	39.4839	-119.7711	4410	03/1937-06/2010
RENO AIRPORT	26-6779		1-hour	NCDC	**39.5000**	**-119.7833**	**4404**	07/1948-03/2010
SAND PASS	26-7261		1-day	NCDC	40.3167	-119.8000	3904	10/1913-09/1971
SCHURZ	26-7358		1-day	NCDC	38.9500	-118.8167	4124	01/1920-04/1957
SEARCHLIGHT	26-7369		1-day	NCDC	35.4661	-114.9217	3540	12/1913-05/2010
SEARCHLIGHT	26-7369		1-hour	NCDC	35.4661	-114.9217	3540	07/1948-03/2010
SHELDON	26-7443		1-day	NCDC	41.8500	-119.6333	6506	07/1933-02/1972
SILVERPEAK	26-7463		1-day	NCDC	37.7619	-117.5653	4260	10/1967-05/2010
SMITH 1 N	26-7609		1-day	NCDC	38.8167	-119.3333	4754	07/1908-09/1966
SMITH 6 N	26-7612		1-day	NCDC	38.8822	-119.3511	5000	07/1973-05/2010
SMITH 6 N	26-7612		1-hour	NCDC	38.8822	-119.3511	5000	07/1973-03/2010
SUTCLIFFE	26-7953		1-day	NCDC	39.9503	-119.5983	3900	06/1967-05/2010
THORNE	26-8034		1-day	NCDC	38.6000	-118.6000	4203	04/1914-05/1950
TONOPAH	26-8160		1-day	NCDC	38.0667	-117.2333	6024	05/1902-06/1954
TONOPAH AP	26-8170		1-day	NCDC	38.0511	-117.0903	5395	06/1954-06/2010
TONOPAH AP	26-8170		1-hour	NCDC	38.0511	-117.0903	5395	06/1954-04/2010
TOPAZ LAKE 3N	26-8186		1-day	NCDC	38.7319	-119.5100	5105	07/1957-05/2010
VIRGINIA CITY	26-8761		1-day	NCDC	39.3128	-119.6483	6340	12/1887-05/2010
WABUSKA 6 SE	26-8822		1-day	NCDC	39.0747	-119.1189	4300	06/1972-05/2010
WABUSKA 6 SE	26-8822		1-hour	NCDC	39.0747	-119.1189	4300	02/1972-03/2010
WADSWORTH	26-8834	26-2840	1-day	NCDC	39.6333	-119.2833	4081	4/1895-09/1948
WADSWORTH 4 N	26-8838		1-day	NCDC	39.6911	-119.2903	4200	08/1974-05/2010
WADSWORTH 4 N	26-8838		1-hour	NCDC	39.6911	-119.2903	4200	08/1974-03/2010
WELLINGTON RANGER STN	26-8977		1-day	NCDC	38.7500	-119.3667	4843	07/1942-04/1973
WELLINGTON RANGER STN	26-8977		1-hour	NCDC	38.7500	-119.3667	4843	07/1948-05/1973
YERINGTON	26-9229		1-day	NCDC	38.9992	-119.1575	4380	3/1894-05/2010
OREGON								
ADEL	35-0036		1-day	NCDC	42.1761	-119.8961	4583	03/1956-05/2010

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
ALKALI LAKE	35-0118		1-day	NCDC	42.9694	-119.9933	4332	04/1961-05/2010
ASHLAND	35-0304		1-day	NCDC	42.2128	-122.7144	1746	7/1892-05/2010
BIG RED MOUNTAIN	98-0081		1-day	NRCS	42.0500	-122.8500	**6050**	10/1980-09/2010
BIGELOW CAMP	98-0080		1-day	NRCS	**42.0800**	**-123.3400**	**5130**	10/1980-09/2010
BILLIE CREEK DIVIDE	98-0082		1-day	NRCS	**42.4100**	**-122.2700**	**5280**	10/1978-09/2010
BLY RANGER STN	35-0853		1-hour	NCDC	42.4000	-121.0458	4390	10/1948-03/2010
BROOKINGS 2 SE	35-1055		1-day	NCDC	42.0300	-124.2453	50	05/1912-04/2002
BROOKINGS 2 SE	35-1055		1-hour	NCDC	42.0300	-124.2453	50	08/1948-01/2003
BUNCOM 1 NNE	35-1149		1-day	NCDC	42.1931	-122.9989	1949	08/1948-05/2010
BUNCOM 1 NNE	35-1149		1-hour	NCDC	42.1931	-122.9989	1949	08/1948-03/2010
BUNCOM 1 NNE	35-1149		15-min	NCDC	42.1931	-122.9989	1949	01/1984-06/2008
BUTTE FALLS 1 SE	35-1207		1-hour	NCDC	42.5378	-122.5525	2500	08/1948-03/2010
BUTTE FALLS 1 SE	35-1207		15-min	NCDC	42.5378	-122.5525	2500	05/1971-03/2010
CAVE JUNCTION 1 WNW	35-1448		1-day	NCDC	42.1769	-123.6753	1280	03/1962-05/2010
CHILOQUIN	89-0213		1-hour	RAWS	42.5769	-121.8936	4420	06/1986-03/2008
CHILOQUIN 1 E	35-1571		1-day	NCDC	42.5833	-121.8667	4193	07/1913-12/1979
CHILOQUIN 12 NW	35-1574		1-day	NCDC	42.7019	-121.9961	4180	08/1980-05/2010
COFFEE POT FLAT	89-0215		1-hour	RAWS	42.5500	-120.6200	5250	05/1985-04/2008
COLD SPRINGS CAMP	98-0091		1-day	NRCS	42.5333	-122.1833	6100	10/1981-09/2010
COPPER 4 NE	35-1828		1-hour	NCDC	42.0808	-123.1042	1820	10/1975-12/2006
COPPER 4 NE	35-1828		15-min	NCDC	42.0808	-123.1042	1820	06/1978-12/2006
CRATER LAKE NPS HQ	35-1946		1-day	NCDC	42.8967	-122.1328	6475	10/1919-05/2010
CRATER LAKE NPS HQ	35-1946		1-hour	NCDC	42.8967	-122.1328	6475	01/1949-03/2010
CRATER LAKE NPS HQ	35-1946		15-min	NCDC	42.8967	-122.1328	6475	07/1976-03/2010
DEVILS FLAT	35-2295		15-min	NCDC	42.8225	-123.0550	2030	04/1977-03/2010
FISH FIN RIM	89-0221		1-hour	RAWS	42.4722	-119.1783	4900	10/1986-04/2008
FISH LAKE	35-2928	98-0100	1-day	NCDC	42.3833	-122.3500	4642	11/1955-11/1956
FISH LK.	98-0100		1-day	NRCS	**42.3800**	**-122.3500**	**4660**	**06/1918-09/2010**
FOURMILE LAKE	98-0101		1-day	NRCS	**42.4400**	**-122.2200**	**5970**	10/1978-09/2010
GERBER DAM	35-3232		1-day	NCDC	42.2050	-121.1314	4850	**11/1925-12/2007**
GERBER DAM	35-3232		15-min	NCDC	42.2050	-121.1314	4850	07/1971-03/2010

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
GLENDALE	35-3305		1-day	NCDC	42.7422	-123.4297	1385	**07/1904-12/2007**
GLENDALE	35-3305		1-hour	NCDC	42.7422	-123.4297	1385	03/1950-03/2010
GLENDALE	35-3305		15-min	NCDC	42.7422	-123.4297	1385	10/1972-03/2010
GOLD BEACH RANGER STN	35-3356		1-day	NCDC	42.4036	-124.4242	50	07/1948-05/2010
GRANTS PASS	35-3445		1-day	NCDC	42.4244	-123.3236	930	2/1893-05/2010
GREEN SPRINGS POWER PLANT	35-3509		1-day	NCDC	42.1258	-122.5450	2435	09/1960-05/2010
HART MOUNTAIN REFUGE	35-3692		1-day	NCDC	42.5483	-119.6556	5616	05/1939-05/2010
HOWARD PRAIRIE DAM	35-4060		1-day	NCDC	42.2292	-122.3814	4567	09/1960-05/2010
ILLAHE	35-4133		1-hour	NCDC	42.6286	-124.0575	348	08/1948-05/2008
ILLAHE	35-4133		15-min	NCDC	42.6286	-124.0575	348	05/1972-05/2008
JACKSONVILLE	35-4216		1-day	NCDC	42.3000	-122.9833	1640	1/1893-11/1948
KENO	35-4403		1-day	NCDC	42.1297	-121.9297	4116	07/1927-05/2010
KERBY 3 NNW	35-4426		15-min	NCDC	42.2322	-123.6642	1210	05/1971-04/2009
KING MOUNTAIN	98-0110		1-day	NRCS	**42.7200**	-123.2000	**4340**	10/1980-09/2010
KLAMATH FALLS 2 SSW	35-4506		1-day	NCDC	42.2008	-121.7814	4098	6/1887-05/2001
KLAMATH FALLS AG STA	35-4511		1-day	NCDC	42.1644	-121.7547	4092	01/1948-01/2004
LAKE CREEK 6 SE	35-4635		1-day	NCDC	**42.3615**	**-122.5488**	1752	08/1917-03/1953
LAKEVIEW 2 NNW	35-4670		1-day	NCDC	42.2139	-120.3636	4778	6/1887-01/2009
LAKEVIEW 2 NNW	35-4670		1-hour	NCDC	42.2139	-120.3636	4778	10/1948-02/2010
LAKEVIEW 2 NNW	35-4670		15-min	NCDC	42.2139	-120.3636	4778	01/1984-02/2010
LANGLOIS #2	35-4721		1-day	NCDC	42.9242	-124.4533	90	06/1956-05/2010
LOST CREEK DAM	35-5055		1-day	NCDC	42.6722	-122.6750	1580	06/1970-05/2010
LOST CREEK DAM	35-5055		1-hour	NCDC	42.6722	-122.6750	1580	05/1970-03/2010
LOST CREEK DAM	35-5055		15-min	NCDC	42.6722	-122.6750	1580	01/1984-03/2010
MALIN	35-5170		1-day	NCDC	42.0167	-121.4167	4052	07/1925-08/1946
MALIN 5 E	35-5174		1-day	NCDC	42.0078	-121.3186	4627	11/1968-04/2007
MEDFORD EXPERIMENT STN	35-5424		1-day	NCDC	42.2961	-122.8700	1457	09/1937-01/2003
MEDFORD INTL AP	35-5429		1-day	NCDC	42.3811	-122.8722	1297	01/1928-06/2010
MEDFORD INTL AP	35-5429		1-hour	NCDC	42.3811	-122.8722	1297	12/1948-03/2010
MODOC ORCHARD	35-5656		1-day	NCDC	42.4500	-122.8833	1220	**04/1915-12/2007**
PAISLEY	35-6426		1-day	NCDC	42.6922	-120.5403	4360	1/1892-05/2010

Station name	Station ID	Post-merge station ID	Base duration	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
PORT ORFORD 2	35-6779	35-6784	1-day	NCDC	42.7333	-124.5167	59	03/1905-11/1963
PORT ORFORD 2	35-6784		1-day	NCDC	42.7519	-124.5011	42	**03/1905-05/2010**
PORT ORFORD 5 E	35-6795		1-day	NCDC	42.7386	-124.4033	150	01/1971-05/2010
POWERS	35-6820		1-day	NCDC	42.8886	-124.0689	230	05/1932-05/2010
POWERS TELEMETERING	35-6822		15-min	NCDC	42.8917	-124.0694	220	05/1971-03/2010
PROSPECT 2 SW	35-6907		1-day	NCDC	42.7342	-122.5164	2482	10/1905-05/2010
PROVOLT SEED ORCHARD	89-0239		1-hour	RAWS	42.2897	-123.2303	1180	01/1985-04/2008
QUARTZ MOUNTAIN	98-0126		1-day	NRCS	**42.3200**	**-120.8300**	**5720**	10/1980-09/2010
RIDDLE	35-7169		1-day	NCDC	42.9506	-123.3572	680	6/1899-05/2010
RIDDLE 4 SW	35-7171		15-min	NCDC	42.9242	-123.4292	723	05/1971-03/2010
ROCK CREEK	89-0242		1-hour	RAWS	42.5475	-119.6564	5640	05/1986-04/2008
ROUND GROVE	35-7354		1-day	NCDC	42.3414	-120.8894	4888	03/1920-12/1998
RUCH	35-7391		1-day	NCDC	42.2231	-123.0472	1550	04/1963-05/2010
SELDOM CREEK	89-0245		1-hour	RAWS	42.4075	-122.1914	4875	05/1985-04/2008
SEVENMILE MARSH	98-0136		1-day	NRCS	**42.7000**	**-122.1400**	**5700**	10/1980-09/2010
SEXTON SUMMIT	35-7698		1-day	NCDC	42.6003	-123.3642	3832	01/1948-06/2010
SEXTON SUMMIT	35-7698		1-hour	NCDC	42.6003	-123.3642	3832	08/1948-03/2010
SILVER CREEK	98-0137		1-day	NRCS	42.9500	-121.1833	5720	10/1980-09/2010
SISKIYOU SUMMIT	35-7848		1-day	NCDC	**42.0699**	**-122.6082**	4486	6/1899-01/1936
SPRAGUE RIVER 2 SE	35-8007		1-day	NCDC	42.4306	-121.4892	4483	05/1953-02/2001
STRAWBERRY	98-0142		1-day	NRCS	**42.1300**	**-120.8400**	**5770**	10/1980-09/2010
SUMMER LAKE 1 S	35-8173		1-day	NCDC	42.9592	-120.7897	4192	03/1957-05/2010
SUMMER RIM	98-0143		1-day	NRCS	42.7000	-120.8167	7100	10/1978-09/2010
TALENT	35-8338		1-day	NCDC	42.2500	-122.8000	1552	02/1913-11/1960
TAYLOR BUTTE	98-0147		1-day	NRCS	42.7000	-121.4000	5100	10/1978-09/2010
TILLER	35-8514		15-min	NCDC	42.9300	-122.9467	1040	05/1971-03/2010
VALLEY FALLS	35-8812		1-day	NCDC	42.4844	-120.2822	4325	05/1910-10/2003
WILLIAMS 1 NW	35-9390		1-day	NCDC	42.2283	-123.2858	1450	6/1892-05/2010
WILLIAMS 1 NW	35-9390		1-hour	NCDC	42.2283	-123.2858	1450	10/1948-03/2010
WILLIAMS 1 NW	35-9390		15-min	NCDC	42.2283	-123.2858	1450	05/1971-03/2010
YONNA	35-9604		1-day	NCDC	42.3000	-121.4833	4183	08/1907-01/1949

Table A.1.3. List of stations used in the analysis for n-minute scaling factors (see Section 4.6.3) showing station name, state, station ID, source of data, latitude, longitude, elevation, and period of record. Bold font in the latitude, longitude, and elevation fields indicates information that has been adjusted.

Name	State	Station ID	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
ACTON CAMP	CA	97-0386	LA COUNTY	34.4506	-118.1986	2625	10/2001-01/2007
ACTON-ESCONDIDO CANYON	CA	97-0407	LA COUNTY	34.4950	-118.2728	2960	05/2002-01/2007
AGOURA	CA	97-0575	LA COUNTY	34.1356	-118.7522	800	05/2002-01/2007
AGUA CALIENTE	CA	92-0064	SAN DIEGO COUNTY	32.9564	-116.2975	1222	09/1984-06/2006
ALAMEDA STORM CH.	CA	82-0293	ORANGE COUNTY	33.8058	-117.8017	339	07/1989-01/2007
ALISO CREEK @ JERONIMO	CA	82-0206	ORANGE COUNTY	33.6250	-117.6853	455	07/1989-01/2007
ANAHEIM - BARBER CITY	CA	82-1117	ORANGE COUNTY	33.7544	-118.0344	20	03/1990-01/2007
ANGELES FOREST-ALISO CYN.	CA	97-0570	LA COUNTY	34.4158	-118.0906	3920	05/2002-01/2007
ARROYO CORTE MADERA	CA	84-1550	MARIN COUNTY	37.8974	-122.5357	30	02/1993-03/2008
ARROYO DEL HAMBRE	CA	85-0001	CONTRA COSTA	37.9668	-122.1669	800	01/1995-07/2008
AVEK	CA	97-1125	LA COUNTY	34.5392	-117.9231	2825	04/2002-02/2007
BAKERSFIELD AP	CA	04-0442	NCDC	35.4344	-119.0542	489	01/1973-12/2007
BALD PEAK	CA	85-0004	CONTRA COSTA	37.8833	-122.2168	1905	01/1995-07/2008
BARON RANCH	CA	80-0262	SANTA BARBARA	34.4833	-120.1292	525	01/1990-05/2006
BARONA	CA	92-0042	SAN DIEGO COUNTY	32.9986	-116.8397	1280	09/1982-06/2006
BARRETT DAM	CA	92-0047	SAN DIEGO COUNTY	32.6794	-116.6703	1625	09/1985-10/1993
BARRETT DAM	CA	92-3900	SAN DIEGO COUNTY	32.6794	-116.6703	1625	08/1994-06/2006
BATES RIDGE	CA	80-0076	SANTA BARBARA	34.9169	-119.9172	5120	10/2005-10/2006
BEE CANYON	CA	82-1192	ORANGE COUNTY	33.7186	-117.7261	755	05/1996-01/2007
BELL CANYON	CA	97-0736	LA COUNTY	34.1944	-118.6564	895	09/1997-01/2007
BIG DALTON DAM	CA	97-0353	LA COUNTY	34.1683	-117.8100	1587	05/2003-01/2007
BIG PINES RECREATION PARK	CA	97-0173	LA COUNTY	34.3789	-117.6889	6860	09/2001-01/2007
BIG TUJUNGA CANYON-CAMP 1	CA	97-0692	LA COUNTY	34.2894	-118.2881	1525	10/1997-01/2007
BIG TUJUNGA DAM	CA	97-0102	LA COUNTY	34.2944	-118.1872	2315	02/2001-01/2007
BISHOP WSO AIRPORT	CA	04-0822	NCDC	37.3711	-118.3581	4102	01/1973-12/2009
BIXLER PUMPING PLANT	CA	85-0003	CONTRA COSTA	37.9334	-121.6167	14	03/1995-07/2008
BLUE CANYON NYACK AP	CA	04-0897	NCDC	39.2775	-120.7103	5276	01/1973-12/2007
BONITA	CA	92-0031	SAN DIEGO COUNTY	32.6561	-117.0336	120	07/1992-06/2006
BONITA ROAD	CA	92-0091	SAN DIEGO COUNTY	32.6747	-117.0156	100	04/2001-06/2002
BORREGO C.R.S.	CA	92-0063	SAN DIEGO COUNTY	**33.2214**	**-116.3347**	**500**	08/1983-06/2006

Name	State	Station ID	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
BORREGO PALM CANYON	CA	92-0062	SAN DIEGO COUNTY	33.2692	-116.4117	790	08/1983-06/2006
BRAND PARK	CA	97-0339	LA COUNTY	34.1883	-118.2722	1255	10/2002-01/2007
BREA	CA	82-0265	ORANGE COUNTY	33.9219	-117.9011	340	07/1989-01/2007
BREA OLINDA	CA	82-1198	ORANGE COUNTY	33.9336	-117.8431	750	06/1996-01/2007
BRENTWOOD CORP YARD	CA	85-0002	CONTRA COSTA	37.9167	-121.6669	95	07/1997-07/2008
BUELLTON FIRE STATION #31	CA	80-0233	SANTA BARBARA	34.6131	-120.1967	360	09/1966-01/2007
BURTON MESA FIRE STATION	CA	80-0205	SANTA BARBARA	34.6975	-120.4500	240	10/1964-10/2006
CACHUMA LAKE	CA	80-0248	SANTA BARBARA	34.5797	-119.9775	840	10/1992-03/1993
CAMP HI HILL (OPIDS)	CA	97-0131	LA COUNTY	34.2550	-118.0947	4250	05/2002-01/2007
CARLSBAD	CA	92-0086	SAN DIEGO COUNTY	33.1297	-117.2767	305	11/1996-06/2006
CARPINTERIA FIRE STATION	CA	80-0208	SANTA BARBARA	34.3981	-119.5183	15	10/1964-05/2007
CARPINTERIA RESERVOIR	CA	80-0209	SANTA BARBARA	34.4075	-119.4847	385	10/1964-05/1989
CASTAIC JUNCTION	CA	97-0837	LA COUNTY	34.4383	-118.6119	1005	05/1999-01/2007
CATER TREATMENT PLANT	CA	80-0229	SANTA BARBARA	34.4542	-119.7303	500	11/1952-09/2006
CEDAR SPRINGS	CA	97-0544	LA COUNTY	34.3558	-117.8761	6780	05/2002-02/2007
CELITE PLANT	CA	80-0259	SANTA BARBARA	34.5889	-120.4539	570	10/1971-05/2007
CLEAR CREEK -CITY SCHOOL	CA	97-0109	LA COUNTY	34.2772	-118.1700	3150	10/2002-01/2007
COLBY'S	CA	97-0120	LA COUNTY	34.3014	-118.1108	3620	05/2002-01/2007
COLD SPRINGS BASIN	CA	80-0210	SANTA BARBARA	34.4475	-119.6572	574	10/1968-02/2007
COSTA MESA	CA	82-1150	ORANGE COUNTY	33.6686	-117.8931	47	05/1990-01/2007
COTO DE CAZA	CA	82-0248	ORANGE COUNTY	33.6289	-117.5833	730	10/1993-01/2007
COUNTRY CLUB ROAD	CA	92-0138	SAN DIEGO COUNTY	33.0989	-117.1297	560	03/1996-06/2002
COYOTE CANYON CREEK	CA	92-0061	SAN DIEGO COUNTY	33.3661	-116.4286	1189	07/1984-06/2006
CRYSTAL LAKE-EAST PINE FL	CA	97-0432	LA COUNTY	34.3172	-117.8411	5370	08/2004-01/2007
CUMMINGS PEAK	CA	85-0016	CONTRA COSTA	38.0283	-122.1967	895	07/1993-07/2008
CUYAMA RANCH	CA	80-0221	SANTA BARBARA	34.9825	-119.6681	2170	12/1947-10/2006
CUYAMACA ALL-SEASON	CA	92-3854	SAN DIEGO COUNTY	32.9894	-116.5867	4590	04/1996-06/2002
CUYAMACA DAM (F/P)	CA	92-0054	SAN DIEGO COUNTY	32.9894	-116.5867	4590	09/1982-04/1996
CUYAMACA T/B	CA	92-0088	SAN DIEGO COUNTY	32.9894	-116.5867	4590	08/1992-06/2006
DESCANSO R.S.	CA	92-0055	SAN DIEGO COUNTY	32.8578	-116.6211	3650	09/1982-06/2006
DOMINGUEZ WATER CO.	CA	97-0988	LA COUNTY	**34.8317**	**-118.2250**	**30**	01/1998-02/2007
DOS PUEBLOS RANCH	CA	80-0226	SANTA BARBARA	34.4467	-119.9517	160	01/1991-03/2007
DOULTON TUNNEL	CA	80-0231	SANTA BARBARA	34.4569	-119.5639	1775	11/1993-05/2007

Name	State	Station ID	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
DULZURA SUMMIT	CA	92-0048	SAN DIEGO COUNTY	32.6161	-116.7364	1512	07/1989-06/2006
EAGLE ROCK RESERVOIR	CA	97-0803	LA COUNTY	34.1464	-118.1889	970	11/1997-01/2007
EAST CAMINO CIELO - EL DE	CA	80-0255	SANTA BARBARA	34.4917	-119.6958	3300	10/1989-05/2007
ECHO DELL	CA	92-3839	SAN DIEGO COUNTY	32.9050	-116.6428	3060	04/2001-06/2006
EDISON TRAIL	CA	80-0252	SANTA BARBARA	34.4428	-119.5078	1650	11/1999-05/2007
EL CAPITAN DAM	CA	92-0043	SAN DIEGO COUNTY	32.8803	-116.7958	800	01/1983-07/1995
EL CAPITAN DAM	CA	92-3909	SAN DIEGO COUNTY	32.8803	-116.7958	800	08/1995-06/2006
EL ESTERO TREATMENT PLANT	CA	80-0225	SANTA BARBARA	34.4167	-119.6833	5	11/1952-04/1972
EL MODENA - IRVINE @ MICH	CA	82-0253	ORANGE COUNTY	33.7200	-117.7983	70	07/1989-01/2007
ENCINITAS	CA	92-0022	SAN DIEGO COUNTY	33.0439	-117.2767	242	07/1983-06/2006
ESCONDIDO	CA	92-0036	SAN DIEGO COUNTY	33.1228	-117.0883	640	09/1982-06/2006
FALLBROOK (AIR PARK)	CA	92-0035	SAN DIEGO COUNTY	33.3631	-117.2500	675	09/1982-06/2006
FASHION VALLEY	CA	92-0032	SAN DIEGO COUNTY	32.7650	-117.1681	20	09/1982-06/2006
FIGUEROA MOUNTAIN	CA	80-0073	SANTA BARBARA	34.7344	-120.0056	3200	10/2005-10/2006
FLINN SPRINGS	CA	92-0045	SAN DIEGO COUNTY	32.8464	-116.8608	800	11/1983-06/2006
FLINTRIDGE-SACRED HEART	CA	97-0428	LA COUNTY	34.1817	-118.1856	1600	05/2002-01/2007
FLOOD CONTROL DIST.	CA	85-0007	CONTRA COSTA	37.9840	-122.0834	160	12/1995-07/2008
FOXEN CANYON LANDFILL	CA	80-0196	SANTA BARBARA	34.6956	-120.1328	1000	09/1994-03/2007
FREMONT HQ	CA	97-1152	LA COUNTY	34.0867	-118.1503	450	09/1997-02/2007
FRESNO YOSEMITE INTL	CA	04-3257	NCDC	36.7800	-119.7194	333	01/1973-12/2007
FULLERTON AIRPORT	CA	82-1140	ORANGE COUNTY	33.8731	-117.9733	95	01/1990-01/2007
FULLERTON CREEK	CA	82-0277	ORANGE COUNTY	33.8631	-117.9319	95	07/1989-01/2007
GARDEN GROVE	CA	82-1175	ORANGE COUNTY	33.7994	-117.9675	80	07/1990-01/2007
GAVIOTA STATE PARK	CA	80-0206	SANTA BARBARA	**34.4733**	**-120.2290**	**5**	10/1964-03/1974
GIBRALTAR DAM	CA	80-0230	SANTA BARBARA	34.5233	-119.6819	1500	10/1968-10/2006
GORMAN-SHERIFF	CA	97-0461	LA COUNTY	34.7964	-118.8575	3835	09/2001-01/2007
GRANITE HILLS	CA	92-0046	SAN DIEGO COUNTY	32.7992	-116.9172	533	07/1992-06/2006
HACIENDA HEIGHTS	CA	97-0337	LA COUNTY	33.9944	-117.9911	875	09/1997-01/2007
HENSHAW DAM	CA	92-0052	SAN DIEGO COUNTY	33.2386	-116.7617	2750	08/1983-06/2006
HODGES DAM	CA	92-0023	SAN DIEGO COUNTY	33.0667	-117.1028	328	09/1982-07/1995
HOLLYWOOD DAM	CA	97-0376	LA COUNTY	34.1178	-118.3319	750	07/2000-01/2007
ISLA VISTA - UCSB	CA	80-0200	SANTA BARBARA	34.4150	-119.8461	100	11/1997-12/2006
JALAMA BEACH	CA	80-0217	SANTA BARBARA	**34.5102**	**-120.5009**	**15**	03/1968-03/1978

Name	State	Station ID	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
JAMESON LAKE	CA	80-0232	SANTA BARBARA	34.4908	-119.5089	2060	10/1968-10/2006
KATELLA YARD	CA	82-0223	ORANGE COUNTY	33.8031	-117.8761	160	07/1989-01/2007
KEARNY MESA	CA	92-0028	SAN DIEGO COUNTY	32.8344	-117.1292	455	09/1982-06/2006
KENTFIELD	CA	84-1555	MARIN COUNTY	37.9562	-122.5477	34	01/1995-03/2008
KREGOR PEAK	CA	85-0018	CONTRA COSTA	37.9433	-121.8900	1894	07/1994-07/2008
KTYD TOWERS	CA	80-0227	SANTA BARBARA	34.4706	-119.6756	2400	10/1968-09/2006
LA HABRA HEIGHTS-MUTUAL W	CA	97-0952	LA COUNTY	33.9486	-117.9642	445	09/1997-01/2007
LA JOLLA AMAGO	CA	92-0092	SAN DIEGO COUNTY	33.2764	-116.8575	2400	04/2001-06/2006
LA MESA	CA	92-0027	SAN DIEGO COUNTY	32.7661	-117.0236	530	09/1982-06/2006
LA MLRADA-STANDARD OIL CO	CA	97-0297	LA COUNTY	33.8831	-118.0167	75	05/2002-02/2007
LA TUNA DEBRIS BASIN	CA	97-0978	LA COUNTY	34.2369	-118.3269	1160	09/2002-02/2007
LACOUAQUE	CA	82-1100	ORANGE COUNTY	33.5092	-117.6319	141	05/1990-01/2007
LAGUNA AUDUBON	CA	82-1130	ORANGE COUNTY	33.6011	-117.7433	314	12/1989-01/2007
LAGUNA BEACH @ WOODLAND	CA	82-1120	ORANGE COUNTY	33.5558	-117.7792	600	01/1990-01/2007
LAGUNA NIGUEL PARK	CA	82-1152	ORANGE COUNTY	33.5469	-117.7069	200	05/1991-01/2007
LAKE HODGES	CA	92-3918	SAN DIEGO COUNTY	33.0667	-117.1028	328	08/1995-06/2002
LAKE MURRAY	CA	92-3892	SAN DIEGO COUNTY	32.7819	-117.0472	530	11/1993-06/2006
LANCASTER- ROPER	CA	97-1095	LA COUNTY	34.6742	-118.0103	2450	12/2002-02/2007
LAS VEGAS WSO AIRPORT	NV	26-4436	NCDC	36.0833	-115.1667	2162	01/1973-12/2009
LECHUZA PATROL STATION	CA	97-1239	LA COUNTY	34.0772	-118.8797	1620	02/2005-01/2007
LEWIS RACH	CA	97-1277	LA COUNTY	34.4200	-117.8864	4615	09/2001-04/2007
LITTLE GLEASON	CA	97-0932	LA COUNTY	34.3786	-118.1492	5600	01/1998-02/2007
LITTLE ROCK CREEK ABOVE D	CA	97-0852	LA COUNTY	34.4781	-118.0233	3280	06/2006-01/2007
LITTLE ROCK-SYCAMORE CAMP	CA	97-0917	LA COUNTY	34.4172	-117.9703	4000	04/2006-01/2007
LOMPOC - MIGUELITO CANYON	CA	80-0251	SANTA BARBARA	34.5861	-120.4950	1080	09/1989-03/2007
LOMPOC FLOOD CONTROL	CA	80-0215	SANTA BARBARA	34.6500	-120.4500	96	11/1961-01/1971
LONG BEACH DAUGHERTY AP	CA	04-5085	NCDC	33.8117	-118.1464	31	02/1975-12/2007
LOOMIS RACH-ALDER CREEK	CA	97-0124	LA COUNTY	34.3486	-118.0483	4325	10/1997-01/2007
LOS ALAMOS - LOS ALAMOS -	CA	80-0202	SANTA BARBARA	34.7333	-120.2333	680	11/1961-08/1976
LOS ALAMOS - LOS FLORES R	CA	80-0201	SANTA BARBARA	34.7833	-120.3333	650	10/1962-03/1973
LOS ALAMOS - LUIS RANCH	CA	80-0203	SANTA BARBARA	34.7167	-120.3667	650	01/1964-03/1973
LOS ALAMOS FIRE STATION #	CA	80-0204	SANTA BARBARA	34.7450	-120.2803	580	10/1991-02/2007
LOS ANGELES CITY COLLEGE	CA	97-1244	LA COUNTY	34.0872	-118.2911	310	03/2001-01/2007

Name	State	Station ID	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
LOS ANGELES DOWNTOWN/USC	CA	04-5115	NCDC	34.0511	-118.2353	230	01/1984-12/2007
LOS ANGELES INTL AP	CA	04-5114	NCDC	33.9381	-118.3889	97	01/1973-12/2007
LOS ANGELES-96TH AND CENT	CA	97-0444	LA COUNTY	33.9489	-118.2547	121	09/1999-01/2007
LOS COCHES CREEK	CA	92-0044	SAN DIEGO COUNTY	32.8358	-116.9025	560	09/1982-06/2006
LOS MEDANOS	CA	85-0009	CONTRA COSTA	37.9836	-121.8501	130	07/2004-07/2008
LOWER OSO CREEK	CA	82-0232	ORANGE COUNTY	33.5428	-117.6758	220	11/2001-01/2007
LOWER OTAY DAM	CA	92-0033	SAN DIEGO COUNTY	32.6092	-116.9272	491	09/1982-07/1995
LOWER SILVERADO CANYON	CA	82-0256	ORANGE COUNTY	33.7425	-117.6578	1100	01/1991-12/2006
MALIBU-BIG ROCK MESA	CA	97-1077	LA COUNTY	34.0428	-118.6211	725	09/1997-02/2007
MANZANA SCHOOL HOUSE	CA	80-0237	SANTA BARBARA	34.8247	-119.9961	1200	09/1989-05/2006
MANZANITA MOUNTAIN	CA	80-0249	SANTA BARBARA	34.8939	-120.0817	3190	10/1968-08/2006
MARSH CREEK FIRE	CA	85-0017	CONTRA COSTA	37.8950	-121.8617	740	03/1994-07/2008
MEDFORD INTL AP	OR	35-5429	NCDC	42.3811	-122.8722	1297	01/1973-12/2007
MESCAL-SMITH	CA	97-1114	LA COUNTY	34.4675	-117.7111	3810	05/2002-01/2007
MIGUELITO DEBRIS BASIN	CA	80-0258	SANTA BARBARA	34.6331	-120.4667	105	10/1970-03/2007
MIRAMAR LAKE	CA	92-3936	SAN DIEGO COUNTY	32.8972	-117.0986	722	07/1994-06/2006
MODJESKA CANYON	CA	82-0233	ORANGE COUNTY	33.7089	-117.6347	1260	01/1997-01/2007
MONTE NIDO	CA	97-0579	LA COUNTY	34.0781	-118.6931	600	05/2002-01/2007
MORENA DAM	CA	92-0056	SAN DIEGO COUNTY	32.6850	-116.5464	3050	09/1984-10/1993
MORENA DAM	CA	92-3945	SAN DIEGO COUNTY	32.6850	-116.5464	3050	08/1994-06/2006
MORRIS DAM	CA	97-0531	LA COUNTY	34.1814	-117.8786	1210	12/2006-01/2007
MOUNT LAGUNA CRS (F/P)	CA	92-0058	SAN DIEGO COUNTY	32.8658	-116.4164	6000	09/1982-06/2002
MOUNT SHASTA	CA	04-5983	NCDC	41.3206	-122.3081	3590	01/1973-01/1990
MOUNT WOODSON	CA	92-3851	SAN DIEGO COUNTY	33.0069	-116.9592	1720	04/2001-06/2006
MT DIABLO PARK HDQ	CA	85-0008	CONTRA COSTA	37.8500	-121.9169	1600	07/2004-07/2008
MT DIABLO PEAK	CA	85-0006	CONTRA COSTA	37.8669	-121.9167	3690	07/1996-07/2008
MT. LAGUNA CRS	CA	92-0089	SAN DIEGO COUNTY	32.8658	-116.4164	6000	08/1992-06/2002
NEWHALL-SOLEDAD DIV.HDQTR	CA	97-0083	LA COUNTY	34.3853	-118.5317	1243	02/1998-01/2007
NOJOQUI FALLS PARK	CA	80-0236	SANTA BARBARA	34.5339	-120.1778	720	11/1991-01/2007
NORTH LANCASTER	CA	97-1112	LA COUNTY	34.7614	-118.1250	2310	02/2002-01/2007
NOVATO CREEK	CA	84-1552	MARIN COUNTY	38.1072	-122.5802	28	12/1993-03/2008
OAKLAND WSO AP	CA	04-6335	NCDC	37.7333	-122.2000	6	01/1973-12/1979
OCEANA MARIN	CA	84-1554	MARIN COUNTY	38.2574	-122.9586	455	08/2004-03/2008

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OCEANSIDE	CA	92-0067	SAN DIEGO COUNTY	33.2106	-117.3533	30	07/1992-06/2006
OCEANVIEW	CA	82-0288	ORANGE COUNTY	33.7200	-117.9317	43	10/1993-01/2007
OCOTILLO WELLS R.S.	CA	92-0140	SAN DIEGO COUNTY	33.1536	-116.1769	425	03/1987-12/1996
ORINDA FIRE	CA	85-0010	CONTRA COSTA	37.8835	-122.1667	700	07/2003-07/2008
OSO CREEK @ CROWN VALLEY	CA	82-0213	ORANGE COUNTY	33.5578	-117.6756	260	07/1989-01/2007
PACOIMA DAM	CA	97-0086	LA COUNTY	34.3300	-118.3994	1500	09/2002-09/2006
PALA 3SW	CA	92-0034	SAN DIEGO COUNTY	33.3406	-117.1303	280	10/1987-10/1993
PALOMAR MTN. OBS	CA	92-0051	SAN DIEGO COUNTY	33.3583	-116.8614	5560	09/1982-06/2002
PALOMAR MTN. OBS	CA	92-0059	SAN DIEGO COUNTY	33.3583	-116.8614	5560	08/1992-06/2006
PALOS VERDES FIRE STATION	CA	97-0833	LA COUNTY	33.7569	-118.3531	1272	06/2005-02/2007
PASO ROBLES MUNI AP	CA	04-6742	NCDC	35.6697	-120.6283	810	01/1984-12/2007
PETERS CANYON WASH @ BARR	CA	82-0283	ORANGE COUNTY	33.6944	-117.8211	40	07/1989-10/2006
PICO RETARDING BASIN-SAN	CA	82-1145	ORANGE COUNTY	33.4089	-117.5861	250	01/1993-01/2007
PINE HILLS FS	CA	92-3841	SAN DIEGO COUNTY	33.0167	-116.6344	3645	04/2001-06/2006
PLAZA BONITA ROAD	CA	92-0087	SAN DIEGO COUNTY	32.6506	-117.0628	29	11/1996-06/2002
POINT REYES FIRE STATION	CA	84-1553	MARIN COUNTY	38.0680	-122.8084	22	08/2004-03/2008
POINT VICENTE LIGHTHOUSE	CA	97-0098	LA COUNTY	33.7417	-118.4106	125	05/2002-01/2007
PORTOLA PARK	CA	82-0203	ORANGE COUNTY	33.7667	-117.8425	182	07/1989-01/2007
POWAY CRS	CA	92-0024	SAN DIEGO COUNTY	32.9489	-117.0622	440	09/1982-06/2006
PUDDINGSTONE DAM	CA	97-0200	LA COUNTY	34.0919	-117.8067	1030	03/2000-01/2007
QUARTZ HILL-HALL	CA	97-1099	LA COUNTY	34.6744	-118.2444	2395	12/1998-01/2007
RAMONA	CA	92-0041	SAN DIEGO COUNTY	**33.0372**	**-116.8794**	**1420**	09/1982-06/2006
RANCHITA	CA	92-0065	SAN DIEGO COUNTY	33.2289	-116.5194	4270	06/1991-06/2006
RANCHO BERNARDO NWS	CA	92-0068	SAN DIEGO COUNTY	33.0219	-117.0825	970	07/1996-06/2006
RANCHO SAN JULIAN	CA	80-0072	SANTA BARBARA	34.5317	-120.3378	640	09/2005-10/2006
RANCHO SAN JULIAN	CA	80-0257	SANTA BARBARA	34.5389	-120.3722	640	11/1970-03/1979
RED BLUFF	CA	04-7290	NCDC	40.1833	-122.2333	287	01/1984-09/1995
RED BLUFF MUNI AP	CA	04-7292	NCDC	40.1519	-122.2536	353	01/1973-12/2007
REDDING MUNICIPAL AP	CA	04-7304	NCDC	40.5175	-122.2986	497	09/1986-12/2007
REDMAN	CA	97-1091	LA COUNTY	34.7644	-117.9250	2360	09/2002-01/2007
RELAY	CA	97-1123	LA COUNTY	34.7619	-117.7986	3140	09/2001-02/2007
RICHMOND CITY HALL	CA	85-0011	CONTRA COSTA	37.9334	-122.3335	55	07/2003-07/2008
RINCON SPRINGS R. S.	CA	92-0081	SAN DIEGO COUNTY	33.2881	-116.9614	970	07/1992-06/2006

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RIVIERA PARK	CA	80-0293	SANTA BARBARA	34.4394	-119.7050	525	12/1973-05/1977
ROCKY BUTTES	CA	97-1088	LA COUNTY	34.6500	-117.8633	2540	09/2001-01/2007
ROCKY RIDGE	CA	85-0012	CONTRA COSTA	37.8167	-122.0502	2020	07/2004-07/2008
RODEO FIRE	CA	85-0013	CONTRA COSTA	38.0334	-122.2667	30	07/2004-07/2008
SACRAMENTO 5 ESE	CA	04-7633	NCDC	38.5556	-121.4169	38	01/1976-05/1997
SACRAMENTO AP	CA	04-7630	NCDC	38.5069	-121.4950	15	01/1973-12/2007
SALINAS AP	CA	04-7669	NCDC	36.6636	-121.6081	74	01/1984-12/2007
SAN ANTONIO CANYON-SIERRA	CA	97-1306	LA COUNTY	34.2081	-117.6739	3110	06/2002-05/2007
SAN DIEGO CREEK @ CULVER	CA	82-1195	ORANGE COUNTY	33.6817	-117.8086	70	04/1990-01/2007
SAN DIEGO CRK. @ CAMPUS	CA	82-1125	ORANGE COUNTY	33.6556	-117.8450	20	03/1990-02/2007
SAN DIEGO WSO AIRPORT	CA	04-7740	NCDC	32.7336	-117.1831	15	01/1973-12/2007
SAN DIMAS DAM	CA	97-0187	LA COUNTY	34.1528	-117.7714	1350	12/2003-01/2007
SAN FELIPE VALLEY	CA	92-0082	SAN DIEGO COUNTY	33.1000	-116.4711	2280	12/1995-06/2006
SAN FRANCISCO DOWNTOWN	CA	04-7772	NCDC	37.7694	-122.4333	175	01/1973-05/1997
SAN FRANCISCO WSO AP	CA	04-7769	NCDC	37.6581	-122.4378	8	01/1973-12/2007
SAN GABRIEL DAM	CA	97-0165	LA COUNTY	34.2053	-117.8606	1481	01/2005-01/2007
SAN GABRIEL-EAST FORK	CA	97-0518	LA COUNTY	34.2358	-117.8050	1600	05/2002-01/2007
SAN JUAN CAPISTRANO	CA	82-0215	ORANGE COUNTY	33.4917	-117.6619	75	07/1989-01/2007
SAN JUAN GUARD	CA	82-0209	ORANGE COUNTY	33.5886	-117.5150	660	07/1989-01/2007
SAN MARCOS LANDFILL	CA	92-0085	SAN DIEGO COUNTY	33.0892	-117.1928	740	10/1996-06/2006
SAN MARCOS PASS	CA	80-0212	SANTA BARBARA	34.5111	-119.8239	2200	11/1990-02/2007
SAN ONOFRE	CA	92-0021	SAN DIEGO COUNTY	**33.3512**	**-117.5259**	**162**	09/1982-06/2006
SAN VICENTE DAM	CA	92-0025	SAN DIEGO COUNTY	32.9128	-116.9242	663	09/1982-03/1994
SAN VICENTE DAM	CA	92-3954	SAN DIEGO COUNTY	32.9128	-116.9242	663	01/1994-06/2006
SAN YSIDRO	CA	92-0066	SAN DIEGO COUNTY	32.5564	-117.0617	30	08/1996-06/2006
SAND CANYON	CA	82-0274	ORANGE COUNTY	33.6772	-117.7592	200	07/1989-01/2007
SANDBERG	CA	04-7735	NCDC	34.7436	-118.7242	4510	01/1973-12/2007
SANDIA CREEK ROAD	CA	92-0139	SAN DIEGO COUNTY	33.4092	-117.2303	342	06/1996-06/2006
SANTA ANA - DELHI CHANNEL	CA	82-1111	ORANGE COUNTY	33.6600	-117.8803	24	10/1989-01/2007
SANTA ANA ENGINEERING	CA	82-0219	ORANGE COUNTY	33.7511	-117.8697	170	07/1989-01/2007
SANTA ANITA DAM	CA	97-0139	LA COUNTY	34.1842	-118.0200	1400	01/2003-01/2007
SANTA BARBARA - DOWNTOWN	CA	80-0234	SANTA BARBARA	34.4253	-119.7033	100	10/1989-04/2007
SANTA BARBARA - TROUT CLU	CA	80-0242	SANTA BARBARA	34.4897	-119.8000	1200	10/1989-05/2007

Name	State	Station ID	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
SANTA BARBARA BOTANICAL G	CA	80-0321	SANTA BARBARA	34.4504	-119.7007	800	11/2005-03/2007
SANTA BARBARA COUNTY ROAD	CA	80-0211	SANTA BARBARA	34.4469	-119.7753	300	10/1989-05/2007
SANTA BARBARA MUNI AP	CA	04-7905	NCDC	34.4258	-119.8425	9	01/1984-12/2007
SANTA BARBARA POTRERO	CA	80-0238	SANTA BARBARA	34.7719	-119.6361	5300	12/1968-10/2006
SANTA MARIA FLOOD YARD	CA	80-0198	SANTA BARBARA	34.8822	-120.4486	280	12/1990-02/2007
SANTA MARIA PUBLIC AP	CA	04-7946	NCDC	34.8994	-120.4486	242	01/1973-12/2007
SANTA MARIA ROAD YARD	CA	80-0235	SANTA BARBARA	34.9500	-120.4500	200	11/1965-04/1990
SANTA YNEZ FIRE STATION #	CA	80-0218	SANTA BARBARA	34.6064	-120.0700	600	10/2000-02/2007
SANTA YSABEL	CA	92-0053	SAN DIEGO COUNTY	33.1092	-116.6728	2990	09/1982-06/2006
SANTEE	CA	92-0026	SAN DIEGO COUNTY	32.8406	-117.0272	300	09/1982-06/2006
SANTIAGO CREEK @ E08	CA	82-1136	ORANGE COUNTY	33.7131	-117.6450	1220	10/1993-01/2007
SANTIAGO CREEK-SANTA ANA	CA	82-0226	ORANGE COUNTY	33.7692	-117.8817	120	11/1997-08/2006
SANTIAGO PEAK	CA	82-0201	ORANGE COUNTY	33.7108	-117.5331	5660	07/1971-11/2007
SAWPIT DAM	CA	97-0152	LA COUNTY	34.1750	-117.9853	1375	08/2002-07/2006
SCOTT RANCH	CA	97-1104	LA COUNTY	34.7831	-118.4694	2710	07/2002-01/2007
SEGUNDA DESHECA	CA	82-1155	ORANGE COUNTY	33.4361	-117.5917	85	01/1993-01/2007
SEPULVEDA CANYON AT MULHO	CA	97-0039	LA COUNTY	34.1308	-118.4906	1425	09/1997-07/2006
SEXTON SUMMIT	OR	35-7698	NCDC	42.6003	-123.3642	3832	01/1973-12/2007
SIGNAL HILL-CITY HALL	CA	97-0557	LA COUNTY	33.7969	-118.1675	140	03/2001-01/2007
SISQUOC FIRE STATION #23	CA	80-0256	SANTA BARBARA	34.8664	-120.2936	420	02/1970-03/2007
ST MARY'S COLLEGE	CA	85-0014	CONTRA COSTA	37.8335	-122.1001	620	07/2003-07/2008
STANWOOD FIRE STATION	CA	80-0228	SANTA BARBARA	34.4450	-119.6883	630	11/1953-02/2007
STOCKTON AP	CA	04-8558	NCDC	37.8892	-121.2258	26	01/1978-12/2007
STUBCHAER RESIDENCE	CA	80-0241	SANTA BARBARA	34.4333	-119.8833	120	11/1966-01/1968
STUBCHAER RESIDENCE	CA	80-0261	SANTA BARBARA	34.4583	-119.8075	125	10/1970-01/1978
SUTHERLAND DAM	CA	92-0038	SAN DIEGO COUNTY	33.1181	-116.7867	2078	09/1982-05/1994
SUTHERLAND DAM	CA	92-3962	SAN DIEGO COUNTY	33.1181	-116.7867	2078	01/1994-06/2006
TANBARK FLATS	CA	97-0305	LA COUNTY	34.2056	-117.7611	2750	05/2002-02/2007
TIERRA DEL SOL	CA	92-0057	SAN DIEGO COUNTY	32.6572	-116.3167	4000	09/1982-06/2006
TOPANGA PATROL STATION	CA	97-0014	LA COUNTY	34.0842	-118.5992	745	02/2002-01/2007
TUJUNGA-MILL CREEK SUMMIT	CA	97-0871	LA COUNTY	34.3894	-118.0803	4990	11/1998-02/2007
UPPER ALISO CREEK	CA	82-1141	ORANGE COUNTY	33.6389	-117.6700	560	06/1991-01/2007
UPPER EAST GARDEN GROVE W	CA	82-1187	ORANGE COUNTY	33.7861	-117.9008	120	07/1989-01/2007

Name	State	Station ID	Source of data	Latitude	Longitude	Elevation (ft)	Period of record
UPPER EAST GARDEN GROVE W	CA	82-1188	ORANGE COUNTY	33.7861	-117.9008	120	10/1993-01/2007
UPPER OSO CREEK	CA	82-0297	ORANGE COUNTY	33.6536	-117.6558	420	06/1991-01/2007
UPPER SILVERADO CANYON	CA	82-1170	ORANGE COUNTY	33.7472	-117.5428	2880	05/1990-01/2007
VALLEY CENTER	CA	92-0083	SAN DIEGO COUNTY	33.2292	-117.0358	1295	04/1994-06/2006
VILLA PARK DAM	CA	82-0220	ORANGE COUNTY	33.8164	-117.7667	560	07/1989-01/2007
WEST CAMINO CIELO	CA	80-0500	SANTA BARBARA	34.5000	-119.8167	2400	02/2001-03/2001
WESTMINSTER CHANNEL @ BEA	CA	82-0239	ORANGE COUNTY	33.7519	-117.9906	40	07/1989-01/2007
WITCH CREEK FS	CA	92-3845	SAN DIEGO COUNTY	33.0692	-116.7411	2500	04/2001-06/2006
WOHLFORD DAM	CA	92-0037	SAN DIEGO COUNTY	33.1664	-117.0031	1480	09/1982-06/2006
WOOD RESIDENCE	CA	80-0199	SANTA BARBARA	34.4397	-119.7183	450	09/1984-04/2000
YGNACIO FIRE	CA	85-0015	CONTRA COSTA	37.9334	-122.0169	25	07/2004-07/2008
YORBA PARK	CA	82-0270	ORANGE COUNTY	33.8667	-117.7697	300	07/1989-01/2007
YORBA RESERVOIR	CA	82-1165	ORANGE COUNTY	33.8719	-117.8103	300	05/1990-01/2007

Appendix A.2 Annual maximum series trend analysis

1. Selection of statistical tests for detection of trends in AMS

Precipitation frequency analysis methods used in NOAA Atlas 14 volumes are based on the assumption of stationary climate over the period of observation (and application). To meet the stationarity criterion, the annual maximum series data must be free from trends during the observation period. A number of parametric and non-parametric statistical tests are available for the detection and/or quantification of trends. Selection of an appropriate statistical test requires consideration of the data tested and the limitations of the test.

Annual maximum series (AMS) were first graphed for each station in the project area to examine the time series and to observe general types of trends in the data. Visual inspection of time series plots indicated that there were no abrupt changes or apparent cycles in the AMS, but suggested the possibility of slight trends at some locations. Changes appeared to be gradual and approximately linear.

The null hypothesis that there are no trends in annual maximum series was tested on 1-hour and 1-day AMS data at each station in the project area with at least 50 years of data. The hypothesis was tested at each station separately and for the state as a whole at the level of significance $\alpha = 5\%$. At-station trends were inspected using the parametric *t*-test for trend and non-parametric Mann-Kendall test (Maidment, 1993). Both tests are extensively used for trend analysis in environmental sciences and are appropriate for records that have undergone a gradual change. The tests are fairly robust, readily available, and easy to use and interpret. Since each test is based on different assumptions and different test statistics, the rationale was that if both tests have similar outcomes there can be more confidence about the results. If the outcomes were different, it would provide an opportunity to investigate reasons for discrepancies.

Parametric tests in general have been shown to be more powerful than non-parametric tests when the data are approximately normally distributed and when the assumption of homoscedasticity (homogeneous variance) holds (Hirsch et al., 1991), but are less reliable when those assumptions do not hold. The parametric *t*-test for trend detection is based on linear regression, and therefore checks only for a linear trend in data. A linear trend assumption seemed adequate here, since, time series plots indicated if any, monotonic,linear changes in AMS. The Pearson correlation coefficient (r) was used as a measure of linear association for the *t*-test. The hypothesis that the data are not dependent on time (and also that they are independent and normally distributed values) was tested using the test statistic t that follows Student's distribution as defined as:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

where n is the record length of the AMS. The hypothesis is rejected when the absolute value of the computed *t*-statistic is greater than the critical value obtained from Student's distribution with (n - 2) degrees of freedom and exceedance probability of $\alpha/2$ %, where α is the significance level. The sign of the *t*-statistic defines the direction of the trend, positive or negative.

Non-parametric tests have advantages over parametric tests since they make no assumption of probability distribution and are performed without specifying whether trend is linear or nonlinear. They are also more resilient to outliers in data because they do not operate on data directly. One of the disadvantages of non-parametric tests is that they do not account for the magnitude of the data. The Mann-Kendall test was selected among various non-parametric tests because it can accommodate missing values in a time series, which was a frequent occurrence in the AMS data. The Mann-Kendall test compares the relative magnitudes of annual maximum data. If annual maximum values

are indexed based on time, and x_i is the annual maximum value that corresponds to year t_i, then the Mann-Kendall statistic is given by:

$$S = \sum_{k=1}^{n-1} \sum_{i=k+1}^{n} sign(x_i - x_k)$$

The test statistic Z is then computed using a normal approximation and standardization of the statistic S. The null hypothesis that there is no trend in the data is rejected at significance level α if the computed Z value is greater, in absolute terms, than the critical value obtained from standard normal distribution that has probability of exceedance of α/2 %. The sign of the statistic defines the direction of the trend, positive or negative.

In addition to an at-station trend analysis, the relative magnitude of any trend in AMS for the state as a whole was assessed by linear regression techniques. 1-hour and 1-day station-specific AMS for stations with at least 50 years of data were rescaled by corresponding mean annual maximum values and then regressed against time, where time was defined as year of occurrence minus 1900. The regression results from all stations were tested against a null hypothesis of zero serial correlation (zero regression slopes).

2. Trend analysis results and conclusion

The null hypothesis that there are no trends in annual maximum series was tested on 1-hour and 1-day AMS data at each station in the project area with at least 50 years of data. 91 hourly and 734 daily stations satisfied the record length criterion. The *t*-test and Mann-Kendall test for trends were applied to test the hypothesis. Results from both tests were very similar. Both tests indicated no statistically-significant trends in about 86% of hourly and 92% of daily stations (details in Table A.2.1). Tests detected positive trends in 14% of hourly and 5% of daily stations. No negative trends were detected in hourly data, and they were present in about 3% of daily AMS. Spatial distribution of Mann-Kendall trend analysis results for 1-day AMS is shown in Figure A.2.1 and for 1-hour AMS in Figure A.2.2.

Table A.2.1. Trend analysis results based on *t*-test and Mann-Kendall (M-K) test for 1-hour and 1-day AMS data.

Number of stations	**1-hour**		**1-day**	
	***t*-test**	**M-K test**	***t*-test**	**M-K test**
no trend	77	78	668	671
positive trend	14	13	32	38
negative trend	0	0	34	25
total	91	91	734	734

Results from the regional trend analysis also indicated that the null hypothesis that there are no trends in AMS in the state of California as a whole could not be rejected at 5% significance level. Because tests at both, 1-hour and 1-day durations indicated no statistically-significant trends in the data, the assumption of stationary climate was accepted for this project area and no adjustment to AMS data was recommended.

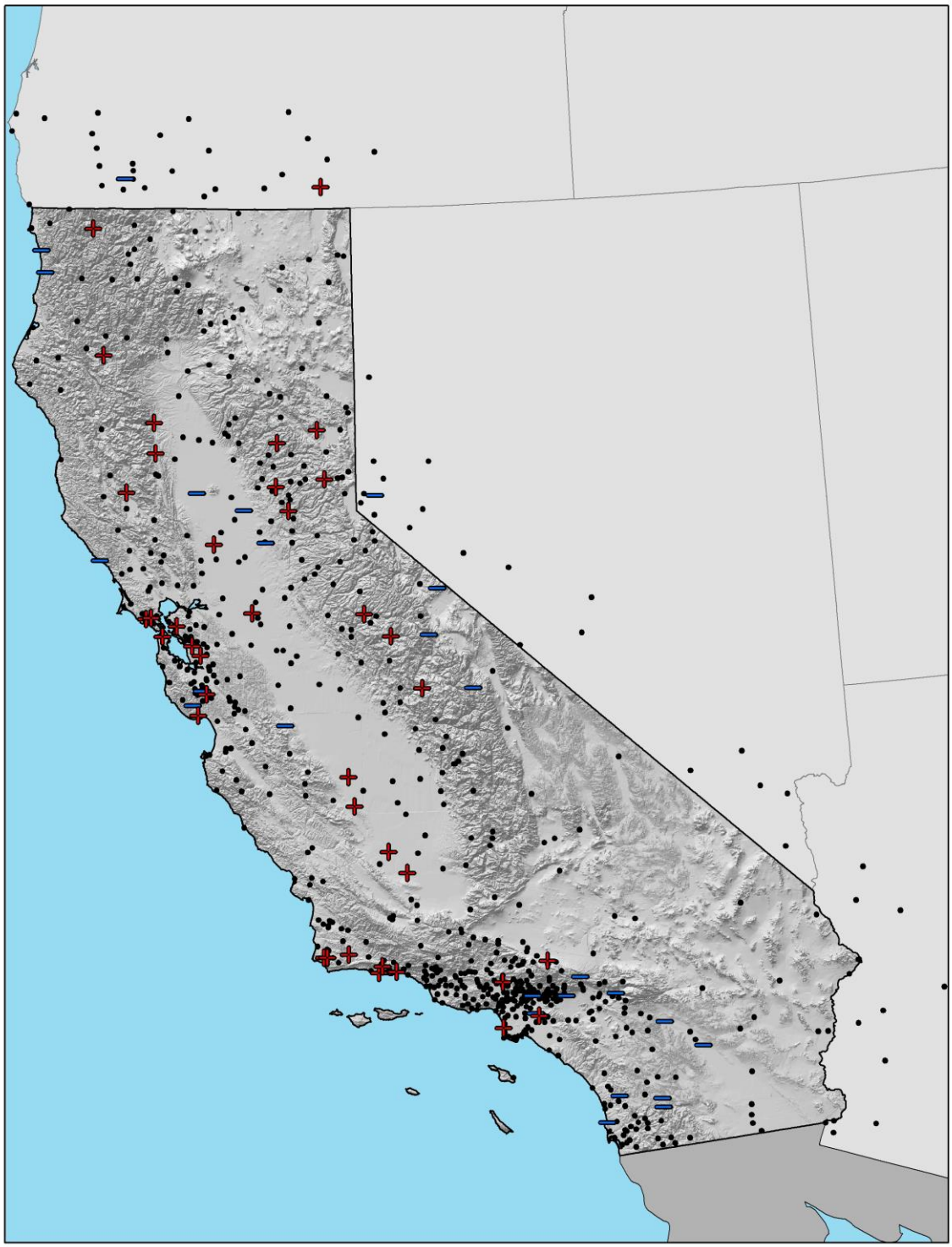

Figure A.2.1. Spatial distribution of Mann-Kendall test's trend results for 1-day AMS. Red plus signs indicate locations where the test detected positive trends in AMS data and blue negative signs indicate locations with negative trends.

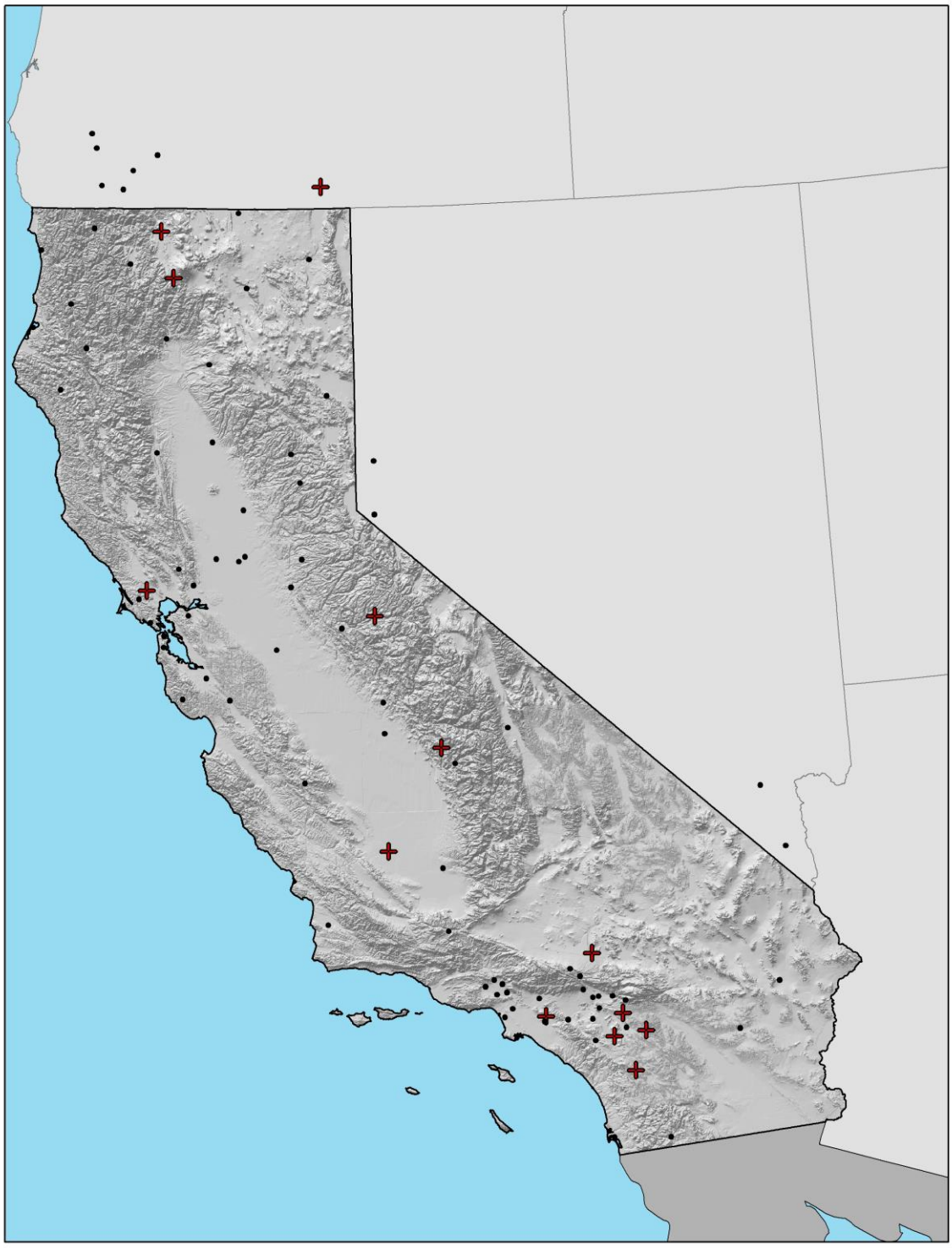

Figure A.2.2. Same as Figure A.2.1 but for 1-hour duration.

Appendix A.3 List of L-moments (λ_1, λ_2, λ_3) for 1-hour through 60-day durations

Table A.3.1. λ_1 moments.

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
02-0060	0.707	0.894	1.008	1.210	1.422	1.646	1.886	2.038	2.153	2.402	2.587	3.043	3.403	3.879	4.319
02-0100	0.646	0.825	0.932	1.119	1.312	1.511	1.720	1.851	1.951	2.166	2.327	2.727	3.051	3.486	3.896
02-0949	0.495	0.640	0.727	0.875	1.023	1.172	1.324	1.417	1.486	1.632	1.737	1.988	2.180	2.427	2.649
02-1050	0.566	0.726	0.819	0.978	1.136	1.295	1.460	1.563	1.641	1.811	1.938	2.256	2.514	2.863	3.192
02-2434	0.545	0.702	0.792	0.942	1.087	1.228	1.367	1.449	1.509	1.633	1.719	1.914	2.054	2.224	2.370
02-2787	0.477	0.623	0.709	0.857	1.003	1.148	1.292	1.378	1.441	1.571	1.661	1.867	2.015	2.196	2.352
02-4645	0.597	0.770	0.880	1.085	1.311	1.557	1.827	2.000	2.131	2.416	2.629	3.157	3.581	4.146	4.676
02-4702	0.654	0.863	0.993	1.219	1.446	1.667	1.881	2.007	2.097	2.282	2.412	2.719	2.955	3.263	3.549
02-4761	0.478	0.614	0.694	0.829	0.963	1.098	1.237	1.323	1.387	1.526	1.628	1.878	2.074	2.330	2.566
02-5627	0.571	0.735	0.830	0.989	1.143	1.291	1.438	1.524	1.586	1.714	1.803	2.000	2.141	2.310	2.453
02-6250	0.507	0.654	0.741	0.889	1.037	1.184	1.334	1.425	1.494	1.640	1.746	2.004	2.205	2.469	2.712
02-6865	0.480	0.627	0.715	0.868	1.022	1.175	1.329	1.421	1.489	1.630	1.729	1.959	2.129	2.341	2.527
02-7460	0.606	0.770	0.869	1.042	1.221	1.407	1.603	1.725	1.818	2.017	2.164	2.525	2.810	3.187	3.535
02-8396	0.492	0.632	0.713	0.847	0.978	1.105	1.231	1.306	1.360	1.471	1.548	1.719	1.839	1.981	2.100
02-9211	0.525	0.676	0.764	0.912	1.056	1.196	1.334	1.415	1.473	1.591	1.670	1.841	1.957	2.089	2.197
02-9309	0.691	0.882	1.001	1.218	1.452	1.706	1.984	2.162	2.298	2.596	2.820	3.383	3.840	4.455	5.035
02-9376	0.507	0.648	0.729	0.865	1.000	1.135	1.276	1.364	1.431	1.576	1.684	1.952	2.166	2.450	2.714
02-9645	0.565	0.727	0.824	0.993	1.167	1.348	1.540	1.662	1.754	1.956	2.108	2.489	2.799	3.216	3.609
02-9652	0.487	0.632	0.718	0.862	1.003	1.141	1.276	1.354	1.410	1.523	1.598	1.760	1.868	1.991	2.091
02-9654	0.467	0.605	0.686	0.823	0.957	1.087	1.216	1.291	1.345	1.453	1.526	1.682	1.787	1.906	2.001
02-9656	0.455	0.590	0.669	0.803	0.934	1.062	1.188	1.262	1.315	1.421	1.491	1.642	1.742	1.855	1.945
02-9657	0.428	0.555	0.629	0.754	0.877	0.997	1.116	1.186	1.236	1.336	1.403	1.545	1.638	1.743	1.825
04-0014	0.404	0.616	0.776	1.110	1.507	1.945	2.408	2.690	2.898	3.334	3.648	4.411	5.019	5.840	6.621
04-0029	0.321	0.452	0.546	0.737	0.972	1.252	1.587	1.815	1.994	2.403	2.720	3.537	4.210	5.118	5.972
04-0088	0.483	0.757	0.996	1.580	2.422	3.546	4.957	5.926	6.691	8.419	9.756	13.256	16.223	20.336	24.286
04-0115	0.716	1.076	1.360	1.981	2.765	3.672	4.653	5.251	5.687	6.587	7.223	8.755	9.991	11.696	13.371
04-0136	0.565	0.794	0.962	1.309	1.736	2.240	2.821	3.202	3.494	4.136	4.617	5.818	6.785	8.082	9.300
04-0144	0.836	1.234	1.547	2.231	3.099	4.111	5.208	5.872	6.352	7.335	8.025	9.680	11.021	12.891	14.750
04-0161	0.313	0.444	0.535	0.717	0.935	1.190	1.490	1.693	1.853	2.218	2.502	3.238	3.849	4.682	5.470
04-0204	0.303	0.443	0.536	0.713	0.914	1.137	1.389	1.555	1.683	1.973	2.195	2.772	3.253	3.913	4.545
04-0212	0.670	1.044	1.351	2.048	2.979	4.141	5.534	6.471	7.202	8.838	10.082	13.235	15.809	19.287	22.581
04-0232	0.356	0.525	0.648	0.905	1.222	1.601	2.048	2.347	2.582	3.110	3.516	4.562	5.433	6.632	7.787
04-0235	0.510	0.724	0.883	1.213	1.609	2.057	2.544	2.848	3.077	3.568	3.929	4.827	5.558	6.555	7.513
04-0244	0.296	0.437	0.533	0.717	0.922	1.142	1.376	1.523	1.634	1.874	2.052	2.497	2.857	3.344	3.807
04-0322	0.752	1.136	1.426	2.035	2.768	3.603	4.536	5.141	5.608	6.651	7.455	9.568	11.373	13.906	16.380
04-0327	0.914	1.350	1.694	2.450	3.410	4.526	5.723	6.441	6.957	8.005	8.738	10.493	11.922	13.929	15.943
04-0343	0.693	1.011	1.262	1.803	2.473	3.242	4.087	4.624	5.032	5.933	6.624	8.450	10.036	12.307	14.575
04-0379	0.627	0.899	1.096	1.505	2.002	2.587	3.264	3.714	4.067	4.867	5.491	7.146	8.564	10.555	12.496
04-0383	0.526	0.772	0.973	1.436	2.071	2.891	3.905	4.598	5.142	6.366	7.300	9.681	11.641	14.321	16.890
04-0395	0.621	0.901	1.106	1.520	2.003	2.534	3.100	3.449	3.708	4.262	4.668	5.685	6.528	7.706	8.870
04-0418	0.294	0.445	0.551	0.759	0.994	1.246	1.512	1.675	1.797	2.055	2.242	2.699	3.062	3.544	3.996
04-0422	0.657	0.979	1.246	1.850	2.626	3.535	4.539	5.172	5.651	6.699	7.496	9.579	11.368	13.901	16.400
04-0436	0.368	0.479	0.551	0.682	0.815	0.953	1.098	1.189	1.258	1.403	1.512	1.789	1.995	2.244	2.452
04-0442	0.305	0.434	0.515	0.662	0.821	0.992	1.181	1.306	1.403	1.622	1.793	2.238	2.612	3.128	3.623
04-0449	0.686	0.993	1.248	1.827	2.583	3.487	4.504	5.153	5.645	6.721	7.535	9.655	11.478	14.082	16.687
04-0521	0.390	0.511	0.586	0.716	0.852	0.991	1.139	1.231	1.301	1.451	1.562	1.834	2.046	2.322	2.573
04-0606	0.572	0.855	1.067	1.510	2.041	2.636	3.277	3.675	3.973	4.612	5.085	6.276	7.265	8.640	9.986
04-0607	0.604	0.909	1.148	1.664	2.297	3.009	3.768	4.234	4.580	5.318	5.862	7.232	8.376	9.978	11.556
04-0673	1.206	1.777	2.215	3.170	4.419	5.991	7.897	9.168	10.143	12.250	13.794	17.624	20.786	25.218	29.613
04-0682	0.384	0.553	0.677	0.936	1.259	1.648	2.112	2.425	2.671	3.226	3.654	4.758	5.683	6.964	8.205
04-0684	0.323	0.505	0.642	0.918	1.228	1.543	1.847	2.019	2.142	2.388	2.560	2.966	3.288	3.728	4.156

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-0693	0.598	0.876	1.081	1.506	2.031	2.663	3.421	3.939	4.351	5.292	6.025	7.936	9.534	11.732	13.842
04-0731	0.345	0.494	0.605	0.840	1.134	1.488	1.910	2.194	2.417	2.921	3.310	4.309	5.131	6.244	7.295
04-0738	0.462	0.711	0.936	1.491	2.290	3.335	4.614	5.479	6.157	7.687	8.873	11.988	14.632	18.287	21.784
04-0741	0.578	0.900	1.150	1.704	2.473	3.407	4.351	4.924	5.352	6.172	6.790	8.497	9.851	11.568	13.067
04-0742	0.822	1.291	1.658	2.478	3.632	5.044	6.467	7.329	7.969	9.177	10.087	12.628	14.657	17.243	19.510
04-0755	0.539	0.827	1.081	1.695	2.540	3.579	4.759	5.506	6.069	7.287	8.199	10.546	12.530	15.312	18.038
04-0790	0.931	1.418	1.802	2.632	3.658	4.842	6.168	7.026	7.687	9.168	10.315	13.343	15.923	19.492	22.905
04-0798	1.067	1.568	1.965	2.848	3.990	5.340	6.794	7.658	8.273	9.504	10.351	12.361	13.995	16.304	18.639
04-0819	0.352	0.516	0.651	0.954	1.347	1.812	2.326	2.646	2.885	3.390	3.759	4.676	5.435	6.499	7.555
04-0822	0.304	0.469	0.590	0.831	1.099	1.372	1.639	1.794	1.904	2.127	2.283	2.647	2.930	3.306	3.659
04-0850	0.863	1.243	1.525	2.124	2.889	3.838	4.985	5.755	6.349	7.647	8.611	11.028	13.051	15.930	18.842
04-0883	0.660	1.017	1.325	2.070	3.132	4.530	6.262	7.441	8.366	10.452	12.058	16.207	19.650	24.326	28.743
04-0897	0.697	1.021	1.334	2.160	3.433	5.177	7.354	8.821	9.959	12.480	14.388	19.261	23.304	28.846	34.153
04-0924	0.478	0.624	0.710	0.859	1.005	1.150	1.295	1.381	1.445	1.575	1.665	1.871	2.020	2.201	2.357
04-0927	0.466	0.601	0.687	0.836	0.979	1.119	1.257	1.338	1.398	1.517	1.600	1.791	1.921	2.065	2.179
04-0931	0.398	0.579	0.742	1.144	1.720	2.468	3.375	3.979	4.448	5.490	6.280	8.288	9.934	12.159	14.260
04-0943	0.337	0.495	0.619	0.889	1.225	1.617	2.053	2.331	2.542	3.000	3.343	4.217	4.949	5.975	6.984
04-0979	0.286	0.424	0.516	0.690	0.880	1.078	1.285	1.411	1.505	1.703	1.846	2.191	2.460	2.812	3.136
04-0983	0.394	0.548	0.654	0.861	1.093	1.349	1.629	1.807	1.946	2.238	2.463	3.053	3.507	4.072	4.556
04-1005	1.326	1.950	2.431	3.480	4.848	6.567	8.649	10.036	11.101	13.402	15.091	19.287	22.760	27.627	32.448
04-1010	0.520	0.741	0.902	1.241	1.679	2.204	2.777	3.144	3.427	4.007	4.454	5.659	6.610	7.813	8.861
04-1018	0.821	1.201	1.513	2.271	3.537	5.397	7.615	9.139	10.352	12.921	14.920	20.337	24.659	30.177	35.034
04-1048	0.346	0.452	0.521	0.642	0.763	0.883	1.003	1.072	1.122	1.218	1.279	1.401	1.475	1.549	1.602
04-1060	0.481	0.704	0.868	1.213	1.642	2.155	2.759	3.162	3.477	4.181	4.721	6.110	7.275	8.895	10.476
04-1072	0.354	0.520	0.650	0.925	1.258	1.626	2.014	2.250	2.424	2.790	3.056	3.720	4.270	5.040	5.802
04-1075	0.371	0.545	0.680	0.971	1.322	1.712	2.121	2.369	2.551	2.935	3.214	3.909	4.486	5.298	6.105
04-1080	0.546	0.855	1.122	1.773	2.713	3.975	5.576	6.686	7.565	9.562	11.112	15.182	18.639	23.427	28.012
04-1112	0.405	0.627	0.805	1.200	1.716	2.346	3.083	3.568	3.942	4.767	5.389	6.971	8.283	10.098	11.862
04-1130	0.940	1.416	1.836	2.872	4.383	6.420	9.001	10.780	12.176	15.287	17.628	23.482	28.216	34.586	40.597
04-1142	0.819	1.220	1.515	2.118	2.825	3.619	4.498	5.066	5.504	6.475	7.217	9.132	10.738	12.962	15.115
04-1149	0.764	1.108	1.404	2.126	3.183	4.622	6.450	7.703	8.684	10.871	12.536	16.803	20.353	25.211	29.835
04-1159	0.943	1.353	1.709	2.585	3.874	5.621	7.817	9.303	10.453	12.975	14.851	19.520	23.314	28.478	33.431
04-1170	0.415	0.621	0.767	1.058	1.399	1.786	2.225	2.515	2.741	3.251	3.645	4.679	5.556	6.781	7.975
04-1194	0.650	0.968	1.216	1.752	2.419	3.188	4.019	4.525	4.896	5.661	6.201	7.495	8.527	9.938	11.308
04-1206	0.539	0.775	0.942	1.283	1.699	2.200	2.806	3.224	3.558	4.324	4.925	6.504	7.840	9.699	11.505
04-1214	0.521	0.743	0.914	1.289	1.782	2.407	3.179	3.714	4.139	5.111	5.868	7.831	9.462	11.680	13.781
04-1215	0.444	0.704	0.931	1.482	2.268	3.299	4.580	5.459	6.154	7.738	8.973	12.235	15.011	18.855	22.536
04-1244	0.285	0.407	0.483	0.622	0.770	0.930	1.106	1.221	1.309	1.507	1.658	2.042	2.356	2.780	3.179
04-1250	0.594	0.876	1.079	1.489	1.971	2.511	3.076	3.426	3.696	4.246	4.667	5.800	6.689	7.804	8.771
04-1253	0.852	1.298	1.631	2.319	3.134	4.038	5.005	5.601	6.043	6.982	7.669	9.384	10.793	12.734	14.610
04-1272	0.437	0.678	0.863	1.247	1.691	2.155	2.613	2.877	3.066	3.450	3.721	4.378	4.914	5.662	6.403
04-1277	0.728	1.073	1.371	2.091	3.118	4.458	6.089	7.181	8.029	9.925	11.380	15.150	18.301	22.610	26.702
04-1288	0.386	0.507	0.581	0.710	0.841	0.972	1.101	1.176	1.228	1.331	1.397	1.528	1.607	1.689	1.749
04-1300	0.640	0.945	1.176	1.662	2.250	2.915	3.638	4.092	4.433	5.173	5.729	7.168	8.404	10.172	11.947
04-1312	0.697	1.078	1.386	2.080	3.003	4.158	5.556	6.503	7.246	8.915	10.187	13.404	16.015	19.527	22.839
04-1316	0.391	0.571	0.734	1.137	1.713	2.447	3.304	3.855	4.270	5.164	5.826	7.499	8.903	10.886	12.858
04-1369	0.737	1.109	1.434	2.203	3.227	4.423	5.679	6.419	6.951	8.040	8.816	10.743	12.367	14.705	17.092
04-1373	1.077	1.660	2.142	3.249	4.723	6.476	8.339	9.424	10.187	11.697	12.729	15.184	17.198	20.070	22.999
04-1424	0.531	0.745	0.900	1.224	1.636	2.128	2.666	3.010	3.276	3.822	4.242	5.371	6.258	7.376	8.349
04-1428	0.476	0.687	0.846	1.187	1.621	2.157	2.812	3.265	3.626	4.458	5.114	6.844	8.307	10.324	12.256
04-1462	0.673	1.027	1.349	2.166	3.385	5.038	7.109	8.514	9.607	12.025	13.844	18.433	22.195	27.323	32.226
04-1476	0.358	0.503	0.608	0.826	1.095	1.418	1.802	2.061	2.266	2.728	3.084	3.999	4.752	5.767	6.722
04-1497	0.596	0.829	1.033	1.535	2.273	3.269	4.511	5.343	5.983	7.375	8.403	10.947	13.001	15.786	18.448
04-1518	0.563	0.846	1.062	1.518	2.069	2.684	3.340	3.741	4.037	4.663	5.117	6.246	7.176	8.471	9.745
04-1520	0.572	0.859	1.080	1.546	2.111	2.744	3.418	3.831	4.136	4.779	5.247	6.406	7.362	8.694	10.006

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-1540	0.790	1.192	1.491	2.113	2.860	3.704	4.613	5.173	5.586	6.456	7.085	8.644	9.931	11.730	13.506
04-1588	0.523	0.767	0.955	1.361	1.871	2.480	3.188	3.660	4.030	4.869	5.525	7.263	8.747	10.815	12.813
04-1603	1.026	1.599	2.090	3.241	4.790	6.700	8.959	10.476	11.670	14.379	16.481	21.927	26.420	32.430	37.984
04-1606	0.415	0.638	0.838	1.329	2.032	2.946	4.056	4.798	5.374	6.662	7.652	10.244	12.457	15.559	18.580
04-1614	0.329	0.462	0.553	0.736	0.952	1.205	1.500	1.700	1.856	2.214	2.491	3.214	3.818	4.645	5.432
04-1624	0.727	1.042	1.308	1.929	2.780	3.852	5.127	5.974	6.632	8.102	9.231	12.162	14.633	18.064	21.388
04-1653	0.803	1.206	1.573	2.499	3.881	5.753	8.096	9.683	10.917	13.644	15.693	20.853	25.087	30.877	36.438
04-1680	0.599	0.907	1.149	1.675	2.327	3.073	3.876	4.367	4.729	5.482	6.021	7.333	8.395	9.856	11.280
04-1697	0.653	0.957	1.228	1.892	2.840	4.063	5.524	6.487	7.228	8.865	10.106	13.292	15.953	19.627	23.175
04-1700	0.465	0.660	0.834	1.267	1.906	2.766	3.837	4.558	5.114	6.333	7.239	9.488	11.309	13.774	16.127
04-1715	0.502	0.730	0.915	1.332	1.882	2.560	3.362	3.896	4.311	5.242	5.957	7.814	9.375	11.537	13.630
04-1733	0.281	0.415	0.506	0.681	0.871	1.068	1.267	1.385	1.472	1.649	1.774	2.063	2.280	2.557	2.806
04-1743	0.426	0.624	0.760	1.027	1.331	1.669	2.043	2.285	2.469	2.878	3.187	3.975	4.630	5.531	6.400
04-1754	0.451	0.726	0.933	1.356	1.855	2.397	2.928	3.243	3.482	3.950	4.307	5.297	6.085	7.085	7.957
04-1758	0.461	0.643	0.766	1.006	1.283	1.596	1.950	2.182	2.361	2.757	3.056	3.803	4.405	5.208	5.956
04-1784	0.416	0.607	0.750	1.051	1.428	1.886	2.428	2.792	3.077	3.715	4.204	5.455	6.493	7.923	9.303
04-1805	0.331	0.452	0.536	0.700	0.897	1.131	1.413	1.608	1.764	2.128	2.417	3.188	3.843	4.746	5.610
04-1806	0.479	0.762	0.996	1.533	2.253	3.150	4.216	4.924	5.474	6.695	7.621	9.973	11.905	14.535	17.043
04-1807	0.380	0.608	0.799	1.243	1.849	2.617	3.545	4.171	4.660	5.754	6.588	8.715	10.463	12.836	15.089
04-1837	0.581	0.928	1.226	1.928	2.886	4.086	5.514	6.467	7.208	8.865	10.128	13.349	15.996	19.588	22.994
04-1864	0.324	0.476	0.580	0.781	1.008	1.258	1.533	1.709	1.845	2.142	2.367	2.939	3.413	4.067	4.697
04-1878	0.634	0.927	1.154	1.647	2.272	3.018	3.882	4.452	4.896	5.895	6.671	8.725	10.486	12.956	15.363
04-1886	0.714	1.061	1.373	2.157	3.317	4.862	6.734	7.961	8.898	10.937	12.469	16.413	19.755	24.420	28.942
04-1907	0.622	0.868	1.049	1.428	1.911	2.511	3.254	3.772	4.189	5.155	5.919	7.940	9.643	11.976	14.193
04-1912	0.538	0.823	1.072	1.678	2.553	3.719	5.179	6.176	6.958	8.710	10.045	13.446	16.247	20.065	23.711
04-1916	0.649	0.945	1.189	1.759	2.549	3.575	4.844	5.709	6.389	7.914	9.081	12.071	14.549	17.951	21.220
04-1948	0.353	0.532	0.671	0.971	1.354	1.816	2.361	2.723	3.006	3.638	4.122	5.368	6.411	7.854	9.253
04-1990	0.442	0.615	0.753	1.055	1.443	1.907	2.441	2.789	3.056	3.648	4.100	5.275	6.278	7.695	9.095
04-2012	0.284	0.417	0.506	0.678	0.872	1.089	1.334	1.494	1.618	1.897	2.111	2.665	3.126	3.760	4.369
04-2027	0.440	0.645	0.807	1.161	1.618	2.173	2.826	3.261	3.601	4.367	4.959	6.506	7.812	9.622	11.371
04-2031	0.500	0.749	0.928	1.290	1.710	2.171	2.667	2.977	3.211	3.717	4.095	5.051	5.845	6.946	8.018
04-2048	0.752	1.097	1.354	1.893	2.561	3.358	4.297	4.928	5.425	6.551	7.426	9.714	11.634	14.261	16.760
04-2081	0.505	0.776	1.006	1.550	2.312	3.309	4.557	5.421	6.108	7.677	8.899	12.081	14.737	18.358	21.786
04-2084	0.508	0.787	1.021	1.567	2.314	3.264	4.418	5.201	5.818	7.214	8.295	11.105	13.453	16.662	19.712
04-2090	0.612	0.926	1.174	1.711	2.380	3.145	3.966	4.467	4.835	5.601	6.151	7.497	8.596	10.119	11.617
04-2139	0.425	0.586	0.698	0.921	1.179	1.470	1.793	1.998	2.155	2.493	2.744	3.364	3.860	4.522	5.143
04-2147	0.624	0.954	1.242	1.940	2.947	4.283	5.952	7.101	8.012	10.108	11.770	16.266	20.186	25.688	30.997
04-2148	0.785	1.195	1.551	2.419	3.677	5.357	7.455	8.892	10.030	12.640	14.707	20.319	25.233	32.134	38.770
04-2150	0.624	0.958	1.244	1.934	2.916	4.211	5.826	6.942	7.830	9.885	11.523	15.976	19.865	25.319	30.568
04-2214	0.619	0.904	1.110	1.531	2.027	2.584	3.193	3.577	3.865	4.481	4.931	6.031	6.906	8.072	9.167
04-2218	0.753	1.177	1.549	2.459	3.782	5.552	7.760	9.259	10.428	13.040	15.045	20.297	24.773	30.977	36.900
04-2239	0.915	1.280	1.580	2.274	3.211	4.359	5.643	6.438	7.027	8.271	9.182	11.478	13.403	16.109	18.786
04-2255	0.321	0.425	0.488	0.600	0.716	0.837	0.966	1.047	1.107	1.238	1.333	1.558	1.729	1.944	2.134
04-2257	0.378	0.493	0.562	0.685	0.813	0.945	1.085	1.173	1.239	1.382	1.487	1.740	1.936	2.187	2.412
04-2294	0.468	0.691	0.859	1.214	1.662	2.202	2.839	3.264	3.594	4.331	4.892	6.325	7.515	9.158	10.750
04-2306	0.404	0.584	0.724	1.032	1.427	1.906	2.470	2.845	3.137	3.791	4.291	5.576	6.638	8.086	9.464
04-2319	0.195	0.274	0.327	0.428	0.536	0.648	0.761	0.827	0.874	0.963	1.017	1.121	1.180	1.238	1.276
04-2327	0.473	0.661	0.787	1.017	1.251	1.481	1.700	1.825	1.915	2.087	2.203	2.465	2.637	2.826	2.972
04-2331	0.261	0.404	0.503	0.697	0.908	1.126	1.343	1.470	1.561	1.744	1.868	2.144	2.340	2.577	2.780
04-2338	0.695	1.047	1.380	2.241	3.546	5.319	7.532	9.027	10.190	12.765	14.706	19.622	23.667	29.200	34.506
04-2346	0.316	0.449	0.533	0.687	0.854	1.035	1.236	1.367	1.470	1.699	1.876	2.335	2.717	3.241	3.743
04-2362	0.461	0.650	0.783	1.052	1.378	1.769	2.239	2.563	2.822	3.420	3.892	5.137	6.187	7.632	9.014
04-2389	0.391	0.538	0.637	0.831	1.059	1.327	1.645	1.863	2.037	2.441	2.760	3.608	4.331	5.339	6.315
04-2402	0.827	1.216	1.559	2.403	3.644	5.320	7.428	8.858	9.967	12.400	14.208	18.694	22.332	27.297	32.079
04-2406	0.702	0.977	1.202	1.710	2.382	3.195	4.112	4.688	5.119	6.035	6.705	8.380	9.768	11.704	13.611

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-2467	0.545	0.788	1.007	1.550	2.327	3.327	4.521	5.305	5.908	7.233	8.233	10.773	12.861	15.693	18.378
04-2494	0.619	0.902	1.111	1.539	2.047	2.616	3.231	3.614	3.900	4.506	4.948	6.035	6.915	8.119	9.281
04-2500	0.780	1.163	1.474	2.223	3.434	5.180	7.286	8.739	9.895	12.348	14.254	19.385	23.458	28.634	33.172
04-2504	0.352	0.507	0.630	0.900	1.242	1.640	2.082	2.359	2.567	3.010	3.334	4.126	4.762	5.619	6.434
04-2506	0.465	0.655	0.812	1.169	1.632	2.182	2.793	3.175	3.461	4.066	4.508	5.596	6.480	7.690	8.860
04-2539	0.634	0.913	1.153	1.727	2.531	3.564	4.804	5.628	6.264	7.675	8.749	11.510	13.816	17.002	20.075
04-2568	0.439	0.657	0.824	1.183	1.636	2.180	2.817	3.239	3.566	4.295	4.850	6.274	7.461	9.106	10.704
04-2574	0.684	1.000	1.279	1.976	3.023	4.472	6.326	7.598	8.592	10.802	12.477	16.743	20.258	25.020	29.505
04-2598	0.443	0.579	0.664	0.813	0.966	1.120	1.273	1.361	1.424	1.548	1.629	1.795	1.901	2.016	2.105
04-2640	0.414	0.633	0.807	1.191	1.685	2.286	2.990	3.457	3.820	4.631	5.253	6.860	8.213	10.094	11.925
04-2705	0.523	0.737	0.888	1.194	1.561	1.989	2.481	2.804	3.053	3.602	4.014	5.040	5.861	6.952	7.969
04-2706	0.472	0.665	0.800	1.073	1.399	1.778	2.214	2.502	2.725	3.218	3.588	4.510	5.245	6.217	7.117
04-2713	0.396	0.515	0.590	0.725	0.859	0.991	1.122	1.199	1.253	1.357	1.424	1.559	1.641	1.724	1.784
04-2728	0.593	0.850	1.051	1.491	2.066	2.787	3.669	4.276	4.759	5.866	6.732	9.000	10.900	13.501	15.978
04-2749	0.753	1.140	1.483	2.336	3.589	5.270	7.368	8.804	9.938	12.532	14.580	20.113	24.927	31.640	38.045
04-2756	0.478	0.681	0.848	1.232	1.749	2.397	3.171	3.686	4.086	4.974	5.649	7.383	8.829	10.829	12.765
04-2760	0.445	0.628	0.761	1.037	1.380	1.796	2.294	2.634	2.902	3.516	3.995	5.253	6.322	7.817	9.276
04-2771	0.296	0.443	0.545	0.743	0.960	1.185	1.413	1.549	1.649	1.857	2.006	2.364	2.648	3.025	3.381
04-2805	0.497	0.752	0.938	1.313	1.744	2.210	2.700	3.000	3.224	3.701	4.053	4.935	5.661	6.664	7.639
04-2895	0.642	0.990	1.256	1.817	2.494	3.250	4.058	4.555	4.924	5.710	6.288	7.742	8.959	10.676	12.385
04-2899	0.504	0.712	0.898	1.351	1.991	2.803	3.746	4.348	4.801	5.769	6.483	8.291	9.820	12.000	14.192
04-2910	0.421	0.676	0.880	1.345	1.998	2.862	3.913	4.642	5.238	6.567	7.645	10.664	13.174	16.491	19.503
04-2920	0.551	0.771	0.928	1.244	1.623	2.069	2.595	2.952	3.236	3.891	4.408	5.788	6.973	8.629	10.241
04-2922	0.390	0.576	0.712	0.989	1.318	1.691	2.110	2.382	2.593	3.062	3.423	4.370	5.179	6.319	7.442
04-2934	0.510	0.766	0.963	1.388	1.932	2.597	3.387	3.916	4.328	5.245	5.940	7.707	9.169	11.186	13.144
04-2941	0.499	0.771	0.987	1.458	2.043	2.706	3.412	3.837	4.147	4.788	5.242	6.336	7.211	8.406	9.561
04-2958	0.637	0.915	1.111	1.501	1.959	2.481	3.073	3.459	3.757	4.419	4.921	6.204	7.266	8.719	10.112
04-2964	0.340	0.498	0.619	0.878	1.205	1.602	2.071	2.385	2.632	3.186	3.613	4.711	5.620	6.860	8.039
04-3020	0.729	1.017	1.237	1.716	2.338	3.116	4.069	4.728	5.254	6.471	7.432	9.977	12.124	15.060	17.841
04-3038	0.574	0.852	1.080	1.608	2.331	3.262	4.415	5.205	5.830	7.245	8.337	11.143	13.459	16.600	19.577
04-3083	0.312	0.456	0.551	0.731	0.930	1.147	1.385	1.538	1.655	1.915	2.114	2.626	3.057	3.656	4.242
04-3093	0.538	0.776	0.976	1.441	2.071	2.850	3.748	4.324	4.760	5.701	6.399	8.162	9.632	11.693	13.726
04-3113	0.455	0.670	0.836	1.201	1.681	2.288	3.035	3.547	3.952	4.866	5.568	7.363	8.841	10.853	12.772
04-3120	0.505	0.775	0.976	1.394	1.890	2.443	3.039	3.410	3.688	4.286	4.728	5.842	6.767	8.059	9.330
04-3134	0.618	0.944	1.228	1.916	2.905	4.213	5.843	6.956	7.829	9.794	11.300	15.164	18.355	22.698	26.826
04-3157	0.340	0.475	0.567	0.750	0.967	1.219	1.514	1.714	1.872	2.233	2.516	3.256	3.877	4.732	5.549
04-3161	0.468	0.726	0.941	1.443	2.131	3.015	4.108	4.863	5.465	6.847	7.930	10.768	13.137	16.360	19.400
04-3176	0.408	0.580	0.728	1.077	1.553	2.142	2.820	3.253	3.580	4.283	4.802	6.114	7.214	8.770	10.322
04-3182	0.412	0.586	0.737	1.096	1.589	2.200	2.902	3.348	3.684	4.402	4.932	6.268	7.392	8.990	10.595
04-3191	0.775	1.179	1.509	2.255	3.242	4.473	5.965	6.986	7.795	9.637	11.064	14.738	17.761	21.843	25.689
04-3242	0.661	0.963	1.217	1.814	2.636	3.688	4.973	5.849	6.541	8.118	9.348	12.577	15.298	19.033	22.585
04-3257	0.326	0.488	0.605	0.835	1.090	1.379	1.715	1.940	2.120	2.519	2.841	3.736	4.472	5.434	6.298
04-3261	0.410	0.590	0.719	0.983	1.297	1.669	2.101	2.391	2.626	3.146	3.568	4.745	5.718	6.997	8.152
04-3288	0.547	0.814	1.020	1.459	1.993	2.592	3.229	3.617	3.902	4.499	4.929	5.988	6.855	8.060	9.248
04-3320	0.651	1.021	1.342	2.120	3.241	4.737	6.617	7.906	8.919	11.205	12.970	17.607	21.554	27.027	32.264
04-3357	0.929	1.411	1.826	2.841	4.321	6.307	8.786	10.481	11.820	14.883	17.309	23.912	29.713	37.853	45.647
04-3369	0.420	0.595	0.741	1.082	1.548	2.140	2.845	3.310	3.668	4.449	5.034	6.510	7.736	9.443	11.119
04-3384	0.637	0.974	1.263	1.954	2.935	4.230	5.845	6.952	7.823	9.785	11.289	15.145	18.322	22.636	26.728
04-3402	1.064	1.625	2.047	2.935	4.012	5.232	6.541	7.337	7.922	9.143	10.025	12.217	14.041	16.606	19.144
04-3417	0.546	0.817	1.017	1.434	1.941	2.536	3.223	3.680	4.037	4.844	5.468	7.094	8.460	10.340	12.140
04-3419	0.539	0.806	1.005	1.421	1.930	2.530	3.224	3.686	4.045	4.853	5.475	7.087	8.438	10.298	12.085
04-3463	0.517	0.778	0.976	1.393	1.899	2.474	3.104	3.500	3.799	4.448	4.933	6.183	7.250	8.774	10.304
04-3489	0.510	0.656	0.747	0.906	1.059	1.206	1.349	1.431	1.491	1.607	1.684	1.850	1.955	2.068	2.152
04-3491	0.573	0.871	1.142	1.828	2.847	4.224	5.955	7.134	8.055	10.102	11.650	15.567	18.789	23.206	27.457
04-3498	0.535	0.691	0.785	0.949	1.116	1.288	1.468	1.579	1.664	1.845	1.979	2.305	2.561	2.896	3.203

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-3502	0.397	0.600	0.746	1.042	1.392	1.791	2.242	2.536	2.764	3.274	3.665	4.684	5.550	6.766	7.963
04-3551	0.817	1.224	1.571	2.387	3.487	4.831	6.357	7.329	8.064	9.661	10.865	13.995	16.677	20.472	24.214
04-3573	0.651	0.981	1.274	2.002	3.065	4.485	6.256	7.462	8.407	10.518	12.127	16.228	19.606	24.208	28.596
04-3578	0.734	1.100	1.393	2.045	2.899	3.958	5.242	6.122	6.820	8.410	9.641	12.799	15.387	18.875	22.161
04-3614	0.465	0.654	0.818	1.210	1.754	2.434	3.217	3.715	4.089	4.889	5.477	6.960	8.208	9.981	11.762
04-3621	0.678	0.950	1.194	1.806	2.727	3.987	5.562	6.612	7.416	9.156	10.437	13.601	16.158	19.628	22.945
04-3666	0.628	0.907	1.148	1.723	2.532	3.573	4.827	5.661	6.305	7.735	8.822	11.615	13.947	17.166	20.274
04-3672	0.605	0.879	1.119	1.697	2.510	3.556	4.808	5.636	6.274	7.685	8.755	11.498	13.789	16.960	20.031
04-3684	0.909	1.381	1.767	2.642	3.796	5.225	6.950	8.129	9.065	11.204	12.866	17.153	20.679	25.428	29.883
04-3704	0.991	1.456	1.825	2.646	3.709	4.968	6.329	7.139	7.716	8.870	9.662	11.533	13.045	15.176	17.329
04-3710	0.391	0.569	0.695	0.938	1.203	1.473	1.739	1.895	2.006	2.235	2.397	2.783	3.090	3.504	3.902
04-3714	0.641	0.921	1.121	1.534	2.043	2.660	3.410	3.926	4.337	5.277	6.009	7.919	9.531	11.784	13.988
04-3725	0.510	0.707	0.862	1.222	1.783	2.569	3.502	4.138	4.637	5.679	6.476	8.578	10.210	12.248	14.008
04-3747	0.314	0.453	0.546	0.724	0.925	1.148	1.400	1.564	1.692	1.977	2.196	2.761	3.233	3.883	4.510
04-3761	0.687	1.003	1.249	1.816	2.663	3.805	5.129	6.018	6.718	8.179	9.328	12.524	15.132	18.526	21.564
04-3791	0.532	0.805	1.045	1.626	2.445	3.500	4.781	5.647	6.326	7.864	9.059	12.204	14.871	18.561	22.096
04-3821	0.560	0.773	0.931	1.273	1.739	2.342	3.059	3.551	3.950	4.833	5.542	7.479	9.054	11.096	12.919
04-3824	0.353	0.510	0.627	0.875	1.189	1.574	2.039	2.359	2.613	3.195	3.650	4.836	5.824	7.170	8.443
04-3855	0.487	0.630	0.723	0.892	1.068	1.246	1.421	1.522	1.596	1.738	1.832	2.036	2.166	2.305	2.409
04-3859	0.402	0.620	0.812	1.279	1.941	2.803	3.863	4.586	5.156	6.449	7.454	10.090	12.317	15.392	18.335
04-3863	0.772	1.097	1.335	1.832	2.449	3.199	4.099	4.713	5.197	6.294	7.141	9.336	11.193	13.809	16.403
04-3875	0.690	1.061	1.368	2.075	3.024	4.215	5.653	6.628	7.394	9.121	10.444	13.817	16.578	20.304	23.823
04-3891	0.557	0.805	1.040	1.647	2.551	3.745	5.190	6.150	6.895	8.557	9.836	13.159	15.919	19.641	23.115
04-3896	0.435	0.652	0.807	1.116	1.475	1.871	2.298	2.566	2.769	3.207	3.534	4.360	5.043	5.989	6.908
04-3925	0.481	0.725	0.902	1.262	1.687	2.169	2.711	3.065	3.339	3.952	4.423	5.650	6.689	8.141	9.559
04-3928	0.584	0.878	1.096	1.548	2.091	2.715	3.418	3.876	4.230	5.017	5.620	7.186	8.514	10.379	12.211
04-3939	0.541	0.800	1.030	1.592	2.389	3.412	4.633	5.437	6.055	7.418	8.448	11.083	13.278	16.311	19.244
04-3987	0.519	0.720	0.880	1.239	1.708	2.279	2.943	3.378	3.712	4.453	5.018	6.488	7.740	9.503	11.241
04-4010	0.822	1.315	1.740	2.744	4.115	5.824	7.841	9.179	10.217	12.528	14.290	18.792	22.498	27.514	32.245
04-4025	0.385	0.572	0.705	0.973	1.294	1.671	2.112	2.409	2.644	3.177	3.591	4.670	5.570	6.800	7.969
04-4035	0.574	0.852	1.058	1.490	2.016	2.630	3.334	3.799	4.162	4.974	5.601	7.229	8.601	10.504	12.347
04-4082	0.598	0.926	1.211	1.898	2.876	4.158	5.742	6.822	7.672	9.605	11.119	15.163	18.652	23.513	28.169
04-4097	0.526	0.831	1.093	1.715	2.577	3.672	4.992	5.879	6.572	8.131	9.330	12.425	15.001	18.522	21.878
04-4144	0.703	1.003	1.209	1.615	2.081	2.608	3.206	3.599	3.906	4.595	5.127	6.511	7.671	9.268	10.796
04-4156	0.580	0.907	1.190	1.866	2.814	4.037	5.536	6.556	7.361	9.186	10.600	14.275	17.340	21.520	25.484
04-4176	0.627	0.920	1.173	1.780	2.626	3.695	4.939	5.739	6.344	7.653	8.628	11.113	13.207	16.157	19.079
04-4191	0.508	0.796	1.047	1.659	2.537	3.699	5.155	6.157	6.950	8.751	10.151	13.833	16.962	21.296	25.449
04-4204	0.498	0.743	0.920	1.277	1.696	2.169	2.699	3.043	3.309	3.901	4.356	5.534	6.529	7.918	9.274
04-4223	0.386	0.506	0.579	0.706	0.836	0.965	1.093	1.167	1.220	1.322	1.387	1.517	1.596	1.677	1.737
04-4232	0.335	0.502	0.620	0.850	1.106	1.371	1.621	1.766	1.873	2.078	2.232	2.648	2.970	3.369	3.709
04-4259	0.375	0.526	0.622	0.795	0.972	1.149	1.322	1.423	1.495	1.638	1.733	1.938	2.077	2.237	2.368
04-4274	0.843	1.285	1.676	2.639	4.043	5.935	8.331	9.978	11.269	14.138	16.296	21.694	26.044	31.841	37.234
04-4278	0.268	0.396	0.483	0.649	0.829	1.016	1.207	1.320	1.403	1.574	1.692	1.965	2.165	2.414	2.633
04-4288	0.585	0.899	1.176	1.851	2.828	4.126	5.745	6.851	7.718	9.666	11.156	14.968	18.112	22.387	26.448
04-4297	0.489	0.605	0.677	0.803	0.927	1.051	1.179	1.255	1.312	1.425	1.503	1.676	1.790	1.916	2.012
04-4374	0.404	0.562	0.674	0.900	1.171	1.489	1.863	2.114	2.313	2.764	3.116	4.036	4.809	5.873	6.893
04-4389	0.701	1.079	1.367	1.986	2.801	3.769	4.776	5.394	5.854	6.726	7.388	9.245	10.737	12.645	14.324
04-4412	0.737	1.038	1.283	1.839	2.572	3.454	4.440	5.057	5.518	6.499	7.222	9.041	10.555	12.668	14.743
04-4467	0.680	0.939	1.109	1.422	1.751	2.085	2.423	2.625	2.774	3.086	3.311	3.853	4.281	4.850	5.385
04-4484	0.505	0.762	0.976	1.476	2.170	3.073	4.199	4.973	5.583	6.962	8.021	10.724	12.942	15.943	18.784
04-4488	0.413	0.661	0.872	1.372	2.058	2.926	3.968	4.666	5.209	6.424	7.351	9.719	11.670	14.320	16.831
04-4500	0.740	1.147	1.477	2.216	3.172	4.325	5.670	6.567	7.270	8.868	10.114	13.379	16.120	19.880	23.464
04-4508	0.301	0.430	0.517	0.688	0.889	1.124	1.402	1.591	1.742	2.088	2.361	3.082	3.693	4.539	5.354
04-4520	0.383	0.557	0.674	0.898	1.151	1.429	1.735	1.932	2.084	2.421	2.678	3.342	3.900	4.676	5.431
04-4523	0.432	0.643	0.799	1.119	1.500	1.929	2.401	2.702	2.930	3.432	3.811	4.789	5.617	6.784	7.936

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-4536	0.308	0.451	0.546	0.725	0.925	1.143	1.383	1.538	1.658	1.923	2.125	2.644	3.077	3.676	4.254
04-4555	0.365	0.558	0.697	0.980	1.318	1.705	2.142	2.428	2.649	3.140	3.515	4.484	5.300	6.438	7.549
04-4577	0.772	1.186	1.542	2.397	3.622	5.241	7.256	8.640	9.738	12.273	14.297	19.836	24.700	31.500	37.981
04-4587	0.538	0.837	1.100	1.742	2.666	3.892	5.431	6.491	7.329	9.238	10.725	14.653	17.999	22.629	27.050
04-4591	0.404	0.593	0.734	1.035	1.413	1.870	2.411	2.774	3.058	3.694	4.182	5.437	6.481	7.919	9.307
04-4616	0.581	0.902	1.151	1.707	2.478	3.447	4.506	5.189	5.725	6.839	7.710	10.118	12.067	14.583	16.821
04-4647	0.497	0.742	0.922	1.288	1.715	2.184	2.684	2.994	3.226	3.724	4.093	5.025	5.803	6.889	7.959
04-4671	0.924	1.413	1.831	2.819	4.147	5.711	7.347	8.298	8.974	10.338	11.300	13.674	15.680	18.583	21.566
04-4675	0.487	0.673	0.807	1.081	1.412	1.799	2.249	2.549	2.784	3.315	3.727	4.801	5.701	6.941	8.130
04-4690	0.594	0.892	1.157	1.812	2.764	4.032	5.610	6.688	7.536	9.448	10.925	14.771	18.000	22.430	26.645
04-4701	0.416	0.662	0.871	1.360	2.034	2.894	3.939	4.646	5.200	6.445	7.398	9.845	11.867	14.621	17.241
04-4705	0.411	0.613	0.776	1.138	1.598	2.131	2.712	3.072	3.340	3.908	4.325	5.370	6.238	7.453	8.652
04-4712	0.595	0.891	1.120	1.618	2.257	3.036	3.955	4.567	5.042	6.094	6.890	8.912	10.587	12.907	15.166
04-4713	0.725	1.048	1.363	2.201	3.501	5.292	7.527	9.028	10.190	12.751	14.683	19.602	23.682	29.290	34.681
04-4726	0.624	0.909	1.115	1.536	2.039	2.619	3.278	3.708	4.040	4.777	5.336	6.758	7.928	9.516	11.026
04-4735	0.521	0.729	0.875	1.166	1.510	1.907	2.360	2.658	2.889	3.397	3.780	4.733	5.496	6.507	7.447
04-4749	0.320	0.491	0.617	0.873	1.174	1.506	1.861	2.080	2.242	2.584	2.831	3.425	3.892	4.508	5.083
04-4773	0.786	1.232	1.599	2.487	3.899	5.915	8.365	10.055	11.400	14.250	16.464	22.432	27.171	33.199	38.486
04-4812	0.745	1.104	1.421	2.203	3.344	4.870	6.777	8.075	9.088	11.343	13.048	17.361	20.905	25.752	30.404
04-4823	0.377	0.527	0.630	0.833	1.075	1.358	1.695	1.925	2.107	2.527	2.857	3.728	4.466	5.492	6.484
04-4838	0.429	0.596	0.717	0.962	1.255	1.591	1.972	2.220	2.412	2.840	3.168	4.017	4.731	5.720	6.677
04-4851	0.780	1.227	1.619	2.574	3.940	5.733	7.933	9.416	10.572	13.159	15.145	20.317	24.683	30.687	36.387
04-4863	0.402	0.640	0.830	1.238	1.727	2.256	2.794	3.111	3.340	3.813	4.150	4.976	5.654	6.604	7.548
04-4881	0.434	0.635	0.799	1.158	1.600	2.086	2.584	2.877	3.088	3.520	3.828	4.580	5.203	6.082	6.967
04-4884	0.391	0.552	0.665	0.894	1.161	1.476	1.847	2.098	2.303	2.764	3.141	4.196	5.073	6.232	7.282
04-4890	0.442	0.651	0.804	1.114	1.480	1.893	2.353	2.651	2.881	3.395	3.791	4.835	5.731	6.999	8.249
04-4957	0.340	0.506	0.623	0.858	1.133	1.443	1.793	2.022	2.199	2.598	2.906	3.719	4.415	5.397	6.363
04-4997	0.378	0.547	0.669	0.921	1.230	1.603	2.048	2.351	2.591	3.137	3.561	4.665	5.591	6.871	8.108
04-5017	0.454	0.687	0.856	1.199	1.605	2.067	2.586	2.925	3.187	3.769	4.214	5.359	6.313	7.629	8.897
04-5026	0.931	1.450	1.851	2.742	3.960	5.478	7.150	8.227	9.064	10.772	12.104	15.821	18.846	22.767	26.263
04-5032	0.444	0.631	0.768	1.054	1.410	1.838	2.348	2.693	2.964	3.580	4.057	5.305	6.362	7.841	9.286
04-5064	0.587	0.865	1.057	1.432	1.859	2.333	2.858	3.198	3.460	4.045	4.492	5.648	6.616	7.949	9.229
04-5067	0.310	0.452	0.553	0.751	0.978	1.220	1.456	1.595	1.699	1.902	2.051	2.435	2.721	3.066	3.354
04-5085	0.586	0.845	1.028	1.392	1.808	2.264	2.753	3.057	3.284	3.771	4.130	5.025	5.762	6.781	7.776
04-5098	0.462	0.682	0.839	1.154	1.518	1.918	2.348	2.619	2.825	3.274	3.613	4.492	5.240	6.302	7.357
04-5107	0.581	0.849	1.038	1.414	1.858	2.366	2.944	3.323	3.616	4.270	4.770	6.053	7.117	8.570	9.954
04-5115	0.616	0.897	1.101	1.521	2.022	2.591	3.219	3.615	3.912	4.546	5.008	6.137	7.040	8.255	9.408
04-5118	0.337	0.475	0.567	0.742	0.943	1.173	1.441	1.623	1.767	2.098	2.360	3.055	3.649	4.478	5.284
04-5119	0.293	0.432	0.527	0.710	0.921	1.161	1.435	1.617	1.760	2.083	2.333	2.987	3.538	4.301	5.037
04-5120	0.267	0.394	0.478	0.641	0.829	1.042	1.289	1.454	1.583	1.878	2.106	2.701	3.198	3.881	4.534
04-5123	0.755	1.090	1.342	1.884	2.580	3.439	4.462	5.136	5.652	6.767	7.588	9.627	11.305	13.646	15.959
04-5147	0.906	1.395	1.760	2.520	3.429	4.447	5.531	6.190	6.675	7.692	8.430	10.270	11.803	13.961	16.100
04-5151	0.280	0.430	0.536	0.730	0.918	1.113	1.331	1.470	1.581	1.820	2.010	2.528	2.944	3.476	3.944
04-5184	0.888	1.354	1.709	2.451	3.338	4.339	5.450	6.168	6.723	7.962	8.919	11.434	13.571	16.538	19.398
04-5212	0.526	0.781	0.968	1.348	1.795	2.291	2.830	3.170	3.428	3.990	4.413	5.495	6.402	7.665	8.900
04-5215	0.829	1.330	1.717	2.559	3.668	4.975	6.308	7.114	7.712	8.844	9.690	12.005	13.822	16.104	18.083
04-5218	0.977	1.524	1.974	3.000	4.347	5.925	7.584	8.551	9.234	10.599	11.542	13.815	15.695	18.387	21.141
04-5231	0.341	0.480	0.577	0.771	1.002	1.272	1.586	1.796	1.961	2.335	2.623	3.366	3.980	4.816	5.606
04-5233	0.344	0.487	0.587	0.787	1.016	1.282	1.594	1.805	1.976	2.361	2.676	3.554	4.281	5.239	6.104
04-5244	0.585	0.907	1.195	1.903	2.922	4.261	5.914	7.040	7.928	9.943	11.513	15.663	19.204	24.106	28.789
04-5258	0.744	1.177	1.556	2.460	3.702	5.250	7.064	8.259	9.184	11.242	12.810	16.823	20.123	24.580	28.772
04-5311	0.512	0.733	0.931	1.424	2.150	3.123	4.329	5.138	5.762	7.128	8.146	10.692	12.775	15.629	18.385
04-5338	0.329	0.472	0.564	0.733	0.915	1.109	1.319	1.453	1.556	1.783	1.956	2.399	2.767	3.272	3.758
04-5352	0.603	0.888	1.120	1.644	2.331	3.169	4.148	4.796	5.300	6.437	7.320	9.640	11.603	14.308	16.891
04-5356	0.560	0.810	1.008	1.440	1.975	2.581	3.228	3.623	3.914	4.529	4.978	6.102	7.041	8.365	9.684

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-5360	0.613	0.930	1.182	1.746	2.486	3.401	4.492	5.220	5.784	7.030	7.967	10.326	12.265	14.934	17.527
04-5371	0.545	0.803	0.994	1.395	1.897	2.505	3.233	3.726	4.113	4.989	5.661	7.390	8.827	10.805	12.714
04-5378	0.455	0.671	0.830	1.164	1.579	2.080	2.678	3.084	3.403	4.125	4.683	6.121	7.317	8.960	10.537
04-5385	0.437	0.643	0.800	1.140	1.576	2.113	2.759	3.197	3.541	4.317	4.915	6.457	7.744	9.519	11.231
04-5400	0.545	0.805	1.036	1.602	2.405	3.436	4.665	5.474	6.097	7.469	8.506	11.158	13.368	16.422	19.377
04-5449	0.564	0.863	1.104	1.674	2.548	3.772	5.269	6.305	7.131	8.890	10.265	13.999	16.987	20.815	24.192
04-5496	0.526	0.794	1.024	1.563	2.292	3.185	4.209	4.867	5.368	6.465	7.294	9.439	11.255	13.799	16.287
04-5502	0.381	0.519	0.610	0.773	0.937	1.099	1.256	1.346	1.411	1.536	1.618	1.792	1.902	2.018	2.104
04-5528	0.259	0.381	0.462	0.619	0.800	1.007	1.247	1.409	1.537	1.829	2.058	2.657	3.163	3.861	4.534
04-5532	0.373	0.523	0.628	0.840	1.088	1.379	1.722	1.954	2.142	2.564	2.907	3.864	4.656	5.697	6.638
04-5535	0.326	0.499	0.624	0.866	1.123	1.411	1.756	1.989	2.178	2.602	2.948	3.919	4.728	5.796	6.764
04-5550	0.275	0.415	0.513	0.706	0.929	1.182	1.470	1.659	1.807	2.139	2.395	3.063	3.628	4.416	5.182
04-5586	0.566	0.849	1.098	1.706	2.588	3.767	5.247	6.261	7.057	8.848	10.218	13.726	16.618	20.551	24.291
04-5598	0.703	1.107	1.450	2.256	3.354	4.729	6.362	7.448	8.292	10.171	11.599	15.218	18.169	22.143	25.886
04-5602	0.266	0.386	0.462	0.601	0.752	0.916	1.098	1.216	1.307	1.510	1.664	2.056	2.375	2.802	3.203
04-5623	0.479	0.676	0.837	1.200	1.672	2.236	2.866	3.263	3.559	4.188	4.648	5.780	6.701	7.963	9.184
04-5629	0.640	0.947	1.186	1.703	2.343	3.075	3.871	4.366	4.735	5.527	6.113	7.595	8.837	10.584	12.313
04-5632	0.781	1.179	1.522	2.320	3.366	4.573	5.836	6.584	7.125	8.246	9.057	11.092	12.815	15.281	17.774
04-5669	0.681	1.035	1.324	1.968	2.784	3.731	4.772	5.429	5.928	7.021	7.855	10.043	11.922	14.571	17.165
04-5679	0.853	1.232	1.530	2.219	3.261	4.705	6.461	7.672	8.630	10.647	12.216	16.456	19.831	24.133	27.916
04-5713	0.572	0.898	1.183	1.883	2.900	4.264	5.982	7.165	8.098	10.210	11.851	16.184	19.884	25.006	29.891
04-5721	0.936	1.162	1.295	1.529	1.774	2.034	2.314	2.490	2.623	2.912	3.127	3.667	4.110	4.717	5.301
04-5738	0.416	0.569	0.672	0.874	1.111	1.389	1.721	1.948	2.129	2.547	2.876	3.752	4.498	5.537	6.545
04-5741	0.370	0.552	0.680	0.927	1.188	1.479	1.832	2.072	2.267	2.704	3.061	4.059	4.889	5.982	6.971
04-5747	0.432	0.619	0.748	1.005	1.309	1.668	2.096	2.389	2.622	3.159	3.580	4.690	5.633	6.944	8.215
04-5756	0.341	0.507	0.622	0.847	1.097	1.363	1.643	1.815	1.943	2.215	2.414	2.903	3.296	3.825	4.327
04-5779	0.462	0.671	0.842	1.223	1.696	2.224	2.770	3.092	3.325	3.805	4.147	4.985	5.676	6.650	7.625
04-5785	0.327	0.466	0.576	0.817	1.126	1.497	1.924	2.201	2.413	2.876	3.224	4.112	4.857	5.903	6.934
04-5795	0.488	0.687	0.828	1.113	1.459	1.874	2.373	2.716	2.990	3.623	4.122	5.440	6.552	8.083	9.548
04-5844	0.577	0.859	1.069	1.509	2.051	2.693	3.438	3.930	4.313	5.167	5.820	7.505	8.917	10.876	12.775
04-5866	0.539	0.795	0.977	1.344	1.776	2.272	2.836	3.208	3.497	4.145	4.642	5.924	6.992	8.458	9.864
04-5890	0.707	0.882	0.989	1.179	1.379	1.587	1.806	1.942	2.045	2.266	2.429	2.829	3.147	3.571	3.967
04-5909	0.593	0.881	1.128	1.712	2.529	3.588	4.893	5.786	6.492	8.097	9.343	12.573	15.242	18.838	22.203
04-5915	0.601	0.877	1.084	1.523	2.077	2.748	3.547	4.085	4.507	5.456	6.185	8.063	9.632	11.804	13.912
04-5933	0.512	0.753	0.930	1.297	1.755	2.311	2.981	3.439	3.803	4.636	5.289	7.002	8.446	10.432	12.332
04-5941	0.355	0.497	0.602	0.820	1.086	1.395	1.748	1.978	2.155	2.549	2.848	3.619	4.267	5.167	6.043
04-5983	0.650	0.926	1.176	1.804	2.720	3.911	5.311	6.207	6.880	8.317	9.373	12.036	14.269	17.411	20.517
04-6006	1.216	1.807	2.255	3.237	4.587	6.247	8.021	9.118	9.918	11.399	12.475	15.305	17.444	20.056	22.267
04-6027	0.612	0.942	1.204	1.780	2.517	3.406	4.452	5.156	5.711	6.978	7.969	10.575	12.768	15.775	18.635
04-6074	0.482	0.734	0.931	1.363	1.926	2.623	3.461	4.024	4.462	5.434	6.168	8.022	9.554	11.679	13.760
04-6105	0.549	0.857	1.114	1.710	2.522	3.557	4.829	5.706	6.404	8.008	9.268	12.580	15.356	19.138	22.709
04-6115	0.478	0.606	0.686	0.825	0.958	1.090	1.228	1.313	1.379	1.518	1.627	1.916	2.139	2.416	2.652
04-6118	0.487	0.623	0.701	0.829	0.954	1.077	1.202	1.279	1.337	1.461	1.552	1.776	1.953	2.185	2.399
04-6136	0.629	0.959	1.252	1.978	3.042	4.475	6.273	7.500	8.459	10.595	12.211	16.298	19.652	24.227	28.608
04-6144	0.413	0.589	0.710	0.952	1.241	1.584	1.998	2.282	2.510	3.033	3.444	4.524	5.435	6.694	7.908
04-6162	0.665	1.008	1.276	1.857	2.582	3.417	4.317	4.864	5.263	6.085	6.666	8.062	9.181	10.715	12.209
04-6168	0.409	0.563	0.666	0.867	1.102	1.377	1.703	1.926	2.104	2.513	2.836	3.693	4.423	5.440	6.425
04-6175	0.504	0.731	0.894	1.222	1.600	2.017	2.464	2.744	2.953	3.405	3.740	4.584	5.285	6.260	7.217
04-6194	0.374	0.554	0.694	0.998	1.393	1.883	2.474	2.874	3.188	3.892	4.432	5.817	6.967	8.547	10.068
04-6197	0.361	0.479	0.555	0.694	0.836	0.979	1.119	1.200	1.257	1.367	1.436	1.575	1.658	1.742	1.801
04-6252	0.663	0.974	1.232	1.823	2.613	3.584	4.712	5.447	6.012	7.263	8.218	10.707	12.817	15.757	18.605
04-6305	0.420	0.582	0.695	0.920	1.190	1.511	1.894	2.155	2.362	2.839	3.213	4.200	5.040	6.212	7.351
04-6328	0.457	0.638	0.790	1.143	1.623	2.218	2.909	3.353	3.690	4.417	4.957	6.328	7.486	9.131	10.778
04-6336	0.564	0.820	1.007	1.392	1.866	2.434	3.115	3.582	3.953	4.805	5.474	7.226	8.702	10.736	12.692
04-6356	0.755	1.178	1.526	2.321	3.390	4.727	6.327	7.396	8.228	10.077	11.477	15.012	17.901	21.823	25.564

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-6370	0.854	1.296	1.653	2.453	3.500	4.791	6.345	7.407	8.249	10.176	11.677	15.564	18.766	23.072	27.096
04-6377	0.477	0.671	0.802	1.060	1.358	1.700	2.092	2.352	2.555	3.008	3.355	4.240	4.966	5.948	6.877
04-6379	0.525	0.734	0.878	1.160	1.489	1.868	2.304	2.593	2.818	3.322	3.706	4.682	5.480	6.556	7.571
04-6390	0.510	0.671	0.771	0.945	1.122	1.296	1.467	1.566	1.636	1.774	1.865	2.055	2.179	2.317	2.426
04-6455	0.595	0.865	1.091	1.616	2.337	3.262	4.396	5.171	5.784	7.179	8.264	11.099	13.479	16.745	19.860
04-6476	0.392	0.567	0.692	0.945	1.243	1.584	1.972	2.226	2.424	2.869	3.211	4.108	4.870	5.939	6.984
04-6498	0.638	0.989	1.289	2.002	3.002	4.301	5.909	7.015	7.896	9.939	11.573	16.031	19.915	25.313	30.437
04-6506	0.438	0.642	0.803	1.156	1.611	2.163	2.812	3.245	3.584	4.346	4.935	6.475	7.774	9.576	11.316
04-6508	0.471	0.735	0.971	1.558	2.416	3.560	4.983	5.952	6.714	8.437	9.778	13.331	16.378	20.623	24.707
04-6521	0.530	0.764	0.953	1.383	1.959	2.684	3.562	4.155	4.621	5.670	6.477	8.563	10.304	12.698	14.997
04-6597	0.671	1.001	1.281	1.943	2.870	4.073	5.556	6.569	7.368	9.185	10.595	14.255	17.282	21.361	25.177
04-6610	0.474	0.700	0.863	1.192	1.586	2.043	2.573	2.927	3.205	3.836	4.326	5.611	6.699	8.211	9.677
04-6624	0.313	0.481	0.603	0.849	1.133	1.441	1.767	1.967	2.115	2.427	2.652	3.194	3.620	4.184	4.709
04-6635	0.471	0.659	0.779	0.995	1.216	1.435	1.650	1.776	1.867	2.052	2.180	2.467	2.675	2.929	3.149
04-6646	0.445	0.643	0.782	1.059	1.392	1.787	2.258	2.579	2.833	3.413	3.865	5.041	6.030	7.399	8.723
04-6650	0.634	0.943	1.175	1.664	2.264	2.970	3.782	4.318	4.734	5.666	6.383	8.257	9.854	12.104	14.317
04-6657	0.848	1.230	1.554	2.315	3.337	4.557	5.871	6.660	7.234	8.427	9.291	11.462	13.302	15.938	18.605
04-6663	0.565	0.825	1.012	1.385	1.818	2.296	2.812	3.136	3.380	3.906	4.296	5.274	6.081	7.197	8.284
04-6675	0.319	0.486	0.603	0.837	1.109	1.417	1.764	1.991	2.167	2.562	2.866	3.661	4.337	5.284	6.214
04-6685	0.738	1.091	1.404	2.176	3.306	4.826	6.734	8.031	9.040	11.266	12.929	17.074	20.447	25.053	29.491
04-6699	0.536	0.685	0.779	0.943	1.101	1.257	1.416	1.511	1.585	1.737	1.853	2.154	2.383	2.660	2.893
04-6703	0.549	0.799	0.974	1.322	1.725	2.179	2.687	3.015	3.268	3.826	4.248	5.322	6.212	7.437	8.619
04-6719	0.764	1.122	1.402	2.015	2.791	3.697	4.686	5.290	5.730	6.638	7.279	8.821	10.064	11.781	13.470
04-6726	0.520	0.760	0.949	1.366	1.901	2.549	3.305	3.807	4.199	5.080	5.763	7.551	9.069	11.180	13.226
04-6730	0.508	0.753	0.928	1.280	1.695	2.169	2.706	3.057	3.329	3.934	4.395	5.580	6.566	7.923	9.231
04-6736	0.548	0.811	1.001	1.387	1.845	2.369	2.961	3.348	3.646	4.308	4.812	6.103	7.178	8.662	10.095
04-6742	0.462	0.681	0.836	1.148	1.513	1.929	2.399	2.705	2.942	3.467	3.865	4.881	5.722	6.877	7.988
04-6754	0.352	0.532	0.660	0.912	1.196	1.502	1.824	2.023	2.173	2.494	2.732	3.333	3.834	4.530	5.212
04-6826	0.555	0.828	1.033	1.470	2.030	2.725	3.577	4.164	4.629	5.688	6.505	8.605	10.341	12.708	14.963
04-6893	0.656	0.930	1.175	1.778	2.647	3.775	5.122	6.005	6.679	8.158	9.274	12.133	14.527	17.847	21.066
04-6910	0.946	1.501	1.941	2.892	4.046	5.306	6.583	7.327	7.863	8.964	9.756	11.740	13.418	15.815	18.228
04-6926	0.451	0.680	0.844	1.174	1.561	1.996	2.484	2.802	3.047	3.595	4.016	5.114	6.048	7.361	8.653
04-6940	0.659	1.008	1.276	1.846	2.547	3.350	4.223	4.761	5.159	5.995	6.598	8.081	9.295	10.978	12.628
04-6942	0.638	0.973	1.231	1.785	2.470	3.258	4.116	4.645	5.037	5.859	6.453	7.909	9.097	10.741	12.350
04-6943	0.563	0.815	0.987	1.325	1.714	2.156	2.661	2.996	3.259	3.854	4.315	5.516	6.520	7.893	9.200
04-6946	0.940	1.371	1.742	2.654	4.012	5.891	8.304	9.963	11.263	14.160	16.363	21.996	26.646	32.914	38.761
04-6960	0.540	0.807	1.027	1.540	2.246	3.161	4.294	5.070	5.681	7.062	8.123	10.842	13.081	16.120	19.001
04-6962	0.556	0.833	1.065	1.607	2.358	3.331	4.537	5.364	6.018	7.502	8.649	11.607	14.043	17.331	20.419
04-6964	0.549	0.826	1.040	1.516	2.174	3.035	4.077	4.795	5.373	6.639	7.641	10.353	12.529	15.322	17.793
04-6998	0.778	1.107	1.416	2.221	3.454	5.141	7.227	8.612	9.675	11.996	13.731	18.118	21.734	26.671	31.379
04-7009	0.514	0.811	1.063	1.654	2.462	3.487	4.730	5.575	6.244	7.766	8.951	12.042	14.620	18.132	21.451
04-7016	0.580	0.854	1.043	1.410	1.829	2.294	2.812	3.148	3.408	3.988	4.433	5.580	6.535	7.840	9.085
04-7024	0.604	0.903	1.120	1.560	2.075	2.655	3.301	3.719	4.042	4.761	5.311	6.731	7.921	9.567	11.157
04-7050	0.577	0.881	1.119	1.635	2.278	3.013	3.801	4.281	4.633	5.365	5.891	7.181	8.241	9.725	11.198
04-7077	0.332	0.493	0.606	0.829	1.089	1.381	1.710	1.926	2.093	2.470	2.762	3.529	4.184	5.102	6.002
04-7085	0.435	0.626	0.784	1.141	1.609	2.175	2.820	3.234	3.548	4.229	4.734	5.999	7.028	8.428	9.764
04-7096	0.599	0.935	1.203	1.790	2.527	3.386	4.347	4.965	5.438	6.484	7.286	9.382	11.169	13.667	16.091
04-7108	0.499	0.778	1.019	1.595	2.403	3.451	4.743	5.628	6.327	7.915	9.145	12.339	14.999	18.626	22.069
04-7109	0.538	0.842	1.104	1.729	2.604	3.737	5.133	6.088	6.843	8.556	9.886	13.340	16.219	20.147	23.873
04-7111	0.506	0.735	0.897	1.222	1.607	2.050	2.557	2.889	3.147	3.721	4.157	5.263	6.166	7.383	8.530
04-7123	0.535	0.811	1.015	1.434	1.923	2.460	3.032	3.386	3.650	4.217	4.637	5.693	6.569	7.784	8.970
04-7150	0.594	0.878	1.085	1.503	2.000	2.567	3.208	3.629	3.954	4.681	5.238	6.676	7.878	9.539	11.142
04-7195	0.610	0.866	1.101	1.699	2.598	3.818	5.333	6.345	7.123	8.818	10.076	13.199	15.720	19.119	22.337
04-7244	0.445	0.634	0.777	1.079	1.455	1.897	2.399	2.722	2.968	3.501	3.896	4.874	5.659	6.713	7.707
04-7253	0.377	0.553	0.673	0.902	1.147	1.396	1.644	1.790	1.896	2.114	2.268	2.633	2.917	3.291	3.641

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-7279	0.842	1.277	1.662	2.585	3.837	5.316	6.868	7.777	8.428	9.752	10.692	13.025	14.998	17.854	20.791
04-7292	0.581	0.819	0.993	1.360	1.821	2.383	3.065	3.535	3.910	4.778	5.465	7.287	8.833	10.964	13.000
04-7296	0.770	1.082	1.322	1.850	2.547	3.433	4.538	5.308	5.925	7.349	8.472	11.435	13.937	17.375	20.653
04-7304	0.757	1.055	1.275	1.743	2.345	3.100	4.036	4.690	5.215	6.433	7.397	9.951	12.106	15.058	17.858
04-7306	0.448	0.665	0.824	1.146	1.525	1.950	2.417	2.713	2.939	3.433	3.805	4.754	5.545	6.643	7.711
04-7339	0.557	0.807	0.983	1.340	1.771	2.287	2.908	3.336	3.676	4.454	5.061	6.645	7.979	9.832	11.631
04-7370	0.459	0.675	0.842	1.206	1.684	2.289	3.033	3.543	3.946	4.858	5.559	7.353	8.833	10.851	12.779
04-7404	0.772	1.215	1.600	2.535	3.883	5.675	7.909	9.430	10.622	13.302	15.374	20.842	25.521	31.997	38.153
04-7414	0.503	0.752	0.938	1.332	1.829	2.433	3.161	3.658	4.051	4.944	5.635	7.422	8.917	10.982	12.981
04-7446	0.397	0.588	0.731	1.034	1.414	1.871	2.410	2.770	3.050	3.677	4.156	5.389	6.423	7.866	9.277
04-7470	0.394	0.584	0.718	0.985	1.294	1.639	2.019	2.261	2.446	2.851	3.156	3.930	4.570	5.449	6.295
04-7473	0.400	0.593	0.730	1.004	1.322	1.674	2.060	2.305	2.492	2.901	3.209	3.993	4.643	5.538	6.403
04-7489	0.631	0.960	1.225	1.851	2.822	4.172	5.756	6.831	7.690	9.526	10.964	14.873	18.006	22.024	25.574
04-7516	0.443	0.651	0.811	1.161	1.620	2.197	2.903	3.386	3.767	4.628	5.289	6.987	8.393	10.317	12.159
04-7581	0.988	1.387	1.699	2.405	3.371	4.642	6.254	7.380	8.279	10.343	11.958	16.184	19.714	24.501	28.996
04-7600	0.878	1.371	1.755	2.608	3.800	5.250	6.710	7.594	8.253	9.505	10.451	13.096	15.214	17.916	20.289
04-7630	0.431	0.632	0.783	1.106	1.518	2.023	2.628	3.037	3.357	4.077	4.627	6.039	7.210	8.823	10.378
04-7633	0.457	0.669	0.829	1.171	1.608	2.145	2.788	3.222	3.562	4.325	4.908	6.403	7.644	9.355	11.007
04-7641	0.524	0.759	0.968	1.476	2.192	3.105	4.191	4.907	5.459	6.679	7.604	9.957	11.889	14.500	16.962
04-7643	0.605	0.946	1.221	1.842	2.665	3.691	4.924	5.755	6.403	7.851	8.951	11.737	14.024	17.147	20.145
04-7646	0.768	1.193	1.535	2.306	3.322	4.583	6.094	7.112	7.910	9.695	11.055	14.510	17.347	21.218	24.931
04-7656	0.404	0.596	0.748	1.086	1.525	2.062	2.696	3.119	3.450	4.195	4.770	6.268	7.532	9.285	10.983
04-7668	0.411	0.579	0.696	0.930	1.211	1.545	1.948	2.226	2.448	2.961	3.365	4.432	5.330	6.562	7.736
04-7669	0.403	0.570	0.686	0.917	1.194	1.524	1.921	2.193	2.411	2.914	3.309	4.349	5.225	6.428	7.577
04-7672	0.761	1.120	1.379	1.899	2.511	3.205	3.990	4.506	4.906	5.803	6.493	8.283	9.781	11.843	13.822
04-7689	0.600	0.893	1.150	1.775	2.671	3.849	5.299	6.278	7.043	8.756	10.072	13.480	16.331	20.242	23.978
04-7698	0.469	0.739	0.976	1.557	2.387	3.479	4.831	5.756	6.486	8.149	9.450	12.908	15.871	19.982	23.916
04-7711	0.774	1.183	1.516	2.269	3.249	4.398	5.624	6.353	6.877	7.940	8.686	10.493	11.980	14.089	16.219
04-7719	0.427	0.646	0.804	1.126	1.507	1.942	2.430	2.748	2.995	3.544	3.965	5.062	5.994	7.305	8.595
04-7723	0.549	0.814	1.010	1.412	1.888	2.422	3.003	3.369	3.646	4.250	4.703	5.861	6.829	8.178	9.497
04-7731	0.662	0.941	1.146	1.575	2.105	2.738	3.485	3.989	4.385	5.284	5.982	7.812	9.364	11.525	13.624
04-7734	0.485	0.777	1.015	1.537	2.178	2.886	3.615	4.045	4.355	4.992	5.442	6.535	7.424	8.657	9.871
04-7735	0.503	0.796	1.033	1.548	2.172	2.852	3.543	3.950	4.244	4.847	5.277	6.328	7.186	8.381	9.560
04-7755	0.570	0.837	1.030	1.426	1.904	2.463	3.110	3.541	3.877	4.635	5.221	6.747	8.030	9.804	11.516
04-7759	0.603	0.897	1.130	1.641	2.290	3.048	3.875	4.382	4.754	5.526	6.074	7.396	8.458	9.916	11.339
04-7762	0.654	0.983	1.239	1.798	2.500	3.314	4.199	4.740	5.137	5.958	6.540	7.941	9.064	10.602	12.099
04-7767	0.543	0.787	0.961	1.316	1.750	2.274	2.910	3.349	3.700	4.508	5.142	6.805	8.208	10.153	12.037
04-7769	0.583	0.840	1.023	1.395	1.849	2.396	3.058	3.516	3.882	4.728	5.394	7.147	8.631	10.688	12.678
04-7772	0.543	0.787	0.962	1.317	1.751	2.275	2.909	3.348	3.700	4.511	5.148	6.819	8.219	10.140	11.977
04-7776	0.743	1.125	1.431	2.107	2.965	3.958	5.024	5.667	6.135	7.100	7.786	9.459	10.833	12.759	14.678
04-7807	0.715	1.036	1.270	1.754	2.351	3.072	3.934	4.516	4.973	5.997	6.780	8.802	10.514	12.937	15.350
04-7813	0.445	0.671	0.834	1.161	1.539	1.958	2.401	2.677	2.890	3.328	3.667	4.587	5.315	6.237	7.041
04-7817	0.538	0.772	0.939	1.281	1.692	2.175	2.739	3.120	3.420	4.108	4.650	6.090	7.322	9.039	10.699
04-7821	0.418	0.600	0.726	0.979	1.280	1.637	2.062	2.352	2.583	3.113	3.528	4.621	5.549	6.841	8.096
04-7834	0.523	0.765	0.939	1.293	1.719	2.221	2.811	3.210	3.525	4.247	4.811	6.294	7.540	9.251	10.883
04-7837	0.643	0.970	1.214	1.720	2.317	2.974	3.671	4.101	4.421	5.108	5.618	6.908	7.985	9.489	10.966
04-7846	0.358	0.520	0.631	0.847	1.097	1.382	1.710	1.929	2.102	2.493	2.799	3.602	4.286	5.239	6.167
04-7851	0.775	1.143	1.407	1.938	2.559	3.265	4.063	4.587	4.994	5.905	6.607	8.430	9.961	12.076	14.111
04-7864	0.542	0.781	0.950	1.293	1.710	2.213	2.821	3.239	3.571	4.332	4.925	6.472	7.773	9.579	11.331
04-7867	0.440	0.652	0.804	1.110	1.471	1.881	2.342	2.642	2.874	3.386	3.775	4.770	5.596	6.734	7.833
04-7870	0.435	0.602	0.716	0.938	1.193	1.477	1.791	1.991	2.144	2.475	2.720	3.323	3.800	4.427	5.005
04-7876	0.540	0.784	0.957	1.300	1.692	2.119	2.576	2.861	3.075	3.536	3.877	4.736	5.448	6.439	7.410
04-7888	0.491	0.734	0.915	1.287	1.725	2.207	2.721	3.038	3.274	3.778	4.148	5.073	5.839	6.905	7.952
04-7891	0.531	0.790	0.987	1.402	1.906	2.479	3.104	3.496	3.791	4.427	4.901	6.102	7.105	8.507	9.885
04-7894	0.699	1.043	1.313	1.896	2.619	3.440	4.326	4.874	5.282	6.154	6.800	8.437	9.808	11.733	13.632

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-7902	0.729	1.106	1.386	1.960	2.637	3.383	4.173	4.658	5.017	5.781	6.342	7.746	8.909	10.522	12.096
04-7905	0.673	1.031	1.297	1.843	2.481	3.178	3.910	4.355	4.685	5.385	5.900	7.206	8.307	9.865	11.417
04-7916	0.712	1.039	1.284	1.806	2.464	3.265	4.218	4.859	5.361	6.485	7.345	9.552	11.383	13.893	16.296
04-7926	0.637	0.949	1.192	1.714	2.363	3.108	3.916	4.413	4.778	5.543	6.092	7.433	8.522	10.023	11.489
04-7933	0.923	1.385	1.727	2.431	3.271	4.229	5.305	6.005	6.545	7.749	8.674	11.085	13.124	15.950	18.676
04-7946	0.561	0.798	0.957	1.266	1.619	2.018	2.474	2.776	3.013	3.547	3.960	5.034	5.931	7.160	8.331
04-7965	0.567	0.878	1.116	1.639	2.330	3.203	4.243	4.949	5.517	6.761	7.742	10.373	12.467	15.137	17.485
04-7976	0.631	0.957	1.196	1.680	2.247	2.878	3.565	3.998	4.326	5.037	5.566	6.896	7.985	9.468	10.884
04-7987	0.598	0.900	1.127	1.598	2.157	2.776	3.435	3.842	4.145	4.794	5.273	6.478	7.476	8.862	10.217
04-8014	0.589	0.897	1.139	1.666	2.324	3.076	3.882	4.370	4.726	5.461	5.983	7.247	8.267	9.669	11.036
04-8025	0.567	0.828	1.063	1.646	2.493	3.598	4.919	5.781	6.439	7.873	8.954	11.749	14.136	17.509	20.831
04-8045	0.544	0.870	1.131	1.734	2.600	3.763	5.191	6.186	6.995	8.781	10.220	14.230	17.542	21.896	25.830
04-8068	0.708	1.026	1.257	1.736	2.329	3.045	3.904	4.488	4.946	5.977	6.768	8.808	10.535	12.973	15.396
04-8072	0.705	1.044	1.307	1.884	2.631	3.559	4.693	5.474	6.095	7.507	8.599	11.397	13.690	16.784	19.701
04-8105	0.719	1.082	1.398	2.138	3.111	4.231	5.400	6.090	6.587	7.612	8.348	10.190	11.747	13.983	16.255
04-8135	0.988	1.436	1.809	2.712	4.044	5.891	8.284	9.942	11.245	14.159	16.377	22.042	26.705	32.980	38.822
04-8163	0.700	1.079	1.394	2.137	3.182	4.567	6.326	7.554	8.533	10.782	12.549	17.239	21.230	26.709	31.878
04-8173	0.577	0.851	1.075	1.593	2.301	3.215	4.343	5.114	5.722	7.092	8.142	10.830	13.043	16.057	18.932
04-8175	0.685	0.972	1.197	1.700	2.374	3.235	4.301	5.036	5.621	6.959	8.007	10.762	13.084	16.276	19.321
04-8200	0.366	0.496	0.578	0.727	0.885	1.050	1.222	1.328	1.407	1.575	1.696	1.985	2.205	2.486	2.739
04-8207	0.740	1.100	1.439	2.321	3.665	5.500	7.799	9.355	10.564	13.233	15.239	20.302	24.450	30.087	35.444
04-8218	0.493	0.713	0.906	1.372	2.024	2.853	3.833	4.473	4.964	6.036	6.839	8.860	10.513	12.756	14.888
04-8243	0.688	1.032	1.292	1.835	2.481	3.193	3.947	4.411	4.757	5.495	6.041	7.420	8.571	10.179	11.759
04-8261	0.542	0.814	1.018	1.444	1.960	2.548	3.192	3.594	3.896	4.538	5.008	6.177	7.136	8.460	9.752
04-8272	0.822	1.286	1.687	2.630	3.910	5.507	7.416	8.702	9.714	12.003	13.770	18.319	22.061	27.101	31.822
04-8277	0.515	0.758	0.932	1.280	1.692	2.161	2.691	3.038	3.305	3.900	4.353	5.512	6.474	7.794	9.063
04-8317	0.691	0.996	1.208	1.620	2.078	2.565	3.052	3.345	3.566	4.005	4.333	5.187	5.833	6.621	7.286
04-8331	0.669	1.009	1.282	1.929	2.940	4.354	6.024	7.162	8.072	10.015	11.540	15.700	19.045	23.348	27.160
04-8338	0.356	0.543	0.674	0.933	1.233	1.568	1.944	2.189	2.379	2.803	3.130	3.987	4.719	5.751	6.768
04-8353	0.540	0.785	0.984	1.440	2.051	2.823	3.760	4.396	4.899	6.041	6.930	9.256	11.206	13.876	16.419
04-8355	0.365	0.558	0.702	1.007	1.390	1.842	2.330	2.639	2.879	3.370	3.748	4.776	5.591	6.626	7.532
04-8380	0.753	1.109	1.428	2.213	3.321	4.720	6.339	7.378	8.165	9.884	11.185	14.563	17.439	21.471	25.404
04-8406	0.416	0.621	0.786	1.153	1.618	2.158	2.746	3.110	3.381	3.957	4.379	5.435	6.314	7.543	8.757
04-8446	0.416	0.586	0.704	0.941	1.225	1.564	1.971	2.252	2.477	2.996	3.405	4.484	5.392	6.639	7.828
04-8460	0.505	0.743	0.919	1.284	1.719	2.212	2.761	3.116	3.390	4.002	4.476	5.729	6.806	8.326	9.819
04-8463	0.748	1.171	1.524	2.319	3.335	4.513	5.802	6.612	7.224	8.565	9.588	12.280	14.590	17.819	20.942
04-8476	0.965	1.474	1.909	2.935	4.319	5.951	7.658	8.649	9.352	10.771	11.771	14.243	16.333	19.362	22.475
04-8490	0.790	1.253	1.659	2.648	4.070	5.945	8.252	9.806	11.016	13.715	15.786	21.207	25.813	32.181	38.249
04-8557	0.423	0.596	0.716	0.958	1.250	1.597	2.010	2.292	2.516	3.028	3.429	4.480	5.369	6.604	7.800
04-8558	0.419	0.589	0.707	0.944	1.228	1.563	1.961	2.231	2.446	2.937	3.321	4.333	5.190	6.383	7.540
04-8560	0.424	0.600	0.725	0.979	1.286	1.652	2.086	2.380	2.612	3.143	3.558	4.650	5.577	6.873	8.136
04-8580	0.402	0.619	0.792	1.179	1.684	2.303	3.033	3.519	3.898	4.744	5.393	7.076	8.493	10.468	12.390
04-8587	0.429	0.644	0.816	1.200	1.698	2.301	3.003	3.466	3.826	4.629	5.247	6.859	8.226	10.139	12.006
04-8606	0.842	1.284	1.685	2.697	4.201	6.237	8.797	10.542	11.903	14.922	17.196	22.926	27.604	33.936	39.935
04-8680	0.572	0.837	1.031	1.434	1.928	2.517	3.212	3.681	4.051	4.895	5.552	7.270	8.710	10.683	12.562
04-8702	0.391	0.553	0.686	0.993	1.411	1.941	2.579	3.002	3.328	4.041	4.571	5.888	6.951	8.386	9.749
04-8703	0.391	0.553	0.686	0.992	1.410	1.940	2.577	3.000	3.326	4.038	4.568	5.885	6.947	8.380	9.742
04-8713	0.516	0.746	0.928	1.332	1.867	2.540	3.364	3.931	4.381	5.410	6.212	8.309	10.064	12.468	14.762
04-8752	0.312	0.450	0.537	0.697	0.868	1.050	1.248	1.375	1.473	1.689	1.852	2.270	2.614	3.083	3.529
04-8758	0.511	0.761	0.959	1.419	2.116	3.068	4.185	4.941	5.544	6.830	7.835	10.550	12.714	15.478	17.910
04-8826	0.363	0.567	0.722	1.042	1.418	1.824	2.242	2.493	2.676	3.056	3.329	3.992	4.526	5.259	5.968
04-8839	0.372	0.558	0.686	0.939	1.226	1.540	1.882	2.098	2.262	2.618	2.885	3.555	4.104	4.852	5.567
04-8873	0.302	0.430	0.519	0.699	0.915	1.168	1.466	1.667	1.825	2.182	2.458	3.170	3.757	4.554	5.306
04-8885	0.808	1.277	1.685	2.655	3.994	5.684	7.698	9.039	10.082	12.408	14.181	18.702	22.405	27.393	32.080
04-8892	0.342	0.474	0.561	0.720	0.880	1.040	1.197	1.289	1.355	1.483	1.568	1.753	1.871	1.998	2.094

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-8912	0.586	0.854	1.059	1.491	2.015	2.615	3.279	3.706	4.033	4.762	5.323	6.809	8.095	9.930	11.753
04-8914	0.587	0.859	1.065	1.497	2.019	2.613	3.269	3.690	4.012	4.728	5.279	6.736	8.000	9.804	11.601
04-8917	0.644	0.938	1.163	1.642	2.228	2.899	3.643	4.119	4.484	5.291	5.911	7.549	8.968	10.996	13.019
04-8928	0.652	0.971	1.242	1.886	2.794	3.980	5.442	6.436	7.216	8.977	10.339	13.886	16.858	20.925	24.790
04-8973	0.603	0.876	1.072	1.469	1.931	2.443	2.998	3.347	3.608	4.172	4.589	5.633	6.492	7.676	8.827
04-8992	0.699	1.047	1.308	1.848	2.484	3.181	3.915	4.365	4.699	5.413	5.940	7.271	8.383	9.937	11.463
04-8997	0.333	0.472	0.567	0.756	0.979	1.242	1.555	1.768	1.938	2.327	2.632	3.433	4.109	5.041	5.938
04-8999	0.339	0.475	0.568	0.750	0.965	1.218	1.518	1.724	1.888	2.265	2.562	3.345	4.008	4.927	5.812
04-9001	0.360	0.521	0.633	0.857	1.124	1.437	1.803	2.050	2.244	2.685	3.027	3.920	4.671	5.713	6.720
04-9026	0.470	0.695	0.884	1.326	1.936	2.719	3.684	4.345	4.868	6.059	6.987	9.410	11.445	14.242	16.913
04-9035	0.266	0.392	0.478	0.641	0.818	0.999	1.182	1.289	1.367	1.525	1.633	1.877	2.051	2.263	2.447
04-9043	0.459	0.663	0.845	1.297	1.945	2.788	3.809	4.487	5.011	6.168	7.041	9.251	11.055	13.490	15.789
04-9047	0.793	1.170	1.470	2.134	2.986	3.985	5.065	5.714	6.181	7.128	7.786	9.350	10.609	12.359	14.099
04-9053	0.301	0.417	0.497	0.658	0.849	1.072	1.334	1.510	1.650	1.967	2.214	2.858	3.397	4.135	4.840
04-9073	0.398	0.548	0.648	0.845	1.075	1.344	1.663	1.882	2.056	2.460	2.779	3.627	4.350	5.356	6.331
04-9087	0.504	0.748	0.928	1.298	1.730	2.207	2.716	3.032	3.269	3.775	4.151	5.094	5.877	6.966	8.031
04-9099	0.428	0.574	0.665	0.824	0.987	1.150	1.316	1.416	1.489	1.640	1.747	1.991	2.170	2.390	2.581
04-9105	0.658	0.950	1.203	1.811	2.675	3.796	5.156	6.071	6.788	8.420	9.703	13.121	16.014	19.943	23.613
04-9111	0.609	0.870	1.049	1.401	1.809	2.274	2.805	3.156	3.429	4.043	4.516	5.742	6.768	8.178	9.530
04-9120	0.659	0.985	1.237	1.779	2.448	3.217	4.058	4.586	4.982	5.836	6.475	8.118	9.522	11.525	13.531
04-9122	0.465	0.734	0.965	1.514	2.278	3.262	4.470	5.296	5.948	7.431	8.581	11.574	14.073	17.488	20.735
04-9124	0.553	0.874	1.148	1.798	2.697	3.849	5.256	6.216	6.975	8.703	10.048	13.558	16.494	20.507	24.317
04-9152	0.674	0.998	1.244	1.764	2.399	3.128	3.925	4.421	4.790	5.565	6.123	7.471	8.542	9.981	11.349
04-9158	0.690	1.043	1.316	1.903	2.631	3.465	4.362	4.910	5.312	6.155	6.762	8.265	9.507	11.253	12.991
04-9167	0.488	0.768	1.005	1.563	2.337	3.333	4.555	5.387	6.044	7.530	8.679	11.656	14.139	17.542	20.794
04-9173	0.464	0.730	0.955	1.484	2.215	3.151	4.293	5.069	5.680	7.063	8.130	10.894	13.200	16.363	19.390
04-9177	0.853	1.358	1.800	2.875	4.413	6.436	8.917	10.579	11.870	14.750	16.968	22.823	27.840	34.789	41.393
04-9185	0.591	0.856	1.050	1.453	1.952	2.557	3.285	3.786	4.184	5.095	5.807	7.668	9.235	11.410	13.518
04-9189	0.490	0.741	0.924	1.299	1.742	2.245	2.806	3.170	3.451	4.077	4.559	5.819	6.897	8.426	9.942
04-9200	0.601	0.891	1.112	1.588	2.196	2.936	3.816	4.406	4.865	5.889	6.666	8.643	10.279	12.537	14.728
04-9251	0.428	0.662	0.850	1.257	1.744	2.266	2.786	3.086	3.299	3.729	4.031	4.754	5.340	6.154	6.959
04-9273	0.920	1.424	1.854	2.858	4.214	5.905	7.929	9.298	10.376	12.823	14.715	19.583	23.582	28.965	34.008
04-9283	0.313	0.473	0.584	0.805	1.056	1.330	1.624	1.809	1.948	2.249	2.472	3.034	3.496	4.132	4.746
04-9325	0.318	0.469	0.574	0.777	0.998	1.227	1.459	1.597	1.698	1.907	2.056	2.412	2.691	3.060	3.405
04-9351	0.343	0.497	0.621	0.895	1.247	1.664	2.134	2.433	2.659	3.145	3.503	4.385	5.095	6.054	6.966
04-9367	0.347	0.511	0.625	0.847	1.103	1.390	1.712	1.922	2.086	2.452	2.736	3.479	4.112	5.001	5.873
04-9378	0.545	0.770	0.924	1.228	1.583	1.990	2.458	2.768	3.009	3.549	3.960	5.009	5.868	7.028	8.122
04-9386	0.974	1.427	1.812	2.757	4.162	6.109	8.611	10.333	11.681	14.683	16.965	22.800	27.620	34.122	40.188
04-9390	0.686	0.948	1.138	1.539	2.045	2.674	3.449	3.990	4.426	5.441	6.248	8.399	10.220	12.715	15.081
04-9423	0.532	0.776	0.956	1.334	1.806	2.376	3.059	3.523	3.890	4.723	5.368	7.044	8.447	10.385	12.255
04-9447	0.600	0.847	1.035	1.435	1.934	2.515	3.165	3.577	3.889	4.561	5.059	6.299	7.309	8.682	9.996
04-9452	0.326	0.465	0.554	0.718	0.895	1.087	1.299	1.437	1.544	1.784	1.968	2.444	2.839	3.381	3.900
04-9456	0.537	0.790	0.976	1.361	1.825	2.355	2.942	3.315	3.598	4.211	4.669	5.831	6.803	8.161	9.493
04-9473	0.586	0.863	1.066	1.486	2.001	2.612	3.329	3.813	4.194	5.060	5.735	7.499	8.978	11.005	12.934
04-9482	0.750	1.153	1.469	2.191	3.233	4.593	6.126	7.134	7.926	9.571	10.861	14.457	17.390	21.205	24.619
04-9490	0.430	0.658	0.860	1.350	2.048	2.957	4.072	4.828	5.421	6.762	7.799	10.513	12.807	15.983	19.035
04-9499	0.595	0.826	1.023	1.487	2.119	2.896	3.776	4.330	4.744	5.626	6.275	7.916	9.307	11.294	13.299
04-9512	0.364	0.542	0.670	0.926	1.222	1.552	1.911	2.139	2.312	2.690	2.975	3.706	4.322	5.186	6.037
04-9540	0.883	1.319	1.704	2.656	4.063	5.991	8.471	10.184	11.524	14.474	16.663	22.064	26.429	32.379	38.105
04-9560	0.296	0.434	0.526	0.702	0.896	1.108	1.340	1.490	1.605	1.859	2.052	2.550	2.966	3.543	4.102
04-9582	0.581	0.861	1.090	1.620	2.346	3.283	4.444	5.243	5.876	7.319	8.440	11.345	13.755	17.030	20.127
04-9599	0.412	0.580	0.726	1.085	1.607	2.307	3.181	3.770	4.225	5.222	5.961	7.784	9.246	11.212	13.074
04-9604	0.424	0.617	0.768	1.102	1.542	2.095	2.768	3.226	3.586	4.394	5.012	6.595	7.903	9.695	11.416
04-9621	0.881	1.292	1.647	2.516	3.790	5.520	7.710	9.211	10.389	13.031	15.051	20.218	24.459	30.140	35.411
04-9633	0.436	0.648	0.818	1.194	1.670	2.217	2.804	3.157	3.413	3.935	4.300	5.163	5.847	6.783	7.699

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-9660	0.582	0.857	1.067	1.512	2.052	2.662	3.318	3.721	4.018	4.642	5.093	6.194	7.086	8.314	9.509
04-9671	0.392	0.577	0.712	0.977	1.269	1.563	1.846	2.008	2.122	2.352	2.513	2.898	3.206	3.630	4.045
04-9677	0.385	0.579	0.727	1.047	1.450	1.936	2.505	2.884	3.180	3.840	4.345	5.644	6.728	8.226	9.676
04-9684	0.595	0.938	1.231	1.929	2.905	4.168	5.724	6.788	7.629	9.540	11.021	14.872	18.081	22.452	26.589
04-9699	0.389	0.582	0.736	1.078	1.523	2.063	2.696	3.115	3.440	4.167	4.726	6.180	7.411	9.131	10.810
04-9742	0.556	0.825	1.033	1.483	2.059	2.760	3.591	4.146	4.578	5.538	6.266	8.118	9.651	11.766	13.819
04-9754	0.403	0.597	0.739	1.030	1.375	1.763	2.189	2.460	2.666	3.115	3.455	4.329	5.069	6.117	7.156
04-9775	0.435	0.638	0.813	1.226	1.790	2.489	3.297	3.816	4.211	5.064	5.699	7.295	8.610	10.422	12.175
04-9781	0.432	0.643	0.801	1.137	1.558	2.065	2.664	3.064	3.375	4.070	4.600	5.950	7.066	8.600	10.078
04-9814	1.170	1.685	2.071	2.902	3.990	5.371	7.054	8.174	9.028	10.863	12.201	15.504	18.227	22.042	25.823
04-9847	0.523	0.783	0.984	1.413	1.934	2.520	3.144	3.526	3.807	4.397	4.824	5.873	6.732	7.923	9.093
04-9851	0.722	1.129	1.479	2.316	3.487	4.997	6.838	8.084	9.060	11.261	12.956	17.336	20.983	25.965	30.704
04-9855	0.605	0.901	1.134	1.672	2.482	3.573	4.819	5.648	6.301	7.663	8.725	11.644	13.996	17.027	19.716
04-9866	0.381	0.547	0.689	1.023	1.477	2.037	2.682	3.093	3.403	4.068	4.560	5.802	6.846	8.330	9.816
26-0150	0.357	0.476	0.551	0.686	0.829	0.977	1.131	1.226	1.296	1.445	1.552	1.803	1.991	2.227	2.436
26-0714	0.368	0.491	0.568	0.706	0.850	0.999	1.154	1.248	1.319	1.467	1.574	1.827	2.019	2.263	2.481
26-0718	0.417	0.557	0.646	0.806	0.973	1.145	1.322	1.429	1.508	1.675	1.795	2.081	2.301	2.583	2.840
26-1071	0.465	0.604	0.686	0.827	0.970	1.116	1.267	1.361	1.432	1.585	1.697	1.970	2.184	2.462	2.718
26-1485	0.318	0.473	0.590	0.836	1.132	1.468	1.833	2.060	2.230	2.592	2.856	3.507	4.034	4.753	5.445
26-2243	0.455	0.579	0.650	0.767	0.881	0.996	1.115	1.190	1.246	1.368	1.459	1.678	1.848	2.068	2.267
26-2394	0.234	0.335	0.402	0.534	0.686	0.863	1.071	1.212	1.324	1.579	1.779	2.299	2.731	3.316	3.868
26-2431	0.242	0.373	0.463	0.639	0.831	1.030	1.231	1.349	1.434	1.607	1.726	1.991	2.181	2.413	2.613
26-2840	0.376	0.500	0.579	0.723	0.876	1.040	1.216	1.327	1.410	1.591	1.724	2.045	2.295	2.617	2.910
26-3090	0.206	0.311	0.386	0.535	0.709	0.904	1.118	1.255	1.359	1.583	1.747	2.146	2.456	2.857	3.221
26-3205	0.351	0.532	0.670	0.969	1.365	1.856	2.414	2.782	3.070	3.676	4.146	5.410	6.409	7.677	8.787
26-3285	0.349	0.465	0.543	0.694	0.862	1.043	1.234	1.351	1.436	1.614	1.737	2.018	2.220	2.467	2.680
26-3515	0.348	0.463	0.533	0.652	0.773	0.896	1.024	1.103	1.162	1.287	1.377	1.588	1.745	1.938	2.107
26-3980	0.372	0.472	0.528	0.621	0.712	0.805	0.903	0.964	1.011	1.114	1.190	1.374	1.516	1.697	1.859
26-4349	0.306	0.400	0.457	0.560	0.669	0.786	0.911	0.991	1.051	1.179	1.272	1.485	1.641	1.830	1.990
26-4429	0.469	0.598	0.672	0.797	0.919	1.042	1.170	1.250	1.311	1.443	1.541	1.785	1.978	2.233	2.469
26-4436	0.454	0.579	0.649	0.766	0.880	0.995	1.116	1.192	1.250	1.376	1.471	1.706	1.893	2.139	2.366
26-4542	0.547	0.783	0.994	1.511	2.241	3.166	4.248	4.945	5.473	6.613	7.456	9.563	11.291	13.669	15.975
26-5168	0.354	0.472	0.543	0.664	0.785	0.909	1.037	1.116	1.175	1.301	1.391	1.604	1.764	1.962	2.137
26-5191	0.307	0.455	0.564	0.786	1.047	1.335	1.644	1.835	1.977	2.276	2.492	3.016	3.430	3.984	4.506
26-5441	0.414	0.603	0.767	1.160	1.707	2.404	3.237	3.789	4.216	5.159	5.872	7.684	9.174	11.200	13.128
26-5605	0.295	0.415	0.491	0.632	0.784	0.946	1.120	1.230	1.314	1.494	1.627	1.952	2.206	2.536	2.837
26-5890	0.360	0.487	0.567	0.711	0.861	1.015	1.174	1.272	1.344	1.497	1.606	1.864	2.059	2.305	2.524
26-5931	0.395	0.607	0.767	1.092	1.453	1.818	2.167	2.364	2.503	2.781	2.973	3.424	3.777	4.251	4.705
26-6691	0.822	1.053	1.189	1.423	1.655	1.888	2.127	2.274	2.385	2.624	2.803	3.252	3.620	4.125	4.610
26-6779	0.325	0.456	0.545	0.716	0.908	1.119	1.348	1.494	1.604	1.844	2.020	2.455	2.799	3.252	3.672
26-7261	0.227	0.339	0.420	0.585	0.779	0.996	1.234	1.383	1.494	1.733	1.907	2.323	2.646	3.065	3.448
26-7358	0.371	0.490	0.563	0.692	0.826	0.965	1.113	1.206	1.276	1.427	1.537	1.800	1.999	2.253	2.478
26-7369	0.730	0.911	1.022	1.221	1.430	1.648	1.880	2.024	2.132	2.365	2.537	2.958	3.294	3.741	4.159
26-7443	0.266	0.381	0.460	0.612	0.788	0.989	1.222	1.378	1.501	1.778	1.993	2.547	3.005	3.626	4.212
26-7463	0.230	0.328	0.393	0.516	0.652	0.796	0.949	1.042	1.111	1.252	1.351	1.571	1.726	1.909	2.061
26-7609	0.365	0.510	0.608	0.794	0.998	1.213	1.439	1.577	1.679	1.895	2.050	2.424	2.715	3.095	3.447
26-7612	0.344	0.462	0.538	0.677	0.826	0.984	1.154	1.259	1.339	1.509	1.633	1.928	2.153	2.440	2.697
26-7953	0.350	0.469	0.545	0.685	0.837	1.001	1.180	1.295	1.382	1.571	1.712	2.054	2.322	2.668	2.983
26-8034	0.315	0.418	0.478	0.580	0.682	0.786	0.894	0.961	1.011	1.118	1.195	1.374	1.507	1.669	1.809
26-8160	0.279	0.371	0.430	0.541	0.661	0.791	0.931	1.018	1.083	1.221	1.319	1.543	1.705	1.902	2.070
26-8170	0.280	0.373	0.432	0.543	0.665	0.795	0.936	1.023	1.089	1.227	1.325	1.550	1.713	1.911	2.080
26-8186	0.303	0.449	0.556	0.774	1.030	1.314	1.618	1.806	1.945	2.240	2.453	2.970	3.378	3.922	4.435
26-8761	0.409	0.594	0.725	0.985	1.286	1.619	1.979	2.205	2.374	2.738	3.006	3.671	4.211	4.948	5.658
26-8822	0.314	0.416	0.478	0.589	0.706	0.829	0.961	1.043	1.106	1.239	1.336	1.563	1.732	1.941	2.122
26-8838	0.292	0.391	0.452	0.563	0.681	0.808	0.946	1.035	1.104	1.253	1.364	1.634	1.843	2.111	2.350

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
26-8977	0.330	0.488	0.605	0.846	1.130	1.445	1.780	1.986	2.138	2.460	2.692	3.254	3.701	4.301	4.872
26-9229	0.354	0.465	0.533	0.656	0.784	0.920	1.064	1.156	1.225	1.373	1.480	1.736	1.930	2.173	2.387
35-0036	0.356	0.468	0.546	0.703	0.889	1.107	1.361	1.532	1.666	1.970	2.205	2.809	3.308	3.982	4.618
35-0118	0.417	0.538	0.616	0.767	0.940	1.138	1.367	1.518	1.635	1.896	2.092	2.580	2.966	3.472	3.936
35-0304	0.350	0.518	0.642	0.902	1.222	1.602	2.045	2.341	2.573	3.097	3.503	4.562	5.454	6.688	7.876
35-0853	0.381	0.521	0.621	0.824	1.073	1.374	1.735	1.983	2.181	2.638	3.000	3.963	4.785	5.932	7.042
35-1055	0.675	1.031	1.337	2.067	3.094	4.429	6.075	7.207	8.111	10.218	11.918	16.615	20.763	26.597	32.200
35-1149	0.464	0.668	0.826	1.169	1.606	2.130	2.742	3.146	3.459	4.161	4.700	6.102	7.291	8.955	10.581
35-1207	0.550	0.776	0.960	1.376	1.924	2.597	3.390	3.920	4.334	5.272	6.004	7.942	9.597	11.901	14.126
35-1448	0.560	0.844	1.107	1.774	2.767	4.091	5.717	6.808	7.657	9.556	11.017	14.841	18.088	22.583	26.888
35-1571	0.452	0.601	0.705	0.915	1.172	1.478	1.845	2.095	2.293	2.746	3.098	4.021	4.796	5.861	6.882
35-1574	0.486	0.646	0.758	0.985	1.262	1.594	1.992	2.264	2.479	2.974	3.361	4.382	5.248	6.451	7.612
35-1828	0.542	0.773	0.965	1.407	1.997	2.721	3.562	4.110	4.531	5.461	6.169	8.009	9.570	11.760	13.903
35-1946	0.516	0.698	0.888	1.413	2.225	3.306	4.623	5.518	6.233	7.923	9.315	13.254	16.753	21.602	26.144
35-2295	0.535	0.785	0.994	1.479	2.142	2.987	4.016	4.715	5.267	6.525	7.511	10.132	12.374	15.490	18.490
35-3232	0.380	0.513	0.610	0.809	1.054	1.349	1.700	1.939	2.128	2.558	2.893	3.763	4.487	5.472	6.404
35-3305	0.554	0.813	1.028	1.525	2.205	3.073	4.132	4.852	5.420	6.708	7.711	10.353	12.596	15.704	18.691
35-3356	0.684	1.029	1.324	2.035	3.053	4.404	6.104	7.291	8.245	10.486	12.308	17.381	21.878	28.194	34.237
35-3445	0.457	0.657	0.822	1.207	1.734	2.412	3.246	3.815	4.262	5.268	6.043	8.044	9.719	12.030	14.257
35-3509	0.435	0.624	0.775	1.110	1.540	2.055	2.643	3.023	3.313	3.948	4.427	5.663	6.712	8.197	9.674
35-3692	0.439	0.564	0.644	0.797	0.972	1.173	1.407	1.564	1.686	1.960	2.169	2.689	3.102	3.641	4.133
35-4060	0.555	0.764	0.928	1.290	1.759	2.333	3.008	3.456	3.804	4.584	5.188	6.781	8.154	10.099	12.019
35-4133	0.746	1.153	1.511	2.389	3.659	5.341	7.438	8.885	10.040	12.734	14.913	20.982	26.378	33.946	41.143
35-4216	0.454	0.654	0.809	1.143	1.568	2.078	2.674	3.070	3.377	4.066	4.596	5.981	7.156	8.801	10.409
35-4403	0.435	0.599	0.720	0.975	1.293	1.674	2.120	2.417	2.650	3.173	3.576	4.624	5.505	6.724	7.899
35-4426	0.600	0.872	1.110	1.691	2.524	3.618	4.964	5.874	6.588	8.194	9.439	12.712	15.506	19.398	23.158
35-4506	0.369	0.501	0.594	0.781	1.006	1.274	1.590	1.804	1.973	2.356	2.654	3.429	4.076	4.964	5.810
35-4511	0.339	0.466	0.553	0.727	0.934	1.178	1.464	1.657	1.810	2.157	2.428	3.136	3.733	4.556	5.348
35-4635	0.363	0.535	0.663	0.930	1.260	1.654	2.116	2.427	2.672	3.228	3.660	4.792	5.742	7.049	8.298
35-4670	0.328	0.444	0.526	0.695	0.899	1.137	1.413	1.598	1.742	2.066	2.316	2.961	3.498	4.231	4.932
35-4721	0.519	0.834	1.109	1.774	2.720	3.957	5.493	6.557	7.411	9.419	11.054	15.616	19.666	25.349	30.775
35-5055	0.477	0.673	0.831	1.183	1.645	2.217	2.901	3.361	3.723	4.546	5.190	6.899	8.372	10.447	12.482
35-5170	0.286	0.393	0.466	0.610	0.780	0.979	1.215	1.376	1.504	1.796	2.025	2.624	3.123	3.803	4.446
35-5174	0.369	0.510	0.607	0.799	1.026	1.288	1.592	1.795	1.954	2.317	2.599	3.337	3.957	4.813	5.634
35-5424	0.410	0.590	0.729	1.028	1.407	1.862	2.394	2.747	3.022	3.640	4.116	5.357	6.406	7.865	9.283
35-5429	0.390	0.567	0.700	0.984	1.336	1.756	2.245	2.570	2.825	3.399	3.844	5.003	5.982	7.338	8.649
35-5656	0.382	0.564	0.699	0.985	1.338	1.755	2.241	2.565	2.819	3.391	3.834	4.991	5.967	7.320	8.626
35-6426	0.347	0.474	0.566	0.752	0.974	1.228	1.514	1.701	1.845	2.163	2.404	3.020	3.529	4.225	4.892
35-6784	0.488	0.785	1.045	1.671	2.558	3.718	5.160	6.160	6.965	8.855	10.395	14.683	18.485	23.824	28.931
35-6795	0.760	1.291	1.749	2.852	4.407	6.407	8.816	10.438	11.718	14.675	17.071	23.889	30.161	39.183	47.891
35-6820	0.494	0.781	1.029	1.625	2.463	3.552	4.903	5.839	6.590	8.349	9.776	13.732	17.227	22.134	26.836
35-6907	0.508	0.719	0.891	1.282	1.801	2.448	3.225	3.751	4.166	5.120	5.874	7.896	9.635	12.059	14.392
35-7169	0.410	0.602	0.756	1.107	1.581	2.187	2.938	3.457	3.870	4.818	5.562	7.525	9.190	11.493	13.704
35-7171	0.477	0.713	0.904	1.338	1.924	2.671	3.589	4.220	4.720	5.862	6.755	9.112	11.111	13.877	16.532
35-7354	0.395	0.534	0.635	0.845	1.101	1.406	1.761	1.999	2.186	2.605	2.929	3.765	4.461	5.414	6.326
35-7391	0.451	0.647	0.800	1.131	1.552	2.057	2.645	3.034	3.336	4.011	4.531	5.883	7.025	8.616	10.162
35-7698	0.495	0.725	0.915	1.356	1.957	2.718	3.638	4.260	4.750	5.864	6.739	9.083	11.114	13.971	16.750
35-7848	0.603	0.826	1.006	1.410	1.940	2.588	3.338	3.825	4.198	5.020	5.645	7.274	8.675	10.673	12.667
35-8007	0.405	0.547	0.649	0.863	1.126	1.442	1.817	2.070	2.270	2.722	3.073	3.985	4.748	5.795	6.796
35-8173	0.385	0.535	0.644	0.866	1.130	1.427	1.753	1.960	2.116	2.456	2.711	3.362	3.911	4.687	5.457
35-8338	0.336	0.492	0.609	0.857	1.167	1.539	1.974	2.265	2.492	3.003	3.397	4.422	5.282	6.473	7.622
35-8514	0.423	0.622	0.780	1.134	1.601	2.183	2.889	3.370	3.752	4.627	5.315	7.149	8.723	10.926	13.065
35-8812	0.394	0.521	0.616	0.812	1.050	1.326	1.638	1.841	1.997	2.344	2.607	3.277	3.830	4.585	5.308
35-9390	0.596	0.855	1.073	1.582	2.278	3.153	4.189	4.872	5.399	6.567	7.456	9.757	11.702	14.416	17.061
35-9604	0.329	0.454	0.542	0.718	0.929	1.177	1.468	1.665	1.819	2.172	2.446	3.163	3.766	4.598	5.398

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
72-0001	0.534	0.795	1.011	1.513	2.213	3.129	4.281	5.081	5.719	7.186	8.335	11.330	13.789	17.040	20.004
72-0002	0.784	1.198	1.543	2.336	3.389	4.669	6.129	7.061	7.766	9.296	10.445	13.412	15.933	19.463	22.895
72-0004	0.457	0.671	0.840	1.214	1.698	2.287	2.979	3.440	3.799	4.607	5.232	6.861	8.238	10.150	12.000
72-0005	0.632	0.925	1.151	1.635	2.242	2.958	3.785	4.332	4.759	5.728	6.486	8.500	10.228	12.637	14.966
72-0006	0.886	1.347	1.736	2.634	3.828	5.271	6.897	7.923	8.693	10.352	11.590	14.789	17.525	21.396	25.209
72-0007	0.396	0.579	0.711	0.980	1.302	1.676	2.110	2.401	2.631	3.157	3.570	4.669	5.613	6.935	8.223
72-0009	0.483	0.753	0.984	1.531	2.296	3.291	4.521	5.365	6.033	7.552	8.730	11.793	14.350	17.848	21.180
72-0010	0.672	1.031	1.318	1.954	2.770	3.746	4.865	5.591	6.149	7.379	8.317	10.755	12.818	15.678	18.429
72-0011	0.580	0.835	1.039	1.504	2.133	2.938	3.931	4.611	5.148	6.361	7.296	9.705	11.708	14.454	17.085
72-0012	0.508	0.704	0.843	1.128	1.477	1.896	2.401	2.748	3.026	3.666	4.173	5.522	6.679	8.300	9.880
72-0014	0.833	1.270	1.638	2.490	3.632	5.025	6.609	7.613	8.367	9.991	11.200	14.308	16.951	20.670	24.310
72-0015	0.946	1.428	1.821	2.706	3.854	5.227	6.782	7.778	8.535	10.200	11.471	14.821	17.697	21.693	25.509
72-0016	0.361	0.531	0.653	0.900	1.197	1.544	1.949	2.220	2.435	2.926	3.311	4.335	5.214	6.444	7.644
72-0017	0.819	1.246	1.593	2.375	3.395	4.626	6.032	6.937	7.626	9.131	10.267	13.206	15.701	19.184	22.559
72-0018	0.439	0.644	0.796	1.108	1.477	1.886	2.323	2.592	2.792	3.220	3.536	4.335	5.010	5.971	6.937
72-0019	0.507	0.778	0.992	1.480	2.181	3.125	4.284	5.092	5.749	7.207	8.366	11.497	14.011	17.238	20.091
72-0021	0.653	0.976	1.255	1.918	2.828	3.959	5.272	6.124	6.776	8.214	9.308	12.150	14.550	17.873	21.071
72-0022	0.742	1.146	1.477	2.219	3.178	4.318	5.607	6.434	7.064	8.449	9.502	12.243	14.571	17.805	20.919
72-0025	0.509	0.726	0.887	1.229	1.664	2.201	2.856	3.307	3.667	4.494	5.143	6.854	8.300	10.301	12.228
72-0026	0.589	0.874	1.110	1.665	2.439	3.453	4.724	5.604	6.306	7.916	9.179	12.478	15.193	18.787	22.062
72-0027	0.653	0.952	1.188	1.708	2.383	3.202	4.159	4.791	5.282	6.380	7.228	9.452	11.350	14.007	16.593
72-0029	0.589	0.846	1.029	1.401	1.841	2.351	2.921	3.293	3.591	4.235	4.755	6.224	7.446	9.055	10.510
72-0030	0.493	0.695	0.844	1.158	1.553	2.037	2.624	3.028	3.350	4.087	4.665	6.185	7.470	9.253	10.977
72-0031	0.811	1.239	1.558	2.227	3.058	4.028	5.064	5.724	6.248	7.366	8.259	10.781	12.868	15.608	18.077
72-0034	0.751	1.144	1.460	2.168	3.090	4.205	5.490	6.321	6.957	8.350	9.403	12.127	14.436	17.655	20.773
72-0035	0.550	0.817	1.038	1.553	2.264	3.185	4.322	5.099	5.713	7.107	8.189	11.007	13.362	16.579	19.634
72-0036	0.349	0.520	0.641	0.885	1.169	1.491	1.852	2.087	2.270	2.679	2.995	3.825	4.534	5.532	6.512
72-0039	0.536	0.793	1.005	1.496	2.164	3.020	4.070	4.790	5.360	6.661	7.675	10.325	12.542	15.571	18.447
72-0040	0.429	0.633	0.783	1.092	1.462	1.884	2.356	2.662	2.897	3.421	3.822	4.874	5.774	7.048	8.309
72-0041	0.623	0.942	1.212	1.852	2.745	3.904	5.331	6.305	7.073	8.823	10.186	13.733	16.653	20.527	24.071
72-0043	0.780	1.146	1.474	2.282	3.437	4.913	6.637	7.746	8.585	10.408	11.777	15.301	18.281	22.452	26.531
79-1021	0.470	0.710	0.884	1.241	1.662	2.131	2.642	2.964	3.207	3.735	4.128	5.122	5.945	7.085	8.194
79-1075	0.540	0.821	1.031	1.471	1.997	2.587	3.224	3.619	3.914	4.545	5.010	6.173	7.138	8.483	9.808
79-1262	0.524	0.798	1.006	1.445	1.977	2.579	3.227	3.627	3.924	4.551	5.009	6.141	7.071	8.362	9.628
79-1335	0.517	0.788	0.992	1.419	1.933	2.512	3.137	3.525	3.814	4.429	4.880	6.004	6.934	8.229	9.503
79-1385	0.707	1.101	1.412	2.087	2.921	3.862	4.857	5.460	5.902	6.828	7.500	9.176	10.576	12.561	14.552
79-2001	0.476	0.706	0.875	1.219	1.624	2.076	2.569	2.881	3.118	3.635	4.024	5.018	5.849	7.006	8.135
79-2015	0.729	1.074	1.334	1.875	2.523	3.246	4.025	4.512	4.878	5.673	6.270	7.804	9.100	10.920	12.714
79-2017	0.829	1.282	1.633	2.381	3.282	4.280	5.330	5.969	6.443	7.451	8.197	10.099	11.715	14.023	16.341
79-2118	0.846	1.351	1.749	2.599	3.615	4.714	5.837	6.506	6.997	8.037	8.805	10.775	12.458	14.857	17.257
79-2222	0.433	0.647	0.800	1.109	1.469	1.870	2.309	2.588	2.799	3.262	3.610	4.496	5.235	6.259	7.256
79-2287	0.912	1.428	1.849	2.804	4.045	5.489	7.010	7.904	8.543	9.832	10.735	12.934	14.766	17.401	20.107
79-2357	0.617	0.923	1.151	1.624	2.185	2.810	3.484	3.906	4.223	4.912	5.428	6.750	7.864	9.428	10.969
79-2893	0.622	0.936	1.171	1.657	2.231	2.867	3.547	3.971	4.290	4.982	5.502	6.838	7.968	9.559	11.130
79-2996	0.531	0.806	1.011	1.432	1.929	2.480	3.072	3.440	3.717	4.314	4.757	5.882	6.824	8.143	9.446
79-3015	0.707	1.072	1.377	2.070	2.960	3.979	5.057	5.706	6.181	7.179	7.907	9.743	11.293	13.497	15.707
79-3023	0.452	0.671	0.830	1.155	1.538	1.968	2.438	2.738	2.965	3.463	3.838	4.795	5.594	6.701	7.779
79-3132	0.556	0.832	1.047	1.511	2.080	2.726	3.425	3.859	4.185	4.884	5.404	6.723	7.829	9.379	10.908
79-3259	0.508	0.795	1.015	1.490	2.121	2.858	3.582	4.015	4.339	4.960	5.430	6.741	7.789	9.122	10.289
79-3337	0.462	0.688	0.859	1.216	1.649	2.140	2.680	3.020	3.277	3.833	4.248	5.294	6.162	7.365	8.538
79-3355	0.445	0.661	0.817	1.134	1.507	1.923	2.379	2.669	2.889	3.371	3.734	4.658	5.429	6.499	7.540
79-6304	0.368	0.484	0.555	0.682	0.815	0.953	1.098	1.189	1.258	1.404	1.512	1.770	1.969	2.223	2.452
79-6383	0.372	0.567	0.709	0.989	1.302	1.631	1.967	2.168	2.316	2.627	2.854	3.418	3.881	4.522	5.148
79-9002	0.432	0.578	0.675	0.859	1.057	1.269	1.494	1.635	1.743	1.967	2.136	2.566	2.888	3.277	3.604
79-9004	0.400	0.532	0.612	0.753	0.896	1.041	1.188	1.277	1.342	1.476	1.570	1.783	1.935	2.118	2.274

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
79-9028	0.671	1.065	1.378	2.055	2.878	3.782	4.712	5.264	5.664	6.498	7.102	8.610	9.873	11.665	13.457
80-0198	0.581	0.824	0.988	1.304	1.665	2.072	2.535	2.842	3.083	3.625	4.045	5.138	6.052	7.304	8.498
80-0205	0.557	0.819	1.000	1.357	1.770	2.236	2.762	3.105	3.371	3.963	4.416	5.578	6.539	7.845	9.083
80-0208	0.764	1.148	1.434	2.027	2.738	3.537	4.399	4.930	5.323	6.154	6.759	8.261	9.499	11.219	12.905
80-0211	0.779	1.187	1.494	2.131	2.887	3.723	4.604	5.141	5.537	6.374	6.988	8.536	9.835	11.663	13.472
80-0221	0.340	0.505	0.616	0.825	1.056	1.301	1.562	1.726	1.850	2.119	2.321	2.835	3.263	3.856	4.434
80-0226	0.772	1.181	1.487	2.121	2.866	3.680	4.533	5.052	5.436	6.252	6.856	8.393	9.694	11.534	13.359
80-0227	0.986	1.512	1.909	2.746	3.763	4.916	6.154	6.909	7.463	8.623	9.462	11.551	13.289	15.728	18.138
80-0228	0.808	1.222	1.530	2.168	2.920	3.751	4.630	5.167	5.565	6.411	7.031	8.586	9.876	11.667	13.414
80-0229	0.877	1.328	1.664	2.356	3.173	4.071	5.016	5.592	6.018	6.921	7.585	9.253	10.642	12.575	14.465
80-0230	1.064	1.634	2.056	2.934	4.006	5.232	6.521	7.317	7.922	9.115	10.025	12.513	14.482	16.973	19.144
80-0231	1.012	1.532	1.922	2.740	3.729	4.849	6.053	6.790	7.333	8.473	9.300	11.363	13.077	15.480	17.852
80-0232	1.157	1.815	2.313	3.360	4.630	6.065	7.604	8.539	9.223	10.645	11.666	14.193	16.293	19.245	22.174
80-0233	0.711	1.077	1.345	1.891	2.529	3.237	4.007	4.492	4.858	5.651	6.240	7.717	8.924	10.569	12.140
80-0234	0.746	1.129	1.413	1.996	2.681	3.433	4.229	4.716	5.077	5.844	6.408	7.821	8.994	10.624	12.217
80-0236	1.115	1.713	2.149	3.027	4.037	5.150	6.307	7.024	7.584	8.746	9.655	12.163	14.182	16.769	19.050
80-0238	0.482	0.780	1.002	1.454	1.975	2.534	3.078	3.400	3.645	4.126	4.498	5.551	6.406	7.504	8.473
80-0242	1.016	1.541	1.934	2.754	3.737	4.834	5.996	6.699	7.215	8.295	9.079	11.049	12.706	15.055	17.397
80-0249	0.522	0.772	0.954	1.327	1.766	2.257	2.789	3.122	3.373	3.916	4.320	5.343	6.194	7.378	8.534
80-0251	0.941	1.397	1.719	2.358	3.092	3.905	4.800	5.373	5.813	6.783	7.522	9.430	11.036	13.264	15.420
80-0255	1.053	1.648	2.103	3.070	4.251	5.587	7.007	7.864	8.488	9.785	10.718	13.044	14.989	17.741	20.483
80-0256	0.582	0.841	1.023	1.388	1.818	2.312	2.876	3.246	3.533	4.172	4.660	5.915	6.960	8.393	9.767
80-0258	0.643	0.953	1.167	1.586	2.060	2.584	3.161	3.535	3.822	4.464	4.956	6.234	7.307	8.787	10.210
80-0259	0.771	1.143	1.405	1.922	2.511	3.159	3.871	4.327	4.678	5.455	6.050	7.591	8.890	10.693	12.440
80-0262	0.844	1.288	1.618	2.293	3.081	3.944	4.865	5.437	5.866	6.790	7.477	9.216	10.661	12.660	14.597
80-0310	0.685	1.047	1.317	1.873	2.528	3.247	4.004	4.465	4.806	5.527	6.057	7.397	8.526	10.127	11.724
80-0325	0.765	1.167	1.466	2.083	2.813	3.621	4.481	5.010	5.404	6.239	6.852	8.384	9.647	11.391	13.083
80-0334	0.699	1.068	1.343	1.913	2.585	3.326	4.107	4.583	4.935	5.681	6.227	7.608	8.769	10.409	12.040
80-0335	0.777	1.177	1.474	2.085	2.801	3.586	4.411	4.913	5.286	6.075	6.656	8.117	9.335	11.039	12.713
80-0338	0.757	1.153	1.448	2.055	2.768	3.550	4.371	4.872	5.242	6.027	6.604	8.058	9.276	10.986	12.674
80-0346	0.714	1.089	1.367	1.938	2.608	3.341	4.114	4.585	4.935	5.677	6.223	7.598	8.745	10.349	11.927
80-0349	0.588	0.838	1.009	1.341	1.725	2.160	2.656	2.984	3.240	3.815	4.259	5.411	6.375	7.700	8.969
80-0352	0.559	0.791	0.946	1.243	1.581	1.962	2.396	2.685	2.911	3.425	3.823	4.859	5.725	6.909	8.036
80-0361	0.525	0.769	0.936	1.261	1.631	2.046	2.509	2.812	3.047	3.572	3.975	5.015	5.881	7.066	8.196
80-0376	0.749	1.146	1.442	2.051	2.765	3.543	4.358	4.852	5.217	5.991	6.561	8.007	9.230	10.965	12.694
80-0380	0.570	0.809	0.970	1.281	1.636	2.038	2.496	2.800	3.038	3.576	3.992	5.074	5.977	7.213	8.390
80-0386	0.973	1.484	1.865	2.650	3.577	4.595	5.665	6.317	6.798	7.818	8.566	10.452	12.024	14.211	16.344
80-0387	0.563	0.796	0.952	1.251	1.592	1.976	2.413	2.704	2.932	3.448	3.848	4.890	5.762	6.954	8.090
80-0389	0.891	1.337	1.658	2.301	3.045	3.868	4.763	5.330	5.761	6.700	7.406	9.210	10.718	12.810	14.839
80-0390	1.091	1.685	2.126	3.044	4.164	5.443	6.792	7.627	8.259	9.505	10.453	13.042	15.088	17.672	19.923
80-0393	0.769	1.161	1.446	2.022	2.691	3.432	4.236	4.743	5.126	5.957	6.578	8.152	9.457	11.258	13.000
80-0398	0.752	1.109	1.360	1.857	2.432	3.076	3.793	4.257	4.614	5.407	6.013	7.575	8.878	10.663	12.368
80-0402	0.356	0.527	0.645	0.873	1.128	1.403	1.697	1.882	2.021	2.324	2.550	3.123	3.599	4.257	4.898
80-0406	0.604	0.855	1.025	1.353	1.727	2.149	2.629	2.948	3.196	3.758	4.193	5.324	6.271	7.570	8.810
80-0407	0.570	0.809	0.969	1.278	1.629	2.025	2.475	2.773	3.006	3.533	3.941	5.004	5.893	7.111	8.274
80-0408	0.570	0.828	1.010	1.376	1.809	2.309	2.879	3.253	3.542	4.187	4.680	5.946	6.999	8.445	9.830
80-0409	0.614	0.872	1.048	1.390	1.783	2.227	2.733	3.068	3.330	3.920	4.376	5.563	6.557	7.921	9.225
80-0410	0.558	0.794	0.954	1.265	1.622	2.028	2.491	2.798	3.038	3.579	3.997	5.081	5.986	7.225	8.408
80-0411	0.554	0.807	0.981	1.325	1.726	2.182	2.700	3.041	3.306	3.900	4.354	5.524	6.494	7.815	9.069
80-0415	0.632	0.907	1.098	1.476	1.917	2.422	2.998	3.377	3.671	4.326	4.827	6.115	7.185	8.653	10.056
80-0416	0.664	0.953	1.155	1.554	2.020	2.552	3.157	3.555	3.864	4.555	5.085	6.458	7.608	9.196	10.722
80-0421	0.711	1.068	1.343	1.931	2.654	3.477	4.358	4.896	5.293	6.127	6.736	8.264	9.546	11.363	13.179
80-0436	0.347	0.514	0.627	0.842	1.078	1.331	1.601	1.770	1.898	2.176	2.385	2.916	3.359	3.975	4.574
80-0438	0.469	0.698	0.853	1.154	1.494	1.873	2.295	2.570	2.784	3.260	3.626	4.570	5.356	6.434	7.465
80-0439	0.580	0.851	1.037	1.400	1.814	2.275	2.788	3.122	3.381	3.957	4.400	5.541	6.492	7.793	9.034

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
81-0001	0.558	0.806	0.987	1.363	1.830	2.394	3.073	3.539	3.908	4.753	5.413	7.142	8.602	10.633	12.606
81-0002	0.561	0.812	0.994	1.369	1.831	2.390	3.063	3.525	3.893	4.736	5.395	7.128	8.594	10.634	12.617
81-0003	0.586	0.845	1.036	1.437	1.940	2.553	3.290	3.794	4.193	5.100	5.804	7.641	9.192	11.356	13.471
81-0012	0.489	0.695	0.838	1.128	1.479	1.901	2.409	2.758	3.036	3.672	4.169	5.474	6.579	8.121	9.624
81-0014	0.501	0.719	0.878	1.208	1.617	2.111	2.703	3.105	3.423	4.143	4.702	6.158	7.390	9.118	10.815
81-0019	0.528	0.754	0.915	1.245	1.650	2.139	2.731	3.136	3.458	4.193	4.765	6.265	7.541	9.337	11.108
81-0020	0.489	0.704	0.861	1.187	1.591	2.081	2.667	3.066	3.381	4.095	4.649	6.094	7.315	9.025	10.700
81-0021	0.487	0.699	0.850	1.161	1.544	2.007	2.566	2.949	3.253	3.946	4.485	5.899	7.100	8.788	10.448
81-0023	0.473	0.678	0.823	1.118	1.479	1.914	2.441	2.803	3.091	3.751	4.267	5.623	6.776	8.393	9.979
81-0024	0.547	0.779	0.943	1.273	1.675	2.160	2.745	3.147	3.467	4.199	4.771	6.273	7.552	9.351	11.123
81-0025	0.509	0.753	0.933	1.308	1.774	2.333	2.994	3.437	3.784	4.562	5.159	6.700	7.993	9.793	11.548
81-0029	0.377	0.548	0.671	0.925	1.236	1.609	2.054	2.357	2.596	3.140	3.564	4.666	5.590	6.865	8.093
81-0030	0.568	0.820	1.008	1.407	1.908	2.518	3.247	3.742	4.132	5.015	5.696	7.465	8.959	11.048	13.099
81-0037	0.570	0.825	1.008	1.388	1.856	2.421	3.102	3.569	3.941	4.792	5.458	7.206	8.686	10.746	12.750
81-0038	0.522	0.758	0.927	1.276	1.705	2.220	2.840	3.266	3.606	4.386	4.998	6.605	7.962	9.842	11.659
81-0040	0.624	0.904	1.108	1.532	2.055	2.686	3.446	3.968	4.384	5.336	6.081	8.030	9.672	11.947	14.149
81-0044	0.513	0.746	0.920	1.287	1.749	2.310	2.979	3.432	3.787	4.588	5.204	6.794	8.125	9.971	11.764
81-0055	0.489	0.701	0.852	1.159	1.534	1.987	2.534	2.910	3.210	3.899	4.439	5.858	7.057	8.721	10.334
81-0060	0.547	0.792	0.969	1.338	1.796	2.351	3.020	3.478	3.841	4.671	5.319	7.014	8.449	10.453	12.410
81-0068	0.718	1.047	1.290	1.798	2.430	3.191	4.100	4.719	5.209	6.324	7.190	9.435	11.310	13.890	16.374
82-0201	0.780	1.286	1.679	2.529	3.622	4.878	6.109	6.847	7.413	8.533	9.410	11.962	14.093	16.898	19.425
83-6004	0.923	1.334	1.641	2.300	3.143	4.183	5.419	6.234	6.856	8.204	9.196	11.662	13.695	16.534	19.341
83-6009	0.914	1.317	1.619	2.271	3.116	4.172	5.440	6.278	6.918	8.294	9.299	11.777	13.812	16.664	19.500
83-6010	1.130	1.630	2.004	2.811	3.869	5.217	6.871	7.976	8.821	10.636	11.957	15.207	17.883	21.644	25.397
83-6014	0.542	0.777	0.942	1.277	1.680	2.158	2.722	3.103	3.403	4.081	4.605	5.973	7.132	8.758	10.354
83-6015	0.568	0.846	1.052	1.484	2.012	2.632	3.349	3.825	4.198	5.040	5.692	7.396	8.827	10.792	12.668
83-6017	0.628	0.924	1.145	1.614	2.200	2.908	3.741	4.298	4.732	5.702	6.443	8.352	9.948	12.157	14.296
83-6020	0.625	0.903	1.111	1.549	2.100	2.762	3.537	4.045	4.434	5.284	5.917	7.506	8.820	10.651	12.453
83-6021	0.582	0.867	1.078	1.516	2.051	2.678	3.405	3.888	4.264	5.109	5.759	7.445	8.861	10.819	12.711
83-6022	0.535	0.777	0.950	1.302	1.726	2.226	2.812	3.203	3.508	4.193	4.716	6.065	7.197	8.774	10.317
83-6023	0.501	0.716	0.866	1.170	1.539	1.983	2.518	2.888	3.182	3.859	4.390	5.789	6.981	8.650	10.283
83-6024	0.757	1.097	1.348	1.878	2.549	3.370	4.347	4.996	5.496	6.586	7.397	9.441	11.157	13.604	16.079
83-6026	0.781	1.127	1.387	1.946	2.667	3.562	4.632	5.340	5.881	7.051	7.911	10.043	11.797	14.252	16.685
83-6032	0.943	1.360	1.674	2.351	3.228	4.327	5.653	6.535	7.212	8.681	9.763	12.449	14.656	17.718	20.721
83-6038	1.169	1.687	2.075	2.909	3.992	5.356	7.012	8.116	8.961	10.789	12.130	15.454	18.192	22.013	25.779
83-6039	1.066	1.537	1.890	2.655	3.658	4.933	6.491	7.529	8.323	10.028	11.272	14.336	16.853	20.372	23.856
83-6041	0.574	0.856	1.064	1.500	2.036	2.670	3.404	3.890	4.267	5.109	5.753	7.415	8.811	10.752	12.639
83-6052	0.424	0.607	0.733	0.982	1.279	1.628	2.045	2.329	2.556	3.075	3.482	4.551	5.455	6.708	7.922
83-6054	0.417	0.597	0.723	0.976	1.281	1.647	2.087	2.390	2.632	3.187	3.624	4.778	5.761	7.136	8.479
83-6055	1.192	1.717	2.110	2.957	4.064	5.471	7.186	8.327	9.199	11.069	12.431	15.794	18.568	22.456	26.309
83-6056	0.500	0.716	0.866	1.168	1.531	1.963	2.479	2.832	3.113	3.756	4.260	5.587	6.719	8.307	9.865
83-6057	0.527	0.754	0.912	1.229	1.607	2.053	2.583	2.944	3.230	3.885	4.397	5.744	6.892	8.499	10.072
83-6083	0.461	0.661	0.800	1.077	1.406	1.793	2.251	2.562	2.809	3.374	3.816	4.976	5.961	7.334	8.671
83-6085	0.529	0.762	0.929	1.269	1.684	2.184	2.788	3.204	3.537	4.301	4.901	6.480	7.814	9.665	11.456
83-6086	0.423	0.605	0.731	0.980	1.275	1.624	2.039	2.323	2.549	3.067	3.473	4.539	5.440	6.691	7.901
83-6088	0.552	0.825	1.029	1.456	1.982	2.601	3.315	3.787	4.154	4.974	5.604	7.236	8.605	10.500	12.329
83-6094	1.084	1.590	1.980	2.836	3.963	5.387	7.115	8.263	9.142	11.033	12.414	15.823	18.634	22.583	26.520
83-6097	0.664	0.959	1.177	1.638	2.216	2.915	3.737	4.279	4.695	5.605	6.283	7.981	9.379	11.314	13.206
83-6100	0.761	1.096	1.346	1.880	2.556	3.380	4.348	4.980	5.462	6.500	7.263	9.161	10.733	12.947	15.158
83-6102	0.489	0.724	0.898	1.259	1.703	2.228	2.836	3.239	3.552	4.248	4.780	6.145	7.286	8.865	10.396
84-0135	0.794	1.244	1.611	2.431	3.494	4.771	6.253	7.238	8.011	9.768	11.141	14.748	17.778	21.927	25.874
84-0934	0.803	1.196	1.502	2.172	3.033	4.086	5.349	6.210	6.893	8.456	9.680	12.882	15.558	19.204	22.648
84-0969	0.795	1.233	1.588	2.386	3.424	4.682	6.153	7.135	7.907	9.662	11.031	14.613	17.612	21.705	25.589
84-2057	0.708	1.082	1.378	2.029	2.863	3.870	5.055	5.850	6.475	7.892	8.996	11.882	14.311	17.662	20.883
84-3435	0.524	0.799	1.010	1.468	2.052	2.767	3.622	4.203	4.660	5.697	6.497	8.561	10.274	12.616	14.858

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
84-3941	0.641	0.961	1.206	1.736	2.416	3.254	4.265	4.954	5.499	6.744	7.717	10.263	12.397	15.309	18.064
84-4277	0.683	1.023	1.290	1.878	2.638	3.564	4.665	5.407	5.993	7.332	8.382	11.149	13.483	16.689	19.745
84-4502	0.891	1.369	1.756	2.621	3.748	5.115	6.718	7.789	8.631	10.546	12.041	15.951	19.224	23.695	27.942
84-4652	0.849	1.326	1.714	2.587	3.719	5.081	6.660	7.708	8.529	10.394	11.850	15.673	18.887	23.297	27.504
84-5647	0.608	0.928	1.179	1.730	2.432	3.282	4.285	4.961	5.494	6.707	7.654	10.136	12.225	15.097	17.841
84-5996	0.763	1.178	1.508	2.237	3.171	4.294	5.609	6.491	7.185	8.772	10.017	13.304	16.077	19.872	23.468
84-6187	0.638	0.961	1.213	1.769	2.489	3.373	4.431	5.146	5.711	7.000	8.006	10.644	12.856	15.879	18.747
84-6188	0.762	1.149	1.455	2.132	3.013	4.096	5.390	6.268	6.961	8.547	9.788	13.040	15.762	19.471	22.981
84-6290	0.671	1.003	1.259	1.815	2.534	3.425	4.505	5.244	5.829	7.166	8.210	10.940	13.226	16.347	19.309
84-6292	0.524	0.797	1.007	1.461	2.041	2.754	3.611	4.193	4.653	5.694	6.499	8.578	10.305	12.667	14.925
84-6792	0.670	1.002	1.254	1.798	2.496	3.363	4.421	5.148	5.725	7.040	8.059	10.690	12.868	15.832	18.647
84-6833	0.503	0.753	0.940	1.338	1.846	2.477	3.250	3.784	4.209	5.180	5.933	7.877	9.478	11.642	13.681
84-6853	0.804	1.240	1.593	2.387	3.423	4.682	6.158	7.142	7.915	9.669	11.037	14.613	17.606	21.694	25.576
84-7027	0.415	0.621	0.780	1.122	1.561	2.099	2.743	3.180	3.526	4.315	4.931	6.549	7.908	9.767	11.532
84-7028	0.654	0.980	1.236	1.799	2.525	3.411	4.463	5.174	5.736	7.018	8.024	10.673	12.906	15.973	18.897
84-7088	0.616	0.920	1.158	1.685	2.372	3.222	4.239	4.925	5.466	6.696	7.656	10.183	12.309	15.210	17.948
84-7707	0.726	1.122	1.443	2.159	3.090	4.220	5.545	6.432	7.129	8.711	9.944	13.163	15.858	19.541	23.043
84-7880	0.699	1.071	1.369	2.032	2.888	3.929	5.155	5.979	6.627	8.097	9.242	12.228	14.723	18.129	21.360
84-7881	0.639	0.980	1.251	1.848	2.621	3.562	4.680	5.432	6.024	7.365	8.405	11.102	13.351	16.429	19.370
84-8286	0.508	0.764	0.953	1.354	1.865	2.497	3.273	3.807	4.232	5.197	5.943	7.861	9.448	11.613	13.679
84-8351	0.681	1.016	1.261	1.775	2.423	3.227	4.221	4.911	5.460	6.704	7.659	10.090	12.090	14.831	17.471
84-8353	0.740	1.150	1.487	2.256	3.286	4.575	6.118	7.152	7.958	9.752	11.112	14.554	17.370	21.197	24.852
84-8374	0.674	1.006	1.266	1.842	2.597	3.535	4.665	5.431	6.034	7.406	8.476	11.290	13.655	16.883	19.930
84-8376	0.475	0.690	0.843	1.154	1.531	1.979	2.514	2.880	3.173	3.848	4.381	5.790	6.985	8.636	10.224
84-8500	0.596	0.897	1.126	1.618	2.249	3.027	3.971	4.618	5.130	6.298	7.205	9.556	11.505	14.155	16.661
84-8634	0.777	1.206	1.552	2.333	3.368	4.660	6.211	7.255	8.070	9.890	11.272	14.768	17.624	21.494	25.175
84-8920	0.573	0.881	1.123	1.655	2.335	3.156	4.126	4.778	5.292	6.460	7.371	9.752	11.751	14.495	17.117
84-8922	0.572	0.870	1.101	1.600	2.235	3.004	3.917	4.533	5.019	6.123	6.980	9.216	11.095	13.694	16.202
84-8943	0.699	1.055	1.336	1.954	2.754	3.732	4.894	5.680	6.301	7.724	8.842	11.794	14.277	17.666	20.868
84-8954	0.539	0.802	1.007	1.455	2.035	2.750	3.610	4.194	4.655	5.704	6.521	8.654	10.440	12.877	15.188
84-9770	0.791	1.222	1.568	2.343	3.350	4.575	6.014	6.977	7.733	9.452	10.791	14.291	17.213	21.186	24.937
85-0006	0.632	0.924	1.145	1.617	2.212	2.931	3.781	4.349	4.793	5.787	6.548	8.503	10.124	12.339	14.453
85-0007	0.418	0.617	0.764	1.070	1.452	1.915	2.468	2.844	3.140	3.810	4.326	5.655	6.757	8.267	9.714
85-0013	0.469	0.699	0.868	1.223	1.667	2.206	2.854	3.295	3.644	4.436	5.048	6.627	7.939	9.738	11.463
85-0014	0.696	1.014	1.249	1.740	2.349	3.081	3.955	4.548	5.017	6.084	6.912	9.068	10.881	13.392	15.825
89-0041	0.700	1.054	1.317	1.858	2.500	3.215	3.986	4.467	4.828	5.607	6.187	7.654	8.873	10.566	12.214
89-0051	0.823	1.273	1.663	2.629	4.088	6.148	8.841	10.707	12.174	15.484	18.066	25.017	31.041	39.283	46.886
89-0099	0.420	0.619	0.757	1.030	1.349	1.715	2.135	2.414	2.633	3.123	3.501	4.472	5.276	6.371	7.411
89-0215	0.389	0.534	0.639	0.851	1.106	1.401	1.737	1.958	2.130	2.514	2.809	3.575	4.221	5.120	5.994
89-0221	0.356	0.468	0.539	0.671	0.820	0.988	1.182	1.312	1.414	1.645	1.823	2.278	2.647	3.137	3.590
89-0239	0.444	0.640	0.798	1.152	1.616	2.189	2.864	3.312	3.659	4.434	5.027	6.566	7.870	9.696	11.484
89-0245	0.722	0.994	1.199	1.641	2.206	2.905	3.757	4.347	4.822	5.936	6.837	9.307	11.464	14.480	17.376
90-0011	0.637	0.975	1.227	1.755	2.415	3.176	3.964	4.451	4.826	5.582	6.167	7.786	9.086	10.750	12.216
90-0034	0.430	0.600	0.713	0.918	1.123	1.326	1.524	1.639	1.724	1.891	2.008	2.283	2.472	2.686	2.855
90-0035	0.575	0.861	1.072	1.508	2.020	2.586	3.191	3.567	3.849	4.456	4.907	6.044	6.985	8.284	9.546
90-0057	0.476	0.676	0.811	1.065	1.330	1.602	1.874	2.036	2.159	2.405	2.586	3.040	3.372	3.768	4.095
90-0062	0.669	1.020	1.284	1.830	2.470	3.167	3.897	4.343	4.675	5.384	5.910	7.241	8.351	9.899	11.412
90-0089	0.631	0.907	1.116	1.556	2.083	2.669	3.290	3.669	3.951	4.550	4.990	6.097	7.021	8.320	9.607
90-0090	0.719	1.047	1.314	1.904	2.636	3.448	4.286	4.782	5.143	5.893	6.436	7.794	8.937	10.567	12.211
90-0102	0.392	0.585	0.722	0.998	1.317	1.671	2.054	2.296	2.480	2.878	3.175	3.925	4.542	5.389	6.205
90-0124	0.502	0.746	0.926	1.298	1.737	2.226	2.755	3.088	3.340	3.887	4.298	5.348	6.228	7.460	8.670
90-0151	0.461	0.687	0.849	1.170	1.537	1.936	2.363	2.629	2.829	3.263	3.586	4.405	5.085	6.027	6.944
90-0152	0.458	0.688	0.852	1.178	1.549	1.950	2.372	2.632	2.826	3.243	3.552	4.327	4.967	5.850	6.708
90-0155	0.465	0.689	0.851	1.180	1.567	2.001	2.477	2.780	3.010	3.514	3.892	4.855	5.654	6.758	7.828
90-0157	0.534	0.762	0.924	1.250	1.636	2.073	2.538	2.830	3.055	3.518	3.874	4.829	5.578	6.519	7.335

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
90-0178	0.428	0.638	0.787	1.087	1.434	1.821	2.242	2.510	2.714	3.158	3.493	4.343	5.050	6.028	6.977
90-0199	0.835	1.256	1.562	2.185	2.924	3.759	4.644	5.199	5.631	6.521	7.214	9.113	10.631	12.569	14.272
90-0212	0.455	0.685	0.849	1.174	1.546	1.948	2.373	2.635	2.832	3.253	3.564	4.344	4.984	5.863	6.713
90-0216	0.483	0.688	0.829	1.092	1.369	1.657	1.949	2.124	2.257	2.524	2.722	3.223	3.594	4.038	4.408
90-0217	0.619	0.931	1.159	1.622	2.161	2.756	3.394	3.792	4.092	4.739	5.220	6.434	7.438	8.823	10.164
90-0222	0.370	0.514	0.609	0.781	0.952	1.123	1.292	1.392	1.465	1.610	1.711	1.945	2.103	2.282	2.422
90-0224	0.639	0.922	1.120	1.512	1.959	2.445	2.943	3.248	3.481	3.950	4.308	5.268	6.015	6.948	7.751
90-0233	0.707	1.025	1.253	1.705	2.214	2.749	3.293	3.618	3.855	4.352	4.709	5.581	6.283	7.234	8.147
90-0248	0.464	0.701	0.872	1.214	1.609	2.040	2.500	2.785	2.998	3.458	3.798	4.654	5.361	6.337	7.286
90-0250	0.398	0.589	0.726	0.998	1.312	1.659	2.036	2.273	2.452	2.842	3.133	3.866	4.471	5.300	6.101
92-0030	0.576	0.773	0.897	1.120	1.349	1.581	1.814	1.954	2.057	2.272	2.426	2.795	3.082	3.456	3.801
92-0120	0.566	0.790	0.968	1.363	1.872	2.480	3.164	3.598	3.924	4.622	5.136	6.414	7.463	8.913	10.325
92-0210	0.554	0.780	0.943	1.279	1.688	2.171	2.728	3.094	3.376	3.996	4.461	5.620	6.551	7.794	8.957
92-0240	0.469	0.659	0.791	1.052	1.356	1.703	2.096	2.352	2.549	2.983	3.309	4.125	4.783	5.664	6.490
92-0270	0.450	0.610	0.715	0.906	1.101	1.295	1.484	1.593	1.673	1.827	1.931	2.163	2.315	2.482	2.609
92-0405	0.436	0.613	0.736	0.978	1.260	1.581	1.944	2.180	2.362	2.763	3.065	3.820	4.429	5.242	6.003
92-0510	0.521	0.725	0.863	1.134	1.447	1.801	2.203	2.466	2.669	3.117	3.454	4.300	4.983	5.896	6.750
92-0600	0.482	0.670	0.797	1.045	1.330	1.654	2.021	2.261	2.446	2.856	3.165	3.939	4.562	5.393	6.168
92-0745	0.410	0.588	0.710	0.951	1.230	1.550	1.916	2.158	2.346	2.766	3.085	3.893	4.549	5.425	6.246
92-0755	0.784	1.169	1.455	2.045	2.747	3.533	4.385	4.917	5.316	6.176	6.814	8.428	9.771	11.636	13.455
92-0900	0.581	0.817	0.990	1.349	1.790	2.311	2.913	3.307	3.610	4.277	4.777	6.029	7.040	8.395	9.670
92-0960	0.569	0.828	1.012	1.381	1.817	2.317	2.886	3.258	3.547	4.187	4.673	5.910	6.924	8.300	9.606
92-1020	0.558	0.814	0.996	1.364	1.799	2.298	2.863	3.231	3.516	4.146	4.624	5.841	6.842	8.207	9.507
92-1080	0.680	0.967	1.168	1.571	2.044	2.585	3.198	3.599	3.909	4.595	5.117	6.451	7.558	9.078	10.540
92-1190	0.812	1.144	1.416	2.041	2.878	3.899	5.045	5.760	6.293	7.425	8.256	10.350	12.099	14.550	16.969
92-1200	0.751	1.079	1.344	1.934	2.695	3.593	4.580	5.194	5.651	6.626	7.345	9.151	10.649	12.724	14.745
92-1230	0.525	0.764	0.932	1.267	1.661	2.111	2.623	2.959	3.220	3.799	4.239	5.357	6.272	7.508	8.676
92-1260	0.434	0.607	0.724	0.953	1.217	1.516	1.856	2.079	2.251	2.632	2.919	3.639	4.218	4.987	5.704
92-1320	0.501	0.692	0.835	1.135	1.500	1.917	2.374	2.659	2.872	3.325	3.656	4.473	5.138	6.051	6.938
92-1350	0.723	1.011	1.236	1.731	2.369	3.134	3.997	4.545	4.958	5.844	6.498	8.137	9.489	11.356	13.172
92-1410	0.532	0.748	0.895	1.183	1.516	1.896	2.329	2.614	2.835	3.325	3.695	4.625	5.376	6.379	7.317
92-1470	0.489	0.689	0.824	1.087	1.390	1.735	2.131	2.392	2.596	3.049	3.393	4.260	4.960	5.894	6.765
92-1590	0.540	0.760	0.919	1.247	1.648	2.121	2.668	3.028	3.305	3.916	4.373	5.512	6.426	7.643	8.780
92-1710	0.542	0.763	0.923	1.254	1.660	2.140	2.694	3.058	3.338	3.954	4.415	5.568	6.495	7.737	8.902
92-1800	0.321	0.456	0.543	0.701	0.863	1.023	1.177	1.264	1.324	1.439	1.512	1.657	1.745	1.837	1.907
92-1830	0.500	0.710	0.858	1.152	1.499	1.897	2.351	2.650	2.881	3.396	3.787	4.773	5.574	6.649	7.660
92-1840	0.461	0.654	0.786	1.048	1.353	1.703	2.106	2.372	2.578	3.038	3.386	4.260	4.961	5.892	6.754
92-1890	0.530	0.743	0.887	1.169	1.494	1.865	2.289	2.568	2.784	3.264	3.626	4.535	5.267	6.242	7.151
92-1920	0.595	0.825	1.008	1.414	1.938	2.564	3.269	3.713	4.046	4.755	5.274	6.556	7.604	9.050	10.459
92-1950	0.674	0.946	1.162	1.639	2.255	2.989	3.811	4.329	4.717	5.547	6.157	7.685	8.950	10.709	12.432
92-2010	0.523	0.733	0.879	1.169	1.509	1.899	2.344	2.637	2.863	3.365	3.742	4.688	5.448	6.459	7.401
92-2050	0.670	0.944	1.151	1.592	2.137	2.768	3.466	3.905	4.234	4.942	5.464	6.767	7.835	9.300	10.715
92-2140	0.439	0.630	0.760	1.015	1.310	1.648	2.035	2.291	2.491	2.939	3.281	4.155	4.870	5.837	6.750
92-2150	0.472	0.663	0.796	1.058	1.364	1.713	2.108	2.365	2.563	2.999	3.326	4.145	4.807	5.692	6.523
92-2160	0.493	0.693	0.831	1.105	1.425	1.789	2.199	2.466	2.671	3.122	3.460	4.308	4.993	5.911	6.773
92-2190	0.508	0.714	0.858	1.145	1.481	1.866	2.301	2.584	2.802	3.279	3.636	4.531	5.254	6.223	7.135
92-2310	0.555	0.797	0.965	1.301	1.695	2.147	2.662	3.000	3.263	3.848	4.293	5.428	6.361	7.629	8.833
92-2430	0.588	0.819	1.001	1.404	1.921	2.540	3.241	3.687	4.024	4.746	5.278	6.604	7.690	9.183	10.630
92-2460	0.523	0.746	0.903	1.214	1.581	2.002	2.483	2.801	3.048	3.599	4.018	5.079	5.944	7.105	8.196
92-2550	0.569	0.810	0.995	1.393	1.890	2.467	3.105	3.507	3.810	4.458	4.936	6.128	7.102	8.435	9.717
92-2645	0.560	0.810	0.991	1.362	1.810	2.331	2.925	3.314	3.614	4.279	4.782	6.055	7.094	8.497	9.823
92-2820	0.495	0.691	0.824	1.084	1.385	1.726	2.114	2.369	2.566	3.001	3.330	4.152	4.813	5.693	6.514
92-2850	0.424	0.608	0.736	0.987	1.281	1.616	2.001	2.255	2.452	2.893	3.229	4.079	4.772	5.703	6.577
92-2880	0.489	0.707	0.859	1.163	1.520	1.930	2.399	2.708	2.948	3.482	3.889	4.920	5.760	6.893	7.959
92-3121	0.496	0.725	0.889	1.221	1.617	2.073	2.594	2.936	3.201	3.790	4.237	5.372	6.298	7.546	8.721

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
92-3150	0.560	0.794	0.962	1.307	1.724	2.212	2.773	3.142	3.427	4.056	4.529	5.715	6.673	7.955	9.155
92-3180	0.620	0.877	1.067	1.471	2.007	2.662	3.379	3.839	4.194	4.917	5.473	6.975	8.161	9.661	10.970
92-3195	0.467	0.660	0.791	1.046	1.340	1.675	2.057	2.309	2.505	2.942	3.273	4.108	4.783	5.685	6.528
92-3210	0.576	0.833	1.022	1.418	1.925	2.529	3.182	3.597	3.918	4.574	5.077	6.425	7.481	8.809	9.962
92-3270	0.600	0.872	1.073	1.505	2.073	2.766	3.525	4.012	4.390	5.167	5.766	7.388	8.672	10.302	11.727
92-3300	0.487	0.685	0.822	1.093	1.411	1.775	2.187	2.457	2.664	3.121	3.465	4.325	5.018	5.945	6.814
92-3360	0.642	0.913	1.124	1.586	2.172	2.862	3.629	4.113	4.475	5.253	5.826	7.256	8.426	10.030	11.578
92-3450	0.643	0.907	1.117	1.581	2.177	2.886	3.679	4.180	4.556	5.361	5.954	7.432	8.641	10.298	11.896
92-3540	0.568	0.802	0.963	1.281	1.653	2.079	2.568	2.891	3.142	3.702	4.128	5.212	6.099	7.298	8.431
92-3624	0.589	0.837	1.031	1.457	2.001	2.647	3.372	3.832	4.177	4.919	5.466	6.826	7.934	9.449	10.904
92-3648	0.687	0.972	1.197	1.691	2.321	3.063	3.886	4.403	4.790	5.619	6.230	7.757	9.009	10.731	12.395
93-0003	0.553	0.833	1.034	1.440	1.915	2.446	3.027	3.393	3.668	4.259	4.694	5.774	6.652	7.850	9.000
93-0004	0.830	1.279	1.616	2.316	3.160	4.110	5.128	5.750	6.207	7.160	7.846	9.535	10.931	12.889	14.833
93-0017	0.593	0.885	1.094	1.515	2.008	2.559	3.163	3.544	3.831	4.447	4.901	6.029	6.946	8.196	9.395
93-0018	0.773	1.163	1.444	2.015	2.686	3.437	4.252	4.760	5.138	5.941	6.528	7.986	9.186	10.849	12.474
93-0020	0.845	1.306	1.651	2.369	3.235	4.212	5.262	5.903	6.373	7.352	8.055	9.787	11.218	13.230	15.232
93-0025	0.640	0.977	1.237	1.794	2.483	3.275	4.139	4.672	5.066	5.892	6.487	7.946	9.137	10.786	12.403
93-0030	0.834	1.286	1.623	2.324	3.172	4.138	5.179	5.816	6.283	7.254	7.949	9.656	11.061	13.029	14.981
93-0032	0.619	0.923	1.140	1.578	2.091	2.667	3.297	3.694	3.993	4.635	5.108	6.283	7.239	8.543	9.796
93-0036	0.646	0.996	1.263	1.831	2.527	3.323	4.187	4.721	5.115	5.946	6.546	8.024	9.233	10.907	12.547
93-0039	0.773	1.180	1.475	2.076	2.785	3.577	4.430	4.958	5.351	6.183	6.792	8.313	9.575	11.341	13.081
93-0049	0.579	0.870	1.082	1.513	2.024	2.598	3.227	3.621	3.917	4.552	5.019	6.179	7.129	8.435	9.698
93-0059	0.855	1.318	1.661	2.373	3.236	4.218	5.280	5.931	6.408	7.402	8.115	9.865	11.302	13.309	15.293
93-0064	0.886	1.364	1.719	2.456	3.349	4.366	5.466	6.139	6.633	7.660	8.396	10.202	11.688	13.766	15.825
93-0065	0.917	1.409	1.773	2.529	3.446	4.493	5.628	6.322	6.831	7.891	8.649	10.512	12.043	14.183	16.299
93-0066	0.683	1.015	1.255	1.741	2.313	2.954	3.654	4.092	4.421	5.123	5.637	6.912	7.952	9.383	10.770
93-0085	0.851	1.308	1.646	2.348	3.195	4.155	5.191	5.824	6.290	7.261	7.958	9.675	11.091	13.074	15.041
93-0094	0.709	1.084	1.368	1.967	2.695	3.522	4.417	4.967	5.374	6.230	6.850	8.385	9.648	11.405	13.132
93-0096	0.777	1.185	1.481	2.085	2.797	3.592	4.450	4.980	5.374	6.210	6.822	8.349	9.617	11.390	13.139
93-0121	0.695	1.069	1.349	1.932	2.630	3.411	4.247	4.758	5.135	5.927	6.498	7.903	9.051	10.636	12.183
93-0122	0.752	1.158	1.460	2.085	2.834	3.675	4.576	5.127	5.532	6.380	6.991	8.496	9.738	11.480	13.213
93-0128	0.638	0.969	1.216	1.730	2.348	3.044	3.797	4.262	4.608	5.338	5.868	7.176	8.242	9.710	11.136
93-0134	1.073	1.699	2.167	3.139	4.307	5.625	7.008	7.858	8.498	9.750	10.695	13.252	15.251	17.757	19.924
93-0140	0.822	1.272	1.607	2.306	3.150	4.105	5.131	5.757	6.217	7.174	7.861	9.551	10.945	12.902	14.847
93-0141	0.573	0.857	1.065	1.487	1.988	2.553	3.169	3.557	3.847	4.470	4.928	6.067	6.998	8.278	9.517
93-0152	0.870	1.387	1.792	2.669	3.761	5.003	6.317	7.102	7.668	8.831	9.657	11.681	13.355	15.714	18.064
93-0163	0.930	1.429	1.797	2.563	3.493	4.556	5.707	6.411	6.927	8.001	8.770	10.658	12.210	14.381	16.526
93-0167	0.720	1.075	1.333	1.858	2.481	3.180	3.939	4.412	4.764	5.513	6.058	7.407	8.512	10.041	11.534
93-0168	0.627	0.934	1.155	1.601	2.123	2.707	3.343	3.744	4.044	4.689	5.163	6.339	7.297	8.606	9.866
93-0171	0.776	1.187	1.490	2.115	2.864	3.710	4.626	5.192	5.611	6.498	7.143	8.746	10.070	11.912	13.720
93-0172	0.692	1.077	1.377	2.025	2.832	3.760	4.762	5.373	5.822	6.755	7.423	9.055	10.386	12.233	14.045
93-0173	0.894	1.366	1.709	2.413	3.257	4.212	5.247	5.885	6.356	7.346	8.061	9.826	11.275	13.286	15.257
93-0174	0.553	0.875	1.113	1.594	2.149	2.745	3.322	3.662	3.921	4.430	4.822	5.925	6.816	7.954	8.955
93-0175	0.731	1.089	1.347	1.870	2.487	3.180	3.935	4.408	4.762	5.517	6.069	7.436	8.552	10.085	11.572
93-0177	0.558	0.835	1.032	1.430	1.895	2.415	2.984	3.344	3.616	4.200	4.632	5.706	6.579	7.766	8.903
93-0187	0.621	0.940	1.190	1.732	2.404	3.172	4.000	4.507	4.880	5.659	6.219	7.585	8.696	10.228	11.727
93-0188	0.611	0.924	1.153	1.623	2.183	2.813	3.498	3.925	4.244	4.922	5.418	6.646	7.650	9.031	10.372
93-0189	0.693	1.043	1.294	1.799	2.388	3.047	3.763	4.212	4.548	5.269	5.799	7.119	8.201	9.689	11.129
93-0190	0.679	1.024	1.271	1.767	2.345	2.990	3.690	4.130	4.460	5.167	5.689	6.991	8.062	9.536	10.966
93-0191	0.683	1.032	1.289	1.817	2.448	3.157	3.926	4.404	4.759	5.515	6.068	7.445	8.582	10.162	11.711
93-0192	0.564	0.844	1.050	1.472	1.976	2.547	3.171	3.562	3.855	4.481	4.941	6.081	7.015	8.302	9.553
93-0193	0.595	0.894	1.126	1.625	2.241	2.947	3.713	4.186	4.536	5.270	5.800	7.098	8.153	9.605	11.020
93-0196	0.631	0.956	1.209	1.751	2.421	3.191	4.029	4.546	4.928	5.732	6.313	7.741	8.906	10.517	12.092
93-0206	0.716	1.083	1.346	1.880	2.506	3.206	3.965	4.438	4.791	5.546	6.100	7.482	8.621	10.198	11.735
93-0207	1.282	2.035	2.600	3.777	5.198	6.808	8.495	9.533	10.316	11.849	13.009	16.162	18.637	21.751	24.451

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
93-0209	0.574	0.905	1.150	1.650	2.238	2.878	3.502	3.873	4.154	4.707	5.131	6.315	7.264	8.474	9.533
93-0216	0.638	0.953	1.178	1.634	2.169	2.766	3.418	3.827	4.134	4.790	5.273	6.468	7.442	8.774	10.057
93-0218	0.854	1.331	1.688	2.432	3.329	4.342	5.429	6.092	6.577	7.588	8.313	10.097	11.569	13.636	15.689
93-0219	0.565	0.855	1.062	1.480	1.968	2.513	3.106	3.479	3.760	4.360	4.802	5.900	6.795	8.019	9.199
93-0221	0.719	1.082	1.348	1.895	2.545	3.273	4.062	4.551	4.914	5.684	6.244	7.634	8.776	10.360	11.911
93-0223	0.529	0.793	0.982	1.359	1.798	2.286	2.821	3.159	3.414	3.966	4.375	5.394	6.224	7.353	8.432
93-0224	0.960	1.508	1.929	2.835	3.964	5.264	6.662	7.505	8.117	9.375	10.266	12.436	14.216	16.706	19.171
93-0225	0.879	1.352	1.702	2.429	3.310	4.314	5.402	6.067	6.556	7.573	8.303	10.093	11.563	13.616	15.644
93-0227	0.588	0.876	1.090	1.534	2.068	2.673	3.335	3.749	4.058	4.719	5.202	6.404	7.391	8.754	10.083
93-0230	0.857	1.288	1.603	2.248	3.015	3.880	4.819	5.400	5.831	6.741	7.401	9.033	10.375	12.240	14.071
93-0231	0.647	0.965	1.194	1.657	2.203	2.815	3.486	3.907	4.223	4.898	5.393	6.619	7.618	8.985	10.306
93-0232	0.751	1.154	1.455	2.080	2.831	3.675	4.583	5.140	5.552	6.419	7.046	8.592	9.858	11.610	13.321
93-0234	0.584	0.887	1.123	1.632	2.263	2.987	3.770	4.253	4.609	5.355	5.893	7.210	8.280	9.756	11.197
93-0238	0.807	1.221	1.518	2.120	2.826	3.614	4.467	4.998	5.394	6.237	6.856	8.396	9.666	11.423	13.136
93-0242	0.670	1.025	1.297	1.880	2.600	3.429	4.334	4.892	5.304	6.168	6.790	8.322	9.579	11.328	13.051
93-0244	0.461	0.721	0.918	1.326	1.795	2.289	2.788	3.084	3.300	3.754	4.084	4.913	5.609	6.599	7.592
93-0245	0.757	1.148	1.428	1.990	2.647	3.378	4.169	4.662	5.030	5.815	6.391	7.825	9.002	10.626	12.203
93-0249	0.621	0.940	1.189	1.729	2.398	3.162	3.985	4.489	4.860	5.636	6.193	7.553	8.657	10.178	11.663
94-0057	0.528	0.734	0.908	1.321	1.902	2.660	3.583	4.195	4.665	5.688	6.445	8.311	9.810	11.830	13.746
94-0063	1.155	1.808	2.336	3.579	5.449	8.059	11.348	13.661	15.515	19.522	22.624	30.778	37.127	45.063	51.912
94-0064	0.415	0.597	0.746	1.081	1.514	2.029	2.604	2.968	3.240	3.824	4.253	5.314	6.177	7.358	8.495
94-0065	0.606	0.854	1.066	1.568	2.261	3.131	4.147	4.807	5.311	6.412	7.238	9.335	11.071	13.453	15.741
94-0067	0.581	0.785	0.951	1.337	1.876	2.583	3.465	4.070	4.546	5.618	6.442	8.561	10.316	12.706	14.980
94-0074	0.670	0.922	1.137	1.660	2.416	3.423	4.662	5.485	6.115	7.478	8.483	10.976	13.009	15.803	18.514
94-0270	0.778	1.238	1.641	2.620	4.023	5.865	8.125	9.644	10.826	13.467	15.495	20.807	25.322	31.562	37.504
94-0273	0.677	1.059	1.387	2.168	3.259	4.667	6.393	7.572	8.503	10.622	12.271	16.569	20.156	25.040	29.653
95-0013	0.625	0.981	1.272	1.933	2.814	3.912	5.223	6.097	6.776	8.283	9.422	12.299	14.653	17.854	20.913
95-0061	0.638	0.890	1.114	1.681	2.536	3.708	5.178	6.161	6.916	8.552	9.759	12.742	15.155	18.430	21.566
95-0093	0.600	0.892	1.150	1.785	2.704	3.917	5.404	6.398	7.168	8.875	10.171	13.491	16.252	20.046	23.687
95-0109	0.727	1.110	1.444	2.256	3.429	4.982	6.911	8.232	9.278	11.685	13.599	18.817	23.394	29.818	35.987
95-0172	1.018	1.652	2.206	3.552	5.489	8.078	11.313	13.494	15.185	18.940	21.831	29.517	36.133	45.216	53.684
95-0263	0.624	0.928	1.169	1.733	2.595	3.779	5.166	6.103	6.844	8.397	9.610	12.931	15.603	19.041	22.088
95-0325	0.659	1.012	1.303	1.962	2.811	3.798	4.850	5.478	5.931	6.855	7.506	9.088	10.391	12.240	14.108
96-0110	0.656	0.969	1.203	1.694	2.303	3.028	3.868	4.420	4.846	5.788	6.501	8.327	9.855	11.982	14.058
96-0247	0.514	0.740	0.901	1.230	1.630	2.106	2.667	3.043	3.338	3.998	4.504	5.809	6.902	8.422	9.905
96-0251	0.518	0.776	0.968	1.368	1.856	2.428	3.088	3.526	3.868	4.636	5.229	6.768	8.057	9.831	11.531
96-0317	0.941	1.355	1.666	2.338	3.211	4.303	5.619	6.491	7.158	8.597	9.653	12.268	14.420	17.425	20.397
96-0418	0.603	0.901	1.122	1.587	2.161	2.842	3.633	4.158	4.567	5.480	6.180	7.986	9.501	11.598	13.628
96-0513	0.693	1.068	1.356	1.969	2.724	3.587	4.523	5.099	5.523	6.411	7.051	8.620	9.903	11.683	13.429
96-0611	0.725	1.078	1.342	1.897	2.582	3.393	4.330	4.946	5.422	6.483	7.293	9.386	11.146	13.593	15.967
96-0626	0.694	1.035	1.282	1.782	2.371	3.031	3.749	4.198	4.534	5.250	5.774	7.074	8.136	9.597	11.014
97-0002	0.707	1.081	1.362	1.944	2.641	3.423	4.267	4.790	5.178	6.002	6.602	8.081	9.286	10.936	12.529
97-0012	0.677	1.024	1.295	1.877	2.591	3.399	4.262	4.788	5.174	5.977	6.552	7.952	9.088	10.654	12.183
97-0015	0.941	1.409	1.770	2.538	3.478	4.544	5.689	6.387	6.898	7.959	8.715	10.548	12.034	14.086	16.096
97-0022	0.613	0.918	1.157	1.672	2.310	3.040	3.828	4.310	4.663	5.399	5.924	7.196	8.220	9.624	10.991
97-0024	0.707	1.050	1.312	1.867	2.547	3.324	4.172	4.696	5.084	5.898	6.483	7.897	9.025	10.552	12.015
97-0028	0.718	1.063	1.328	1.892	2.586	3.383	4.252	4.788	5.184	6.012	6.603	8.029	9.166	10.706	12.186
97-0032	0.679	1.008	1.263	1.810	2.489	3.271	4.119	4.640	5.022	5.815	6.379	7.732	8.813	10.286	11.713
97-0040	0.777	1.161	1.458	2.089	2.863	3.741	4.688	5.269	5.696	6.585	7.220	8.755	9.985	11.662	13.285
97-0055	0.583	0.885	1.121	1.632	2.262	2.979	3.749	4.220	4.567	5.291	5.811	7.080	8.111	9.531	10.919
97-0064	0.581	0.880	1.114	1.617	2.237	2.941	3.696	4.157	4.496	5.203	5.710	6.938	7.929	9.286	10.606
97-0080	0.789	1.187	1.498	2.177	3.033	4.029	5.113	5.774	6.258	7.255	7.961	9.668	11.053	12.981	14.889
97-0083	0.661	1.002	1.269	1.850	2.575	3.411	4.313	4.860	5.258	6.078	6.657	8.047	9.162	10.696	12.196
97-0086	0.699	1.031	1.295	1.880	2.633	3.525	4.505	5.104	5.540	6.437	7.069	8.588	9.815	11.518	13.202
97-0090	0.782	1.159	1.456	2.106	2.927	3.880	4.908	5.529	5.978	6.895	7.537	9.063	10.284	11.966	13.619

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
97-0093	0.553	0.804	0.982	1.336	1.745	2.199	2.693	3.006	3.242	3.752	4.131	5.081	5.861	6.934	7.972
97-0099	0.539	0.789	0.967	1.325	1.741	2.201	2.701	3.015	3.251	3.762	4.141	5.092	5.876	6.959	8.011
97-0112	1.106	1.654	2.066	2.951	4.125	5.527	6.991	7.888	8.545	9.773	10.677	13.095	14.952	17.246	19.207
97-0123	1.065	1.588	1.983	2.841	3.999	5.401	6.884	7.798	8.468	9.719	10.635	13.056	14.896	17.155	19.073
97-0126	0.767	1.119	1.425	2.145	3.107	4.235	5.414	6.100	6.585	7.555	8.226	9.835	11.145	12.982	14.815
97-0133	1.305	1.937	2.414	3.450	4.850	6.554	8.381	9.513	10.339	11.870	12.988	15.950	18.204	20.970	23.322
97-0135	1.243	1.846	2.300	3.287	4.619	6.241	7.985	9.067	9.858	11.329	12.405	15.250	17.412	20.067	22.322
97-0139	0.932	1.376	1.722	2.483	3.462	4.626	5.908	6.690	7.257	8.417	9.232	11.197	12.806	15.078	17.363
97-0155	0.910	1.348	1.691	2.446	3.412	4.553	5.801	6.561	7.113	8.245	9.043	10.978	12.564	14.798	17.037
97-0162	0.718	1.094	1.403	2.100	3.000	4.050	5.174	5.847	6.333	7.326	8.025	9.723	11.118	13.087	15.066
97-0168	0.954	1.487	1.898	2.809	4.060	5.580	7.154	8.113	8.816	10.125	11.087	13.671	15.660	18.125	20.236
97-0174	0.644	1.034	1.359	2.096	3.029	4.076	5.143	5.761	6.202	7.096	7.729	9.292	10.602	12.472	14.364
97-0196	0.548	0.856	1.090	1.591	2.237	2.996	3.789	4.278	4.647	5.367	5.910	7.374	8.516	9.947	11.185
97-0199	0.595	0.910	1.164	1.728	2.442	3.265	4.145	4.675	5.061	5.857	6.423	7.806	8.942	10.541	12.141
97-0233	0.634	0.933	1.164	1.658	2.268	2.969	3.730	4.198	4.543	5.264	5.781	7.037	8.053	9.450	10.814
97-0237	0.695	1.021	1.275	1.827	2.524	3.336	4.223	4.767	5.166	5.991	6.577	7.987	9.124	10.692	12.231
97-0239	0.682	1.002	1.251	1.789	2.463	3.248	4.107	4.634	5.021	5.825	6.395	7.771	8.879	10.404	11.896
97-0240	0.715	1.049	1.310	1.876	2.591	3.427	4.342	4.904	5.315	6.165	6.766	8.209	9.366	10.957	12.512
97-0246	0.636	0.918	1.121	1.529	2.008	2.544	3.134	3.507	3.788	4.393	4.837	5.932	6.810	7.990	9.106
97-0259	0.658	0.976	1.215	1.716	2.323	3.013	3.765	4.234	4.583	5.320	5.854	7.147	8.175	9.551	10.853
97-0260	0.377	0.576	0.724	1.027	1.381	1.770	2.181	2.432	2.618	3.009	3.291	3.972	4.509	5.223	5.891
97-0268	0.562	0.850	1.078	1.575	2.196	2.909	3.672	4.133	4.469	5.160	5.649	6.822	7.761	9.048	10.300
97-0272	0.633	0.921	1.127	1.542	2.027	2.568	3.158	3.529	3.808	4.408	4.847	5.927	6.790	7.944	9.030
97-0275	0.504	0.776	0.986	1.433	1.981	2.602	3.270	3.678	3.977	4.600	5.043	6.112	6.964	8.117	9.224
97-0277	0.720	1.097	1.394	2.041	2.849	3.776	4.771	5.374	5.814	6.724	7.371	8.939	10.202	11.928	13.598
97-0281	0.566	0.830	1.028	1.438	1.929	2.480	3.071	3.437	3.708	4.281	4.697	5.720	6.550	7.688	8.793
97-0297	0.537	0.792	0.986	1.391	1.877	2.422	3.004	3.360	3.624	4.178	4.580	5.568	6.374	7.490	8.582
97-0305	0.868	1.327	1.713	2.603	3.781	5.173	6.657	7.532	8.155	9.406	10.273	12.357	14.075	16.526	19.026
97-0330	0.582	0.888	1.133	1.670	2.345	3.121	3.953	4.457	4.825	5.588	6.133	7.464	8.557	10.087	11.609
97-0331	0.543	0.836	1.062	1.546	2.138	2.812	3.535	3.976	4.300	4.973	5.452	6.607	7.530	8.781	9.984
97-0343	0.751	1.115	1.401	2.026	2.810	3.716	4.692	5.282	5.711	6.589	7.206	8.680	9.861	11.485	13.078
97-0351	0.702	1.040	1.304	1.878	2.600	3.436	4.341	4.892	5.293	6.117	6.697	8.081	9.190	10.713	12.206
97-0352	0.613	0.917	1.155	1.670	2.308	3.037	3.821	4.298	4.648	5.372	5.887	7.127	8.123	9.486	10.812
97-0357	0.724	1.114	1.439	2.185	3.160	4.303	5.520	6.241	6.757	7.801	8.529	10.284	11.725	13.772	15.846
97-0358	0.585	0.845	1.030	1.399	1.822	2.286	2.782	3.089	3.320	3.812	4.173	5.076	5.817	6.844	7.846
97-0359	0.677	1.007	1.263	1.818	2.509	3.306	4.169	4.696	5.081	5.875	6.436	7.777	8.846	10.307	11.726
97-0363	0.696	1.022	1.275	1.825	2.519	3.329	4.218	4.763	5.163	5.991	6.577	7.984	9.113	10.664	12.180
97-0373	0.991	1.479	1.844	2.626	3.652	4.882	6.198	7.017	7.628	8.798	9.672	12.018	13.836	16.101	18.051
97-0375	0.765	1.136	1.421	2.027	2.771	3.622	4.546	5.116	5.536	6.414	7.042	8.562	9.780	11.441	13.046
97-0376	0.660	0.978	1.224	1.752	2.406	3.159	3.980	4.485	4.856	5.628	6.177	7.497	8.551	9.984	11.368
97-0383	0.847	1.329	1.701	2.519	3.626	4.959	6.339	7.181	7.803	8.975	9.845	12.196	14.021	16.297	18.257
97-0386	0.444	0.674	0.850	1.216	1.652	2.131	2.633	2.938	3.162	3.633	3.972	4.799	5.464	6.368	7.235
97-0394	0.875	1.294	1.623	2.346	3.265	4.339	5.498	6.194	6.694	7.708	8.412	10.083	11.428	13.302	15.169
97-0397	0.538	0.827	1.051	1.530	2.120	2.794	3.522	3.969	4.297	4.982	5.471	6.656	7.608	8.907	10.162
97-0402	0.577	0.875	1.110	1.619	2.250	2.968	3.738	4.207	4.551	5.269	5.785	7.053	8.093	9.542	10.974
97-0411	0.407	0.619	0.779	1.111	1.504	1.936	2.394	2.673	2.879	3.312	3.625	4.386	4.993	5.808	6.582
97-0420	0.434	0.660	0.831	1.191	1.622	2.102	2.611	2.921	3.150	3.630	3.976	4.817	5.492	6.406	7.283
97-0421	0.758	1.161	1.483	2.191	3.082	4.106	5.197	5.851	6.325	7.295	7.980	9.635	10.975	12.826	14.638
97-0427	0.803	1.187	1.490	2.152	2.989	3.960	5.006	5.636	6.092	7.024	7.678	9.245	10.512	12.276	14.027
97-0435	1.080	1.646	2.081	3.043	4.375	6.018	7.766	8.845	9.632	11.087	12.148	14.962	17.105	19.737	21.975
97-0441	0.669	1.014	1.294	1.918	2.714	3.635	4.623	5.218	5.652	6.545	7.179	8.724	9.988	11.757	13.515
97-0443	0.634	0.929	1.156	1.642	2.247	2.946	3.712	4.186	4.535	5.265	5.787	7.048	8.058	9.438	10.775
97-0445	0.648	0.937	1.145	1.565	2.060	2.617	3.229	3.615	3.906	4.532	4.991	6.123	7.035	8.267	9.441
97-0451	0.738	1.109	1.395	2.002	2.741	3.576	4.471	5.018	5.420	6.259	6.858	8.309	9.475	11.069	12.616
97-0455	0.850	1.251	1.565	2.254	3.133	4.165	5.295	5.984	6.486	7.518	8.248	10.015	11.460	13.488	15.513

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
97-0461	0.416	0.660	0.856	1.275	1.775	2.314	2.861	3.183	3.416	3.897	4.241	5.087	5.784	6.763	7.738
97-0468	0.307	0.478	0.602	0.852	1.137	1.442	1.756	1.946	2.085	2.375	2.583	3.086	3.484	4.016	4.519
97-0471	0.740	1.085	1.355	1.944	2.688	3.558	4.509	5.091	5.516	6.395	7.017	8.511	9.715	11.374	13.003
97-0481	0.533	0.821	1.034	1.469	1.986	2.568	3.203	3.602	3.902	4.546	5.020	6.193	7.140	8.421	9.638
97-0496	0.653	0.992	1.261	1.851	2.591	3.442	4.355	4.907	5.309	6.136	6.721	8.133	9.269	10.828	12.345
97-0498	1.257	1.859	2.337	3.410	4.831	6.559	8.464	9.606	10.420	12.041	13.148	15.757	17.873	20.866	23.896
97-0499	0.631	0.930	1.159	1.647	2.252	2.951	3.717	4.192	4.542	5.275	5.799	7.063	8.075	9.453	10.785
97-0504	0.442	0.671	0.845	1.206	1.634	2.105	2.600	2.901	3.123	3.590	3.927	4.747	5.402	6.283	7.121
97-0512	0.958	1.412	1.770	2.561	3.575	4.761	6.038	6.801	7.348	8.452	9.217	11.034	12.503	14.561	16.623
97-0517	0.735	1.127	1.420	2.032	2.766	3.590	4.474	5.016	5.415	6.254	6.859	8.352	9.576	11.274	12.939
97-0518	0.869	1.323	1.704	2.579	3.736	5.101	6.560	7.422	8.037	9.276	10.136	12.207	13.911	16.336	18.800
97-0526	0.598	0.905	1.146	1.668	2.314	3.050	3.840	4.322	4.676	5.415	5.947	7.253	8.322	9.807	11.270
97-0532	0.777	1.192	1.538	2.328	3.364	4.578	5.872	6.639	7.189	8.300	9.076	10.946	12.482	14.658	16.857
97-0537	0.699	1.027	1.282	1.836	2.533	3.348	4.240	4.788	5.190	6.021	6.610	8.026	9.161	10.720	12.242
97-0540	0.675	1.004	1.265	1.839	2.572	3.432	4.370	4.943	5.362	6.225	6.835	8.302	9.483	11.110	12.705
97-0545	0.986	1.468	1.861	2.759	3.955	5.401	6.978	7.917	8.586	9.915	10.822	12.955	14.676	17.100	19.547
97-0549	0.565	0.849	1.071	1.549	2.132	2.783	3.465	3.874	4.172	4.789	5.231	6.305	7.176	8.376	9.546
97-0551	0.625	0.946	1.198	1.747	2.431	3.213	4.055	4.569	4.946	5.732	6.296	7.676	8.801	10.359	11.887
97-0553	0.531	0.857	1.121	1.705	2.429	3.239	4.083	4.583	4.944	5.683	6.204	7.460	8.475	9.875	11.245
97-0557	0.608	0.875	1.063	1.435	1.860	2.322	2.816	3.123	3.353	3.847	4.211	5.127	5.885	6.942	7.980
97-0571	0.619	0.911	1.160	1.737	2.495	3.378	4.310	4.858	5.250	6.038	6.585	7.884	8.926	10.368	11.792
97-0576	0.753	1.148	1.446	2.072	2.827	3.677	4.588	5.147	5.558	6.421	7.043	8.567	9.808	11.514	13.172
97-0580	0.923	1.404	1.767	2.530	3.452	4.489	5.600	6.280	6.780	7.826	8.578	10.425	11.932	14.011	16.034
97-0584	0.585	0.869	1.094	1.588	2.213	2.939	3.730	4.215	4.570	5.305	5.828	7.090	8.106	9.506	10.875
97-0589	0.868	1.265	1.605	2.407	3.487	4.771	6.131	6.923	7.483	8.596	9.362	11.183	12.662	14.738	16.815
97-0592	0.319	0.502	0.641	0.924	1.248	1.587	1.924	2.121	2.263	2.554	2.759	3.253	3.647	4.183	4.700
97-0594	1.012	1.541	1.941	2.779	3.793	4.935	6.156	6.900	7.446	8.584	9.402	11.413	13.062	15.349	17.585
97-0601	0.666	1.008	1.265	1.800	2.441	3.160	3.937	4.419	4.778	5.540	6.095	7.461	8.565	10.065	11.502
97-0613	0.311	0.480	0.601	0.843	1.118	1.414	1.724	1.913	2.053	2.348	2.560	3.076	3.485	4.029	4.542
97-0615	0.615	0.911	1.133	1.599	2.165	2.812	3.521	3.962	4.291	4.985	5.486	6.696	7.655	8.937	10.149
97-0618	0.687	1.032	1.298	1.868	2.565	3.355	4.204	4.722	5.103	5.895	6.460	7.826	8.924	10.428	11.888
97-0619	0.661	0.970	1.210	1.732	2.388	3.151	3.985	4.496	4.872	5.651	6.204	7.539	8.612	10.090	11.536
97-0620	0.622	0.903	1.107	1.526	2.024	2.590	3.214	3.608	3.904	4.538	5.001	6.134	7.041	8.258	9.411
97-0622	0.580	0.857	1.079	1.569	2.196	2.933	3.739	4.232	4.592	5.336	5.861	7.124	8.137	9.530	10.893
97-0627	0.609	0.931	1.190	1.764	2.496	3.344	4.252	4.800	5.197	6.017	6.600	8.019	9.183	10.821	12.457
97-0632	0.311	0.490	0.625	0.899	1.213	1.542	1.870	2.062	2.200	2.484	2.684	3.165	3.549	4.069	4.569
97-0641	0.344	0.563	0.739	1.121	1.585	2.093	2.613	2.919	3.140	3.590	3.906	4.663	5.265	6.087	6.883
97-0646	0.851	1.259	1.580	2.283	3.172	4.205	5.314	5.979	6.460	7.439	8.124	9.768	11.104	12.976	14.849
97-0648	0.717	1.053	1.315	1.884	2.602	3.442	4.362	4.925	5.338	6.192	6.795	8.246	9.410	11.012	12.580
97-0651	0.673	0.978	1.198	1.640	2.157	2.734	3.362	3.757	4.054	4.691	5.158	6.306	7.224	8.453	9.613
97-0663	0.755	1.111	1.390	1.997	2.764	3.660	4.636	5.232	5.666	6.560	7.192	8.707	9.926	11.608	13.260
97-0680	0.872	1.281	1.608	2.339	3.284	4.400	5.607	6.327	6.843	7.879	8.593	10.278	11.632	13.521	15.408
97-0696	1.042	1.533	1.921	2.781	3.888	5.195	6.605	7.445	8.046	9.251	10.082	12.056	13.658	15.919	18.203
97-0703	0.637	0.927	1.143	1.594	2.141	2.769	3.462	3.898	4.223	4.914	5.415	6.638	7.619	8.949	10.223
97-0712	0.402	0.610	0.764	1.081	1.452	1.858	2.286	2.548	2.742	3.150	3.444	4.159	4.726	5.486	6.204
97-0720	0.911	1.346	1.689	2.444	3.406	4.528	5.734	6.456	6.975	8.025	8.755	10.497	11.909	13.892	15.883
97-0723	0.874	1.277	1.600	2.322	3.271	4.415	5.679	6.444	6.996	8.111	8.883	10.719	12.205	14.291	16.387
97-0728	0.599	0.866	1.056	1.438	1.883	2.381	2.927	3.272	3.533	4.094	4.508	5.532	6.357	7.470	8.527
97-0745	0.475	0.762	0.998	1.518	2.155	2.854	3.567	3.986	4.286	4.902	5.337	6.393	7.255	8.453	9.637
97-0749	0.294	0.453	0.566	0.793	1.050	1.326	1.617	1.794	1.926	2.203	2.404	2.889	3.272	3.779	4.252
97-0757	0.646	0.957	1.197	1.713	2.355	3.095	3.900	4.395	4.758	5.512	6.046	7.326	8.346	9.732	11.074
97-0761	0.674	0.994	1.239	1.760	2.402	3.142	3.951	4.452	4.823	5.597	6.151	7.484	8.546	9.983	11.362
97-0765	0.772	1.150	1.440	2.060	2.820	3.687	4.626	5.203	5.629	6.517	7.151	8.685	9.914	11.587	13.201
97-0772	0.820	1.223	1.533	2.192	2.997	3.914	4.904	5.511	5.958	6.889	7.554	9.161	10.453	12.221	13.937
97-0796	0.689	1.019	1.271	1.804	2.457	3.204	4.022	4.529	4.905	5.694	6.261	7.631	8.721	10.190	11.592

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
97-0797	0.768	1.130	1.412	2.026	2.804	3.713	4.706	5.312	5.755	6.668	7.313	8.868	10.130	11.886	13.627
97-0799	0.638	0.963	1.218	1.774	2.468	3.266	4.130	4.658	5.046	5.855	6.433	7.839	8.976	10.542	12.072
97-0802	0.789	1.160	1.457	2.122	2.989	4.024	5.155	5.836	6.326	7.314	7.996	9.609	10.905	12.713	14.516
97-0816	0.652	0.955	1.188	1.689	2.313	3.037	3.833	4.326	4.691	5.452	5.997	7.312	8.366	9.805	11.199
97-0823	0.493	0.745	0.939	1.351	1.855	2.427	3.041	3.418	3.696	4.278	4.696	5.707	6.514	7.601	8.639
97-0824	0.567	0.827	1.011	1.379	1.802	2.266	2.765	3.076	3.310	3.813	4.186	5.125	5.905	6.990	8.056
97-0828	0.583	0.846	1.033	1.402	1.828	2.299	2.810	3.132	3.375	3.898	4.286	5.254	6.047	7.135	8.187
97-0834	0.596	0.867	1.062	1.457	1.920	2.436	2.999	3.353	3.619	4.194	4.619	5.683	6.557	7.760	8.926
97-0838	0.515	0.794	1.008	1.464	2.022	2.657	3.343	3.763	4.073	4.718	5.179	6.291	7.175	8.368	9.509
97-0852	0.395	0.608	0.769	1.101	1.488	1.905	2.335	2.592	2.779	3.168	3.446	4.117	4.651	5.373	6.062
97-0865	0.502	0.772	0.971	1.379	1.861	2.408	2.998	3.369	3.657	4.249	4.701	5.897	6.824	7.980	8.975
97-0871	0.656	0.962	1.228	1.855	2.684	3.644	4.644	5.226	5.639	6.468	7.043	8.419	9.534	11.088	12.630
97-0880	0.769	1.149	1.432	2.029	2.793	3.693	4.651	5.248	5.698	6.581	7.246	9.030	10.417	12.149	13.643
97-0885	0.578	0.888	1.126	1.635	2.260	2.972	3.741	4.212	4.558	5.282	5.800	7.060	8.075	9.464	10.809
97-0894	1.148	1.690	2.112	3.044	4.255	5.710	7.316	8.289	8.990	10.406	11.388	13.735	15.649	18.354	21.081
97-0903	0.628	0.951	1.204	1.748	2.415	3.169	3.975	4.466	4.826	5.577	6.113	7.417	8.471	9.922	11.337
97-0904	0.824	1.229	1.540	2.203	3.014	3.936	4.930	5.539	5.987	6.919	7.584	9.193	10.489	12.264	13.989
97-0917	0.568	0.866	1.110	1.649	2.311	3.033	3.753	4.164	4.454	5.033	5.434	6.393	7.170	8.258	9.344
97-0919	1.040	1.587	2.006	2.932	4.207	5.770	7.420	8.434	9.174	10.545	11.546	14.206	16.234	18.729	20.852
97-0920	0.417	0.640	0.808	1.153	1.555	1.987	2.431	2.697	2.891	3.295	3.584	4.285	4.845	5.601	6.325
97-0924	0.861	1.320	1.664	2.381	3.242	4.212	5.252	5.889	6.359	7.344	8.056	9.814	11.260	13.270	15.242
97-0925	0.555	0.807	0.985	1.340	1.752	2.209	2.708	3.024	3.262	3.777	4.157	5.101	5.869	6.911	7.909
97-0927	0.803	1.190	1.495	2.163	3.008	3.988	5.039	5.670	6.126	7.055	7.704	9.256	10.510	12.260	14.002
97-0932	0.789	1.151	1.462	2.192	3.164	4.305	5.502	6.200	6.695	7.686	8.373	10.017	11.353	13.221	15.078
97-0941	0.817	1.211	1.522	2.205	3.076	4.097	5.212	5.891	6.386	7.408	8.133	9.897	11.341	13.367	15.384
97-0950	0.645	0.959	1.207	1.752	2.440	3.236	4.095	4.615	4.993	5.770	6.318	7.631	8.687	10.144	11.575
97-0952	0.580	0.861	1.079	1.545	2.114	2.752	3.428	3.837	4.137	4.764	5.215	6.327	7.243	8.523	9.794
97-0960	0.535	0.773	0.941	1.275	1.655	2.072	2.517	2.794	3.001	3.445	3.772	4.590	5.262	6.191	7.098
97-0965	0.581	0.868	1.092	1.572	2.160	2.820	3.521	3.947	4.260	4.915	5.389	6.557	7.521	8.869	10.206
97-0987	0.628	0.951	1.225	1.848	2.635	3.499	4.346	4.815	5.137	5.760	6.179	7.159	7.949	9.066	10.199
97-0989	0.672	0.964	1.171	1.583	2.057	2.578	3.138	3.486	3.747	4.306	4.718	5.747	6.597	7.776	8.931
97-0993	0.603	0.885	1.100	1.559	2.125	2.778	3.490	3.931	4.257	4.941	5.431	6.620	7.573	8.875	10.133
97-0994	0.711	1.090	1.401	2.105	3.021	4.092	5.235	5.914	6.402	7.393	8.087	9.766	11.145	13.098	15.071
97-1007	0.571	0.867	1.127	1.739	2.542	3.459	4.396	4.934	5.314	6.071	6.597	7.864	8.907	10.389	11.888
97-1009	0.584	0.902	1.137	1.620	2.192	2.832	3.527	3.961	4.286	4.982	5.492	6.757	7.785	9.183	10.522
97-1010	0.744	1.173	1.515	2.266	3.210	4.294	5.451	6.147	6.652	7.691	8.428	10.218	11.675	13.693	15.672
97-1056	0.757	1.107	1.389	2.019	2.842	3.823	4.902	5.557	6.032	7.002	7.682	9.312	10.633	12.478	14.316
97-1072	0.659	0.978	1.220	1.733	2.358	3.071	3.850	4.333	4.691	5.445	5.987	7.302	8.351	9.768	11.123
97-1192	0.607	0.874	1.062	1.434	1.858	2.320	2.813	3.120	3.350	3.843	4.207	5.121	5.879	6.935	7.971
97-1199	0.641	0.951	1.190	1.703	2.340	3.074	3.874	4.366	4.727	5.475	6.006	7.278	8.291	9.669	11.000
97-1209	0.606	0.898	1.126	1.617	2.221	2.900	3.621	4.058	4.377	5.043	5.522	6.702	7.675	9.040	10.399
97-1225	0.762	1.133	1.417	2.018	2.753	3.590	4.498	5.059	5.473	6.341	6.964	8.470	9.674	11.306	12.871
97-1226	0.598	0.877	1.086	1.522	2.049	2.648	3.301	3.707	4.010	4.652	5.118	6.259	7.179	8.430	9.634
97-1240	0.798	1.226	1.546	2.211	3.011	3.910	4.877	5.470	5.908	6.829	7.495	9.139	10.489	12.364	14.200
97-1283	0.555	0.825	1.033	1.477	2.018	2.626	3.272	3.664	3.953	4.556	4.990	6.057	6.931	8.145	9.341
97-1286	0.587	0.845	1.027	1.387	1.796	2.242	2.718	3.014	3.237	3.713	4.066	4.951	5.684	6.704	7.703
97-1306	0.956	1.522	1.962	2.937	4.270	5.873	7.510	8.496	9.215	10.537	11.508	14.139	16.175	18.705	20.878
98-0016	0.456	0.642	0.777	1.057	1.412	1.853	2.404	2.795	3.112	3.863	4.472	6.143	7.620	9.739	11.842
98-0017	0.606	0.874	1.105	1.660	2.456	3.516	4.849	5.770	6.501	8.177	9.493	12.958	15.856	19.771	23.426
98-0020	0.512	0.724	0.878	1.200	1.609	2.124	2.776	3.244	3.628	4.546	5.297	7.381	9.232	11.887	14.517
98-0023	0.624	0.887	1.073	1.455	1.926	2.510	3.254	3.796	4.249	5.358	6.289	8.920	11.258	14.551	17.722
98-0024	0.751	1.062	1.325	1.948	2.827	3.978	5.406	6.385	7.160	8.938	10.339	14.048	17.157	21.349	25.246
98-0025	0.651	0.932	1.184	1.813	2.742	3.991	5.551	6.618	7.460	9.374	10.870	14.797	18.071	22.475	26.563
98-0026	0.497	0.721	0.918	1.396	2.071	2.942	3.990	4.687	5.229	6.441	7.375	9.803	11.833	14.606	17.235
98-0028	0.478	0.700	0.889	1.338	1.968	2.788	3.800	4.490	5.036	6.281	7.255	9.818	11.967	14.892	17.645

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
98-0029	0.471	0.685	0.869	1.306	1.913	2.690	3.625	4.251	4.739	5.835	6.680	8.882	10.732	13.275	15.705
98-0031	0.485	0.701	0.895	1.372	2.056	2.942	4.010	4.720	5.269	6.484	7.404	9.742	11.657	14.244	16.684
98-0032	0.489	0.710	0.908	1.393	2.077	2.953	3.994	4.680	5.208	6.372	7.249	9.474	11.297	13.765	16.101
98-0033	0.465	0.681	0.882	1.396	2.160	3.177	4.434	5.284	5.951	7.457	8.627	11.687	14.245	17.710	20.956
98-0034	0.790	1.117	1.389	2.030	2.931	4.110	5.574	6.579	7.375	9.199	10.633	14.418	17.589	21.869	25.853
98-0035	0.605	0.873	1.105	1.650	2.379	3.254	4.225	4.833	5.289	6.276	7.016	8.919	10.523	12.760	14.937
98-0036	0.507	0.722	0.897	1.296	1.825	2.478	3.251	3.766	4.168	5.076	5.781	7.630	9.195	11.359	13.439
98-0037	0.430	0.625	0.783	1.141	1.615	2.199	2.891	3.356	3.721	4.551	5.201	6.920	8.377	10.379	12.285
98-0038	0.574	0.814	1.014	1.477	2.104	2.892	3.839	4.479	4.984	6.140	7.053	9.473	11.508	14.261	16.828
98-0039	0.509	0.736	0.940	1.445	2.172	3.119	4.265	5.032	5.631	6.983	8.034	10.795	13.109	16.244	19.178
98-0040	0.620	0.879	1.092	1.583	2.239	3.051	4.011	4.654	5.159	6.317	7.232	9.676	11.749	14.570	17.212
98-0041	0.532	0.782	0.994	1.489	2.149	2.947	3.849	4.425	4.862	5.822	6.550	8.440	10.040	12.271	14.439
98-0042	0.722	1.083	1.373	2.059	3.134	4.630	6.365	7.537	8.472	10.466	12.036	16.353	19.850	24.374	28.403
98-0045	0.460	0.660	0.847	1.319	2.016	2.940	4.073	4.832	5.422	6.738	7.742	10.315	12.435	15.304	18.008
98-0046	0.497	0.704	0.874	1.263	1.787	2.446	3.238	3.769	4.183	5.111	5.822	7.655	9.183	11.286	13.309
98-0047	0.756	1.120	1.414	2.121	3.266	4.896	6.781	8.057	9.079	11.267	12.997	17.781	21.681	26.750	31.285
98-0052	0.466	0.672	0.856	1.306	1.944	2.766	3.754	4.413	4.925	6.069	6.944	9.197	11.058	13.575	15.942
98-0069	0.438	0.637	0.808	1.216	1.784	2.512	3.390	3.976	4.433	5.456	6.243	8.274	9.960	12.251	14.415
98-0070	0.845	1.207	1.534	2.349	3.532	5.065	6.882	8.080	9.013	11.151	12.869	17.589	21.634	27.033	31.902
98-0080	0.452	0.682	0.901	1.469	2.335	3.522	5.022	6.050	6.858	8.684	10.098	13.812	16.969	21.337	25.518
98-0081	0.754	1.050	1.283	1.802	2.502	3.406	4.550	5.362	6.021	7.583	8.853	12.342	15.370	19.547	23.488
98-0082	0.426	0.586	0.748	1.187	1.857	2.748	3.838	4.581	5.173	6.561	7.694	10.857	13.657	17.565	21.276
98-0091	0.553	0.826	1.043	1.521	2.141	2.907	3.854	4.527	5.081	6.432	7.567	10.791	13.639	17.570	21.246
98-0100	0.425	0.639	0.806	1.171	1.644	2.230	2.953	3.463	3.880	4.880	5.706	8.006	10.024	12.824	15.480
98-0101	0.592	0.882	1.116	1.638	2.320	3.163	4.190	4.910	5.496	6.906	8.080	11.396	14.331	18.406	22.244
98-0110	0.684	0.995	1.263	1.904	2.803	3.962	5.368	6.312	7.051	8.722	10.028	13.513	16.513	20.685	24.676
98-0126	0.351	0.472	0.559	0.735	0.951	1.214	1.534	1.757	1.936	2.354	2.687	3.575	4.332	5.376	6.377
98-0136	0.572	0.768	0.977	1.561	2.479	3.703	5.175	6.161	6.942	8.770	10.269	14.513	18.297	23.555	28.485
98-0137	0.479	0.661	0.795	1.079	1.437	1.875	2.404	2.765	3.051	3.710	4.231	5.633	6.855	8.597	10.319
98-0142	0.363	0.493	0.586	0.776	1.012	1.299	1.653	1.900	2.100	2.569	2.947	3.969	4.855	6.100	7.312
98-0143	0.431	0.585	0.693	0.914	1.188	1.530	1.960	2.270	2.526	3.142	3.652	5.077	6.338	8.125	9.862
98-0147	0.477	0.641	0.762	1.015	1.331	1.714	2.173	2.485	2.732	3.295	3.737	4.903	5.897	7.283	8.627
99-1010	1.173	1.950	2.586	4.088	6.295	9.290	12.960	15.485	17.498	21.755	25.128	34.582	42.372	52.590	61.804

Table A.3.2. λ_2 moments.

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
02-0060	0.158	0.200	0.229	0.284	0.349	0.423	0.508	0.563	0.604	0.693	0.749	0.849	0.906	0.958	0.990
02-0100	0.140	0.178	0.204	0.255	0.314	0.383	0.462	0.513	0.551	0.632	0.686	0.799	0.871	0.946	1.000
02-0949	0.128	0.160	0.180	0.220	0.265	0.314	0.368	0.402	0.427	0.478	0.512	0.581	0.624	0.668	0.700
02-1050	0.176	0.199	0.215	0.250	0.300	0.360	0.418	0.453	0.481	0.541	0.583	0.675	0.735	0.800	0.850
02-2434	0.177	0.229	0.258	0.308	0.358	0.407	0.454	0.481	0.501	0.543	0.573	0.640	0.690	0.751	0.803
02-2787	0.124	0.162	0.187	0.235	0.285	0.334	0.383	0.413	0.435	0.477	0.503	0.550	0.573	0.591	0.600
02-4645	0.136	0.179	0.209	0.271	0.353	0.446	0.529	0.578	0.617	0.707	0.773	0.921	1.022	1.135	1.224
02-4702	0.128	0.155	0.173	0.208	0.249	0.297	0.353	0.390	0.418	0.478	0.519	0.609	0.668	0.730	0.778
02-4761	0.166	0.201	0.224	0.270	0.321	0.380	0.447	0.489	0.522	0.589	0.635	0.730	0.791	0.854	0.900
02-5627	0.126	0.161	0.184	0.229	0.281	0.338	0.402	0.443	0.473	0.536	0.578	0.663	0.714	0.764	0.800
02-6250	0.152	0.199	0.226	0.263	0.282	0.300	0.340	0.373	0.400	0.464	0.516	0.645	0.742	0.861	0.962
02-6865	0.145	0.183	0.209	0.261	0.324	0.400	0.491	0.553	0.600	0.703	0.777	0.938	1.044	1.161	1.250
02-7460	0.138	0.165	0.184	0.219	0.259	0.310	0.392	0.448	0.480	0.518	0.544	0.633	0.710	0.811	0.900
02-8396	0.137	0.168	0.189	0.231	0.281	0.340	0.410	0.456	0.492	0.569	0.623	0.741	0.819	0.904	0.968
02-9211	0.084	0.110	0.128	0.166	0.216	0.280	0.364	0.424	0.473	0.585	0.669	0.870	1.015	1.184	1.320
02-9309	0.174	0.261	0.330	0.482	0.676	0.909	1.218	1.475	1.654	1.922	2.114	2.584	2.964	3.482	3.984
02-9376	0.121	0.171	0.207	0.283	0.376	0.491	0.646	0.773	0.867	1.035	1.164	1.498	1.770	2.128	2.454
02-9645	0.225	0.333	0.418	0.604	0.843	1.131	1.482	1.736	1.912	2.214	2.429	2.949	3.372	3.956	4.529
02-9652	0.075	0.098	0.114	0.148	0.192	0.250	0.326	0.381	0.426	0.530	0.609	0.798	0.936	1.098	1.230
02-9654	0.068	0.092	0.109	0.145	0.192	0.252	0.328	0.381	0.423	0.517	0.586	0.743	0.850	0.970	1.063
02-9656	0.137	0.214	0.277	0.421	0.616	0.864	1.174	1.392	1.559	1.918	2.194	2.899	3.477	4.255	4.985
02-9657	0.076	0.112	0.138	0.193	0.262	0.347	0.446	0.514	0.566	0.684	0.775	1.011	1.210	1.482	1.741
04-0014	0.150	0.197	0.231	0.305	0.404	0.534	0.698	0.812	0.898	1.074	1.202	1.512	1.734	1.993	2.204
04-0029	0.078	0.105	0.126	0.171	0.233	0.318	0.440	0.523	0.575	0.647	0.696	0.833	0.938	1.067	1.176
04-0088	0.152	0.227	0.284	0.409	0.579	0.800	1.086	1.290	1.453	1.818	2.084	2.684	3.084	3.520	3.850
04-0115	0.183	0.256	0.315	0.460	0.718	1.076	1.394	1.584	1.734	2.061	2.295	2.835	3.208	3.629	3.960
04-0136	0.128	0.171	0.205	0.286	0.417	0.605	0.837	0.990	1.094	1.259	1.380	1.748	2.056	2.461	2.827
04-0144	0.280	0.361	0.428	0.590	0.890	1.300	1.641	1.833	1.970	2.216	2.396	2.897	3.290	3.781	4.205
04-0161	0.123	0.209	0.271	0.377	0.456	0.538	0.670	0.766	0.838	1.000	1.090	1.222	1.288	1.332	1.343
04-0204	0.082	0.116	0.140	0.190	0.254	0.326	0.387	0.425	0.459	0.561	0.639	0.796	0.898	1.005	1.083
04-0212	0.122	0.214	0.286	0.442	0.625	0.850	1.153	1.370	1.545	1.940	2.229	2.889	3.345	3.855	4.250
04-0232	0.070	0.094	0.114	0.158	0.226	0.327	0.498	0.620	0.685	0.748	0.790	0.925	1.035	1.177	1.300
04-0235	0.164	0.212	0.248	0.327	0.439	0.600	0.870	1.072	1.200	1.378	1.500	1.840	2.101	2.424	2.700
04-0244	0.101	0.129	0.148	0.185	0.228	0.282	0.362	0.417	0.454	0.513	0.555	0.676	0.772	0.894	1.000
04-0322	0.149	0.203	0.245	0.343	0.503	0.720	0.919	1.050	1.175	1.602	1.916	2.463	2.783	3.058	3.200
04-0327	0.355	0.482	0.577	0.789	1.120	1.500	1.739	1.872	2.000	2.429	2.750	3.344	3.707	4.063	4.300
04-0343	0.172	0.233	0.278	0.376	0.511	0.690	0.922	1.081	1.197	1.409	1.569	2.028	2.403	2.891	3.326
04-0379	0.127	0.179	0.217	0.302	0.416	0.569	0.771	0.917	1.036	1.309	1.513	1.994	2.335	2.727	3.039
04-0383	0.077	0.108	0.135	0.207	0.355	0.600	0.864	1.044	1.200	1.621	1.900	2.388	2.665	2.892	3.000
04-0395	0.100	0.171	0.226	0.343	0.487	0.645	0.790	0.875	0.942	1.086	1.188	1.420	1.577	1.753	1.890
04-0418	0.074	0.099	0.121	0.175	0.293	0.442	0.502	0.530	0.555	0.619	0.671	0.813	0.927	1.073	1.200
04-0422	0.154	0.223	0.276	0.400	0.585	0.840	1.165	1.382	1.532	1.776	1.955	2.485	2.922	3.493	4.003
04-0436	0.176	0.186	0.197	0.220	0.265	0.320	0.357	0.376	0.390	0.417	0.438	0.498	0.546	0.607	0.658
04-0442	0.071	0.096	0.114	0.150	0.197	0.249	0.294	0.320	0.341	0.388	0.426	0.537	0.630	0.753	0.864
04-0449	0.147	0.201	0.244	0.346	0.512	0.756	1.088	1.316	1.470	1.707	1.879	2.395	2.822	3.380	3.882
04-0521	0.108	0.136	0.155	0.191	0.234	0.281	0.328	0.356	0.375	0.406	0.430	0.519	0.602	0.719	0.827
04-0606	0.158	0.192	0.222	0.294	0.427	0.631	0.867	1.020	1.124	1.288	1.409	1.777	2.085	2.491	2.857
04-0607	0.118	0.166	0.207	0.306	0.487	0.750	1.022	1.187	1.301	1.487	1.623	2.031	2.369	2.811	3.205
04-0673	0.182	0.258	0.322	0.487	0.804	1.287	1.782	2.094	2.333	2.807	3.160	4.102	4.830	5.738	6.521
04-0682	0.069	0.093	0.113	0.160	0.245	0.358	0.444	0.494	0.540	0.667	0.772	1.039	1.248	1.510	1.737
04-0684	0.170	0.193	0.216	0.274	0.410	0.594	0.681	0.723	0.758	0.844	0.903	1.027	1.105	1.188	1.250
04-0693	0.114	0.160	0.196	0.279	0.414	0.586	0.728	0.814	0.892	1.111	1.296	1.777	2.162	2.655	3.089
04-0731	0.123	0.137	0.151	0.184	0.250	0.350	0.453	0.520	0.570	0.671	0.746	0.940	1.088	1.267	1.420
04-0738	0.097	0.120	0.144	0.211	0.388	0.699	0.932	1.067	1.186	1.483	1.730	2.418	2.993	3.757	4.454

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-0741	0.200	0.297	0.373	0.542	0.791	1.100	1.391	1.569	1.713	2.040	2.288	2.892	3.334	3.860	4.295
04-0742	0.207	0.285	0.355	0.539	0.949	1.561	1.979	2.204	2.388	2.798	3.107	3.887	4.470	5.175	5.768
04-0755	0.139	0.199	0.246	0.358	0.531	0.786	1.163	1.433	1.613	1.884	2.078	2.645	3.104	3.695	4.218
04-0790	0.154	0.258	0.341	0.533	0.803	1.144	1.515	1.750	1.929	2.281	2.552	3.317	3.941	4.751	5.474
04-0798	0.430	0.504	0.577	0.760	1.161	1.777	2.316	2.621	2.823	3.136	3.363	4.053	4.623	5.360	6.011
04-0819	0.110	0.127	0.147	0.198	0.325	0.555	0.816	0.980	1.081	1.220	1.309	1.540	1.705	1.897	2.052
04-0822	0.089	0.135	0.169	0.241	0.334	0.434	0.517	0.562	0.595	0.657	0.703	0.834	0.939	1.071	1.185
04-0850	0.186	0.270	0.331	0.459	0.615	0.814	1.095	1.297	1.453	1.763	2.003	2.661	3.189	3.865	4.464
04-0883	0.118	0.187	0.242	0.372	0.558	0.827	1.250	1.580	1.839	2.365	2.765	3.823	4.645	5.668	6.545
04-0897	0.164	0.247	0.313	0.466	0.683	1.007	1.563	2.026	2.403	3.247	3.862	5.266	6.231	7.281	8.061
04-0924	0.137	0.176	0.202	0.247	0.294	0.340	0.380	0.403	0.420	0.454	0.480	0.549	0.602	0.666	0.720
04-0927	0.197	0.228	0.249	0.290	0.340	0.395	0.447	0.477	0.500	0.551	0.580	0.628	0.654	0.675	0.686
04-0931	0.084	0.122	0.157	0.242	0.366	0.531	0.763	0.956	1.100	1.361	1.561	2.074	2.497	3.065	3.597
04-0943	0.097	0.127	0.150	0.203	0.285	0.395	0.513	0.589	0.647	0.764	0.855	1.108	1.313	1.578	1.813
04-0979	0.090	0.121	0.145	0.200	0.290	0.400	0.486	0.533	0.570	0.646	0.700	0.828	0.917	1.019	1.100
04-0983	0.230	0.268	0.292	0.340	0.396	0.459	0.525	0.568	0.604	0.695	0.764	0.919	1.025	1.146	1.242
04-1005	0.282	0.373	0.447	0.624	0.930	1.380	1.899	2.246	2.513	3.050	3.449	4.477	5.253	6.200	7.000
04-1010	0.132	0.181	0.220	0.311	0.462	0.656	0.824	0.920	0.990	1.117	1.216	1.521	1.783	2.134	2.453
04-1018	0.201	0.281	0.344	0.496	0.740	1.100	1.560	1.890	2.159	2.750	3.217	4.477	5.485	6.775	7.910
04-1048	0.143	0.172	0.192	0.231	0.280	0.332	0.379	0.404	0.420	0.444	0.461	0.507	0.540	0.580	0.613
04-1060	0.102	0.145	0.178	0.258	0.398	0.565	0.658	0.708	0.756	0.905	1.031	1.340	1.578	1.871	2.123
04-1072	0.104	0.142	0.169	0.228	0.306	0.407	0.551	0.645	0.699	0.763	0.810	0.981	1.140	1.358	1.559
04-1075	0.091	0.134	0.167	0.239	0.335	0.458	0.628	0.736	0.795	0.859	0.905	1.089	1.266	1.513	1.744
04-1080	0.100	0.155	0.200	0.306	0.467	0.706	1.083	1.370	1.582	1.958	2.241	3.059	3.734	4.620	5.420
04-1112	0.085	0.132	0.169	0.254	0.365	0.503	0.669	0.781	0.867	1.053	1.196	1.565	1.875	2.301	2.708
04-1130	0.232	0.344	0.430	0.628	0.907	1.298	1.840	2.247	2.586	3.387	4.002	5.473	6.540	7.779	8.770
04-1142	0.174	0.254	0.316	0.456	0.661	0.927	1.226	1.413	1.540	1.744	1.899	2.404	2.853	3.466	4.034
04-1149	0.180	0.249	0.303	0.429	0.619	0.900	1.326	1.638	1.854	2.193	2.450	3.273	4.003	5.011	5.960
04-1159	0.173	0.249	0.313	0.477	0.783	1.255	1.787	2.138	2.409	2.950	3.355	4.433	5.267	6.308	7.205
04-1170	0.088	0.132	0.164	0.226	0.301	0.388	0.488	0.557	0.609	0.724	0.814	1.052	1.255	1.536	1.808
04-1194	0.173	0.258	0.324	0.468	0.649	0.865	1.140	1.352	1.500	1.739	1.910	2.324	2.655	3.104	3.534
04-1206	0.104	0.144	0.175	0.250	0.383	0.545	0.641	0.693	0.743	0.899	1.036	1.402	1.705	2.105	2.466
04-1214	0.123	0.154	0.177	0.230	0.307	0.419	0.587	0.713	0.809	0.992	1.133	1.530	1.854	2.276	2.654
04-1215	0.099	0.180	0.243	0.363	0.470	0.595	0.827	1.016	1.164	1.469	1.714	2.405	2.979	3.740	4.430
04-1244	0.075	0.098	0.117	0.162	0.244	0.349	0.413	0.448	0.482	0.604	0.686	0.810	0.876	0.926	0.945
04-1250	0.151	0.217	0.267	0.379	0.539	0.750	1.036	1.212	1.298	1.372	1.426	1.680	1.943	2.319	2.673
04-1253	0.169	0.287	0.376	0.557	0.752	0.973	1.253	1.444	1.593	1.913	2.153	2.747	3.184	3.706	4.140
04-1272	0.149	0.201	0.243	0.342	0.520	0.750	0.920	1.013	1.082	1.220	1.319	1.570	1.753	1.970	2.150
04-1277	0.136	0.205	0.260	0.393	0.600	0.901	1.310	1.606	1.834	2.290	2.631	3.525	4.209	5.054	5.774
04-1288	0.136	0.169	0.195	0.251	0.352	0.449	0.471	0.479	0.487	0.507	0.523	0.565	0.596	0.633	0.664
04-1300	0.151	0.225	0.280	0.394	0.533	0.702	0.913	1.055	1.160	1.357	1.508	1.943	2.301	2.769	3.189
04-1312	0.126	0.182	0.232	0.362	0.637	1.050	1.369	1.552	1.707	2.078	2.367	3.101	3.661	4.349	4.934
04-1316	0.110	0.161	0.204	0.308	0.492	0.756	1.048	1.224	1.331	1.473	1.577	1.943	2.276	2.734	3.159
04-1369	0.186	0.280	0.360	0.559	0.930	1.441	1.886	2.128	2.280	2.493	2.653	3.233	3.774	4.522	5.218
04-1373	0.277	0.435	0.559	0.838	1.225	1.728	2.361	2.779	3.074	3.584	3.946	4.899	5.614	6.483	7.216
04-1424	0.136	0.188	0.228	0.314	0.433	0.594	0.826	0.987	1.093	1.254	1.363	1.650	1.861	2.113	2.322
04-1428	0.120	0.149	0.172	0.225	0.311	0.431	0.552	0.633	0.704	0.894	1.052	1.459	1.781	2.188	2.543
04-1462	0.119	0.182	0.238	0.383	0.661	1.107	1.657	2.024	2.280	2.699	3.013	3.999	4.858	6.028	7.116
04-1476	0.082	0.107	0.126	0.168	0.229	0.312	0.418	0.493	0.554	0.692	0.794	1.035	1.205	1.401	1.557
04-1497	0.115	0.192	0.254	0.396	0.598	0.841	1.055	1.185	1.299	1.594	1.835	2.456	2.942	3.555	4.087
04-1518	0.131	0.199	0.249	0.354	0.481	0.637	0.842	0.981	1.082	1.263	1.398	1.776	2.078	2.464	2.803
04-1520	0.134	0.203	0.255	0.364	0.499	0.667	0.888	1.037	1.141	1.318	1.449	1.831	2.143	2.548	2.908
04-1540	0.177	0.268	0.335	0.475	0.639	0.848	1.175	1.412	1.573	1.831	2.017	2.544	2.963	3.494	3.959
04-1588	0.112	0.158	0.192	0.265	0.360	0.482	0.637	0.746	0.833	1.025	1.165	1.479	1.690	1.922	2.100
04-1603	0.186	0.291	0.378	0.590	0.945	1.438	1.941	2.260	2.517	3.072	3.510	4.715	5.692	6.956	8.083

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-1606	0.073	0.113	0.147	0.234	0.389	0.628	0.927	1.129	1.278	1.544	1.743	2.310	2.770	3.367	3.900
04-1614	0.075	0.092	0.108	0.147	0.226	0.350	0.487	0.572	0.628	0.714	0.773	0.933	1.053	1.198	1.321
04-1624	0.173	0.217	0.257	0.362	0.600	0.957	1.189	1.319	1.439	1.780	2.058	2.731	3.236	3.847	4.359
04-1653	0.139	0.217	0.281	0.435	0.664	1.019	1.705	2.255	2.597	3.024	3.320	4.250	5.032	6.065	7.000
04-1680	0.145	0.220	0.279	0.407	0.569	0.760	1.010	1.214	1.359	1.590	1.761	2.191	2.542	3.014	3.457
04-1697	0.128	0.189	0.241	0.373	0.625	1.000	1.363	1.589	1.770	2.157	2.458	3.274	3.924	4.754	5.485
04-1700	0.090	0.127	0.159	0.239	0.390	0.631	0.938	1.150	1.303	1.575	1.769	2.282	2.671	3.145	3.547
04-1715	0.104	0.167	0.219	0.338	0.514	0.749	1.027	1.209	1.344	1.602	1.780	2.200	2.490	2.818	3.076
04-1733	0.084	0.113	0.134	0.175	0.226	0.286	0.358	0.406	0.443	0.521	0.576	0.693	0.766	0.844	0.900
04-1743	0.102	0.149	0.181	0.246	0.320	0.406	0.515	0.600	0.662	0.774	0.859	1.079	1.262	1.512	1.751
04-1754	0.142	0.204	0.249	0.346	0.470	0.625	0.815	0.945	1.047	1.270	1.425	1.757	1.973	2.201	2.369
04-1758	0.098	0.135	0.162	0.215	0.278	0.354	0.450	0.516	0.565	0.663	0.737	0.938	1.096	1.296	1.470
04-1784	0.082	0.112	0.139	0.209	0.362	0.600	0.801	0.916	1.000	1.161	1.270	1.522	1.693	1.883	2.030
04-1805	0.067	0.091	0.108	0.142	0.183	0.232	0.290	0.329	0.361	0.436	0.496	0.658	0.788	0.955	1.103
04-1806	0.123	0.180	0.225	0.326	0.474	0.671	0.901	1.055	1.177	1.435	1.636	2.185	2.626	3.192	3.692
04-1807	0.092	0.137	0.172	0.251	0.361	0.513	0.720	0.874	1.001	1.294	1.519	2.054	2.436	2.878	3.230
04-1837	0.129	0.196	0.252	0.393	0.653	1.020	1.341	1.532	1.688	2.036	2.311	3.060	3.664	4.440	5.128
04-1864	0.089	0.111	0.130	0.179	0.284	0.430	0.527	0.576	0.610	0.668	0.710	0.839	0.945	1.081	1.200
04-1878	0.135	0.190	0.232	0.322	0.445	0.608	0.824	0.981	1.109	1.400	1.620	2.138	2.504	2.925	3.260
04-1886	0.120	0.185	0.238	0.364	0.555	0.834	1.230	1.520	1.740	2.157	2.477	3.388	4.137	5.118	6.002
04-1907	0.134	0.164	0.188	0.240	0.319	0.429	0.564	0.661	0.740	0.921	1.070	1.493	1.851	2.331	2.772
04-1912	0.100	0.172	0.234	0.389	0.643	1.000	1.425	1.694	1.872	2.139	2.337	2.991	3.573	4.372	5.117
04-1916	0.143	0.176	0.209	0.300	0.539	0.922	1.141	1.256	1.357	1.609	1.816	2.383	2.849	3.456	4.000
04-1948	0.090	0.115	0.137	0.195	0.334	0.520	0.587	0.619	0.651	0.750	0.840	1.110	1.354	1.695	2.019
04-1990	0.130	0.153	0.172	0.216	0.289	0.397	0.537	0.635	0.709	0.848	0.956	1.264	1.518	1.851	2.151
04-2012	0.090	0.125	0.149	0.193	0.237	0.284	0.335	0.368	0.394	0.452	0.499	0.632	0.742	0.886	1.015
04-2027	0.100	0.127	0.148	0.197	0.278	0.395	0.531	0.624	0.699	0.861	0.991	1.361	1.670	2.081	2.455
04-2031	0.137	0.199	0.247	0.359	0.540	0.762	0.936	1.032	1.107	1.262	1.377	1.676	1.903	2.179	2.413
04-2048	0.139	0.201	0.249	0.357	0.517	0.720	0.917	1.040	1.143	1.378	1.572	2.122	2.586	3.206	3.773
04-2081	0.093	0.140	0.181	0.287	0.501	0.821	1.093	1.255	1.389	1.698	1.942	2.591	3.105	3.756	4.327
04-2084	0.096	0.148	0.193	0.296	0.440	0.627	0.871	1.053	1.193	1.483	1.710	2.304	2.803	3.482	4.122
04-2090	0.138	0.207	0.261	0.386	0.574	0.822	1.113	1.293	1.407	1.568	1.685	2.074	2.416	2.876	3.297
04-2139	0.123	0.169	0.202	0.267	0.344	0.433	0.533	0.600	0.649	0.753	0.831	1.025	1.181	1.388	1.580
04-2147	0.157	0.212	0.260	0.378	0.604	0.947	1.279	1.494	1.680	2.161	2.528	3.364	3.950	4.608	5.120
04-2148	0.194	0.270	0.329	0.459	0.642	0.900	1.268	1.547	1.775	2.285	2.689	3.759	4.604	5.671	6.600
04-2150	0.144	0.206	0.254	0.362	0.515	0.730	1.033	1.265	1.460	1.925	2.296	3.225	3.930	4.786	5.502
04-2214	0.156	0.227	0.279	0.386	0.514	0.662	0.852	0.999	1.104	1.284	1.416	1.744	2.005	2.351	2.671
04-2218	0.137	0.239	0.327	0.549	0.922	1.430	1.915	2.212	2.451	2.970	3.375	4.466	5.332	6.435	7.404
04-2239	0.214	0.319	0.398	0.574	0.814	1.123	1.504	1.758	1.946	2.296	2.555	3.253	3.795	4.472	5.056
04-2255	0.088	0.117	0.134	0.166	0.199	0.234	0.272	0.296	0.314	0.354	0.384	0.460	0.520	0.597	0.660
04-2257	0.116	0.139	0.155	0.185	0.221	0.263	0.312	0.345	0.370	0.423	0.461	0.543	0.597	0.655	0.700
04-2294	0.097	0.143	0.178	0.252	0.347	0.464	0.607	0.706	0.782	0.945	1.070	1.393	1.663	2.033	2.388
04-2306	0.094	0.128	0.153	0.208	0.282	0.380	0.512	0.608	0.687	0.871	1.011	1.349	1.596	1.885	2.120
04-2319	0.110	0.135	0.151	0.180	0.211	0.240	0.264	0.278	0.289	0.317	0.336	0.372	0.394	0.415	0.430
04-2327	0.190	0.240	0.275	0.345	0.436	0.540	0.643	0.701	0.737	0.790	0.827	0.933	1.015	1.114	1.198
04-2331	0.078	0.120	0.151	0.210	0.276	0.344	0.410	0.449	0.477	0.532	0.571	0.665	0.730	0.805	0.866
04-2338	0.145	0.221	0.288	0.465	0.821	1.377	1.933	2.282	2.558	3.137	3.577	4.748	5.662	6.807	7.799
04-2346	0.071	0.096	0.114	0.155	0.212	0.287	0.378	0.437	0.478	0.549	0.596	0.707	0.782	0.866	0.931
04-2362	0.100	0.135	0.163	0.227	0.331	0.469	0.599	0.682	0.755	0.946	1.096	1.442	1.688	1.973	2.200
04-2389	0.080	0.101	0.117	0.150	0.194	0.251	0.327	0.383	0.429	0.536	0.619	0.823	0.974	1.155	1.305
04-2402	0.154	0.238	0.310	0.499	0.862	1.410	1.944	2.278	2.546	3.135	3.576	4.671	5.479	6.445	7.245
04-2406	0.165	0.235	0.288	0.403	0.558	0.766	1.058	1.264	1.412	1.672	1.860	2.365	2.751	3.230	3.640
04-2467	0.107	0.154	0.195	0.305	0.533	0.906	1.313	1.573	1.762	2.104	2.349	3.003	3.502	4.116	4.639
04-2494	0.151	0.216	0.266	0.378	0.540	0.752	1.000	1.158	1.266	1.445	1.572	1.917	2.180	2.505	2.781
04-2500	0.220	0.294	0.352	0.488	0.697	1.020	1.548	1.968	2.282	2.869	3.301	4.439	5.308	6.376	7.284

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-2504	0.092	0.119	0.144	0.210	0.363	0.589	0.721	0.790	0.852	1.019	1.140	1.389	1.549	1.718	1.841
04-2506	0.144	0.155	0.171	0.212	0.334	0.560	0.771	0.902	1.001	1.198	1.340	1.694	1.951	2.256	2.507
04-2539	0.123	0.176	0.221	0.337	0.567	0.906	1.191	1.362	1.511	1.886	2.181	2.901	3.436	4.078	4.611
04-2568	0.089	0.135	0.169	0.242	0.336	0.452	0.585	0.674	0.745	0.900	1.024	1.372	1.660	2.038	2.379
04-2574	0.108	0.163	0.208	0.314	0.475	0.714	1.073	1.346	1.555	1.956	2.268	3.175	3.936	4.951	5.880
04-2598	0.133	0.173	0.199	0.246	0.292	0.344	0.418	0.466	0.497	0.543	0.572	0.636	0.677	0.721	0.753
04-2640	0.078	0.113	0.144	0.225	0.394	0.638	0.800	0.892	0.981	1.272	1.503	1.985	2.309	2.654	2.907
04-2705	0.115	0.152	0.184	0.264	0.416	0.646	0.901	1.051	1.132	1.221	1.282	1.498	1.688	1.938	2.162
04-2706	0.107	0.151	0.182	0.245	0.320	0.411	0.523	0.603	0.664	0.792	0.892	1.150	1.362	1.638	1.882
04-2713	0.164	0.197	0.219	0.262	0.315	0.371	0.423	0.452	0.470	0.497	0.515	0.565	0.603	0.647	0.683
04-2728	0.100	0.138	0.168	0.236	0.336	0.481	0.684	0.836	0.959	1.226	1.434	1.978	2.402	2.930	3.385
04-2749	0.193	0.260	0.317	0.457	0.704	1.100	1.666	2.083	2.388	2.932	3.329	4.410	5.252	6.307	7.220
04-2756	0.106	0.152	0.189	0.275	0.393	0.544	0.736	0.876	0.981	1.197	1.364	1.794	2.154	2.650	3.126
04-2760	0.080	0.116	0.141	0.192	0.249	0.320	0.421	0.496	0.554	0.676	0.773	1.049	1.280	1.585	1.863
04-2771	0.085	0.127	0.157	0.214	0.278	0.347	0.418	0.462	0.495	0.562	0.612	0.737	0.838	0.971	1.090
04-2805	0.139	0.184	0.222	0.317	0.500	0.770	1.028	1.179	1.283	1.460	1.579	1.879	2.091	2.339	2.540
04-2895	0.158	0.245	0.310	0.447	0.610	0.814	1.102	1.304	1.449	1.703	1.894	2.441	2.886	3.463	3.977
04-2899	0.097	0.127	0.157	0.242	0.466	0.852	1.141	1.295	1.399	1.567	1.692	2.091	2.435	2.896	3.314
04-2910	0.102	0.145	0.178	0.253	0.358	0.505	0.710	0.866	0.996	1.306	1.550	2.159	2.617	3.170	3.630
04-2920	0.100	0.132	0.155	0.207	0.281	0.376	0.478	0.547	0.605	0.747	0.866	1.196	1.472	1.839	2.173
04-2922	0.082	0.158	0.216	0.310	0.370	0.425	0.492	0.538	0.577	0.679	0.766	1.003	1.200	1.458	1.691
04-2934	0.116	0.175	0.220	0.317	0.443	0.600	0.782	0.903	1.000	1.209	1.373	1.813	2.163	2.609	3.000
04-2941	0.130	0.197	0.254	0.402	0.704	1.100	1.334	1.443	1.513	1.614	1.692	2.016	2.339	2.797	3.226
04-2958	0.149	0.202	0.241	0.324	0.436	0.584	0.780	0.921	1.037	1.302	1.504	1.984	2.330	2.732	3.057
04-2964	0.087	0.115	0.135	0.179	0.238	0.316	0.422	0.500	0.564	0.715	0.832	1.120	1.333	1.588	1.799
04-3020	0.125	0.175	0.213	0.296	0.406	0.546	0.718	0.839	0.936	1.163	1.348	1.859	2.309	2.933	3.503
04-3038	0.104	0.152	0.189	0.273	0.391	0.563	0.841	1.059	1.223	1.532	1.761	2.368	2.836	3.415	3.911
04-3083	0.070	0.097	0.117	0.164	0.237	0.326	0.401	0.440	0.464	0.495	0.520	0.629	0.743	0.908	1.066
04-3093	0.164	0.203	0.239	0.333	0.533	0.870	1.283	1.541	1.681	1.828	1.931	2.325	2.693	3.201	3.670
04-3113	0.089	0.114	0.135	0.184	0.268	0.400	0.581	0.715	0.820	1.038	1.204	1.635	1.966	2.373	2.720
04-3120	0.130	0.181	0.220	0.308	0.439	0.618	0.840	0.989	1.097	1.291	1.437	1.862	2.211	2.669	3.080
04-3134	0.106	0.186	0.255	0.431	0.720	1.140	1.674	2.026	2.266	2.645	2.918	3.727	4.390	5.252	6.022
04-3157	0.080	0.102	0.117	0.150	0.193	0.249	0.323	0.377	0.421	0.523	0.602	0.794	0.934	1.102	1.240
04-3161	0.185	0.217	0.248	0.328	0.517	0.789	0.933	1.012	1.090	1.349	1.589	2.263	2.854	3.672	4.445
04-3176	0.179	0.187	0.199	0.229	0.331	0.513	0.661	0.751	0.824	0.986	1.111	1.430	1.672	1.969	2.222
04-3182	0.131	0.152	0.171	0.217	0.303	0.443	0.629	0.763	0.859	1.029	1.156	1.516	1.808	2.184	2.519
04-3191	0.126	0.198	0.261	0.427	0.780	1.260	1.512	1.642	1.767	2.134	2.452	3.299	3.995	4.905	5.724
04-3242	0.121	0.181	0.228	0.335	0.488	0.691	0.932	1.097	1.232	1.536	1.781	2.454	3.004	3.721	4.363
04-3257	0.120	0.144	0.159	0.190	0.224	0.268	0.346	0.407	0.454	0.544	0.616	0.828	1.010	1.255	1.481
04-3261	0.110	0.133	0.150	0.189	0.246	0.325	0.426	0.498	0.555	0.672	0.766	1.034	1.259	1.558	1.831
04-3288	0.124	0.186	0.232	0.331	0.459	0.618	0.810	0.935	1.026	1.192	1.315	1.656	1.926	2.267	2.565
04-3320	0.108	0.170	0.223	0.354	0.544	0.803	1.154	1.419	1.623	2.045	2.373	3.243	3.987	5.015	5.991
04-3357	0.210	0.289	0.359	0.540	0.916	1.500	2.019	2.340	2.611	3.280	3.780	4.920	5.713	6.605	7.300
04-3369	0.157	0.190	0.220	0.296	0.471	0.700	0.785	0.828	0.876	1.094	1.296	1.763	2.118	2.553	2.920
04-3384	0.158	0.211	0.259	0.383	0.652	1.064	1.376	1.561	1.729	2.196	2.573	3.475	4.141	4.936	5.590
04-3402	0.253	0.386	0.487	0.700	0.961	1.268	1.648	1.937	2.141	2.498	2.766	3.459	4.042	4.840	5.596
04-3417	0.137	0.206	0.262	0.395	0.623	0.900	1.088	1.184	1.256	1.390	1.495	1.837	2.141	2.553	2.931
04-3419	0.126	0.189	0.236	0.334	0.456	0.604	0.776	0.890	0.981	1.182	1.334	1.709	1.985	2.315	2.589
04-3463	0.254	0.312	0.354	0.440	0.554	0.696	0.857	0.964	1.050	1.244	1.391	1.749	2.011	2.323	2.580
04-3489	0.180	0.224	0.251	0.300	0.350	0.400	0.450	0.479	0.500	0.541	0.570	0.638	0.684	0.736	0.777
04-3491	0.122	0.186	0.239	0.366	0.563	0.866	1.372	1.767	2.046	2.508	2.840	3.759	4.479	5.385	6.172
04-3498	0.142	0.183	0.208	0.253	0.300	0.348	0.397	0.427	0.450	0.499	0.535	0.628	0.707	0.824	0.949
04-3502	0.085	0.128	0.159	0.223	0.300	0.390	0.499	0.577	0.635	0.754	0.846	1.089	1.296	1.584	1.866
04-3551	0.175	0.259	0.331	0.513	0.854	1.356	1.838	2.134	2.365	2.840	3.198	4.138	4.861	5.757	6.526
04-3573	0.111	0.163	0.211	0.344	0.646	1.163	1.701	2.029	2.248	2.587	2.836	3.625	4.307	5.225	6.067

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-3578	0.137	0.200	0.252	0.382	0.619	0.950	1.232	1.399	1.538	1.856	2.106	2.761	3.273	3.916	4.474
04-3614	0.100	0.146	0.181	0.259	0.367	0.515	0.733	0.887	0.989	1.142	1.254	1.605	1.904	2.305	2.672
04-3621	0.121	0.172	0.215	0.324	0.518	0.828	1.258	1.566	1.787	2.172	2.447	3.183	3.745	4.436	5.026
04-3666	0.187	0.232	0.273	0.375	0.588	0.905	1.153	1.301	1.430	1.759	2.028	2.736	3.301	4.022	4.656
04-3672	0.168	0.221	0.267	0.379	0.594	0.911	1.201	1.383	1.539	1.932	2.237	2.967	3.500	4.128	4.640
04-3684	0.166	0.225	0.276	0.406	0.666	1.054	1.386	1.589	1.766	2.208	2.573	3.555	4.354	5.389	6.314
04-3704	0.286	0.421	0.528	0.767	1.080	1.462	1.914	2.221	2.433	2.806	3.065	3.685	4.188	4.889	5.586
04-3710	0.102	0.143	0.174	0.245	0.357	0.491	0.603	0.661	0.697	0.747	0.783	0.908	1.017	1.162	1.290
04-3714	0.108	0.140	0.167	0.235	0.372	0.571	0.721	0.810	0.891	1.116	1.305	1.793	2.181	2.674	3.106
04-3725	0.132	0.153	0.178	0.243	0.415	0.720	0.993	1.146	1.241	1.368	1.463	1.821	2.165	2.653	3.116
04-3747	0.066	0.089	0.107	0.152	0.236	0.345	0.432	0.473	0.489	0.500	0.508	0.613	0.762	1.007	1.261
04-3761	0.130	0.184	0.226	0.324	0.469	0.689	1.075	1.380	1.591	1.924	2.163	2.849	3.401	4.109	4.736
04-3791	0.171	0.236	0.286	0.397	0.561	0.770	0.978	1.111	1.222	1.473	1.688	2.358	2.973	3.850	4.700
04-3821	0.093	0.134	0.164	0.230	0.315	0.429	0.601	0.727	0.820	0.987	1.115	1.495	1.815	2.244	2.636
04-3824	0.065	0.093	0.114	0.161	0.225	0.314	0.452	0.556	0.632	0.771	0.870	1.125	1.314	1.541	1.730
04-3855	0.190	0.225	0.249	0.300	0.370	0.450	0.529	0.573	0.598	0.631	0.654	0.730	0.792	0.872	0.940
04-3859	0.124	0.165	0.197	0.270	0.384	0.545	0.728	0.857	0.970	1.266	1.511	2.131	2.613	3.211	3.723
04-3863	0.140	0.180	0.214	0.300	0.474	0.715	0.871	0.960	1.046	1.320	1.555	2.125	2.561	3.098	3.553
04-3875	0.160	0.226	0.279	0.405	0.607	0.900	1.281	1.543	1.733	2.066	2.318	3.067	3.698	4.536	5.300
04-3891	0.107	0.155	0.200	0.317	0.493	0.733	1.080	1.384	1.612	2.006	2.312	3.114	3.783	4.682	5.513
04-3896	0.128	0.165	0.192	0.249	0.327	0.430	0.563	0.659	0.737	0.915	1.050	1.370	1.599	1.865	2.080
04-3925	0.102	0.154	0.192	0.269	0.362	0.470	0.606	0.706	0.781	0.928	1.043	1.344	1.601	1.957	2.300
04-3928	0.120	0.180	0.225	0.318	0.432	0.567	0.736	0.863	0.957	1.141	1.284	1.662	1.984	2.432	2.865
04-3939	0.137	0.185	0.224	0.317	0.469	0.711	1.123	1.431	1.614	1.831	1.984	2.507	2.973	3.609	4.200
04-3987	0.102	0.140	0.171	0.245	0.371	0.557	0.800	0.953	1.036	1.123	1.186	1.454	1.723	2.111	2.482
04-4010	0.149	0.238	0.315	0.498	0.751	1.074	1.496	1.816	2.058	2.531	2.894	3.831	4.606	5.649	6.624
04-4025	0.086	0.122	0.150	0.217	0.327	0.478	0.646	0.744	0.798	0.857	0.900	1.091	1.287	1.570	1.840
04-4035	0.115	0.169	0.211	0.302	0.426	0.588	0.799	0.949	1.070	1.341	1.540	1.991	2.296	2.631	2.887
04-4082	0.105	0.143	0.177	0.267	0.457	0.768	1.089	1.297	1.462	1.807	2.083	2.893	3.585	4.521	5.388
04-4097	0.080	0.131	0.177	0.300	0.555	0.937	1.248	1.428	1.575	1.905	2.162	2.848	3.388	4.072	4.669
04-4144	0.138	0.190	0.230	0.319	0.447	0.624	0.891	1.072	1.175	1.293	1.376	1.674	1.944	2.312	2.651
04-4156	0.116	0.181	0.238	0.375	0.568	0.822	1.132	1.345	1.512	1.892	2.188	2.964	3.616	4.505	5.340
04-4176	0.138	0.202	0.256	0.393	0.648	1.030	1.426	1.673	1.858	2.207	2.467	3.182	3.746	4.461	5.086
04-4191	0.115	0.162	0.204	0.317	0.572	0.968	1.248	1.408	1.557	1.985	2.328	3.123	3.697	4.364	4.900
04-4204	0.107	0.159	0.197	0.274	0.366	0.473	0.607	0.707	0.781	0.926	1.040	1.341	1.597	1.950	2.288
04-4223	0.136	0.164	0.189	0.250	0.384	0.547	0.609	0.636	0.656	0.694	0.721	0.793	0.847	0.910	0.962
04-4232	0.120	0.147	0.171	0.231	0.355	0.530	0.659	0.728	0.778	0.870	0.938	1.131	1.286	1.481	1.650
04-4259	0.131	0.184	0.217	0.278	0.342	0.409	0.482	0.531	0.564	0.621	0.660	0.745	0.804	0.870	0.922
04-4274	0.192	0.253	0.308	0.449	0.731	1.218	1.881	2.368	2.740	3.466	3.990	5.305	6.267	7.405	8.337
04-4278	0.073	0.102	0.125	0.178	0.272	0.384	0.451	0.484	0.511	0.568	0.610	0.717	0.796	0.890	0.969
04-4288	0.101	0.156	0.203	0.319	0.518	0.824	1.229	1.518	1.737	2.159	2.478	3.367	4.083	5.004	5.820
04-4297	0.220	0.289	0.331	0.403	0.468	0.527	0.580	0.608	0.626	0.652	0.671	0.724	0.765	0.814	0.854
04-4374	0.085	0.118	0.142	0.191	0.250	0.321	0.412	0.475	0.525	0.629	0.711	0.938	1.122	1.362	1.575
04-4389	0.280	0.366	0.436	0.604	0.888	1.320	1.922	2.336	2.600	2.993	3.230	3.758	4.090	4.437	4.690
04-4412	0.232	0.269	0.313	0.431	0.764	1.300	1.576	1.709	1.814	2.026	2.193	2.700	3.134	3.708	4.227
04-4467	0.214	0.294	0.348	0.449	0.553	0.670	0.827	0.932	1.006	1.137	1.233	1.494	1.695	1.945	2.159
04-4484	0.086	0.125	0.159	0.252	0.446	0.774	1.177	1.441	1.614	1.871	2.054	2.603	3.055	3.642	4.167
04-4488	0.080	0.131	0.172	0.268	0.407	0.600	0.868	1.053	1.180	1.382	1.534	2.019	2.446	3.031	3.578
04-4500	0.159	0.247	0.317	0.480	0.726	1.049	1.398	1.622	1.796	2.149	2.421	3.174	3.781	4.562	5.254
04-4508	0.057	0.079	0.096	0.132	0.186	0.249	0.294	0.320	0.344	0.412	0.470	0.628	0.760	0.933	1.090
04-4520	0.086	0.125	0.152	0.203	0.261	0.328	0.408	0.466	0.508	0.592	0.656	0.825	0.966	1.162	1.351
04-4523	0.102	0.152	0.189	0.265	0.357	0.464	0.595	0.690	0.759	0.891	0.992	1.255	1.479	1.791	2.097
04-4536	0.067	0.091	0.111	0.158	0.250	0.353	0.387	0.403	0.419	0.469	0.515	0.647	0.761	0.915	1.057
04-4555	0.179	0.216	0.245	0.312	0.431	0.574	0.656	0.700	0.741	0.857	0.956	1.212	1.416	1.676	1.904
04-4577	0.130	0.198	0.257	0.406	0.688	1.102	1.490	1.728	1.917	2.318	2.633	3.515	4.238	5.182	6.029

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-4587	0.097	0.152	0.199	0.317	0.487	0.718	1.015	1.225	1.389	1.756	2.043	2.810	3.467	4.372	5.230
04-4591	0.079	0.116	0.143	0.202	0.277	0.371	0.490	0.573	0.638	0.773	0.880	1.176	1.418	1.731	2.012
04-4616	0.173	0.188	0.210	0.267	0.437	0.768	1.102	1.317	1.477	1.777	2.001	2.623	3.118	3.750	4.306
04-4647	0.174	0.256	0.314	0.422	0.538	0.655	0.757	0.819	0.872	1.007	1.120	1.419	1.660	1.968	2.240
04-4671	0.238	0.368	0.474	0.729	1.141	1.701	2.304	2.673	2.928	3.349	3.653	4.525	5.222	6.109	6.886
04-4675	0.099	0.137	0.165	0.221	0.290	0.374	0.481	0.562	0.623	0.744	0.839	1.088	1.297	1.584	1.856
04-4690	0.113	0.176	0.226	0.346	0.527	0.782	1.114	1.350	1.538	1.932	2.242	3.104	3.809	4.726	5.548
04-4701	0.083	0.129	0.168	0.273	0.488	0.790	0.982	1.089	1.191	1.504	1.760	2.351	2.780	3.282	3.689
04-4705	0.107	0.158	0.199	0.296	0.452	0.663	0.941	1.094	1.136	1.124	1.118	1.269	1.507	1.890	2.273
04-4712	0.106	0.165	0.211	0.317	0.474	0.672	0.862	0.982	1.085	1.338	1.543	2.075	2.492	3.019	3.477
04-4713	0.164	0.204	0.243	0.350	0.596	1.057	1.652	2.081	2.412	3.062	3.542	4.796	5.750	6.917	7.904
04-4726	0.125	0.168	0.202	0.283	0.418	0.606	0.798	0.920	1.018	1.229	1.393	1.835	2.187	2.634	3.026
04-4735	0.118	0.159	0.192	0.266	0.394	0.542	0.620	0.661	0.701	0.824	0.931	1.214	1.446	1.747	2.016
04-4749	0.083	0.128	0.161	0.228	0.309	0.400	0.511	0.591	0.649	0.754	0.832	1.028	1.183	1.384	1.564
04-4773	0.212	0.310	0.389	0.582	0.894	1.367	2.042	2.538	2.911	3.612	4.137	5.577	6.718	8.168	9.437
04-4812	0.140	0.195	0.242	0.359	0.575	0.915	1.331	1.621	1.850	2.327	2.690	3.650	4.395	5.325	6.125
04-4823	0.070	0.095	0.114	0.156	0.222	0.298	0.347	0.374	0.400	0.476	0.544	0.733	0.894	1.112	1.313
04-4838	0.119	0.137	0.153	0.190	0.258	0.353	0.442	0.495	0.532	0.596	0.646	0.806	0.948	1.139	1.316
04-4851	0.152	0.243	0.319	0.503	0.795	1.218	1.773	2.160	2.449	2.996	3.395	4.443	5.239	6.216	7.045
04-4863	0.103	0.164	0.213	0.318	0.446	0.589	0.759	0.886	0.975	1.124	1.235	1.516	1.750	2.067	2.368
04-4881	0.127	0.153	0.177	0.238	0.370	0.576	0.775	0.890	0.962	1.063	1.133	1.341	1.508	1.718	1.899
04-4884	0.088	0.103	0.116	0.147	0.202	0.279	0.352	0.399	0.440	0.541	0.626	0.862	1.059	1.322	1.561
04-4890	0.094	0.129	0.156	0.214	0.299	0.406	0.518	0.590	0.645	0.758	0.847	1.099	1.307	1.578	1.822
04-4957	0.069	0.101	0.124	0.174	0.239	0.318	0.402	0.456	0.499	0.590	0.663	0.870	1.041	1.268	1.472
04-4997	0.078	0.105	0.129	0.191	0.334	0.537	0.653	0.708	0.745	0.803	0.849	1.034	1.220	1.486	1.740
04-5017	0.102	0.154	0.192	0.270	0.361	0.472	0.624	0.730	0.809	0.960	1.075	1.399	1.662	2.002	2.304
04-5026	0.217	0.312	0.389	0.574	0.880	1.326	1.867	2.231	2.499	2.987	3.355	4.407	5.267	6.385	7.385
04-5032	0.130	0.139	0.151	0.180	0.243	0.344	0.445	0.511	0.565	0.685	0.783	1.065	1.303	1.624	1.918
04-5064	0.137	0.202	0.247	0.336	0.439	0.556	0.696	0.795	0.869	1.021	1.139	1.449	1.710	2.067	2.403
04-5067	0.100	0.147	0.180	0.246	0.321	0.405	0.506	0.569	0.612	0.684	0.736	0.887	1.008	1.161	1.295
04-5085	0.150	0.210	0.254	0.342	0.451	0.579	0.717	0.805	0.873	1.016	1.127	1.421	1.650	1.937	2.185
04-5098	0.110	0.157	0.193	0.276	0.407	0.565	0.694	0.762	0.804	0.863	0.906	1.063	1.205	1.397	1.571
04-5107	0.122	0.178	0.217	0.297	0.392	0.505	0.652	0.769	0.856	1.021	1.151	1.495	1.785	2.173	2.531
04-5115	0.154	0.224	0.275	0.381	0.509	0.660	0.857	1.013	1.124	1.311	1.448	1.788	2.060	2.423	2.763
04-5118	0.094	0.105	0.115	0.138	0.178	0.234	0.291	0.329	0.360	0.429	0.487	0.655	0.799	0.995	1.176
04-5119	0.063	0.094	0.114	0.155	0.202	0.256	0.320	0.364	0.398	0.472	0.531	0.684	0.815	0.994	1.165
04-5120	0.097	0.102	0.109	0.125	0.165	0.229	0.287	0.323	0.352	0.415	0.466	0.613	0.737	0.902	1.053
04-5123	0.128	0.178	0.220	0.321	0.499	0.758	1.037	1.215	1.350	1.611	1.808	2.354	2.791	3.350	3.842
04-5147	0.211	0.325	0.411	0.589	0.806	1.057	1.372	1.616	1.789	2.086	2.311	2.894	3.386	4.059	4.695
04-5151	0.076	0.106	0.128	0.172	0.225	0.287	0.365	0.415	0.448	0.500	0.538	0.658	0.760	0.895	1.016
04-5184	0.107	0.171	0.222	0.344	0.530	0.779	1.056	1.234	1.368	1.623	1.825	2.442	2.982	3.720	4.409
04-5212	0.121	0.180	0.224	0.312	0.418	0.540	0.706	0.853	0.957	1.126	1.257	1.603	1.896	2.296	2.672
04-5215	0.204	0.327	0.422	0.632	0.903	1.250	1.732	2.060	2.282	2.633	2.883	3.587	4.139	4.834	5.437
04-5218	0.248	0.380	0.490	0.764	1.263	1.934	2.473	2.770	2.990	3.404	3.706	4.510	5.122	5.875	6.514
04-5231	0.090	0.106	0.120	0.152	0.207	0.287	0.376	0.433	0.474	0.545	0.596	0.738	0.849	0.988	1.108
04-5233	0.074	0.103	0.122	0.160	0.200	0.247	0.315	0.365	0.405	0.490	0.559	0.757	0.925	1.150	1.357
04-5244	0.106	0.164	0.214	0.345	0.595	0.984	1.418	1.700	1.912	2.316	2.619	3.457	4.124	4.976	5.725
04-5258	0.183	0.277	0.350	0.515	0.742	1.049	1.457	1.752	1.992	2.548	2.946	3.804	4.369	4.967	5.400
04-5311	0.095	0.137	0.173	0.264	0.428	0.688	1.027	1.263	1.434	1.740	1.955	2.510	2.919	3.410	3.818
04-5338	0.081	0.098	0.112	0.145	0.203	0.280	0.342	0.378	0.405	0.458	0.500	0.625	0.731	0.871	0.998
04-5352	0.137	0.186	0.228	0.332	0.532	0.833	1.147	1.338	1.467	1.670	1.817	2.256	2.617	3.084	3.500
04-5356	0.132	0.195	0.242	0.341	0.466	0.622	0.829	0.970	1.069	1.240	1.366	1.723	2.010	2.375	2.697
04-5360	0.132	0.205	0.261	0.385	0.551	0.761	1.008	1.174	1.306	1.586	1.806	2.403	2.881	3.494	4.035
04-5371	0.107	0.153	0.189	0.270	0.392	0.548	0.696	0.791	0.875	1.099	1.283	1.740	2.091	2.522	2.889
04-5378	0.096	0.137	0.170	0.248	0.374	0.549	0.749	0.878	0.972	1.143	1.268	1.601	1.855	2.169	2.438

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-5385	0.079	0.109	0.136	0.206	0.367	0.588	0.692	0.742	0.784	0.881	0.964	1.249	1.523	1.918	2.301
04-5400	0.108	0.162	0.207	0.319	0.511	0.796	1.139	1.364	1.524	1.794	1.998	2.619	3.150	3.862	4.516
04-5449	0.167	0.193	0.221	0.297	0.480	0.811	1.179	1.421	1.593	1.886	2.108	2.802	3.407	4.232	5.000
04-5496	0.160	0.224	0.272	0.376	0.515	0.700	0.945	1.122	1.266	1.596	1.844	2.427	2.842	3.320	3.700
04-5502	0.147	0.185	0.212	0.267	0.343	0.426	0.497	0.534	0.558	0.593	0.617	0.689	0.746	0.816	0.875
04-5528	0.060	0.081	0.096	0.127	0.165	0.210	0.260	0.294	0.321	0.383	0.434	0.579	0.700	0.862	1.010
04-5532	0.083	0.098	0.110	0.139	0.188	0.257	0.325	0.370	0.407	0.495	0.568	0.778	0.957	1.198	1.421
04-5535	0.100	0.115	0.129	0.164	0.241	0.350	0.424	0.465	0.500	0.585	0.654	0.847	1.005	1.213	1.400
04-5550	0.057	0.087	0.107	0.148	0.196	0.252	0.322	0.373	0.412	0.488	0.548	0.706	0.840	1.025	1.204
04-5586	0.102	0.182	0.246	0.380	0.520	0.706	1.137	1.506	1.738	2.030	2.238	2.921	3.520	4.337	5.098
04-5598	0.137	0.215	0.281	0.442	0.715	1.100	1.505	1.762	1.962	2.370	2.678	3.497	4.132	4.926	5.611
04-5602	0.065	0.092	0.110	0.147	0.187	0.238	0.332	0.402	0.445	0.504	0.543	0.644	0.716	0.801	0.870
04-5623	0.153	0.188	0.216	0.283	0.392	0.560	0.813	0.994	1.108	1.265	1.373	1.684	1.928	2.235	2.500
04-5629	0.145	0.217	0.272	0.388	0.535	0.722	0.990	1.173	1.293	1.470	1.600	2.002	2.343	2.793	3.200
04-5632	0.220	0.327	0.410	0.595	0.853	1.193	1.635	1.932	2.139	2.483	2.734	3.456	4.038	4.784	5.443
04-5669	0.139	0.206	0.260	0.388	0.593	0.877	1.197	1.403	1.551	1.815	2.013	2.582	3.045	3.646	4.181
04-5679	0.119	0.144	0.173	0.252	0.463	0.879	1.330	1.630	1.861	2.323	2.662	3.535	4.190	4.984	5.650
04-5713	0.093	0.146	0.192	0.306	0.503	0.804	1.200	1.470	1.652	1.930	2.143	2.879	3.570	4.562	5.524
04-5721	0.387	0.411	0.429	0.466	0.514	0.581	0.693	0.770	0.815	0.867	0.907	1.066	1.221	1.435	1.633
04-5738	0.075	0.100	0.119	0.158	0.213	0.280	0.346	0.387	0.422	0.504	0.572	0.769	0.939	1.168	1.380
04-5741	0.105	0.122	0.136	0.168	0.221	0.292	0.355	0.394	0.428	0.514	0.588	0.798	0.977	1.220	1.445
04-5747	0.086	0.122	0.148	0.201	0.264	0.339	0.428	0.488	0.537	0.648	0.738	0.991	1.203	1.482	1.735
04-5756	0.100	0.141	0.170	0.231	0.307	0.397	0.500	0.565	0.610	0.688	0.747	0.920	1.061	1.245	1.408
04-5779	0.117	0.175	0.218	0.311	0.429	0.576	0.766	0.891	0.978	1.122	1.226	1.518	1.747	2.036	2.287
04-5785	0.080	0.104	0.123	0.167	0.239	0.341	0.464	0.545	0.602	0.697	0.769	0.992	1.183	1.441	1.678
04-5795	0.100	0.140	0.169	0.229	0.304	0.401	0.545	0.649	0.724	0.857	0.961	1.283	1.566	1.953	2.316
04-5844	0.135	0.202	0.251	0.355	0.485	0.641	0.817	0.932	1.024	1.224	1.381	1.806	2.145	2.578	2.959
04-5866	0.129	0.178	0.218	0.319	0.514	0.780	0.984	1.091	1.161	1.268	1.350	1.637	1.900	2.260	2.593
04-5890	0.220	0.272	0.302	0.345	0.372	0.400	0.462	0.508	0.535	0.568	0.594	0.701	0.806	0.955	1.093
04-5909	0.110	0.185	0.241	0.354	0.463	0.607	0.972	1.303	1.522	1.825	2.045	2.733	3.323	4.121	4.857
04-5915	0.128	0.187	0.231	0.325	0.444	0.605	0.897	1.108	1.221	1.329	1.409	1.762	2.132	2.679	3.215
04-5933	0.224	0.265	0.302	0.391	0.574	0.826	0.999	1.095	1.177	1.371	1.529	1.970	2.334	2.811	3.239
04-5941	0.073	0.103	0.125	0.170	0.226	0.294	0.382	0.449	0.498	0.591	0.662	0.847	1.003	1.218	1.425
04-5983	0.177	0.192	0.214	0.271	0.435	0.758	1.136	1.389	1.559	1.820	2.012	2.613	3.128	3.822	4.460
04-6006	0.358	0.532	0.665	0.958	1.359	1.877	2.532	2.965	3.265	3.771	4.129	5.080	5.796	6.669	7.406
04-6027	0.130	0.203	0.259	0.381	0.541	0.740	0.966	1.117	1.240	1.512	1.731	2.345	2.853	3.522	4.128
04-6074	0.113	0.157	0.195	0.293	0.490	0.781	1.013	1.152	1.277	1.640	1.896	2.370	2.653	2.915	3.074
04-6105	0.097	0.134	0.166	0.251	0.427	0.706	0.979	1.150	1.285	1.564	1.787	2.449	3.018	3.792	4.511
04-6115	0.213	0.240	0.255	0.279	0.301	0.320	0.334	0.342	0.349	0.368	0.386	0.466	0.555	0.686	0.813
04-6118	0.200	0.233	0.252	0.280	0.301	0.320	0.345	0.360	0.370	0.386	0.400	0.469	0.546	0.658	0.765
04-6136	0.112	0.174	0.225	0.353	0.561	0.883	1.358	1.718	2.000	2.581	3.000	4.008	4.725	5.545	6.192
04-6144	0.120	0.159	0.190	0.264	0.404	0.560	0.616	0.642	0.671	0.781	0.883	1.151	1.374	1.668	1.934
04-6162	0.163	0.247	0.313	0.457	0.638	0.854	1.143	1.387	1.556	1.807	1.987	2.426	2.780	3.258	3.716
04-6168	0.114	0.127	0.139	0.163	0.202	0.256	0.320	0.364	0.401	0.485	0.556	0.758	0.931	1.163	1.378
04-6175	0.147	0.215	0.262	0.350	0.440	0.539	0.660	0.739	0.797	0.907	0.993	1.246	1.459	1.739	1.991
04-6194	0.075	0.101	0.123	0.178	0.285	0.442	0.587	0.671	0.728	0.817	0.886	1.141	1.389	1.747	2.094
04-6197	0.152	0.185	0.206	0.249	0.301	0.358	0.416	0.449	0.472	0.511	0.537	0.595	0.632	0.673	0.704
04-6252	0.119	0.186	0.239	0.358	0.522	0.742	1.047	1.262	1.416	1.686	1.886	2.451	2.904	3.486	4.000
04-6305	0.160	0.196	0.226	0.296	0.431	0.591	0.671	0.707	0.732	0.770	0.802	0.956	1.125	1.374	1.613
04-6328	0.119	0.136	0.154	0.200	0.297	0.470	0.707	0.879	0.999	1.198	1.337	1.710	1.992	2.338	2.631
04-6336	0.137	0.199	0.244	0.340	0.466	0.615	0.766	0.861	0.940	1.121	1.268	1.676	2.013	2.455	2.852
04-6356	0.158	0.247	0.318	0.487	0.751	1.100	1.450	1.671	1.854	2.274	2.600	3.426	4.054	4.823	5.475
04-6370	0.161	0.249	0.316	0.465	0.664	0.922	1.246	1.472	1.655	2.053	2.373	3.261	3.992	4.949	5.811
04-6377	0.101	0.139	0.167	0.226	0.302	0.398	0.514	0.591	0.650	0.764	0.853	1.117	1.341	1.641	1.915
04-6379	0.128	0.156	0.181	0.239	0.351	0.506	0.624	0.694	0.754	0.909	1.032	1.339	1.572	1.858	2.100

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-6390	0.186	0.245	0.282	0.347	0.414	0.482	0.551	0.592	0.620	0.674	0.711	0.788	0.839	0.895	0.938
04-6455	0.157	0.203	0.243	0.343	0.549	0.830	0.994	1.083	1.168	1.419	1.641	2.252	2.771	3.469	4.111
04-6476	0.102	0.143	0.173	0.239	0.331	0.440	0.543	0.604	0.653	0.755	0.836	1.066	1.255	1.503	1.725
04-6498	0.110	0.175	0.227	0.348	0.522	0.758	1.056	1.264	1.429	1.773	2.050	2.867	3.571	4.527	5.418
04-6506	0.111	0.137	0.158	0.208	0.292	0.412	0.532	0.612	0.684	0.879	1.040	1.440	1.747	2.124	2.443
04-6508	0.121	0.164	0.202	0.300	0.498	0.803	1.081	1.256	1.409	1.800	2.112	2.885	3.469	4.177	4.770
04-6521	0.140	0.157	0.180	0.241	0.410	0.710	0.960	1.095	1.174	1.270	1.343	1.666	2.005	2.506	2.995
04-6597	0.111	0.163	0.207	0.322	0.541	0.888	1.296	1.571	1.779	2.181	2.483	3.307	3.958	4.782	5.503
04-6610	0.101	0.141	0.174	0.255	0.426	0.622	0.673	0.697	0.726	0.889	1.042	1.374	1.618	1.906	2.142
04-6624	0.110	0.141	0.166	0.226	0.334	0.480	0.604	0.672	0.716	0.784	0.834	0.995	1.134	1.317	1.480
04-6635	0.180	0.245	0.291	0.390	0.528	0.680	0.795	0.855	0.897	0.973	1.022	1.129	1.197	1.270	1.324
04-6646	0.121	0.170	0.203	0.264	0.322	0.388	0.478	0.545	0.602	0.753	0.879	1.200	1.451	1.767	2.041
04-6650	0.140	0.210	0.261	0.370	0.500	0.669	0.936	1.132	1.266	1.482	1.638	2.085	2.443	2.901	3.305
04-6657	0.300	0.327	0.366	0.465	0.723	1.176	1.590	1.843	2.032	2.392	2.656	3.357	3.894	4.558	5.125
04-6663	0.141	0.206	0.252	0.346	0.456	0.582	0.722	0.813	0.883	1.028	1.141	1.455	1.709	2.036	2.326
04-6675	0.066	0.101	0.126	0.175	0.233	0.301	0.385	0.447	0.493	0.584	0.655	0.842	1.002	1.225	1.441
04-6685	0.139	0.206	0.264	0.412	0.694	1.128	1.605	1.907	2.121	2.487	2.762	3.593	4.297	5.235	6.091
04-6699	0.174	0.197	0.212	0.242	0.279	0.322	0.367	0.395	0.416	0.455	0.485	0.570	0.639	0.725	0.800
04-6703	0.128	0.185	0.226	0.309	0.404	0.518	0.675	0.784	0.865	1.016	1.131	1.451	1.708	2.037	2.328
04-6719	0.195	0.291	0.362	0.516	0.713	0.963	1.295	1.520	1.679	1.953	2.152	2.692	3.110	3.629	4.076
04-6726	0.132	0.146	0.163	0.205	0.306	0.475	0.631	0.731	0.815	1.016	1.180	1.628	1.995	2.473	2.902
04-6730	0.118	0.165	0.204	0.299	0.482	0.715	0.856	0.927	0.981	1.084	1.169	1.462	1.737	2.125	2.491
04-6736	0.123	0.183	0.226	0.313	0.419	0.544	0.714	0.857	0.961	1.139	1.276	1.629	1.924	2.328	2.715
04-6742	0.143	0.180	0.213	0.297	0.485	0.739	0.870	0.931	0.977	1.060	1.127	1.373	1.609	1.941	2.252
04-6754	0.091	0.131	0.163	0.237	0.359	0.516	0.657	0.736	0.791	0.886	0.951	1.113	1.228	1.362	1.471
04-6826	0.128	0.173	0.207	0.286	0.406	0.570	0.750	0.872	0.974	1.220	1.417	1.925	2.321	2.816	3.243
04-6893	0.137	0.203	0.255	0.374	0.548	0.797	1.163	1.432	1.633	2.005	2.280	3.024	3.604	4.331	4.960
04-6910	0.250	0.403	0.520	0.768	1.072	1.432	1.858	2.132	2.332	2.706	2.968	3.605	4.056	4.578	5.000
04-6926	0.101	0.126	0.147	0.199	0.296	0.435	0.561	0.638	0.699	0.830	0.933	1.217	1.447	1.745	2.009
04-6940	0.164	0.253	0.320	0.461	0.634	0.850	1.158	1.366	1.500	1.692	1.831	2.267	2.637	3.124	3.564
04-6942	0.154	0.235	0.298	0.433	0.602	0.803	1.070	1.290	1.446	1.697	1.883	2.356	2.745	3.272	3.770
04-6943	0.136	0.171	0.197	0.254	0.336	0.447	0.581	0.675	0.750	0.917	1.049	1.401	1.681	2.036	2.348
04-6946	0.153	0.223	0.283	0.433	0.658	0.976	1.410	1.733	1.986	2.531	2.961	4.115	5.098	6.414	7.592
04-6960	0.090	0.137	0.174	0.258	0.371	0.539	0.867	1.135	1.312	1.561	1.742	2.318	2.819	3.500	4.134
04-6962	0.092	0.141	0.180	0.268	0.390	0.566	0.868	1.110	1.290	1.618	1.865	2.556	3.113	3.830	4.466
04-6964	0.100	0.123	0.144	0.200	0.316	0.518	0.765	0.943	1.086	1.399	1.639	2.260	2.736	3.320	3.816
04-6998	0.170	0.234	0.289	0.431	0.706	1.145	1.642	1.971	2.221	2.700	3.069	4.132	5.013	6.176	7.228
04-7009	0.101	0.160	0.210	0.327	0.490	0.700	0.963	1.149	1.294	1.613	1.864	2.524	3.078	3.829	4.534
04-7016	0.135	0.199	0.243	0.330	0.430	0.545	0.683	0.782	0.855	1.007	1.125	1.435	1.696	2.049	2.378
04-7024	0.137	0.200	0.248	0.356	0.514	0.716	0.931	1.066	1.167	1.361	1.509	1.929	2.270	2.711	3.103
04-7050	0.138	0.211	0.267	0.393	0.573	0.796	1.027	1.168	1.275	1.480	1.635	2.057	2.390	2.810	3.176
04-7077	0.066	0.099	0.121	0.167	0.220	0.282	0.362	0.424	0.470	0.556	0.623	0.802	0.954	1.167	1.374
04-7085	0.131	0.150	0.169	0.220	0.332	0.525	0.746	0.895	1.005	1.210	1.360	1.760	2.067	2.448	2.774
04-7096	0.143	0.226	0.290	0.428	0.599	0.822	1.211	1.476	1.601	1.693	1.761	2.143	2.580	3.244	3.900
04-7108	0.150	0.195	0.232	0.320	0.473	0.703	0.969	1.152	1.301	1.630	1.889	2.583	3.134	3.835	4.450
04-7109	0.131	0.162	0.192	0.272	0.458	0.775	1.075	1.263	1.413	1.727	1.976	2.691	3.292	4.090	4.818
04-7111	0.115	0.167	0.203	0.278	0.367	0.473	0.603	0.696	0.767	0.917	1.035	1.347	1.608	1.955	2.268
04-7123	0.138	0.210	0.263	0.372	0.501	0.648	0.827	0.961	1.057	1.231	1.364	1.709	1.998	2.391	2.761
04-7150	0.124	0.181	0.224	0.314	0.430	0.575	0.761	0.886	0.977	1.140	1.265	1.638	1.954	2.374	2.757
04-7195	0.150	0.183	0.216	0.306	0.523	0.900	1.253	1.472	1.647	2.019	2.301	3.044	3.619	4.334	4.949
04-7244	0.108	0.150	0.183	0.262	0.399	0.567	0.675	0.733	0.786	0.927	1.044	1.344	1.579	1.875	2.133
04-7253	0.105	0.151	0.184	0.253	0.340	0.438	0.547	0.608	0.640	0.675	0.700	0.813	0.928	1.087	1.235
04-7279	0.217	0.343	0.442	0.667	0.979	1.394	1.984	2.376	2.608	2.896	3.099	3.768	4.345	5.110	5.800
04-7292	0.120	0.151	0.176	0.231	0.316	0.440	0.608	0.733	0.835	1.070	1.249	1.679	1.992	2.357	2.652
04-7296	0.131	0.177	0.217	0.316	0.508	0.794	1.057	1.217	1.345	1.614	1.826	2.418	2.903	3.534	4.100

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-7304	0.112	0.125	0.143	0.189	0.317	0.544	0.711	0.809	0.896	1.116	1.302	1.835	2.293	2.916	3.495
04-7306	0.104	0.154	0.191	0.266	0.355	0.460	0.596	0.709	0.790	0.930	1.039	1.324	1.563	1.890	2.198
04-7339	0.105	0.148	0.181	0.254	0.363	0.500	0.630	0.712	0.782	0.950	1.089	1.472	1.790	2.207	2.585
04-7370	0.080	0.118	0.147	0.210	0.293	0.406	0.580	0.712	0.812	1.004	1.150	1.558	1.887	2.311	2.688
04-7404	0.121	0.187	0.243	0.383	0.625	0.986	1.417	1.711	1.943	2.417	2.792	3.877	4.792	6.015	7.136
04-7414	0.105	0.156	0.194	0.279	0.397	0.540	0.676	0.764	0.844	1.075	1.271	1.759	2.137	2.608	3.011
04-7446	0.081	0.120	0.150	0.212	0.292	0.390	0.503	0.579	0.640	0.773	0.879	1.175	1.419	1.737	2.024
04-7470	0.091	0.129	0.159	0.229	0.341	0.487	0.620	0.699	0.759	0.878	0.967	1.206	1.390	1.621	1.819
04-7473	0.093	0.138	0.170	0.234	0.309	0.396	0.510	0.605	0.673	0.791	0.881	1.119	1.318	1.587	1.838
04-7489	0.131	0.186	0.232	0.350	0.563	0.904	1.366	1.693	1.927	2.323	2.619	3.511	4.265	5.273	6.197
04-7516	0.093	0.127	0.152	0.209	0.287	0.400	0.589	0.742	0.863	1.123	1.307	1.717	1.991	2.285	2.500
04-7581	0.163	0.226	0.277	0.398	0.595	0.879	1.235	1.473	1.640	1.912	2.126	2.862	3.558	4.562	5.541
04-7600	0.252	0.388	0.498	0.761	1.188	1.754	2.311	2.640	2.869	3.263	3.543	4.301	4.878	5.587	6.190
04-7630	0.100	0.134	0.164	0.239	0.404	0.624	0.726	0.778	0.832	1.034	1.200	1.542	1.772	2.023	2.212
04-7633	0.092	0.121	0.146	0.208	0.331	0.500	0.612	0.675	0.733	0.896	1.035	1.398	1.690	2.066	2.399
04-7641	0.083	0.125	0.158	0.235	0.341	0.503	0.841	1.133	1.337	1.651	1.876	2.517	3.030	3.686	4.264
04-7643	0.117	0.172	0.217	0.326	0.502	0.764	1.126	1.377	1.547	1.809	2.000	2.584	3.076	3.730	4.323
04-7646	0.127	0.199	0.255	0.381	0.545	0.771	1.145	1.434	1.647	2.031	2.315	3.085	3.686	4.441	5.096
04-7656	0.081	0.102	0.120	0.164	0.249	0.378	0.510	0.597	0.667	0.823	0.949	1.305	1.602	1.995	2.353
04-7668	0.074	0.104	0.125	0.167	0.218	0.282	0.371	0.447	0.505	0.616	0.705	0.946	1.151	1.429	1.688
04-7669	0.069	0.097	0.116	0.157	0.204	0.266	0.368	0.448	0.507	0.619	0.705	0.952	1.157	1.427	1.671
04-7672	0.117	0.167	0.210	0.318	0.529	0.840	1.112	1.276	1.414	1.744	1.990	2.564	2.968	3.432	3.800
04-7689	0.110	0.150	0.185	0.274	0.446	0.734	1.120	1.397	1.600	1.966	2.237	3.001	3.614	4.403	5.102
04-7698	0.072	0.125	0.172	0.290	0.490	0.775	1.079	1.275	1.430	1.754	2.006	2.707	3.276	4.014	4.673
04-7711	0.168	0.263	0.338	0.512	0.768	1.109	1.523	1.787	1.962	2.230	2.422	2.997	3.469	4.078	4.619
04-7719	0.076	0.114	0.142	0.200	0.266	0.351	0.492	0.599	0.675	0.803	0.899	1.178	1.407	1.707	1.977
04-7723	0.136	0.183	0.220	0.307	0.458	0.653	0.800	0.887	0.966	1.193	1.373	1.774	2.055	2.374	2.625
04-7731	0.113	0.156	0.190	0.270	0.401	0.578	0.753	0.864	0.955	1.158	1.323	1.785	2.169	2.676	3.136
04-7734	0.088	0.167	0.233	0.379	0.563	0.774	0.989	1.119	1.217	1.409	1.553	1.945	2.253	2.639	2.975
04-7735	0.127	0.191	0.242	0.359	0.539	0.772	1.006	1.148	1.252	1.446	1.588	1.970	2.264	2.629	2.941
04-7755	0.130	0.177	0.212	0.292	0.413	0.568	0.722	0.819	0.895	1.055	1.182	1.547	1.853	2.257	2.623
04-7759	0.121	0.177	0.223	0.331	0.508	0.756	1.043	1.227	1.355	1.572	1.726	2.148	2.474	2.878	3.224
04-7762	0.145	0.196	0.239	0.343	0.531	0.810	1.130	1.331	1.460	1.649	1.783	2.195	2.536	2.980	3.375
04-7767	0.094	0.131	0.160	0.229	0.344	0.491	0.603	0.672	0.737	0.949	1.126	1.526	1.815	2.148	2.414
04-7769	0.101	0.139	0.169	0.243	0.377	0.553	0.672	0.740	0.802	0.973	1.120	1.518	1.847	2.281	2.674
04-7772	0.110	0.152	0.183	0.254	0.360	0.491	0.610	0.683	0.746	0.897	1.026	1.413	1.757	2.237	2.693
04-7776	0.129	0.201	0.258	0.385	0.559	0.790	1.093	1.308	1.482	1.874	2.155	2.780	3.201	3.657	4.000
04-7807	0.154	0.223	0.273	0.379	0.511	0.673	0.865	0.996	1.100	1.326	1.507	2.012	2.428	2.973	3.464
04-7813	0.136	0.167	0.191	0.246	0.332	0.455	0.608	0.716	0.803	0.999	1.143	1.471	1.698	1.952	2.150
04-7817	0.118	0.164	0.197	0.261	0.332	0.420	0.548	0.643	0.717	0.870	0.992	1.339	1.628	2.011	2.358
04-7821	0.125	0.162	0.190	0.252	0.342	0.460	0.602	0.689	0.738	0.795	0.839	1.030	1.229	1.519	1.800
04-7834	0.092	0.128	0.157	0.230	0.365	0.550	0.706	0.792	0.854	0.959	1.042	1.337	1.619	2.022	2.410
04-7837	0.182	0.244	0.292	0.400	0.564	0.782	1.028	1.186	1.301	1.511	1.669	2.115	2.475	2.937	3.345
04-7846	0.137	0.142	0.149	0.166	0.220	0.309	0.375	0.415	0.449	0.533	0.602	0.787	0.937	1.129	1.300
04-7851	0.143	0.233	0.303	0.458	0.662	0.914	1.215	1.408	1.546	1.786	1.964	2.468	2.872	3.388	3.842
04-7864	0.091	0.122	0.149	0.217	0.356	0.558	0.722	0.812	0.877	0.986	1.074	1.397	1.715	2.180	2.635
04-7867	0.100	0.136	0.165	0.236	0.370	0.546	0.660	0.722	0.775	0.904	1.010	1.301	1.539	1.849	2.126
04-7870	0.099	0.137	0.164	0.215	0.275	0.344	0.433	0.504	0.555	0.648	0.720	0.903	1.051	1.240	1.407
04-7876	0.184	0.216	0.247	0.324	0.516	0.740	0.775	0.790	0.809	0.905	1.000	1.252	1.466	1.749	2.006
04-7888	0.124	0.190	0.237	0.330	0.431	0.547	0.696	0.797	0.871	1.011	1.117	1.412	1.649	1.951	2.216
04-7891	0.124	0.176	0.215	0.301	0.422	0.582	0.795	0.937	1.030	1.168	1.270	1.595	1.876	2.253	2.598
04-7894	0.155	0.219	0.268	0.381	0.548	0.778	1.082	1.289	1.434	1.678	1.856	2.367	2.779	3.308	3.775
04-7902	0.132	0.198	0.247	0.348	0.462	0.613	0.904	1.134	1.287	1.511	1.670	2.133	2.505	2.984	3.406
04-7905	0.150	0.231	0.290	0.412	0.555	0.723	0.928	1.063	1.164	1.354	1.500	1.916	2.257	2.699	3.094
04-7916	0.126	0.168	0.204	0.295	0.474	0.743	1.006	1.165	1.279	1.475	1.625	2.105	2.530	3.113	3.656

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-7926	0.131	0.180	0.222	0.325	0.515	0.800	1.125	1.326	1.451	1.622	1.745	2.149	2.501	2.972	3.400
04-7933	0.134	0.234	0.313	0.483	0.681	0.924	1.252	1.489	1.684	2.148	2.490	3.251	3.768	4.335	4.763
04-7946	0.083	0.118	0.142	0.188	0.242	0.305	0.425	0.568	0.671	0.803	0.909	1.197	1.442	1.768	2.064
04-7965	0.098	0.148	0.185	0.264	0.358	0.490	0.762	0.996	1.166	1.461	1.675	2.252	2.696	3.249	3.722
04-7976	0.122	0.186	0.232	0.327	0.439	0.570	0.759	0.939	1.065	1.250	1.392	1.757	2.059	2.462	2.835
04-7987	0.134	0.198	0.247	0.358	0.526	0.732	0.908	1.010	1.092	1.271	1.411	1.796	2.104	2.500	2.849
04-8014	0.147	0.223	0.284	0.416	0.583	0.781	1.029	1.221	1.356	1.578	1.740	2.143	2.471	2.912	3.330
04-8025	0.090	0.153	0.202	0.311	0.446	0.621	0.873	1.064	1.223	1.601	1.898	2.635	3.187	3.851	4.400
04-8045	0.103	0.141	0.176	0.265	0.449	0.750	1.076	1.286	1.442	1.730	1.951	2.605	3.158	3.895	4.569
04-8068	0.151	0.214	0.262	0.373	0.540	0.763	1.022	1.187	1.299	1.476	1.611	2.052	2.446	2.987	3.491
04-8072	0.113	0.167	0.209	0.302	0.424	0.580	0.798	0.980	1.118	1.384	1.591	2.129	2.574	3.169	3.723
04-8105	0.177	0.269	0.342	0.515	0.786	1.152	1.544	1.797	1.999	2.447	2.764	3.467	3.937	4.449	4.836
04-8135	0.200	0.280	0.341	0.478	0.670	0.950	1.392	1.747	2.040	2.724	3.225	4.340	5.095	5.906	6.500
04-8163	0.093	0.145	0.187	0.283	0.418	0.617	0.969	1.257	1.476	1.885	2.200	3.111	3.870	4.876	5.790
04-8173	0.097	0.119	0.141	0.198	0.323	0.548	0.825	1.023	1.181	1.518	1.773	2.426	2.921	3.523	4.028
04-8175	0.152	0.192	0.223	0.293	0.400	0.555	0.775	0.937	1.061	1.299	1.486	2.035	2.502	3.129	3.707
04-8200	0.105	0.142	0.166	0.210	0.257	0.307	0.357	0.388	0.411	0.460	0.496	0.581	0.648	0.735	0.817
04-8207	0.168	0.204	0.242	0.346	0.599	1.089	1.713	2.162	2.507	3.185	3.680	4.952	5.903	7.049	8.004
04-8218	0.140	0.149	0.163	0.200	0.324	0.597	0.994	1.276	1.433	1.597	1.713	2.164	2.599	3.221	3.816
04-8243	0.158	0.236	0.295	0.423	0.591	0.799	1.040	1.195	1.310	1.524	1.687	2.145	2.516	2.992	3.413
04-8261	0.092	0.139	0.173	0.246	0.328	0.442	0.703	0.927	1.072	1.266	1.400	1.790	2.100	2.495	2.841
04-8272	0.128	0.206	0.268	0.411	0.602	0.876	1.372	1.768	2.043	2.476	2.797	3.773	4.601	5.712	6.733
04-8277	0.103	0.146	0.179	0.257	0.382	0.541	0.677	0.758	0.824	0.973	1.091	1.414	1.674	2.009	2.305
04-8317	0.186	0.258	0.311	0.424	0.574	0.757	0.964	1.094	1.187	1.351	1.470	1.785	2.023	2.314	2.561
04-8331	0.170	0.257	0.321	0.453	0.598	0.797	1.229	1.608	1.884	2.357	2.709	3.704	4.508	5.545	6.467
04-8338	0.068	0.104	0.130	0.180	0.238	0.307	0.404	0.492	0.555	0.656	0.735	0.942	1.120	1.368	1.611
04-8353	0.109	0.144	0.173	0.243	0.364	0.546	0.763	0.914	1.036	1.303	1.512	2.069	2.510	3.068	3.555
04-8355	0.112	0.128	0.150	0.208	0.389	0.697	0.853	0.924	0.971	1.043	1.098	1.291	1.467	1.704	1.918
04-8380	0.185	0.225	0.267	0.381	0.667	1.183	1.695	2.011	2.240	2.650	2.947	3.758	4.388	5.176	5.856
04-8406	0.150	0.203	0.241	0.320	0.419	0.550	0.757	0.905	1.000	1.135	1.233	1.546	1.815	2.174	2.502
04-8446	0.079	0.111	0.135	0.185	0.253	0.333	0.406	0.453	0.494	0.605	0.701	0.962	1.180	1.468	1.730
04-8460	0.102	0.152	0.193	0.289	0.451	0.654	0.827	0.914	0.955	0.991	1.019	1.206	1.432	1.776	2.112
04-8463	0.148	0.246	0.324	0.502	0.747	1.063	1.451	1.707	1.892	2.222	2.465	3.141	3.677	4.356	4.950
04-8476	0.230	0.319	0.398	0.604	1.038	1.700	2.264	2.584	2.816	3.235	3.539	4.373	5.022	5.831	6.528
04-8490	0.144	0.228	0.297	0.466	0.742	1.136	1.602	1.915	2.158	2.642	3.020	4.105	5.008	6.203	7.288
04-8557	0.090	0.105	0.118	0.151	0.217	0.313	0.388	0.433	0.472	0.567	0.648	0.893	1.112	1.419	1.711
04-8558	0.107	0.118	0.130	0.159	0.225	0.322	0.392	0.433	0.468	0.555	0.629	0.849	1.044	1.312	1.565
04-8560	0.109	0.122	0.135	0.164	0.218	0.300	0.387	0.445	0.492	0.593	0.675	0.918	1.127	1.413	1.678
04-8580	0.093	0.111	0.131	0.183	0.319	0.547	0.709	0.801	0.880	1.071	1.228	1.667	2.032	2.516	2.955
04-8587	0.109	0.123	0.139	0.179	0.270	0.423	0.573	0.672	0.754	0.942	1.095	1.518	1.866	2.323	2.735
04-8606	0.230	0.282	0.332	0.460	0.727	1.197	1.815	2.267	2.620	3.338	3.870	5.229	6.247	7.476	8.500
04-8680	0.100	0.140	0.173	0.251	0.387	0.568	0.715	0.802	0.877	1.062	1.214	1.630	1.972	2.419	2.820
04-8702	0.118	0.136	0.155	0.205	0.323	0.525	0.729	0.852	0.930	1.041	1.123	1.402	1.654	1.999	2.319
04-8703	0.075	0.109	0.134	0.192	0.272	0.382	0.537	0.649	0.733	0.892	1.012	1.336	1.590	1.911	2.190
04-8713	0.108	0.130	0.152	0.209	0.342	0.565	0.767	0.894	0.998	1.236	1.422	1.911	2.293	2.772	3.188
04-8752	0.083	0.105	0.122	0.165	0.245	0.350	0.429	0.470	0.497	0.537	0.566	0.662	0.745	0.854	0.950
04-8758	0.164	0.198	0.228	0.301	0.432	0.650	0.970	1.219	1.416	1.833	2.142	2.896	3.442	4.078	4.590
04-8826	0.100	0.132	0.160	0.231	0.383	0.604	0.768	0.855	0.917	1.024	1.102	1.324	1.500	1.721	1.913
04-8839	0.085	0.115	0.138	0.190	0.269	0.373	0.481	0.548	0.598	0.690	0.760	0.963	1.131	1.350	1.545
04-8873	0.120	0.124	0.130	0.144	0.195	0.293	0.404	0.477	0.525	0.599	0.648	0.773	0.862	0.966	1.051
04-8885	0.132	0.193	0.248	0.393	0.696	1.176	1.625	1.900	2.119	2.576	2.934	3.951	4.791	5.897	6.896
04-8892	0.140	0.177	0.203	0.254	0.320	0.393	0.460	0.498	0.522	0.560	0.586	0.661	0.719	0.790	0.849
04-8912	0.120	0.156	0.188	0.267	0.427	0.661	0.854	0.966	1.051	1.222	1.352	1.710	1.994	2.355	2.671
04-8914	0.120	0.166	0.202	0.282	0.400	0.566	0.799	0.963	1.077	1.268	1.405	1.782	2.076	2.443	2.760
04-8917	0.135	0.176	0.210	0.292	0.438	0.644	0.843	0.966	1.060	1.247	1.391	1.798	2.130	2.560	2.944

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-8928	0.160	0.186	0.214	0.286	0.449	0.744	1.113	1.378	1.584	2.001	2.315	3.143	3.781	4.573	5.251
04-8973	0.149	0.217	0.265	0.365	0.482	0.616	0.767	0.867	0.942	1.099	1.219	1.531	1.792	2.148	2.479
04-8992	0.163	0.241	0.301	0.430	0.599	0.813	1.082	1.270	1.418	1.742	1.974	2.479	2.804	3.148	3.400
04-8997	0.050	0.076	0.095	0.134	0.182	0.239	0.304	0.348	0.383	0.461	0.524	0.700	0.845	1.037	1.209
04-8999	0.095	0.100	0.108	0.126	0.172	0.243	0.292	0.322	0.348	0.420	0.482	0.659	0.812	1.020	1.213
04-9001	0.070	0.092	0.110	0.152	0.228	0.324	0.389	0.425	0.457	0.543	0.616	0.822	0.996	1.230	1.444
04-9026	0.111	0.135	0.158	0.215	0.334	0.521	0.690	0.797	0.889	1.118	1.311	1.853	2.312	2.928	3.495
04-9035	0.077	0.105	0.125	0.165	0.213	0.270	0.344	0.389	0.415	0.444	0.466	0.550	0.630	0.739	0.840
04-9043	0.149	0.157	0.168	0.200	0.338	0.638	0.906	1.077	1.219	1.548	1.800	2.428	2.897	3.461	3.929
04-9047	0.213	0.320	0.401	0.576	0.804	1.093	1.465	1.712	1.885	2.180	2.391	2.964	3.403	3.946	4.411
04-9053	0.076	0.083	0.091	0.113	0.168	0.251	0.301	0.328	0.350	0.401	0.444	0.575	0.691	0.851	1.000
04-9073	0.090	0.104	0.116	0.143	0.189	0.252	0.312	0.350	0.383	0.464	0.533	0.731	0.903	1.135	1.352
04-9087	0.115	0.170	0.211	0.298	0.410	0.546	0.704	0.806	0.880	1.016	1.120	1.423	1.674	2.002	2.297
04-9099	0.132	0.167	0.192	0.243	0.313	0.393	0.468	0.511	0.542	0.596	0.636	0.745	0.830	0.935	1.024
04-9105	0.133	0.198	0.249	0.366	0.538	0.780	1.104	1.337	1.519	1.891	2.183	3.008	3.689	4.583	5.391
04-9111	0.095	0.131	0.158	0.216	0.294	0.400	0.544	0.650	0.734	0.918	1.059	1.419	1.692	2.027	2.310
04-9120	0.169	0.248	0.306	0.431	0.591	0.790	1.040	1.206	1.323	1.530	1.678	2.065	2.354	2.705	3.000
04-9122	0.084	0.116	0.146	0.230	0.431	0.769	1.047	1.209	1.336	1.598	1.806	2.431	2.971	3.705	4.388
04-9124	0.097	0.138	0.174	0.271	0.472	0.800	1.138	1.359	1.543	1.969	2.297	3.118	3.734	4.477	5.097
04-9152	0.169	0.253	0.314	0.444	0.602	0.800	1.079	1.273	1.410	1.646	1.817	2.277	2.630	3.067	3.441
04-9158	0.147	0.224	0.283	0.414	0.587	0.820	1.163	1.411	1.588	1.905	2.124	2.659	3.036	3.471	3.820
04-9167	0.094	0.129	0.161	0.243	0.417	0.693	0.951	1.110	1.239	1.515	1.735	2.366	2.896	3.601	4.245
04-9173	0.093	0.140	0.176	0.260	0.380	0.550	0.789	0.970	1.122	1.482	1.762	2.450	2.960	3.566	4.060
04-9177	0.152	0.249	0.328	0.514	0.786	1.159	1.627	1.954	2.213	2.756	3.186	4.400	5.407	6.732	7.932
04-9185	0.100	0.141	0.173	0.250	0.369	0.552	0.861	1.093	1.241	1.444	1.578	1.942	2.212	2.539	2.812
04-9189	0.079	0.128	0.164	0.238	0.318	0.418	0.581	0.703	0.790	0.939	1.049	1.361	1.613	1.936	2.222
04-9200	0.103	0.159	0.204	0.308	0.467	0.666	0.843	0.951	1.045	1.283	1.479	1.995	2.408	2.936	3.401
04-9251	0.136	0.198	0.243	0.339	0.458	0.600	0.768	0.881	0.967	1.151	1.276	1.535	1.690	1.844	1.950
04-9273	0.142	0.205	0.260	0.406	0.712	1.187	1.596	1.844	2.055	2.558	2.966	4.082	4.994	6.182	7.247
04-9283	0.079	0.112	0.136	0.188	0.256	0.338	0.425	0.480	0.520	0.595	0.653	0.820	0.957	1.135	1.294
04-9325	0.090	0.127	0.153	0.205	0.268	0.341	0.425	0.475	0.506	0.547	0.578	0.697	0.810	0.969	1.117
04-9351	0.105	0.113	0.123	0.153	0.268	0.489	0.631	0.708	0.772	0.917	1.026	1.300	1.504	1.750	1.956
04-9367	0.081	0.104	0.122	0.166	0.250	0.355	0.411	0.440	0.467	0.541	0.605	0.781	0.929	1.124	1.301
04-9378	0.131	0.169	0.197	0.256	0.337	0.441	0.555	0.637	0.715	0.988	1.204	1.611	1.866	2.107	2.255
04-9386	0.230	0.299	0.354	0.483	0.687	0.999	1.462	1.816	2.087	2.610	3.022	4.240	5.281	6.689	7.993
04-9390	0.140	0.189	0.223	0.296	0.386	0.503	0.667	0.786	0.878	1.063	1.208	1.618	1.955	2.398	2.796
04-9423	0.100	0.144	0.178	0.254	0.366	0.508	0.648	0.737	0.815	1.012	1.173	1.585	1.906	2.309	2.657
04-9447	0.202	0.246	0.282	0.364	0.500	0.699	0.952	1.124	1.245	1.451	1.597	1.980	2.267	2.615	2.908
04-9452	0.069	0.088	0.103	0.138	0.199	0.280	0.346	0.385	0.420	0.514	0.583	0.723	0.812	0.904	0.970
04-9456	0.111	0.158	0.193	0.269	0.369	0.500	0.681	0.809	0.902	1.073	1.201	1.552	1.830	2.182	2.490
04-9473	0.097	0.149	0.190	0.283	0.420	0.587	0.737	0.827	0.902	1.071	1.211	1.619	1.970	2.445	2.884
04-9482	0.148	0.210	0.261	0.388	0.608	0.946	1.387	1.695	1.921	2.330	2.632	3.466	4.127	4.964	5.697
04-9490	0.089	0.111	0.133	0.191	0.329	0.568	0.789	0.928	1.043	1.303	1.514	2.119	2.630	3.316	3.947
04-9499	0.173	0.182	0.196	0.233	0.379	0.672	0.939	1.095	1.193	1.329	1.429	1.784	2.112	2.567	2.994
04-9512	0.139	0.165	0.185	0.228	0.293	0.380	0.483	0.551	0.599	0.684	0.750	0.950	1.121	1.349	1.557
04-9540	0.186	0.237	0.286	0.411	0.675	1.143	1.761	2.208	2.546	3.190	3.666	4.937	5.919	7.140	8.188
04-9560	0.053	0.070	0.083	0.109	0.144	0.190	0.251	0.296	0.332	0.416	0.481	0.636	0.749	0.882	0.990
04-9582	0.098	0.120	0.143	0.201	0.332	0.566	0.844	1.040	1.202	1.565	1.844	2.557	3.099	3.758	4.312
04-9599	0.094	0.129	0.155	0.213	0.292	0.400	0.548	0.659	0.751	0.969	1.139	1.561	1.876	2.256	2.570
04-9604	0.096	0.102	0.112	0.139	0.309	0.682	0.796	0.846	0.893	1.015	1.120	1.436	1.717	2.100	2.457
04-9621	0.229	0.276	0.322	0.439	0.698	1.121	1.520	1.773	1.980	2.435	2.804	3.863	4.760	5.962	7.067
04-9633	0.141	0.203	0.248	0.342	0.460	0.605	0.780	0.897	0.988	1.185	1.320	1.602	1.781	1.966	2.100
04-9660	0.111	0.158	0.196	0.286	0.439	0.650	0.864	0.996	1.095	1.289	1.431	1.799	2.075	2.412	2.696
04-9671	0.133	0.196	0.242	0.333	0.435	0.540	0.637	0.693	0.732	0.812	0.868	1.002	1.111	1.266	1.424
04-9677	0.094	0.128	0.153	0.208	0.282	0.380	0.512	0.609	0.689	0.874	1.015	1.356	1.605	1.898	2.137

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-9684	0.103	0.160	0.209	0.337	0.579	0.940	1.292	1.509	1.679	2.022	2.294	3.103	3.799	4.741	5.614
04-9699	0.081	0.115	0.140	0.196	0.274	0.380	0.525	0.632	0.721	0.929	1.089	1.479	1.766	2.103	2.379
04-9742	0.094	0.141	0.180	0.278	0.469	0.712	0.841	0.909	0.976	1.197	1.390	1.873	2.254	2.736	3.156
04-9754	0.130	0.174	0.208	0.289	0.425	0.601	0.754	0.841	0.904	1.021	1.104	1.319	1.479	1.670	1.829
04-9775	0.133	0.163	0.188	0.250	0.361	0.539	0.783	0.960	1.089	1.320	1.487	1.931	2.270	2.688	3.044
04-9781	0.081	0.115	0.142	0.205	0.308	0.447	0.577	0.658	0.727	0.893	1.026	1.373	1.646	1.990	2.289
04-9814	0.253	0.365	0.448	0.630	0.870	1.185	1.608	1.907	2.132	2.567	2.897	3.799	4.514	5.423	6.221
04-9847	0.117	0.164	0.201	0.289	0.429	0.624	0.864	1.010	1.090	1.176	1.238	1.496	1.750	2.110	2.450
04-9851	0.140	0.216	0.276	0.415	0.616	0.900	1.298	1.598	1.848	2.440	2.894	3.980	4.765	5.675	6.400
04-9855	0.135	0.177	0.212	0.300	0.457	0.714	1.090	1.368	1.564	1.894	2.130	2.782	3.291	3.929	4.482
04-9866	0.111	0.117	0.126	0.149	0.242	0.435	0.629	0.750	0.831	0.956	1.048	1.338	1.587	1.922	2.229
26-0150	0.119	0.130	0.141	0.166	0.215	0.279	0.331	0.358	0.371	0.384	0.394	0.451	0.516	0.608	0.694
26-0714	0.123	0.135	0.146	0.171	0.216	0.273	0.321	0.347	0.362	0.382	0.397	0.461	0.523	0.610	0.690
26-0718	0.150	0.160	0.171	0.196	0.245	0.311	0.366	0.395	0.413	0.436	0.454	0.527	0.599	0.697	0.788
26-1071	0.149	0.174	0.191	0.225	0.273	0.324	0.363	0.383	0.397	0.420	0.438	0.513	0.588	0.692	0.789
26-1485	0.081	0.104	0.124	0.169	0.244	0.361	0.545	0.678	0.760	0.872	0.943	1.122	1.247	1.390	1.504
26-2243	0.153	0.173	0.186	0.211	0.239	0.272	0.313	0.337	0.352	0.371	0.386	0.450	0.514	0.604	0.687
26-2394	0.046	0.065	0.079	0.104	0.135	0.171	0.218	0.253	0.279	0.334	0.378	0.491	0.586	0.714	0.833
26-2431	0.061	0.094	0.117	0.162	0.211	0.265	0.340	0.408	0.454	0.510	0.549	0.637	0.701	0.778	0.843
26-2840	0.086	0.115	0.133	0.167	0.203	0.243	0.288	0.317	0.338	0.382	0.415	0.496	0.559	0.639	0.711
26-3090	0.059	0.080	0.096	0.128	0.169	0.220	0.282	0.324	0.357	0.432	0.480	0.570	0.622	0.670	0.700
26-3205	0.086	0.130	0.162	0.226	0.293	0.382	0.560	0.718	0.850	1.176	1.397	1.805	2.045	2.252	2.360
26-3285	0.070	0.095	0.114	0.154	0.213	0.283	0.350	0.387	0.410	0.441	0.463	0.530	0.585	0.654	0.713
26-3515	0.089	0.128	0.152	0.187	0.207	0.229	0.279	0.320	0.350	0.412	0.450	0.516	0.552	0.583	0.600
26-3980	0.092	0.115	0.130	0.155	0.178	0.203	0.234	0.254	0.269	0.300	0.323	0.384	0.430	0.486	0.533
26-4349	0.093	0.105	0.113	0.132	0.161	0.194	0.221	0.236	0.247	0.269	0.285	0.330	0.366	0.410	0.447
26-4429	0.113	0.145	0.163	0.194	0.225	0.257	0.294	0.319	0.337	0.376	0.406	0.484	0.548	0.629	0.699
26-4436	0.182	0.217	0.234	0.250	0.252	0.253	0.283	0.313	0.330	0.349	0.365	0.434	0.506	0.609	0.706
26-4542	0.122	0.171	0.210	0.303	0.460	0.680	0.896	1.037	1.163	1.505	1.781	2.444	2.935	3.520	4.000
26-5168	0.093	0.124	0.143	0.175	0.209	0.243	0.277	0.298	0.314	0.348	0.372	0.430	0.474	0.530	0.583
26-5191	0.076	0.098	0.116	0.159	0.236	0.351	0.491	0.579	0.630	0.692	0.734	0.866	0.974	1.112	1.232
26-5441	0.125	0.138	0.158	0.211	0.378	0.701	0.975	1.130	1.233	1.389	1.507	1.917	2.297	2.828	3.331
26-5605	0.076	0.095	0.108	0.137	0.177	0.226	0.279	0.312	0.337	0.388	0.425	0.518	0.586	0.666	0.733
26-5890	0.096	0.130	0.152	0.191	0.233	0.277	0.320	0.347	0.366	0.408	0.438	0.511	0.570	0.652	0.735
26-5931	0.094	0.141	0.178	0.261	0.391	0.542	0.648	0.703	0.745	0.828	0.889	1.047	1.166	1.308	1.428
26-6691	0.198	0.251	0.284	0.344	0.403	0.464	0.534	0.579	0.613	0.681	0.735	0.884	1.003	1.155	1.287
26-6779	0.086	0.111	0.129	0.165	0.210	0.265	0.332	0.377	0.412	0.489	0.544	0.665	0.745	0.833	0.900
26-7261	0.057	0.066	0.076	0.102	0.163	0.262	0.348	0.399	0.435	0.502	0.550	0.674	0.766	0.877	0.970
26-7358	0.093	0.123	0.141	0.174	0.209	0.247	0.284	0.308	0.326	0.365	0.393	0.460	0.513	0.582	0.646
26-7369	0.242	0.302	0.339	0.407	0.479	0.547	0.605	0.636	0.656	0.687	0.712	0.825	0.943	1.109	1.263
26-7443	0.056	0.079	0.096	0.129	0.167	0.212	0.270	0.309	0.340	0.404	0.455	0.594	0.705	0.848	0.975
26-7463	0.047	0.067	0.080	0.105	0.133	0.165	0.217	0.272	0.309	0.349	0.378	0.442	0.488	0.541	0.585
26-7609	0.089	0.124	0.148	0.194	0.245	0.301	0.364	0.407	0.437	0.495	0.537	0.639	0.719	0.822	0.916
26-7612	0.084	0.107	0.124	0.156	0.195	0.241	0.296	0.332	0.360	0.420	0.462	0.552	0.611	0.673	0.720
26-7953	0.081	0.102	0.117	0.147	0.184	0.230	0.286	0.325	0.355	0.422	0.470	0.579	0.653	0.736	0.800
26-8034	0.082	0.109	0.125	0.152	0.180	0.209	0.237	0.255	0.268	0.297	0.317	0.365	0.402	0.448	0.490
26-8160	0.062	0.082	0.096	0.120	0.148	0.179	0.223	0.264	0.292	0.330	0.357	0.420	0.467	0.522	0.568
26-8170	0.062	0.083	0.096	0.121	0.148	0.180	0.225	0.265	0.293	0.331	0.359	0.422	0.469	0.525	0.571
26-8186	0.076	0.113	0.141	0.196	0.262	0.339	0.438	0.520	0.577	0.667	0.732	0.892	1.019	1.186	1.342
26-8761	0.099	0.144	0.175	0.239	0.314	0.399	0.510	0.598	0.661	0.764	0.841	1.034	1.191	1.404	1.606
26-8822	0.079	0.099	0.112	0.137	0.166	0.200	0.239	0.263	0.282	0.321	0.347	0.402	0.437	0.473	0.500
26-8838	0.067	0.090	0.104	0.130	0.158	0.190	0.226	0.251	0.270	0.307	0.335	0.404	0.458	0.526	0.586
26-8977	0.100	0.137	0.164	0.220	0.288	0.370	0.468	0.533	0.584	0.691	0.766	0.924	1.023	1.126	1.200
26-9229	0.082	0.104	0.118	0.147	0.181	0.220	0.265	0.295	0.317	0.365	0.397	0.465	0.509	0.554	0.587
35-0036	0.073	0.097	0.113	0.146	0.185	0.233	0.292	0.335	0.368	0.436	0.490	0.628	0.742	0.897	1.040

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
35-0118	0.108	0.133	0.150	0.184	0.226	0.276	0.336	0.377	0.409	0.477	0.526	0.635	0.708	0.788	0.850
35-0304	0.090	0.120	0.143	0.190	0.253	0.335	0.444	0.522	0.586	0.732	0.843	1.108	1.298	1.521	1.700
35-0853	0.109	0.120	0.131	0.158	0.213	0.294	0.366	0.411	0.448	0.536	0.608	0.809	0.976	1.195	1.394
35-1055	0.102	0.150	0.192	0.302	0.531	0.880	1.183	1.360	1.497	1.766	1.982	2.656	3.258	4.092	4.880
35-1149	0.180	0.216	0.241	0.291	0.350	0.435	0.614	0.768	0.877	1.065	1.200	1.547	1.805	2.116	2.376
35-1207	0.159	0.202	0.234	0.303	0.394	0.517	0.684	0.809	0.914	1.163	1.361	1.859	2.240	2.707	3.100
35-1448	0.132	0.152	0.176	0.242	0.419	0.759	1.098	1.320	1.500	1.894	2.202	3.043	3.718	4.585	5.352
35-1571	0.102	0.118	0.131	0.163	0.220	0.305	0.397	0.458	0.505	0.599	0.672	0.878	1.046	1.264	1.460
35-1574	0.099	0.131	0.154	0.201	0.259	0.330	0.419	0.483	0.532	0.640	0.725	0.952	1.144	1.411	1.666
35-1828	0.131	0.168	0.196	0.262	0.365	0.515	0.719	0.865	0.974	1.177	1.333	1.777	2.142	2.618	3.047
35-1946	0.096	0.134	0.169	0.264	0.485	0.827	1.047	1.169	1.282	1.594	1.867	2.650	3.333	4.273	5.157
35-2295	0.130	0.177	0.213	0.291	0.400	0.550	0.759	0.916	1.049	1.364	1.615	2.245	2.724	3.309	3.800
35-3232	0.076	0.103	0.122	0.162	0.213	0.275	0.350	0.404	0.445	0.536	0.608	0.796	0.953	1.166	1.366
35-3305	0.134	0.185	0.224	0.309	0.427	0.590	0.814	0.983	1.124	1.457	1.719	2.370	2.859	3.449	3.940
35-3356	0.117	0.177	0.228	0.351	0.530	0.771	1.068	1.276	1.443	1.835	2.154	3.046	3.845	4.987	6.110
35-3445	0.082	0.119	0.149	0.219	0.316	0.444	0.617	0.751	0.853	1.057	1.215	1.629	1.976	2.453	2.909
35-3509	0.114	0.132	0.151	0.200	0.315	0.500	0.662	0.754	0.814	0.904	0.972	1.220	1.456	1.788	2.104
35-3692	0.113	0.138	0.155	0.190	0.232	0.283	0.345	0.387	0.420	0.493	0.545	0.662	0.742	0.831	0.900
35-4060	0.126	0.172	0.207	0.290	0.413	0.600	0.961	1.227	1.350	1.432	1.489	1.769	2.063	2.486	2.888
35-4133	0.186	0.266	0.327	0.467	0.663	0.940	1.329	1.626	1.874	2.469	2.941	4.121	5.015	6.097	7.000
35-4216	0.089	0.128	0.158	0.225	0.309	0.415	0.549	0.649	0.724	0.874	0.991	1.298	1.559	1.923	2.276
35-4403	0.098	0.110	0.127	0.172	0.304	0.555	0.776	0.902	0.982	1.099	1.180	1.418	1.606	1.844	2.050
35-4426	0.106	0.154	0.196	0.299	0.448	0.649	0.916	1.115	1.268	1.582	1.826	2.476	3.033	3.806	4.546
35-4506	0.070	0.088	0.104	0.144	0.224	0.350	0.486	0.572	0.634	0.747	0.825	1.022	1.165	1.333	1.470
35-4511	0.060	0.082	0.098	0.129	0.166	0.213	0.287	0.343	0.384	0.459	0.517	0.682	0.818	0.996	1.156
35-4635	0.073	0.108	0.134	0.189	0.257	0.341	0.444	0.517	0.573	0.695	0.790	1.040	1.252	1.542	1.816
35-4670	0.090	0.098	0.110	0.139	0.223	0.350	0.402	0.428	0.453	0.534	0.597	0.731	0.822	0.922	1.000
35-4721	0.120	0.182	0.230	0.340	0.496	0.710	1.003	1.220	1.399	1.813	2.129	2.877	3.409	4.018	4.500
35-5055	0.127	0.166	0.194	0.256	0.339	0.450	0.601	0.714	0.808	1.029	1.202	1.635	1.961	2.355	2.685
35-5170	0.071	0.078	0.086	0.104	0.144	0.204	0.251	0.278	0.300	0.347	0.385	0.499	0.598	0.732	0.856
35-5174	0.101	0.117	0.129	0.157	0.202	0.262	0.323	0.362	0.391	0.449	0.496	0.635	0.755	0.915	1.062
35-5424	0.081	0.116	0.144	0.203	0.280	0.374	0.496	0.587	0.655	0.791	0.897	1.175	1.411	1.738	2.052
35-5429	0.104	0.137	0.160	0.211	0.278	0.367	0.484	0.569	0.639	0.800	0.923	1.220	1.436	1.692	1.900
35-5656	0.078	0.116	0.144	0.203	0.277	0.367	0.478	0.559	0.619	0.747	0.847	1.110	1.333	1.640	1.933
35-6426	0.076	0.103	0.124	0.165	0.214	0.273	0.344	0.395	0.433	0.510	0.568	0.718	0.843	1.012	1.172
35-6784	0.086	0.139	0.185	0.297	0.457	0.670	0.929	1.109	1.254	1.595	1.872	2.649	3.344	4.337	5.314
35-6795	0.137	0.233	0.316	0.517	0.804	1.178	1.621	1.919	2.154	2.698	3.139	4.399	5.569	7.281	8.979
35-6820	0.113	0.168	0.211	0.309	0.450	0.650	0.931	1.145	1.324	1.749	2.083	2.909	3.524	4.257	4.860
35-6907	0.094	0.133	0.165	0.238	0.336	0.462	0.624	0.744	0.836	1.030	1.185	1.603	1.965	2.467	2.946
35-7169	0.073	0.108	0.135	0.198	0.285	0.398	0.556	0.685	0.784	0.978	1.132	1.542	1.891	2.372	2.830
35-7171	0.095	0.131	0.158	0.220	0.307	0.430	0.604	0.739	0.853	1.130	1.353	1.927	2.374	2.928	3.400
35-7354	0.081	0.109	0.130	0.174	0.228	0.293	0.373	0.429	0.471	0.563	0.635	0.821	0.977	1.190	1.392
35-7391	0.088	0.127	0.157	0.222	0.307	0.411	0.545	0.646	0.721	0.870	0.985	1.287	1.544	1.899	2.241
35-7698	0.090	0.132	0.167	0.248	0.360	0.505	0.703	0.860	0.979	1.212	1.397	1.895	2.328	2.936	3.522
35-7848	0.122	0.186	0.233	0.329	0.438	0.568	0.745	0.869	0.964	1.154	1.303	1.728	2.081	2.545	2.965
35-8007	0.083	0.112	0.134	0.178	0.234	0.302	0.381	0.434	0.476	0.571	0.646	0.841	1.006	1.234	1.453
35-8173	0.090	0.125	0.151	0.203	0.267	0.340	0.424	0.480	0.522	0.607	0.672	0.839	0.980	1.178	1.372
35-8338	0.067	0.097	0.121	0.170	0.233	0.311	0.411	0.488	0.546	0.660	0.749	0.981	1.177	1.446	1.704
35-8514	0.080	0.117	0.147	0.214	0.303	0.418	0.569	0.684	0.773	0.956	1.101	1.491	1.826	2.294	2.745
35-8812	0.080	0.106	0.126	0.166	0.216	0.275	0.351	0.407	0.448	0.528	0.588	0.744	0.874	1.049	1.215
35-9390	0.113	0.162	0.204	0.301	0.436	0.610	0.836	1.006	1.132	1.381	1.572	2.071	2.494	3.082	3.649
35-9604	0.080	0.099	0.114	0.148	0.207	0.284	0.343	0.378	0.411	0.506	0.584	0.766	0.900	1.058	1.188
72-0001	0.108	0.163	0.207	0.306	0.445	0.642	0.937	1.161	1.336	1.693	1.958	2.625	3.121	3.714	4.205
72-0002	0.183	0.263	0.329	0.488	0.755	1.146	1.627	1.945	2.165	2.529	2.792	3.536	4.126	4.876	5.533
72-0004	0.090	0.096	0.106	0.131	0.225	0.415	0.565	0.655	0.732	0.912	1.058	1.460	1.790	2.222	2.610

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
72-0005	0.122	0.169	0.206	0.291	0.423	0.603	0.800	0.931	1.036	1.266	1.449	1.959	2.378	2.927	3.420
72-0006	0.207	0.296	0.370	0.550	0.864	1.326	1.869	2.220	2.462	2.860	3.146	3.956	4.597	5.410	6.120
72-0007	0.074	0.103	0.124	0.173	0.244	0.336	0.428	0.488	0.538	0.658	0.757	1.028	1.252	1.544	1.808
72-0009	0.132	0.194	0.241	0.347	0.493	0.686	0.935	1.109	1.246	1.526	1.748	2.385	2.920	3.630	4.278
72-0010	0.173	0.270	0.344	0.504	0.709	0.970	1.318	1.559	1.736	2.067	2.308	2.931	3.397	3.964	4.441
72-0011	0.142	0.166	0.191	0.255	0.392	0.645	1.036	1.323	1.500	1.729	1.880	2.307	2.634	3.035	3.377
72-0012	0.118	0.142	0.160	0.200	0.259	0.340	0.434	0.500	0.557	0.697	0.815	1.134	1.396	1.738	2.047
72-0014	0.194	0.280	0.350	0.521	0.807	1.227	1.753	2.103	2.341	2.723	2.997	3.783	4.412	5.214	5.919
72-0015	0.247	0.386	0.490	0.710	0.971	1.300	1.802	2.157	2.396	2.767	3.036	3.823	4.463	5.288	6.020
72-0016	0.069	0.101	0.124	0.172	0.230	0.300	0.386	0.446	0.494	0.600	0.687	0.937	1.149	1.433	1.695
72-0017	0.212	0.330	0.421	0.619	0.876	1.207	1.655	1.962	2.181	2.563	2.839	3.589	4.168	4.889	5.509
72-0018	0.137	0.163	0.190	0.261	0.442	0.730	0.919	1.020	1.100	1.285	1.400	1.608	1.725	1.831	1.895
72-0019	0.127	0.143	0.163	0.216	0.350	0.613	0.960	1.209	1.383	1.670	1.878	2.474	2.953	3.570	4.117
72-0021	0.133	0.184	0.227	0.334	0.526	0.822	1.181	1.427	1.611	1.960	2.225	2.978	3.593	4.394	5.111
72-0022	0.184	0.274	0.343	0.498	0.712	1.000	1.386	1.667	1.896	2.420	2.815	3.734	4.376	5.102	5.670
72-0025	0.121	0.149	0.171	0.218	0.288	0.387	0.525	0.628	0.711	0.893	1.039	1.434	1.753	2.164	2.528
72-0026	0.118	0.181	0.229	0.336	0.473	0.671	1.053	1.378	1.625	2.099	2.426	3.174	3.679	4.227	4.635
72-0027	0.117	0.177	0.222	0.319	0.439	0.600	0.864	1.063	1.205	1.442	1.621	2.160	2.618	3.231	3.794
72-0029	0.116	0.167	0.203	0.277	0.365	0.472	0.613	0.712	0.786	0.932	1.046	1.376	1.651	2.016	2.346
72-0030	0.090	0.121	0.144	0.195	0.263	0.356	0.483	0.578	0.657	0.843	0.988	1.350	1.621	1.948	2.220
72-0031	0.259	0.371	0.453	0.631	0.869	1.160	1.479	1.677	1.818	2.067	2.252	2.778	3.200	3.738	4.210
72-0034	0.186	0.289	0.368	0.539	0.756	1.037	1.437	1.717	1.916	2.257	2.506	3.194	3.734	4.415	5.008
72-0035	0.101	0.127	0.151	0.214	0.347	0.577	0.852	1.045	1.200	1.530	1.783	2.445	2.957	3.592	4.135
72-0036	0.089	0.119	0.140	0.185	0.244	0.320	0.419	0.491	0.548	0.678	0.776	1.013	1.184	1.386	1.550
72-0039	0.103	0.147	0.181	0.258	0.363	0.520	0.811	1.054	1.238	1.583	1.831	2.456	2.915	3.457	3.900
72-0040	0.100	0.141	0.171	0.232	0.306	0.400	0.539	0.636	0.700	0.797	0.870	1.114	1.333	1.636	1.920
72-0041	0.119	0.153	0.184	0.268	0.448	0.768	1.180	1.468	1.673	2.021	2.275	3.000	3.583	4.334	5.000
72-0043	0.161	0.248	0.317	0.474	0.694	1.007	1.498	1.864	2.123	2.555	2.868	3.738	4.424	5.291	6.048
79-1021	0.116	0.175	0.218	0.306	0.412	0.534	0.693	0.821	0.915	1.078	1.205	1.540	1.821	2.201	2.553
79-1075	0.150	0.214	0.262	0.366	0.503	0.680	0.905	1.065	1.191	1.473	1.678	2.140	2.450	2.790	3.050
79-1262	0.129	0.194	0.243	0.346	0.474	0.635	0.861	1.015	1.121	1.290	1.415	1.790	2.103	2.514	2.884
79-1335	0.128	0.196	0.246	0.351	0.477	0.632	0.838	0.980	1.083	1.271	1.412	1.808	2.126	2.534	2.894
79-1385	0.190	0.284	0.356	0.514	0.725	1.000	1.352	1.599	1.797	2.241	2.555	3.233	3.679	4.152	4.500
79-2001	0.131	0.177	0.211	0.283	0.377	0.500	0.659	0.772	0.864	1.070	1.224	1.583	1.834	2.122	2.350
79-2015	0.192	0.264	0.317	0.429	0.577	0.770	1.020	1.198	1.341	1.665	1.906	2.466	2.856	3.300	3.650
79-2017	0.199	0.308	0.393	0.574	0.795	1.050	1.390	1.687	1.896	2.214	2.458	3.098	3.647	4.411	5.151
79-2118	0.300	0.385	0.452	0.603	0.837	1.170	1.588	1.885	2.124	2.662	3.052	3.931	4.531	5.194	5.700
79-2222	0.098	0.146	0.181	0.252	0.335	0.432	0.560	0.668	0.746	0.877	0.980	1.248	1.475	1.782	2.071
79-2287	0.244	0.370	0.467	0.680	0.965	1.337	1.812	2.146	2.412	3.007	3.429	4.355	4.970	5.632	6.124
79-2357	0.166	0.213	0.249	0.331	0.458	0.639	0.877	1.040	1.153	1.339	1.479	1.908	2.275	2.766	3.215
79-2893	0.170	0.226	0.268	0.361	0.492	0.670	0.900	1.066	1.199	1.502	1.726	2.248	2.614	3.031	3.360
79-2996	0.137	0.195	0.239	0.333	0.458	0.620	0.830	0.979	1.099	1.368	1.565	2.012	2.320	2.664	2.930
79-3015	0.169	0.217	0.261	0.375	0.616	1.003	1.393	1.630	1.790	2.047	2.232	2.769	3.202	3.754	4.240
79-3023	0.104	0.155	0.192	0.268	0.358	0.464	0.602	0.715	0.797	0.938	1.048	1.335	1.577	1.907	2.218
79-3132	0.129	0.192	0.242	0.350	0.485	0.643	0.848	1.016	1.135	1.328	1.474	1.846	2.158	2.593	3.017
79-3259	0.248	0.329	0.390	0.526	0.719	0.985	1.367	1.634	1.813	2.091	2.288	2.842	3.277	3.822	4.295
79-3337	0.131	0.177	0.211	0.283	0.377	0.500	0.658	0.771	0.861	1.066	1.218	1.571	1.819	2.102	2.326
79-3355	0.107	0.148	0.179	0.244	0.329	0.442	0.588	0.693	0.778	0.969	1.112	1.444	1.676	1.941	2.150
79-6304	0.166	0.170	0.176	0.190	0.221	0.267	0.310	0.337	0.358	0.403	0.438	0.529	0.598	0.683	0.755
79-6383	0.123	0.162	0.192	0.264	0.393	0.550	0.649	0.699	0.736	0.806	0.857	0.990	1.090	1.210	1.310
79-9002	0.162	0.188	0.208	0.250	0.311	0.390	0.482	0.543	0.591	0.694	0.767	0.926	1.030	1.144	1.230
79-9004	0.134	0.178	0.205	0.253	0.303	0.356	0.417	0.460	0.490	0.543	0.581	0.671	0.737	0.813	0.875
79-9028	0.170	0.274	0.353	0.521	0.723	0.975	1.333	1.581	1.753	2.036	2.243	2.839	3.321	3.941	4.489
80-0198	0.114	0.160	0.193	0.257	0.328	0.414	0.533	0.619	0.685	0.819	0.925	1.226	1.477	1.806	2.104
80-0205	0.124	0.182	0.222	0.303	0.397	0.506	0.643	0.745	0.821	0.973	1.093	1.407	1.671	2.024	2.349

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
80-0208	0.169	0.254	0.317	0.449	0.610	0.798	1.055	1.282	1.441	1.682	1.864	2.329	2.716	3.240	3.735
80-0211	0.179	0.274	0.345	0.491	0.665	0.872	1.122	1.287	1.409	1.641	1.818	2.321	2.731	3.262	3.735
80-0221	0.089	0.122	0.146	0.197	0.260	0.338	0.434	0.499	0.550	0.661	0.739	0.910	1.022	1.140	1.229
80-0226	0.175	0.270	0.340	0.484	0.654	0.852	1.084	1.235	1.348	1.566	1.734	2.214	2.609	3.122	3.581
80-0227	0.236	0.363	0.458	0.660	0.910	1.202	1.567	1.845	2.043	2.387	2.645	3.312	3.874	4.641	5.367
80-0228	0.200	0.267	0.322	0.456	0.707	1.050	1.315	1.466	1.591	1.882	2.100	2.622	2.998	3.440	3.800
80-0229	0.194	0.290	0.363	0.522	0.735	1.000	1.307	1.504	1.647	1.908	2.102	2.645	3.079	3.630	4.113
80-0230	0.246	0.383	0.484	0.690	0.923	1.207	1.609	1.898	2.118	2.563	2.888	3.686	4.264	4.945	5.502
80-0231	0.239	0.359	0.451	0.650	0.909	1.251	1.768	2.129	2.360	2.694	2.920	3.530	3.986	4.538	5.000
80-0232	0.300	0.463	0.590	0.874	1.276	1.780	2.312	2.645	2.900	3.412	3.789	4.749	5.463	6.326	7.050
80-0233	0.195	0.266	0.322	0.455	0.686	0.977	1.174	1.285	1.387	1.691	1.916	2.354	2.629	2.907	3.100
80-0234	0.166	0.253	0.316	0.447	0.598	0.781	1.030	1.201	1.324	1.544	1.708	2.173	2.547	3.028	3.452
80-0236	0.234	0.355	0.445	0.640	0.892	1.200	1.560	1.795	1.970	2.305	2.558	3.256	3.812	4.518	5.138
80-0238	0.200	0.256	0.300	0.400	0.568	0.780	0.942	1.035	1.116	1.324	1.482	1.839	2.087	2.370	2.594
80-0242	0.239	0.364	0.457	0.650	0.882	1.160	1.495	1.718	1.890	2.241	2.507	3.203	3.737	4.400	4.967
80-0249	0.124	0.183	0.227	0.315	0.419	0.545	0.713	0.827	0.911	1.065	1.181	1.508	1.773	2.112	2.413
80-0251	0.217	0.321	0.396	0.546	0.718	0.917	1.154	1.311	1.432	1.679	1.873	2.417	2.861	3.438	3.953
80-0255	0.240	0.395	0.513	0.761	1.046	1.395	1.886	2.233	2.490	2.980	3.335	4.236	4.902	5.701	6.366
80-0256	0.116	0.167	0.204	0.278	0.364	0.470	0.617	0.722	0.801	0.958	1.079	1.418	1.694	2.051	2.370
80-0258	0.151	0.222	0.273	0.374	0.488	0.619	0.775	0.879	0.959	1.124	1.253	1.615	1.910	2.292	2.633
80-0259	0.180	0.267	0.328	0.450	0.591	0.751	0.940	1.071	1.169	1.369	1.524	1.931	2.277	2.752	3.205
80-0262	0.208	0.318	0.400	0.568	0.767	0.991	1.246	1.416	1.541	1.794	1.986	2.483	2.900	3.468	4.006
80-0310	0.158	0.243	0.305	0.434	0.586	0.763	0.976	1.114	1.218	1.415	1.567	1.999	2.353	2.812	3.222
80-0325	0.171	0.262	0.329	0.468	0.630	0.827	1.098	1.286	1.420	1.658	1.836	2.335	2.735	3.246	3.696
80-0334	0.159	0.244	0.308	0.438	0.592	0.774	0.994	1.138	1.245	1.449	1.605	2.049	2.411	2.881	3.299
80-0335	0.172	0.261	0.327	0.463	0.625	0.819	1.064	1.230	1.356	1.605	1.791	2.278	2.650	3.108	3.500
80-0338	0.174	0.267	0.335	0.475	0.640	0.833	1.066	1.219	1.333	1.554	1.718	2.143	2.464	2.857	3.190
80-0346	0.163	0.250	0.313	0.444	0.598	0.778	0.992	1.133	1.238	1.444	1.598	2.000	2.305	2.680	3.000
80-0349	0.116	0.165	0.199	0.265	0.342	0.433	0.554	0.652	0.726	0.867	0.980	1.287	1.548	1.901	2.222
80-0352	0.109	0.151	0.181	0.244	0.323	0.421	0.539	0.621	0.690	0.860	0.987	1.269	1.462	1.676	1.840
80-0361	0.123	0.180	0.219	0.296	0.384	0.487	0.611	0.699	0.766	0.903	1.011	1.295	1.534	1.858	2.159
80-0376	0.172	0.265	0.333	0.474	0.639	0.831	1.059	1.207	1.318	1.530	1.693	2.160	2.543	3.041	3.486
80-0380	0.111	0.158	0.190	0.251	0.322	0.406	0.516	0.603	0.669	0.800	0.906	1.195	1.442	1.774	2.073
80-0386	0.216	0.331	0.416	0.590	0.794	1.039	1.359	1.576	1.735	2.033	2.247	2.785	3.178	3.645	4.031
80-0387	0.111	0.157	0.187	0.247	0.316	0.396	0.502	0.587	0.651	0.777	0.879	1.157	1.395	1.715	2.003
80-0389	0.187	0.303	0.389	0.561	0.747	0.956	1.210	1.377	1.506	1.770	1.969	2.483	2.874	3.353	3.760
80-0390	0.309	0.426	0.517	0.731	1.063	1.540	2.151	2.588	2.940	3.776	4.304	5.230	5.749	6.182	6.400
80-0393	0.191	0.289	0.360	0.505	0.668	0.871	1.190	1.417	1.569	1.803	1.967	2.416	2.759	3.182	3.542
80-0398	0.173	0.254	0.311	0.428	0.563	0.720	0.911	1.039	1.138	1.343	1.502	1.934	2.278	2.716	3.100
80-0402	0.090	0.132	0.162	0.221	0.286	0.360	0.448	0.505	0.548	0.633	0.699	0.881	1.027	1.213	1.377
80-0406	0.118	0.167	0.200	0.265	0.340	0.428	0.544	0.637	0.707	0.844	0.955	1.258	1.517	1.865	2.180
80-0407	0.112	0.160	0.191	0.253	0.324	0.407	0.516	0.602	0.668	0.798	0.903	1.189	1.435	1.765	2.064
80-0408	0.113	0.164	0.200	0.273	0.361	0.466	0.608	0.727	0.814	0.973	1.098	1.431	1.712	2.090	2.439
80-0409	0.120	0.169	0.203	0.272	0.350	0.444	0.575	0.669	0.741	0.887	1.002	1.319	1.575	1.906	2.200
80-0410	0.109	0.155	0.186	0.247	0.319	0.403	0.515	0.607	0.675	0.808	0.914	1.204	1.451	1.782	2.083
80-0411	0.120	0.175	0.213	0.288	0.377	0.481	0.615	0.719	0.796	0.948	1.067	1.384	1.650	2.007	2.334
80-0415	0.124	0.177	0.215	0.291	0.378	0.486	0.640	0.750	0.834	0.998	1.126	1.489	1.787	2.178	2.530
80-0416	0.129	0.184	0.224	0.303	0.394	0.506	0.664	0.776	0.862	1.029	1.160	1.532	1.839	2.241	2.604
80-0421	0.163	0.248	0.311	0.445	0.611	0.815	1.079	1.257	1.387	1.627	1.800	2.245	2.576	2.976	3.311
80-0436	0.086	0.128	0.156	0.210	0.270	0.337	0.414	0.468	0.507	0.584	0.642	0.794	0.922	1.097	1.264
80-0438	0.109	0.163	0.199	0.270	0.351	0.445	0.558	0.638	0.698	0.821	0.917	1.168	1.378	1.663	1.932
80-0439	0.137	0.199	0.244	0.332	0.432	0.548	0.691	0.787	0.861	1.012	1.131	1.461	1.729	2.076	2.384
81-0001	0.112	0.162	0.198	0.274	0.370	0.488	0.629	0.726	0.804	0.978	1.119	1.511	1.835	2.261	2.646
81-0002	0.112	0.163	0.199	0.275	0.371	0.487	0.624	0.719	0.793	0.965	1.100	1.455	1.759	2.191	2.623
81-0003	0.116	0.168	0.206	0.287	0.390	0.517	0.667	0.769	0.849	1.033	1.176	1.552	1.874	2.337	2.809

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
81-0012	0.150	0.179	0.205	0.267	0.388	0.557	0.688	0.765	0.829	0.980	1.102	1.434	1.703	2.050	2.358
81-0014	0.100	0.143	0.175	0.242	0.331	0.436	0.529	0.588	0.644	0.817	0.965	1.327	1.605	1.949	2.241
81-0019	0.106	0.151	0.184	0.251	0.335	0.437	0.558	0.641	0.706	0.856	0.974	1.282	1.547	1.928	2.314
81-0020	0.101	0.145	0.177	0.245	0.331	0.436	0.558	0.642	0.708	0.858	0.974	1.278	1.538	1.910	2.285
81-0021	0.097	0.139	0.169	0.232	0.311	0.407	0.520	0.597	0.659	0.797	0.910	1.227	1.492	1.842	2.161
81-0023	0.094	0.134	0.163	0.222	0.296	0.386	0.492	0.565	0.623	0.756	0.860	1.135	1.371	1.710	2.051
81-0024	0.107	0.140	0.170	0.251	0.448	0.732	0.878	0.946	0.997	1.091	1.163	1.391	1.588	1.847	2.080
81-0025	0.116	0.172	0.213	0.300	0.409	0.542	0.704	0.814	0.901	1.087	1.235	1.645	1.979	2.415	2.805
81-0029	0.079	0.115	0.141	0.194	0.261	0.343	0.437	0.502	0.553	0.669	0.759	0.995	1.195	1.477	1.757
81-0030	0.116	0.163	0.200	0.288	0.434	0.623	0.787	0.883	0.958	1.116	1.238	1.572	1.838	2.177	2.474
81-0037	0.114	0.156	0.191	0.280	0.451	0.695	0.908	1.026	1.105	1.225	1.316	1.627	1.910	2.298	2.658
81-0038	0.105	0.147	0.181	0.259	0.395	0.556	0.646	0.694	0.741	0.892	1.027	1.387	1.687	2.083	2.443
81-0040	0.125	0.181	0.222	0.308	0.409	0.548	0.824	1.046	1.190	1.391	1.530	1.926	2.237	2.628	2.967
81-0044	0.105	0.153	0.189	0.266	0.363	0.484	0.633	0.739	0.820	0.996	1.132	1.488	1.787	2.200	2.597
81-0055	0.110	0.157	0.192	0.263	0.351	0.458	0.584	0.669	0.739	0.895	1.023	1.380	1.678	2.071	2.428
81-0060	0.118	0.149	0.174	0.233	0.340	0.485	0.601	0.672	0.739	0.941	1.113	1.533	1.855	2.252	2.588
81-0068	0.140	0.200	0.245	0.347	0.497	0.687	0.869	0.985	1.087	1.353	1.571	2.131	2.569	3.119	3.597
82-0201	0.143	0.226	0.298	0.484	0.838	1.352	1.856	2.139	2.304	2.506	2.658	3.284	3.914	4.825	5.700
83-6004	0.125	0.168	0.208	0.312	0.541	0.912	1.258	1.469	1.633	1.964	2.213	2.880	3.399	4.050	4.614
83-6009	0.201	0.291	0.357	0.502	0.683	0.937	1.396	1.774	2.064	2.667	3.048	3.769	4.191	4.567	4.783
83-6010	0.242	0.349	0.429	0.604	0.824	1.138	1.762	2.260	2.567	2.953	3.216	3.990	4.606	5.387	6.069
83-6014	0.100	0.131	0.157	0.218	0.327	0.475	0.596	0.668	0.730	0.886	1.014	1.360	1.640	2.004	2.329
83-6015	0.115	0.171	0.214	0.309	0.438	0.610	0.836	1.000	1.132	1.431	1.653	2.162	2.511	2.900	3.200
83-6017	0.144	0.205	0.251	0.351	0.481	0.667	1.007	1.289	1.500	1.915	2.182	2.720	3.046	3.359	3.560
83-6020	0.142	0.206	0.254	0.354	0.482	0.641	0.838	0.972	1.075	1.282	1.442	1.881	2.232	2.682	3.079
83-6021	0.118	0.176	0.221	0.319	0.451	0.625	0.864	1.027	1.136	1.305	1.429	1.804	2.118	2.529	2.900
83-6022	0.105	0.130	0.152	0.207	0.312	0.476	0.642	0.756	0.859	1.156	1.383	1.857	2.169	2.493	2.719
83-6023	0.099	0.141	0.171	0.232	0.307	0.398	0.507	0.582	0.642	0.781	0.890	1.180	1.430	1.779	2.117
83-6024	0.160	0.232	0.286	0.399	0.544	0.727	0.964	1.141	1.272	1.529	1.722	2.212	2.625	3.210	3.796
83-6026	0.168	0.243	0.299	0.420	0.579	0.781	1.043	1.235	1.378	1.656	1.863	2.381	2.809	3.403	3.987
83-6032	0.206	0.299	0.368	0.517	0.713	0.966	1.296	1.526	1.702	2.050	2.316	3.040	3.615	4.346	4.987
83-6038	0.262	0.372	0.455	0.634	0.873	1.188	1.599	1.893	2.130	2.667	3.064	3.979	4.616	5.337	5.900
83-6039	0.227	0.328	0.403	0.568	0.786	1.071	1.450	1.733	1.942	2.347	2.645	3.386	3.997	4.846	5.679
83-6041	0.145	0.212	0.261	0.363	0.488	0.636	0.804	0.915	1.002	1.188	1.334	1.735	2.058	2.473	2.841
83-6052	0.077	0.123	0.157	0.218	0.274	0.336	0.423	0.487	0.537	0.648	0.738	0.990	1.199	1.475	1.725
83-6054	0.083	0.118	0.143	0.195	0.258	0.333	0.422	0.483	0.532	0.642	0.733	0.989	1.203	1.489	1.749
83-6055	0.266	0.378	0.461	0.642	0.883	1.200	1.612	1.908	2.145	2.681	3.079	3.996	4.630	5.343	5.900
83-6056	0.098	0.135	0.162	0.221	0.299	0.400	0.531	0.625	0.700	0.870	0.995	1.285	1.488	1.719	1.900
83-6057	0.098	0.135	0.162	0.221	0.299	0.400	0.531	0.625	0.700	0.870	0.995	1.285	1.488	1.719	1.900
83-6083	0.094	0.134	0.163	0.221	0.290	0.373	0.475	0.546	0.602	0.724	0.823	1.099	1.327	1.627	1.897
83-6085	0.103	0.149	0.182	0.249	0.333	0.436	0.570	0.672	0.750	0.914	1.045	1.390	1.684	2.089	2.478
83-6086	0.085	0.119	0.144	0.199	0.274	0.365	0.458	0.517	0.565	0.676	0.766	1.014	1.217	1.482	1.720
83-6088	0.081	0.137	0.183	0.288	0.437	0.619	0.793	0.898	0.982	1.159	1.298	1.689	2.009	2.425	2.798
83-6094	0.164	0.226	0.283	0.436	0.773	1.343	1.983	2.370	2.594	2.860	3.051	3.759	4.421	5.341	6.202
83-6097	0.154	0.214	0.262	0.381	0.592	0.889	1.172	1.341	1.465	1.697	1.868	2.334	2.697	3.151	3.543
83-6100	0.173	0.250	0.307	0.429	0.578	0.783	1.157	1.447	1.634	1.902	2.084	2.577	2.947	3.398	3.778
83-6102	0.113	0.168	0.208	0.293	0.398	0.525	0.679	0.783	0.865	1.036	1.171	1.543	1.845	2.236	2.584
84-0135	0.170	0.266	0.345	0.523	0.756	1.040	1.363	1.578	1.747	2.130	2.430	3.221	3.893	4.832	5.754
84-0934	0.156	0.231	0.290	0.423	0.624	0.878	1.116	1.265	1.393	1.707	1.967	2.671	3.247	3.997	4.670
84-0969	0.168	0.260	0.335	0.506	0.730	1.006	1.322	1.533	1.698	2.075	2.370	3.145	3.803	4.722	5.627
84-2057	0.164	0.242	0.301	0.431	0.607	0.840	1.144	1.361	1.535	1.929	2.217	2.870	3.318	3.817	4.200
84-3435	0.102	0.156	0.197	0.287	0.404	0.550	0.733	0.863	0.964	1.188	1.364	1.830	2.224	2.758	3.257
84-3941	0.121	0.172	0.213	0.310	0.467	0.683	0.912	1.061	1.184	1.463	1.682	2.253	2.698	3.255	3.736
84-4277	0.133	0.182	0.223	0.323	0.509	0.778	1.022	1.175	1.305	1.629	1.885	2.524	3.007	3.596	4.093
84-4502	0.185	0.253	0.311	0.455	0.731	1.126	1.449	1.645	1.818	2.275	2.654	3.639	4.422	5.418	6.290

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
84-4652	0.163	0.272	0.358	0.549	0.803	1.106	1.402	1.591	1.757	2.189	2.551	3.509	4.284	5.284	6.172
84-5647	0.131	0.198	0.251	0.375	0.575	0.822	1.007	1.113	1.209	1.466	1.685	2.279	2.771	3.419	4.004
84-5996	0.171	0.260	0.327	0.475	0.674	0.923	1.205	1.393	1.545	1.882	2.155	2.919	3.554	4.390	5.148
84-6187	0.128	0.193	0.244	0.357	0.505	0.691	0.929	1.102	1.236	1.519	1.741	2.330	2.826	3.502	4.137
84-6188	0.144	0.197	0.242	0.353	0.562	0.872	1.168	1.356	1.516	1.905	2.212	2.988	3.581	4.309	4.926
84-6290	0.128	0.197	0.249	0.365	0.516	0.715	0.983	1.178	1.337	1.702	1.976	2.617	3.071	3.590	4.000
84-6292	0.103	0.157	0.198	0.288	0.405	0.552	0.746	0.895	1.009	1.238	1.416	1.882	2.270	2.799	3.300
84-6792	0.132	0.186	0.229	0.330	0.492	0.710	0.925	1.065	1.187	1.502	1.757	2.396	2.885	3.486	3.997
84-6833	0.104	0.155	0.193	0.277	0.388	0.530	0.703	0.822	0.918	1.131	1.301	1.763	2.136	2.617	3.045
84-6853	0.143	0.203	0.255	0.388	0.660	1.055	1.346	1.514	1.665	2.069	2.406	3.298	4.018	4.946	5.769
84-7027	0.085	0.115	0.140	0.199	0.305	0.452	0.577	0.654	0.721	0.897	1.040	1.400	1.677	2.020	2.314
84-7028	0.134	0.201	0.254	0.370	0.522	0.713	0.953	1.128	1.263	1.550	1.776	2.378	2.888	3.585	4.244
84-7088	0.123	0.168	0.205	0.294	0.453	0.681	0.907	1.052	1.172	1.454	1.674	2.235	2.665	3.194	3.644
84-7707	0.130	0.183	0.230	0.349	0.595	0.952	1.213	1.364	1.500	1.863	2.167	2.970	3.618	4.454	5.195
84-7880	0.145	0.226	0.288	0.424	0.605	0.831	1.089	1.262	1.401	1.707	1.955	2.656	3.243	4.020	4.729
84-7881	0.130	0.202	0.257	0.378	0.538	0.739	0.973	1.132	1.260	1.544	1.773	2.409	2.934	3.622	4.243
84-8286	0.102	0.154	0.192	0.275	0.381	0.513	0.677	0.790	0.882	1.084	1.245	1.684	2.040	2.499	2.908
84-8351	0.138	0.205	0.255	0.361	0.496	0.665	0.870	1.011	1.125	1.378	1.578	2.106	2.522	3.047	3.505
84-8353	0.088	0.127	0.164	0.269	0.534	0.999	1.389	1.618	1.803	2.207	2.516	3.331	3.963	4.754	5.436
84-8374	0.135	0.201	0.254	0.370	0.524	0.721	0.976	1.165	1.309	1.612	1.849	2.479	3.012	3.735	4.412
84-8376	0.108	0.144	0.171	0.227	0.302	0.400	0.529	0.622	0.697	0.870	1.000	1.310	1.532	1.791	2.000
84-8500	0.119	0.180	0.226	0.325	0.452	0.617	0.839	0.998	1.123	1.384	1.586	2.130	2.562	3.110	3.590
84-8634	0.154	0.239	0.308	0.463	0.672	0.940	1.299	1.579	1.790	2.200	2.514	3.316	3.974	4.861	5.697
84-8920	0.122	0.187	0.239	0.353	0.502	0.683	0.893	1.034	1.145	1.398	1.595	2.114	2.554	3.171	3.778
84-8922	0.122	0.186	0.235	0.343	0.482	0.653	0.851	0.985	1.090	1.330	1.517	2.006	2.424	3.018	3.614
84-8943	0.142	0.214	0.271	0.398	0.563	0.771	1.034	1.227	1.375	1.690	1.940	2.604	3.166	3.929	4.645
84-8954	0.133	0.183	0.220	0.302	0.412	0.560	0.760	0.908	1.029	1.311	1.529	2.056	2.442	2.898	3.270
84-9770	0.163	0.251	0.321	0.484	0.735	1.050	1.319	1.481	1.621	1.971	2.264	3.073	3.748	4.639	5.449
85-0006	0.142	0.208	0.259	0.366	0.504	0.673	0.870	1.001	1.104	1.336	1.514	1.979	2.369	2.905	3.410
85-0007	0.094	0.136	0.167	0.236	0.329	0.450	0.607	0.720	0.810	1.013	1.163	1.505	1.738	1.997	2.197
85-0013	0.096	0.143	0.178	0.252	0.345	0.461	0.606	0.707	0.788	0.964	1.104	1.492	1.808	2.220	2.590
85-0014	0.142	0.207	0.259	0.382	0.591	0.853	1.042	1.149	1.244	1.495	1.697	2.194	2.568	3.025	3.411
89-0041	0.176	0.266	0.332	0.469	0.629	0.826	1.120	1.323	1.456	1.652	1.799	2.293	2.739	3.354	3.931
89-0051	0.120	0.191	0.250	0.390	0.604	0.914	1.337	1.649	1.903	2.456	2.901	4.151	5.189	6.559	7.800
89-0099	0.092	0.135	0.166	0.226	0.297	0.382	0.496	0.590	0.659	0.786	0.884	1.142	1.357	1.647	1.918
89-0215	0.106	0.123	0.137	0.169	0.223	0.300	0.385	0.444	0.492	0.605	0.693	0.905	1.061	1.247	1.400
89-0221	0.085	0.110	0.127	0.160	0.197	0.239	0.286	0.317	0.342	0.398	0.442	0.562	0.657	0.779	0.886
89-0239	0.087	0.125	0.156	0.226	0.319	0.436	0.587	0.698	0.782	0.950	1.080	1.420	1.709	2.112	2.503
89-0245	0.149	0.205	0.247	0.340	0.460	0.610	0.788	0.912	1.012	1.246	1.435	1.957	2.417	3.072	3.720
90-0011	0.149	0.228	0.287	0.412	0.566	0.759	1.027	1.212	1.342	1.562	1.724	2.187	2.561	3.041	3.465
90-0034	0.200	0.274	0.322	0.400	0.467	0.528	0.585	0.619	0.645	0.702	0.746	0.862	0.951	1.059	1.151
90-0035	0.143	0.213	0.266	0.375	0.505	0.654	0.836	0.973	1.071	1.251	1.389	1.747	2.046	2.451	2.830
90-0057	0.147	0.200	0.238	0.317	0.419	0.538	0.657	0.731	0.789	0.921	1.011	1.192	1.304	1.419	1.500
90-0062	0.169	0.238	0.292	0.414	0.600	0.847	1.125	1.302	1.432	1.668	1.845	2.349	2.757	3.282	3.748
90-0089	0.159	0.228	0.281	0.392	0.528	0.684	0.882	1.037	1.147	1.331	1.469	1.826	2.127	2.540	2.938
90-0090	0.182	0.270	0.337	0.484	0.679	0.931	1.285	1.511	1.630	1.751	1.836	2.166	2.475	2.896	3.282
90-0102	0.200	0.208	0.220	0.248	0.309	0.410	0.528	0.613	0.681	0.838	0.957	1.239	1.442	1.679	1.870
90-0124	0.144	0.192	0.226	0.300	0.396	0.520	0.681	0.795	0.888	1.096	1.253	1.619	1.877	2.174	2.410
90-0151	0.139	0.177	0.208	0.281	0.407	0.578	0.732	0.827	0.905	1.093	1.231	1.540	1.752	1.987	2.170
90-0152	0.143	0.191	0.226	0.297	0.387	0.500	0.652	0.758	0.834	0.972	1.077	1.372	1.611	1.918	2.190
90-0155	0.126	0.168	0.199	0.264	0.351	0.464	0.612	0.719	0.806	1.004	1.154	1.510	1.765	2.061	2.300
90-0157	0.172	0.195	0.219	0.276	0.397	0.579	0.730	0.819	0.891	1.051	1.170	1.456	1.662	1.903	2.100
90-0178	0.101	0.142	0.172	0.237	0.323	0.434	0.578	0.681	0.763	0.947	1.084	1.397	1.612	1.854	2.043
90-0199	0.214	0.323	0.402	0.563	0.744	0.968	1.304	1.549	1.727	2.053	2.296	2.956	3.474	4.126	4.692
90-0212	0.152	0.195	0.226	0.292	0.382	0.500	0.650	0.755	0.840	1.031	1.172	1.500	1.730	1.992	2.200

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
90-0216	0.172	0.212	0.242	0.305	0.396	0.512	0.640	0.719	0.775	0.871	0.941	1.131	1.277	1.458	1.612
90-0217	0.157	0.236	0.294	0.412	0.547	0.713	0.958	1.132	1.258	1.480	1.647	2.121	2.506	3.002	3.443
90-0222	0.140	0.182	0.211	0.271	0.350	0.440	0.524	0.574	0.610	0.682	0.729	0.825	0.885	0.946	0.990
90-0224	0.273	0.332	0.373	0.457	0.565	0.700	0.865	0.981	1.073	1.285	1.443	1.810	2.068	2.364	2.600
90-0233	0.234	0.306	0.358	0.469	0.619	0.810	1.037	1.189	1.308	1.565	1.742	2.118	2.359	2.614	2.800
90-0248	0.160	0.210	0.247	0.325	0.433	0.570	0.723	0.826	0.910	1.108	1.255	1.590	1.822	2.084	2.290
90-0250	0.109	0.146	0.173	0.230	0.304	0.400	0.523	0.611	0.681	0.839	0.957	1.230	1.422	1.641	1.814
92-0030	0.198	0.266	0.310	0.388	0.470	0.555	0.637	0.686	0.722	0.798	0.852	0.983	1.087	1.226	1.361
92-0120	0.131	0.178	0.217	0.316	0.500	0.784	1.118	1.330	1.466	1.672	1.803	2.120	2.334	2.574	2.761
92-0210	0.118	0.167	0.201	0.274	0.363	0.472	0.619	0.737	0.825	0.987	1.113	1.438	1.704	2.052	2.365
92-0240	0.102	0.143	0.171	0.229	0.295	0.376	0.489	0.568	0.627	0.737	0.819	1.042	1.217	1.438	1.629
92-0270	0.192	0.244	0.277	0.339	0.404	0.475	0.561	0.613	0.644	0.685	0.714	0.803	0.875	0.965	1.041
92-0405	0.094	0.132	0.159	0.212	0.273	0.348	0.451	0.524	0.577	0.677	0.752	0.956	1.116	1.318	1.494
92-0510	0.111	0.148	0.176	0.242	0.350	0.491	0.615	0.688	0.743	0.855	0.938	1.152	1.312	1.507	1.671
92-0600	0.102	0.142	0.170	0.223	0.285	0.358	0.455	0.534	0.591	0.693	0.770	0.968	1.128	1.338	1.532
92-0745	0.089	0.128	0.155	0.208	0.271	0.344	0.434	0.498	0.548	0.656	0.742	0.973	1.167	1.425	1.652
92-0755	0.197	0.295	0.366	0.514	0.688	0.904	1.214	1.432	1.589	1.866	2.074	2.664	3.142	3.757	4.303
92-0900	0.127	0.155	0.179	0.239	0.355	0.530	0.698	0.803	0.888	1.071	1.213	1.592	1.891	2.269	2.599
92-0960	0.127	0.176	0.213	0.290	0.391	0.521	0.684	0.796	0.883	1.060	1.198	1.577	1.883	2.276	2.625
92-1020	0.122	0.178	0.218	0.299	0.396	0.512	0.662	0.780	0.868	1.035	1.166	1.513	1.803	2.191	2.546
92-1080	0.152	0.216	0.262	0.353	0.461	0.590	0.765	0.911	1.021	1.221	1.381	1.813	2.181	2.673	3.118
92-1190	0.189	0.273	0.336	0.477	0.668	0.926	1.289	1.547	1.730	2.050	2.282	2.906	3.385	3.979	4.488
92-1200	0.290	0.306	0.330	0.393	0.654	1.152	1.478	1.654	1.790	2.063	2.270	2.840	3.292	3.865	4.366
92-1230	0.110	0.160	0.195	0.266	0.351	0.451	0.584	0.692	0.772	0.923	1.042	1.357	1.620	1.968	2.283
92-1260	0.092	0.128	0.152	0.202	0.258	0.327	0.422	0.489	0.539	0.633	0.704	0.896	1.047	1.238	1.403
92-1320	0.133	0.184	0.223	0.304	0.403	0.521	0.657	0.748	0.814	0.946	1.042	1.284	1.481	1.749	2.007
92-1350	0.179	0.251	0.307	0.431	0.593	0.792	1.035	1.206	1.331	1.573	1.753	2.210	2.588	3.107	3.605
92-1410	0.114	0.160	0.192	0.254	0.327	0.414	0.526	0.612	0.677	0.802	0.900	1.156	1.366	1.641	1.888
92-1470	0.103	0.134	0.158	0.209	0.283	0.378	0.470	0.531	0.586	0.746	0.875	1.173	1.387	1.636	1.836
92-1590	0.116	0.163	0.198	0.269	0.357	0.465	0.610	0.727	0.814	0.974	1.098	1.417	1.678	2.018	2.324
92-1710	0.117	0.165	0.200	0.273	0.363	0.473	0.621	0.740	0.828	0.988	1.111	1.425	1.681	2.018	2.326
92-1800	0.116	0.162	0.195	0.261	0.344	0.430	0.500	0.537	0.563	0.611	0.641	0.701	0.738	0.774	0.800
92-1830	0.108	0.147	0.177	0.243	0.342	0.462	0.560	0.620	0.673	0.820	0.943	1.259	1.508	1.823	2.098
92-1840	0.104	0.148	0.178	0.238	0.309	0.393	0.493	0.562	0.616	0.736	0.830	1.080	1.290	1.566	1.808
92-1890	0.112	0.156	0.187	0.247	0.317	0.400	0.508	0.593	0.656	0.777	0.872	1.118	1.321	1.585	1.821
92-1920	0.191	0.245	0.287	0.384	0.537	0.750	0.992	1.156	1.290	1.612	1.825	2.222	2.455	2.670	2.800
92-1950	0.250	0.298	0.342	0.450	0.678	1.000	1.223	1.343	1.436	1.621	1.767	2.199	2.564	3.046	3.479
92-2010	0.118	0.165	0.198	0.265	0.339	0.436	0.629	0.782	0.878	1.009	1.098	1.343	1.529	1.757	1.950
92-2050	0.230	0.294	0.339	0.434	0.555	0.710	0.907	1.047	1.159	1.411	1.600	2.041	2.353	2.712	3.000
92-2140	0.094	0.133	0.161	0.217	0.281	0.358	0.460	0.533	0.589	0.707	0.800	1.061	1.275	1.555	1.806
92-2150	0.102	0.143	0.171	0.229	0.296	0.377	0.488	0.566	0.624	0.733	0.815	1.037	1.211	1.431	1.621
92-2160	0.106	0.150	0.180	0.240	0.310	0.394	0.502	0.586	0.647	0.758	0.842	1.055	1.228	1.458	1.672
92-2190	0.111	0.156	0.188	0.251	0.327	0.416	0.534	0.627	0.695	0.816	0.907	1.138	1.324	1.574	1.805
92-2310	0.122	0.175	0.212	0.286	0.374	0.479	0.613	0.716	0.794	0.948	1.070	1.395	1.669	2.033	2.363
92-2430	0.134	0.189	0.231	0.320	0.439	0.595	0.810	0.962	1.071	1.267	1.413	1.815	2.132	2.535	2.886
92-2460	0.117	0.168	0.203	0.274	0.359	0.458	0.571	0.646	0.705	0.840	0.947	1.232	1.480	1.832	2.171
92-2550	0.146	0.207	0.255	0.358	0.488	0.643	0.827	0.952	1.044	1.228	1.366	1.716	2.004	2.393	2.761
92-2645	0.127	0.184	0.225	0.310	0.414	0.539	0.701	0.828	0.922	1.100	1.239	1.598	1.896	2.292	2.654
92-2820	0.158	0.195	0.220	0.269	0.327	0.400	0.498	0.570	0.629	0.769	0.875	1.122	1.297	1.499	1.660
92-2850	0.098	0.140	0.169	0.229	0.299	0.380	0.471	0.530	0.577	0.678	0.761	1.006	1.218	1.506	1.772
92-2880	0.106	0.146	0.175	0.238	0.323	0.428	0.542	0.619	0.684	0.846	0.977	1.314	1.576	1.905	2.190
92-3121	0.114	0.166	0.204	0.281	0.374	0.484	0.625	0.732	0.811	0.968	1.090	1.407	1.670	2.019	2.338
92-3150	0.127	0.181	0.219	0.299	0.396	0.513	0.660	0.767	0.848	1.016	1.147	1.491	1.776	2.151	2.487
92-3180	0.141	0.200	0.243	0.337	0.459	0.619	0.843	1.002	1.115	1.315	1.462	1.872	2.198	2.612	2.974
92-3195	0.094	0.127	0.151	0.203	0.276	0.371	0.484	0.562	0.626	0.777	0.891	1.155	1.341	1.555	1.724

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
92-3210	0.143	0.205	0.252	0.353	0.492	0.667	0.862	0.988	1.084	1.275	1.421	1.818	2.132	2.529	2.877
92-3270	0.140	0.203	0.250	0.351	0.483	0.655	0.897	1.068	1.191	1.410	1.572	2.024	2.384	2.842	3.244
92-3300	0.107	0.147	0.177	0.239	0.319	0.420	0.546	0.634	0.703	0.855	0.964	1.209	1.372	1.550	1.685
92-3360	0.158	0.225	0.278	0.393	0.540	0.720	0.944	1.111	1.231	1.450	1.613	2.025	2.363	2.824	3.262
92-3450	0.152	0.219	0.268	0.375	0.515	0.696	0.939	1.107	1.229	1.450	1.615	2.069	2.427	2.881	3.277
92-3540	0.123	0.173	0.208	0.279	0.360	0.460	0.600	0.700	0.777	0.932	1.054	1.394	1.673	2.035	2.359
92-3624	0.161	0.225	0.271	0.371	0.502	0.670	0.886	1.038	1.159	1.431	1.629	2.079	2.388	2.733	3.000
92-3648	0.170	0.240	0.296	0.419	0.577	0.770	1.011	1.189	1.317	1.550	1.724	2.164	2.527	3.021	3.492
93-0003	0.127	0.191	0.238	0.331	0.443	0.572	0.742	0.879	0.977	1.141	1.265	1.578	1.835	2.180	2.503
93-0004	0.211	0.318	0.399	0.575	0.806	1.100	1.467	1.719	1.918	2.357	2.662	3.313	3.734	4.178	4.500
93-0017	0.121	0.172	0.210	0.296	0.418	0.579	0.773	0.903	1.002	1.202	1.348	1.713	1.981	2.301	2.566
93-0018	0.175	0.252	0.312	0.451	0.665	0.950	1.253	1.444	1.589	1.878	2.084	2.580	2.932	3.339	3.667
93-0020	0.215	0.323	0.404	0.581	0.813	1.110	1.482	1.740	1.943	2.393	2.707	3.383	3.824	4.291	4.634
93-0025	0.166	0.242	0.302	0.442	0.658	0.950	1.283	1.497	1.651	1.932	2.130	2.631	2.995	3.427	3.783
93-0030	0.215	0.332	0.419	0.601	0.825	1.088	1.419	1.672	1.851	2.154	2.377	2.940	3.407	4.047	4.662
93-0032	0.137	0.195	0.241	0.349	0.518	0.750	1.032	1.211	1.324	1.486	1.596	1.908	2.149	2.446	2.700
93-0036	0.165	0.238	0.298	0.445	0.703	1.060	1.396	1.594	1.735	1.988	2.170	2.656	3.026	3.480	3.866
93-0039	0.192	0.292	0.366	0.518	0.696	0.908	1.185	1.371	1.507	1.753	1.938	2.456	2.872	3.403	3.870
93-0049	0.138	0.207	0.258	0.361	0.486	0.631	0.818	0.966	1.072	1.255	1.392	1.743	2.032	2.423	2.790
93-0059	0.223	0.344	0.434	0.622	0.852	1.123	1.459	1.711	1.890	2.200	2.430	3.009	3.489	4.144	4.771
93-0064	0.231	0.356	0.449	0.643	0.877	1.162	1.531	1.778	1.957	2.277	2.515	3.175	3.699	4.362	4.942
93-0065	0.235	0.377	0.481	0.683	0.884	1.122	1.518	1.812	2.019	2.372	2.626	3.309	3.832	4.478	5.030
93-0066	0.152	0.226	0.279	0.388	0.518	0.669	0.867	1.027	1.142	1.338	1.487	1.870	2.188	2.612	3.006
93-0085	0.213	0.318	0.398	0.571	0.799	1.090	1.456	1.709	1.909	2.352	2.662	3.332	3.770	4.237	4.580
93-0094	0.177	0.271	0.343	0.493	0.679	0.898	1.175	1.390	1.542	1.799	1.990	2.472	2.872	3.418	3.941
93-0096	0.189	0.282	0.351	0.502	0.699	0.950	1.263	1.479	1.649	2.025	2.287	2.849	3.216	3.603	3.887
93-0121	0.175	0.267	0.338	0.493	0.696	0.950	1.264	1.483	1.655	2.027	2.289	2.846	3.194	3.549	3.800
93-0122	0.185	0.279	0.350	0.497	0.676	0.900	1.218	1.438	1.590	1.842	2.023	2.520	2.906	3.386	3.800
93-0128	0.158	0.241	0.302	0.430	0.581	0.770	1.050	1.248	1.385	1.611	1.774	2.227	2.582	3.027	3.414
93-0134	0.286	0.430	0.539	0.777	1.093	1.500	2.016	2.377	2.663	3.299	3.748	4.726	5.373	6.066	6.579
93-0140	0.210	0.325	0.411	0.591	0.811	1.069	1.393	1.643	1.818	2.113	2.329	2.876	3.330	3.954	4.557
93-0141	0.139	0.202	0.249	0.350	0.482	0.650	0.862	1.010	1.127	1.385	1.571	1.981	2.250	2.538	2.754
93-0152	0.230	0.370	0.478	0.709	0.998	1.351	1.794	2.087	2.297	2.669	2.945	3.716	4.329	5.108	5.791
93-0163	0.243	0.373	0.470	0.673	0.918	1.216	1.603	1.863	2.050	2.384	2.631	3.316	3.858	4.544	5.142
93-0167	0.161	0.240	0.298	0.417	0.555	0.726	0.969	1.140	1.263	1.480	1.642	2.094	2.455	2.916	3.320
93-0168	0.140	0.209	0.258	0.359	0.478	0.616	0.799	0.950	1.058	1.237	1.372	1.716	1.999	2.378	2.732
93-0171	0.271	0.352	0.413	0.545	0.730	0.980	1.300	1.527	1.704	2.095	2.363	2.921	3.276	3.641	3.900
93-0172	0.152	0.236	0.301	0.449	0.654	0.926	1.279	1.520	1.698	2.032	2.270	2.870	3.309	3.830	4.260
93-0173	0.230	0.352	0.441	0.624	0.846	1.106	1.431	1.675	1.849	2.151	2.375	2.940	3.408	4.046	4.653
93-0174	0.189	0.265	0.322	0.442	0.599	0.800	1.073	1.259	1.384	1.590	1.729	2.076	2.323	2.609	2.840
93-0175	0.145	0.215	0.267	0.382	0.535	0.729	0.972	1.135	1.253	1.469	1.630	2.078	2.433	2.886	3.283
93-0177	0.125	0.186	0.231	0.322	0.426	0.553	0.738	0.869	0.962	1.123	1.242	1.570	1.828	2.154	2.437
93-0187	0.151	0.228	0.289	0.421	0.587	0.784	1.042	1.254	1.404	1.642	1.818	2.263	2.627	3.119	3.583
93-0188	0.164	0.242	0.301	0.429	0.594	0.800	1.053	1.228	1.365	1.662	1.871	2.318	2.600	2.891	3.100
93-0189	0.159	0.238	0.296	0.414	0.550	0.713	0.933	1.085	1.196	1.402	1.557	1.990	2.336	2.779	3.169
93-0190	0.159	0.240	0.299	0.416	0.555	0.715	0.912	1.058	1.163	1.359	1.507	1.889	2.205	2.632	3.034
93-0191	0.174	0.256	0.318	0.453	0.629	0.850	1.126	1.318	1.469	1.798	2.033	2.542	2.868	3.210	3.460
93-0192	0.145	0.212	0.264	0.374	0.518	0.700	0.926	1.084	1.208	1.479	1.672	2.090	2.359	2.643	2.850
93-0193	0.144	0.216	0.272	0.393	0.545	0.726	0.961	1.154	1.290	1.513	1.679	2.099	2.444	2.908	3.343
93-0196	0.140	0.216	0.274	0.400	0.561	0.770	1.058	1.261	1.413	1.704	1.916	2.456	2.856	3.338	3.740
93-0206	0.172	0.261	0.325	0.454	0.609	0.788	1.013	1.187	1.311	1.528	1.691	2.107	2.452	2.921	3.366
93-0207	0.249	0.434	0.581	0.900	1.282	1.756	2.455	2.933	3.241	3.683	4.000	4.974	5.786	6.848	7.800
93-0209	0.194	0.267	0.321	0.434	0.582	0.770	0.999	1.156	1.278	1.548	1.733	2.119	2.364	2.618	2.800
93-0216	0.142	0.212	0.262	0.364	0.485	0.626	0.810	0.960	1.067	1.249	1.387	1.741	2.033	2.423	2.784
93-0218	0.218	0.340	0.431	0.622	0.850	1.129	1.506	1.762	1.944	2.258	2.489	3.134	3.646	4.294	4.861

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
93-0219	0.133	0.201	0.250	0.349	0.466	0.601	0.773	0.906	1.001	1.170	1.297	1.623	1.891	2.251	2.587
93-0221	0.158	0.237	0.296	0.416	0.556	0.732	0.996	1.185	1.318	1.543	1.708	2.174	2.546	3.020	3.437
93-0223	0.124	0.182	0.225	0.317	0.437	0.590	0.780	0.912	1.015	1.244	1.404	1.751	1.978	2.221	2.400
93-0224	0.255	0.394	0.501	0.736	1.048	1.450	1.955	2.304	2.581	3.194	3.621	4.529	5.117	5.734	6.180
93-0225	0.220	0.351	0.447	0.638	0.839	1.077	1.433	1.687	1.869	2.193	2.430	3.062	3.545	4.143	4.655
93-0227	0.144	0.215	0.268	0.377	0.511	0.668	0.875	1.043	1.162	1.360	1.509	1.887	2.200	2.625	3.028
93-0230	0.198	0.297	0.370	0.520	0.696	0.913	1.217	1.428	1.579	1.852	2.042	2.502	2.826	3.200	3.500
93-0231	0.143	0.214	0.265	0.369	0.492	0.636	0.826	0.982	1.093	1.282	1.425	1.792	2.094	2.498	2.873
93-0232	0.140	0.220	0.285	0.435	0.659	0.958	1.304	1.528	1.694	2.010	2.234	2.784	3.178	3.639	4.013
93-0234	0.138	0.209	0.265	0.386	0.538	0.719	0.960	1.164	1.309	1.536	1.706	2.135	2.488	2.962	3.407
93-0238	0.224	0.247	0.277	0.352	0.538	0.857	1.162	1.351	1.490	1.749	1.938	2.445	2.834	3.317	3.731
93-0242	0.163	0.250	0.317	0.460	0.639	0.853	1.137	1.371	1.537	1.801	1.996	2.489	2.897	3.453	3.985
93-0244	0.126	0.195	0.246	0.350	0.474	0.614	0.769	0.866	0.938	1.075	1.180	1.477	1.718	2.028	2.302
93-0245	0.185	0.281	0.350	0.489	0.654	0.844	1.075	1.244	1.366	1.593	1.765	2.207	2.575	3.071	3.535
93-0249	0.151	0.229	0.290	0.422	0.588	0.784	1.041	1.251	1.399	1.637	1.813	2.258	2.623	3.114	3.575
94-0057	0.175	0.187	0.204	0.246	0.352	0.551	0.801	0.984	1.123	1.402	1.603	2.098	2.455	2.872	3.211
94-0063	0.200	0.262	0.320	0.476	0.814	1.427	2.231	2.810	3.250	4.129	4.709	5.949	6.738	7.541	8.100
94-0064	0.110	0.151	0.182	0.251	0.347	0.480	0.678	0.822	0.923	1.094	1.218	1.562	1.832	2.172	2.468
94-0065	0.139	0.201	0.249	0.360	0.526	0.760	1.072	1.292	1.456	1.763	1.995	2.639	3.155	3.817	4.401
94-0067	0.147	0.202	0.244	0.339	0.474	0.665	0.949	1.163	1.327	1.646	1.892	2.574	3.125	3.837	4.469
94-0074	0.141	0.194	0.239	0.350	0.512	0.733	1.032	1.258	1.427	1.752	1.995	2.606	3.108	3.792	4.446
94-0270	0.144	0.230	0.305	0.489	0.754	1.110	1.561	1.876	2.118	2.642	3.047	4.118	5.033	6.294	7.484
94-0273	0.134	0.213	0.277	0.426	0.641	0.940	1.352	1.660	1.913	2.500	2.947	3.995	4.729	5.556	6.200
95-0013	0.129	0.203	0.263	0.401	0.587	0.824	1.130	1.355	1.525	1.869	2.131	2.801	3.351	4.095	4.799
95-0061	0.117	0.169	0.211	0.310	0.463	0.696	1.079	1.370	1.568	1.870	2.086	2.719	3.233	3.898	4.491
95-0093	0.138	0.172	0.205	0.289	0.467	0.781	1.190	1.483	1.700	2.103	2.396	3.170	3.760	4.485	5.101
95-0109	0.130	0.200	0.256	0.389	0.590	0.871	1.219	1.464	1.663	2.104	2.450	3.368	4.091	5.005	5.800
95-0172	0.168	0.273	0.358	0.562	0.864	1.300	1.918	2.388	2.782	3.742	4.433	5.897	6.852	7.828	8.500
95-0263	0.119	0.179	0.228	0.341	0.510	0.757	1.122	1.393	1.595	1.969	2.252	3.045	3.687	4.515	5.251
95-0325	0.163	0.243	0.304	0.438	0.617	0.850	1.151	1.364	1.534	1.916	2.189	2.790	3.191	3.625	3.950
96-0110	0.153	0.226	0.280	0.396	0.541	0.718	0.935	1.088	1.202	1.440	1.621	2.090	2.484	3.029	3.557
96-0247	0.108	0.156	0.190	0.260	0.346	0.452	0.591	0.698	0.778	0.934	1.055	1.370	1.634	2.000	2.354
96-0251	0.122	0.183	0.229	0.324	0.442	0.583	0.744	0.850	0.935	1.121	1.269	1.679	2.015	2.451	2.842
96-0317	0.205	0.295	0.363	0.511	0.705	0.955	1.277	1.509	1.683	2.027	2.281	2.918	3.445	4.175	4.891
96-0418	0.139	0.208	0.259	0.367	0.502	0.666	0.864	0.998	1.103	1.325	1.500	1.986	2.383	2.898	3.358
96-0513	0.172	0.266	0.338	0.492	0.684	0.911	1.203	1.434	1.598	1.873	2.077	2.594	3.022	3.601	4.148
96-0611	0.125	0.185	0.235	0.360	0.581	0.900	1.236	1.443	1.590	1.846	2.028	2.518	2.890	3.349	3.739
96-0626	0.157	0.233	0.289	0.403	0.535	0.697	0.921	1.077	1.190	1.394	1.546	1.969	2.305	2.732	3.107
97-0002	0.175	0.269	0.338	0.483	0.653	0.865	1.173	1.389	1.540	1.792	1.974	2.479	2.874	3.371	3.801
97-0012	0.189	0.282	0.352	0.504	0.701	0.950	1.260	1.473	1.640	2.008	2.263	2.807	3.159	3.530	3.800
97-0015	0.286	0.427	0.533	0.758	1.045	1.400	1.828	2.116	2.340	2.827	3.156	3.834	4.259	4.694	5.000
97-0022	0.152	0.231	0.290	0.416	0.573	0.770	1.039	1.224	1.355	1.581	1.744	2.188	2.531	2.958	3.325
97-0024	0.181	0.271	0.339	0.480	0.654	0.870	1.162	1.361	1.503	1.751	1.930	2.414	2.787	3.250	3.646
97-0028	0.209	0.309	0.383	0.542	0.746	1.000	1.311	1.523	1.688	2.049	2.297	2.819	3.152	3.500	3.750
97-0032	0.210	0.333	0.430	0.644	0.949	1.300	1.590	1.750	1.870	2.103	2.270	2.690	2.996	3.358	3.656
97-0040	0.230	0.339	0.420	0.595	0.821	1.100	1.443	1.680	1.865	2.265	2.546	3.148	3.527	3.918	4.200
97-0055	0.162	0.240	0.298	0.424	0.589	0.800	1.064	1.248	1.392	1.711	1.935	2.420	2.739	3.079	3.330
97-0064	0.128	0.198	0.253	0.373	0.534	0.739	0.997	1.179	1.323	1.638	1.862	2.347	2.654	2.972	3.200
97-0080	0.183	0.277	0.349	0.508	0.721	1.000	1.356	1.606	1.806	2.253	2.570	3.266	3.730	4.229	4.600
97-0083	0.163	0.245	0.309	0.456	0.668	0.955	1.351	1.611	1.766	1.961	2.096	2.520	2.870	3.324	3.724
97-0086	0.165	0.248	0.310	0.446	0.622	0.851	1.173	1.397	1.553	1.816	2.005	2.524	2.926	3.429	3.862
97-0090	0.174	0.281	0.366	0.556	0.806	1.110	1.477	1.731	1.929	2.350	2.640	3.228	3.569	3.891	4.100
97-0093	0.143	0.202	0.245	0.337	0.454	0.600	0.780	0.905	1.002	1.214	1.365	1.693	1.906	2.132	2.300
97-0099	0.133	0.195	0.239	0.329	0.434	0.554	0.690	0.779	0.846	0.987	1.095	1.376	1.612	1.933	2.233
97-0112	0.369	0.535	0.658	0.919	1.253	1.670	2.196	2.548	2.804	3.279	3.614	4.442	5.036	5.732	6.300

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
97-0123	0.369	0.539	0.664	0.932	1.274	1.700	2.220	2.573	2.848	3.449	3.862	4.734	5.293	5.877	6.300
97-0126	0.209	0.305	0.388	0.586	0.853	1.176	1.580	1.894	2.107	2.424	2.646	3.185	3.624	4.234	4.834
97-0133	0.330	0.529	0.681	1.006	1.402	1.891	2.548	2.994	3.309	3.860	4.246	5.228	5.944	6.795	7.498
97-0135	0.355	0.514	0.641	0.944	1.451	2.120	2.729	3.084	3.343	3.830	4.178	5.070	5.727	6.515	7.170
97-0139	0.279	0.404	0.498	0.699	0.963	1.300	1.725	2.020	2.254	2.772	3.140	3.947	4.484	5.065	5.500
97-0155	0.237	0.355	0.445	0.640	0.897	1.226	1.641	1.930	2.158	2.670	3.021	3.746	4.205	4.673	5.000
97-0162	0.173	0.270	0.344	0.508	0.722	0.997	1.375	1.632	1.809	2.104	2.305	2.812	3.176	3.602	3.950
97-0168	0.294	0.439	0.548	0.786	1.099	1.500	2.005	2.356	2.633	3.248	3.681	4.619	5.236	5.894	6.380
97-0174	0.165	0.272	0.355	0.538	0.772	1.065	1.453	1.714	1.895	2.198	2.419	3.054	3.566	4.221	4.800
97-0196	0.152	0.227	0.283	0.405	0.565	0.770	1.025	1.202	1.341	1.648	1.863	2.324	2.625	2.944	3.178
97-0199	0.149	0.232	0.296	0.434	0.613	0.833	1.100	1.273	1.398	1.622	1.787	2.242	2.600	3.051	3.443
97-0233	0.185	0.275	0.342	0.486	0.670	0.900	1.179	1.367	1.514	1.834	2.052	2.506	2.793	3.089	3.300
97-0237	0.180	0.264	0.330	0.474	0.658	0.879	1.163	1.383	1.538	1.791	1.973	2.421	2.783	3.276	3.750
97-0239	0.173	0.258	0.321	0.456	0.627	0.842	1.132	1.330	1.470	1.713	1.889	2.368	2.739	3.201	3.598
97-0240	0.202	0.288	0.353	0.491	0.671	0.900	1.188	1.389	1.548	1.897	2.149	2.707	3.074	3.472	3.770
97-0246	0.160	0.231	0.282	0.386	0.509	0.652	0.837	0.981	1.083	1.260	1.391	1.717	1.980	2.329	2.656
97-0259	0.182	0.260	0.318	0.441	0.600	0.800	1.049	1.222	1.357	1.654	1.867	2.332	2.635	2.959	3.200
97-0260	0.098	0.150	0.189	0.268	0.363	0.469	0.594	0.680	0.741	0.859	0.946	1.163	1.336	1.561	1.765
97-0268	0.165	0.241	0.298	0.421	0.581	0.780	1.027	1.199	1.334	1.627	1.835	2.286	2.575	2.878	3.100
97-0272	0.159	0.231	0.283	0.388	0.513	0.657	0.837	0.974	1.072	1.244	1.371	1.688	1.942	2.279	2.592
97-0275	0.127	0.196	0.249	0.362	0.503	0.669	0.886	1.065	1.189	1.382	1.522	1.867	2.143	2.511	2.856
97-0277	0.184	0.286	0.363	0.525	0.720	0.962	1.294	1.522	1.682	1.957	2.156	2.699	3.120	3.644	4.095
97-0281	0.148	0.210	0.255	0.351	0.474	0.630	0.824	0.957	1.062	1.293	1.457	1.815	2.052	2.308	2.500
97-0297	0.124	0.182	0.227	0.321	0.435	0.568	0.737	0.871	0.966	1.122	1.238	1.531	1.772	2.098	2.408
97-0305	0.218	0.346	0.446	0.668	0.965	1.350	1.833	2.168	2.433	3.021	3.427	4.281	4.829	5.396	5.800
97-0330	0.154	0.230	0.288	0.414	0.580	0.790	1.053	1.237	1.382	1.698	1.924	2.415	2.729	3.059	3.300
97-0331	0.154	0.231	0.289	0.414	0.576	0.780	1.030	1.201	1.334	1.627	1.828	2.250	2.520	2.799	3.000
97-0343	0.159	0.256	0.332	0.500	0.719	1.000	1.377	1.630	1.800	2.075	2.263	2.754	3.114	3.543	3.900
97-0351	0.218	0.317	0.390	0.547	0.748	1.000	1.309	1.520	1.685	2.054	2.297	2.768	3.051	3.323	3.500
97-0352	0.188	0.276	0.341	0.482	0.664	0.890	1.167	1.358	1.508	1.831	2.058	2.545	2.852	3.171	3.400
97-0357	0.217	0.321	0.401	0.576	0.815	1.123	1.488	1.737	1.937	2.394	2.719	3.426	3.893	4.396	4.769
97-0358	0.155	0.221	0.269	0.371	0.497	0.650	0.833	0.957	1.052	1.256	1.397	1.695	1.878	2.066	2.200
97-0359	0.181	0.269	0.338	0.487	0.676	0.901	1.188	1.411	1.566	1.816	1.994	2.426	2.771	3.238	3.686
97-0363	0.202	0.292	0.358	0.501	0.686	0.920	1.212	1.413	1.572	1.922	2.168	2.703	3.056	3.434	3.716
97-0373	0.295	0.430	0.530	0.746	1.026	1.380	1.823	2.128	2.369	2.907	3.273	4.023	4.492	4.969	5.300
97-0375	0.200	0.289	0.355	0.500	0.693	0.945	1.267	1.492	1.668	2.052	2.317	2.881	3.244	3.625	3.900
97-0376	0.191	0.273	0.334	0.465	0.634	0.850	1.121	1.309	1.457	1.785	2.018	2.530	2.872	3.242	3.520
97-0383	0.210	0.329	0.422	0.627	0.901	1.256	1.736	2.060	2.282	2.641	2.896	3.607	4.161	4.854	5.453
97-0386	0.138	0.204	0.253	0.356	0.484	0.640	0.824	0.946	1.040	1.242	1.377	1.649	1.816	1.984	2.100
97-0394	0.242	0.363	0.455	0.651	0.905	1.223	1.621	1.882	2.066	2.382	2.610	3.225	3.696	4.278	4.775
97-0397	0.131	0.203	0.257	0.373	0.514	0.692	0.950	1.130	1.256	1.467	1.619	2.035	2.357	2.759	3.105
97-0402	0.152	0.218	0.268	0.376	0.518	0.700	0.932	1.095	1.225	1.513	1.722	2.190	2.502	2.842	3.100
97-0411	0.123	0.177	0.218	0.305	0.415	0.550	0.714	0.827	0.914	1.102	1.234	1.514	1.689	1.870	2.000
97-0420	0.111	0.156	0.188	0.256	0.340	0.449	0.610	0.725	0.808	0.954	1.061	1.351	1.575	1.855	2.097
97-0421	0.193	0.301	0.382	0.559	0.785	1.064	1.412	1.641	1.806	2.111	2.319	2.805	3.137	3.509	3.800
97-0427	0.220	0.331	0.414	0.592	0.821	1.106	1.461	1.695	1.860	2.155	2.357	2.847	3.190	3.584	3.900
97-0435	0.289	0.442	0.559	0.817	1.163	1.610	2.199	2.597	2.875	3.362	3.688	4.452	4.971	5.549	6.000
97-0441	0.164	0.254	0.322	0.471	0.664	0.906	1.213	1.417	1.562	1.815	2.000	2.510	2.910	3.412	3.848
97-0443	0.148	0.217	0.270	0.385	0.529	0.702	0.942	1.153	1.301	1.520	1.681	2.078	2.399	2.829	3.234
97-0445	0.163	0.236	0.288	0.394	0.518	0.669	0.870	1.008	1.108	1.291	1.427	1.796	2.084	2.444	2.756
97-0451	0.207	0.304	0.378	0.536	0.742	1.000	1.320	1.543	1.718	2.098	2.368	2.952	3.325	3.715	4.000
97-0455	0.224	0.334	0.417	0.596	0.826	1.119	1.507	1.770	1.956	2.275	2.507	3.147	3.647	4.276	4.820
97-0461	0.147	0.214	0.264	0.370	0.505	0.670	0.870	1.007	1.113	1.340	1.499	1.835	2.044	2.258	2.410
97-0468	0.109	0.156	0.190	0.260	0.348	0.450	0.570	0.650	0.712	0.841	0.929	1.110	1.219	1.326	1.400
97-0471	0.221	0.320	0.392	0.548	0.748	1.000	1.312	1.525	1.693	2.062	2.319	2.872	3.233	3.617	3.900

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
97-0481	0.130	0.201	0.253	0.360	0.489	0.640	0.842	1.013	1.134	1.325	1.467	1.821	2.109	2.494	2.857
97-0496	0.166	0.256	0.325	0.472	0.659	0.892	1.185	1.379	1.518	1.769	1.941	2.349	2.630	2.948	3.200
97-0498	0.326	0.447	0.547	0.788	1.208	1.820	2.493	2.933	3.270	3.968	4.451	5.538	6.266	7.061	7.666
97-0499	0.184	0.268	0.331	0.464	0.636	0.850	1.113	1.294	1.435	1.742	1.959	2.424	2.719	3.027	3.250
97-0504	0.123	0.186	0.233	0.331	0.453	0.600	0.772	0.885	0.972	1.158	1.280	1.519	1.664	1.805	1.900
97-0512	0.271	0.406	0.508	0.728	1.016	1.375	1.808	2.089	2.287	2.634	2.884	3.549	4.055	4.674	5.200
97-0517	0.156	0.243	0.310	0.458	0.657	0.914	1.248	1.476	1.644	1.960	2.182	2.722	3.106	3.550	3.908
97-0518	0.164	0.282	0.379	0.601	0.905	1.303	1.802	2.146	2.419	3.029	3.440	4.271	4.786	5.296	5.640
97-0526	0.138	0.204	0.254	0.364	0.510	0.700	0.953	1.127	1.250	1.467	1.620	2.007	2.289	2.624	2.900
97-0532	0.157	0.265	0.353	0.553	0.825	1.180	1.626	1.933	2.177	2.720	3.088	3.839	4.309	4.779	5.100
97-0537	0.175	0.257	0.321	0.461	0.639	0.855	1.134	1.355	1.511	1.762	1.945	2.391	2.752	3.239	3.703
97-0540	0.161	0.239	0.302	0.440	0.618	0.834	1.122	1.360	1.525	1.779	1.962	2.410	2.772	3.264	3.736
97-0545	0.326	0.488	0.612	0.878	1.224	1.650	2.172	2.532	2.813	3.418	3.843	4.739	5.295	5.860	6.260
97-0549	0.159	0.243	0.305	0.437	0.601	0.796	1.021	1.165	1.270	1.465	1.609	2.002	2.309	2.692	3.024
97-0551	0.161	0.234	0.289	0.409	0.567	0.770	1.028	1.209	1.353	1.672	1.903	2.417	2.756	3.124	3.400
97-0553	0.107	0.177	0.233	0.367	0.567	0.828	1.110	1.288	1.425	1.702	1.904	2.404	2.768	3.199	3.554
97-0557	0.150	0.172	0.195	0.253	0.387	0.589	0.731	0.810	0.872	1.002	1.104	1.392	1.628	1.935	2.207
97-0571	0.223	0.250	0.285	0.375	0.613	1.022	1.353	1.542	1.680	1.939	2.125	2.613	2.978	3.423	3.798
97-0576	0.201	0.308	0.388	0.555	0.756	1.001	1.321	1.535	1.687	1.954	2.149	2.684	3.102	3.625	4.078
97-0580	0.156	0.262	0.348	0.542	0.806	1.150	1.598	1.899	2.110	2.482	2.730	3.314	3.711	4.154	4.500
97-0584	0.178	0.251	0.304	0.419	0.569	0.760	1.002	1.171	1.306	1.603	1.819	2.302	2.626	2.980	3.250
97-0589	0.233	0.352	0.443	0.648	0.931	1.307	1.812	2.152	2.381	2.751	2.995	3.583	3.986	4.441	4.800
97-0592	0.085	0.135	0.172	0.247	0.334	0.430	0.535	0.599	0.647	0.738	0.805	0.988	1.129	1.306	1.458
97-0594	0.255	0.386	0.486	0.702	0.985	1.339	1.771	2.060	2.277	2.714	3.014	3.687	4.136	4.627	5.000
97-0601	0.174	0.264	0.331	0.472	0.644	0.842	1.086	1.267	1.395	1.623	1.790	2.206	2.543	2.998	3.428
97-0613	0.096	0.142	0.177	0.250	0.342	0.450	0.577	0.662	0.728	0.866	0.959	1.149	1.261	1.368	1.440
97-0615	0.155	0.230	0.286	0.405	0.551	0.724	0.949	1.127	1.253	1.461	1.613	1.985	2.281	2.673	3.038
97-0618	0.139	0.223	0.289	0.437	0.635	0.890	1.210	1.432	1.607	1.996	2.263	2.821	3.177	3.542	3.800
97-0619	0.180	0.261	0.322	0.453	0.623	0.840	1.112	1.301	1.451	1.779	2.015	2.533	2.871	3.232	3.500
97-0620	0.125	0.193	0.244	0.352	0.487	0.654	0.873	1.021	1.127	1.313	1.448	1.815	2.100	2.455	2.760
97-0622	0.169	0.240	0.292	0.405	0.552	0.740	0.977	1.144	1.275	1.566	1.777	2.248	2.561	2.902	3.160
97-0627	0.150	0.196	0.236	0.336	0.536	0.840	1.136	1.316	1.445	1.676	1.844	2.310	2.675	3.134	3.532
97-0632	0.083	0.131	0.167	0.240	0.324	0.418	0.520	0.583	0.629	0.717	0.783	0.961	1.099	1.270	1.418
97-0641	0.088	0.146	0.191	0.287	0.403	0.545	0.741	0.874	0.965	1.113	1.217	1.503	1.722	1.993	2.225
97-0646	0.264	0.386	0.474	0.658	0.877	1.150	1.534	1.800	1.986	2.304	2.530	3.127	3.576	4.123	4.584
97-0648	0.183	0.269	0.336	0.483	0.670	0.896	1.187	1.413	1.571	1.830	2.016	2.470	2.836	3.334	3.812
97-0651	0.169	0.246	0.301	0.413	0.546	0.699	0.891	1.037	1.141	1.324	1.459	1.796	2.066	2.424	2.759
97-0663	0.195	0.287	0.359	0.517	0.719	0.963	1.271	1.504	1.667	1.937	2.129	2.598	2.976	3.493	3.993
97-0680	0.250	0.375	0.469	0.674	0.947	1.289	1.701	1.968	2.157	2.486	2.723	3.359	3.845	4.444	4.954
97-0696	0.300	0.448	0.560	0.803	1.124	1.523	2.003	2.313	2.533	2.919	3.196	3.937	4.500	5.192	5.780
97-0703	0.150	0.225	0.281	0.396	0.532	0.700	0.937	1.104	1.224	1.441	1.600	2.025	2.350	2.754	3.100
97-0712	0.123	0.172	0.208	0.283	0.380	0.500	0.648	0.751	0.831	1.005	1.130	1.402	1.579	1.769	1.910
97-0720	0.257	0.386	0.483	0.692	0.964	1.302	1.716	1.985	2.175	2.506	2.745	3.395	3.897	4.519	5.053
97-0723	0.228	0.333	0.417	0.607	0.859	1.173	1.574	1.878	2.089	2.429	2.668	3.244	3.712	4.361	5.004
97-0728	0.138	0.203	0.251	0.354	0.487	0.650	0.849	0.985	1.091	1.319	1.479	1.818	2.029	2.246	2.400
97-0745	0.116	0.189	0.246	0.373	0.542	0.750	0.985	1.133	1.240	1.433	1.574	1.957	2.254	2.624	2.943
97-0749	0.097	0.132	0.157	0.210	0.277	0.360	0.462	0.533	0.587	0.707	0.793	0.981	1.105	1.239	1.340
97-0757	0.171	0.244	0.305	0.454	0.730	1.100	1.392	1.548	1.655	1.830	1.959	2.349	2.671	3.086	3.453
97-0761	0.173	0.258	0.322	0.455	0.619	0.825	1.111	1.308	1.447	1.684	1.855	2.315	2.668	3.103	3.476
97-0765	0.206	0.303	0.376	0.533	0.738	1.000	1.327	1.554	1.733	2.129	2.407	3.009	3.405	3.828	4.140
97-0772	0.218	0.329	0.411	0.585	0.798	1.061	1.413	1.652	1.822	2.118	2.333	2.917	3.370	3.933	4.417
97-0796	0.176	0.261	0.325	0.462	0.633	0.835	1.100	1.313	1.463	1.706	1.883	2.318	2.667	3.130	3.564
97-0797	0.202	0.302	0.376	0.536	0.740	0.998	1.347	1.578	1.727	1.942	2.100	2.611	3.055	3.650	4.194
97-0799	0.152	0.229	0.289	0.422	0.590	0.791	1.059	1.286	1.445	1.689	1.869	2.316	2.681	3.173	3.639
97-0802	0.220	0.323	0.406	0.593	0.840	1.143	1.521	1.796	1.988	2.306	2.530	3.065	3.497	4.091	4.675

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
97-0816	0.164	0.240	0.299	0.426	0.586	0.778	1.025	1.219	1.356	1.584	1.751	2.162	2.493	2.939	3.361
97-0823	0.135	0.180	0.216	0.298	0.431	0.615	0.827	0.964	1.059	1.220	1.337	1.664	1.921	2.245	2.526
97-0824	0.164	0.230	0.277	0.376	0.499	0.650	0.832	0.954	1.049	1.255	1.396	1.696	1.889	2.092	2.240
97-0828	0.156	0.221	0.268	0.368	0.495	0.650	0.839	0.969	1.070	1.287	1.440	1.769	1.978	2.198	2.358
97-0834	0.147	0.213	0.262	0.360	0.477	0.611	0.766	0.871	0.949	1.111	1.235	1.558	1.829	2.195	2.535
97-0838	0.127	0.196	0.249	0.363	0.503	0.670	0.892	1.080	1.211	1.409	1.553	1.906	2.188	2.563	2.915
97-0852	0.104	0.160	0.202	0.290	0.395	0.510	0.641	0.729	0.791	0.911	0.999	1.221	1.400	1.636	1.851
97-0865	0.117	0.174	0.217	0.312	0.438	0.600	0.806	0.950	1.065	1.322	1.501	1.879	2.123	2.378	2.560
97-0871	0.253	0.337	0.398	0.525	0.689	0.900	1.169	1.358	1.510	1.850	2.101	2.679	3.082	3.540	3.900
97-0880	0.183	0.271	0.338	0.485	0.679	0.934	1.290	1.537	1.709	1.998	2.201	2.731	3.126	3.602	4.000
97-0885	0.143	0.222	0.281	0.407	0.561	0.753	1.019	1.203	1.333	1.557	1.720	2.166	2.513	2.947	3.322
97-0894	0.318	0.476	0.594	0.846	1.162	1.568	2.158	2.572	2.857	3.325	3.653	4.524	5.177	5.972	6.641
97-0903	0.170	0.248	0.308	0.436	0.605	0.820	1.091	1.281	1.431	1.761	1.999	2.522	2.863	3.228	3.500
97-0904	0.219	0.332	0.415	0.589	0.798	1.057	1.415	1.661	1.833	2.128	2.341	2.921	3.370	3.928	4.408
97-0917	0.149	0.234	0.298	0.434	0.606	0.810	1.040	1.183	1.285	1.466	1.598	1.961	2.244	2.597	2.901
97-0919	0.281	0.429	0.544	0.796	1.138	1.575	2.098	2.448	2.716	3.264	3.658	4.604	5.276	6.053	6.679
97-0920	0.109	0.168	0.212	0.304	0.412	0.532	0.666	0.756	0.820	0.944	1.036	1.268	1.457	1.706	1.932
97-0924	0.200	0.281	0.346	0.500	0.755	1.112	1.500	1.748	1.932	2.293	2.539	3.098	3.473	3.884	4.200
97-0925	0.139	0.198	0.241	0.329	0.438	0.570	0.730	0.837	0.918	1.077	1.197	1.511	1.753	2.051	2.306
97-0927	0.225	0.333	0.419	0.608	0.849	1.138	1.487	1.737	1.911	2.207	2.416	2.922	3.332	3.898	4.455
97-0932	0.214	0.312	0.396	0.595	0.864	1.189	1.598	1.917	2.133	2.456	2.683	3.231	3.678	4.296	4.902
97-0941	0.213	0.316	0.398	0.578	0.809	1.091	1.447	1.719	1.909	2.221	2.445	2.995	3.447	4.074	4.692
97-0950	0.167	0.249	0.313	0.456	0.638	0.856	1.134	1.352	1.505	1.749	1.925	2.356	2.705	3.178	3.631
97-0952	0.131	0.195	0.244	0.351	0.482	0.635	0.830	0.987	1.097	1.273	1.403	1.734	2.007	2.382	2.742
97-0960	0.153	0.207	0.246	0.326	0.426	0.550	0.701	0.803	0.883	1.057	1.179	1.445	1.620	1.808	1.950
97-0965	0.131	0.195	0.246	0.355	0.490	0.647	0.846	1.005	1.117	1.301	1.439	1.792	2.086	2.487	2.868
97-0987	0.188	0.287	0.363	0.527	0.748	1.013	1.297	1.468	1.585	1.779	1.917	2.290	2.574	2.922	3.216
97-0989	0.178	0.244	0.293	0.394	0.522	0.680	0.875	1.008	1.113	1.339	1.501	1.855	2.086	2.334	2.520
97-0993	0.139	0.204	0.254	0.360	0.493	0.652	0.872	1.065	1.200	1.405	1.555	1.932	2.238	2.645	3.025
97-0994	0.187	0.292	0.375	0.557	0.799	1.100	1.472	1.732	1.935	2.375	2.683	3.331	3.728	4.125	4.400
97-1007	0.197	0.296	0.370	0.531	0.739	1.000	1.321	1.540	1.711	2.087	2.345	2.887	3.233	3.592	3.850
97-1009	0.126	0.193	0.245	0.359	0.512	0.710	0.962	1.137	1.277	1.588	1.806	2.278	2.588	2.918	3.160
97-1010	0.179	0.282	0.365	0.546	0.778	1.053	1.410	1.701	1.906	2.234	2.479	3.104	3.621	4.312	4.952
97-1056	0.214	0.309	0.381	0.536	0.740	1.000	1.330	1.561	1.745	2.150	2.443	3.094	3.523	3.988	4.337
97-1072	0.167	0.248	0.310	0.441	0.603	0.795	1.042	1.238	1.377	1.604	1.769	2.176	2.502	2.938	3.348
97-1192	0.150	0.216	0.263	0.356	0.464	0.585	0.718	0.803	0.866	1.002	1.106	1.375	1.604	1.918	2.214
97-1199	0.169	0.251	0.315	0.451	0.623	0.829	1.092	1.300	1.445	1.679	1.846	2.252	2.577	3.014	3.431
97-1209	0.136	0.202	0.253	0.364	0.503	0.664	0.871	1.036	1.152	1.339	1.479	1.835	2.131	2.536	2.924
97-1225	0.201	0.298	0.373	0.533	0.730	0.963	1.258	1.485	1.644	1.910	2.103	2.576	2.954	3.463	3.944
97-1226	0.145	0.212	0.263	0.369	0.500	0.653	0.845	0.991	1.096	1.282	1.422	1.774	2.061	2.444	2.799
97-1240	0.170	0.264	0.337	0.501	0.720	1.000	1.353	1.601	1.797	2.227	2.534	3.194	3.611	4.042	4.350
97-1283	0.126	0.187	0.234	0.336	0.461	0.607	0.793	0.943	1.048	1.217	1.343	1.660	1.921	2.276	2.615
97-1286	0.145	0.209	0.255	0.345	0.449	0.565	0.694	0.776	0.837	0.969	1.069	1.330	1.551	1.854	2.139
97-1306	0.201	0.321	0.420	0.660	1.046	1.573	2.159	2.522	2.772	3.184	3.477	4.287	4.914	5.695	6.366
98-0016	0.075	0.105	0.128	0.174	0.234	0.310	0.415	0.498	0.563	0.701	0.813	1.124	1.401	1.795	2.184
98-0017	0.120	0.178	0.224	0.331	0.489	0.712	1.010	1.227	1.399	1.764	2.053	2.856	3.514	4.372	5.141
98-0020	0.083	0.117	0.142	0.196	0.264	0.353	0.476	0.568	0.642	0.806	0.943	1.344	1.693	2.172	2.622
98-0023	0.102	0.145	0.175	0.240	0.320	0.421	0.550	0.643	0.722	0.912	1.074	1.547	1.961	2.533	3.072
98-0024	0.149	0.216	0.269	0.388	0.562	0.804	1.117	1.341	1.520	1.904	2.207	3.040	3.715	4.589	5.368
98-0025	0.127	0.187	0.236	0.354	0.542	0.824	1.218	1.508	1.732	2.177	2.519	3.463	4.224	5.201	6.067
98-0026	0.108	0.164	0.207	0.304	0.435	0.618	0.903	1.119	1.279	1.569	1.789	2.421	2.942	3.624	4.239
98-0028	0.098	0.148	0.187	0.275	0.395	0.562	0.817	1.011	1.158	1.442	1.658	2.256	2.737	3.354	3.900
98-0029	0.097	0.146	0.184	0.271	0.395	0.567	0.807	0.981	1.115	1.378	1.581	2.152	2.618	3.226	3.770
98-0031	0.151	0.200	0.237	0.317	0.428	0.580	0.792	0.955	1.091	1.422	1.687	2.365	2.892	3.544	4.100
98-0032	0.146	0.198	0.237	0.322	0.435	0.598	0.883	1.115	1.293	1.640	1.895	2.540	3.018	3.591	4.064

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
98-0033	0.096	0.141	0.183	0.290	0.450	0.669	0.970	1.205	1.385	1.741	2.019	2.753	3.370	4.202	4.975
98-0034	0.155	0.225	0.279	0.401	0.575	0.816	1.143	1.381	1.567	1.951	2.252	3.088	3.768	4.652	5.442
98-0035	0.128	0.191	0.240	0.350	0.504	0.713	1.003	1.208	1.358	1.632	1.831	2.352	2.745	3.226	3.633
98-0036	0.107	0.156	0.193	0.274	0.386	0.532	0.714	0.840	0.939	1.149	1.310	1.736	2.067	2.481	2.840
98-0037	0.089	0.132	0.165	0.238	0.336	0.466	0.634	0.752	0.845	1.037	1.188	1.615	1.967	2.429	2.847
98-0038	0.119	0.173	0.214	0.307	0.437	0.610	0.823	0.972	1.091	1.348	1.553	2.124	2.593	3.207	3.759
98-0039	0.102	0.153	0.194	0.290	0.431	0.637	0.946	1.178	1.354	1.688	1.943	2.664	3.252	4.019	4.705
98-0040	0.128	0.186	0.230	0.328	0.464	0.642	0.857	1.005	1.123	1.378	1.583	2.157	2.632	3.257	3.822
98-0041	0.110	0.167	0.210	0.308	0.441	0.620	0.878	1.064	1.200	1.443	1.626	2.150	2.578	3.136	3.635
98-0042	0.164	0.248	0.313	0.464	0.679	0.980	1.400	1.716	1.979	2.600	3.079	4.241	5.092	6.092	6.900
98-0045	0.091	0.137	0.174	0.262	0.396	0.594	0.888	1.108	1.275	1.591	1.830	2.494	3.027	3.712	4.318
98-0046	0.107	0.155	0.192	0.274	0.388	0.539	0.730	0.863	0.967	1.184	1.354	1.824	2.205	2.699	3.140
98-0047	0.202	0.287	0.352	0.499	0.707	1.000	1.416	1.733	1.995	2.606	3.080	4.248	5.116	6.151	7.000
98-0052	0.085	0.128	0.162	0.240	0.353	0.517	0.773	0.973	1.132	1.469	1.722	2.354	2.821	3.377	3.834
98-0069	0.100	0.139	0.171	0.253	0.401	0.631	0.914	1.107	1.251	1.520	1.716	2.238	2.638	3.132	3.554
98-0070	0.169	0.245	0.309	0.471	0.771	1.230	1.749	2.087	2.337	2.802	3.138	4.021	4.690	5.507	6.200
98-0080	0.131	0.181	0.219	0.304	0.426	0.600	0.847	1.042	1.214	1.665	2.063	3.199	4.187	5.539	6.800
98-0081	0.127	0.179	0.218	0.305	0.425	0.584	0.783	0.926	1.045	1.325	1.562	2.259	2.870	3.716	4.515
98-0082	0.125	0.169	0.202	0.275	0.377	0.520	0.722	0.878	1.010	1.334	1.591	2.219	2.687	3.244	3.700
98-0091	0.110	0.166	0.209	0.303	0.428	0.588	0.780	0.914	1.027	1.303	1.530	2.141	2.637	3.278	3.850
98-0100	0.085	0.129	0.162	0.235	0.331	0.454	0.601	0.704	0.790	0.992	1.162	1.655	2.083	2.668	3.215
98-0101	0.116	0.176	0.221	0.322	0.457	0.630	0.834	0.975	1.094	1.373	1.609	2.299	2.903	3.734	4.516
98-0110	0.173	0.239	0.290	0.401	0.556	0.770	1.067	1.290	1.477	1.921	2.272	3.146	3.806	4.604	5.270
98-0126	0.088	0.109	0.123	0.154	0.194	0.247	0.319	0.372	0.416	0.522	0.606	0.817	0.976	1.172	1.337
98-0136	0.105	0.141	0.180	0.288	0.461	0.694	0.969	1.154	1.300	1.643	1.924	2.723	3.442	4.459	5.442
98-0137	0.115	0.148	0.173	0.225	0.294	0.386	0.510	0.602	0.678	0.856	0.995	1.340	1.599	1.910	2.170
98-0142	0.089	0.111	0.126	0.159	0.202	0.260	0.339	0.398	0.447	0.565	0.659	0.898	1.081	1.307	1.500
98-0143	0.078	0.105	0.125	0.166	0.217	0.282	0.361	0.418	0.465	0.577	0.673	0.960	1.215	1.573	1.914
98-0147	0.098	0.131	0.156	0.209	0.275	0.357	0.453	0.518	0.569	0.687	0.779	1.024	1.234	1.534	1.834
99-1010	0.191	0.318	0.422	0.670	1.035	1.545	2.225	2.712	3.097	3.916	4.515	5.951	6.976	8.157	9.100

Table A.3.3. λ_3 moments.

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
02-0060	0.047	0.058	0.065	0.077	0.089	0.099	0.104	0.106	0.109	0.121	0.129	0.142	0.150	0.156	0.160
02-0100	0.050	0.056	0.060	0.068	0.076	0.086	0.097	0.105	0.110	0.122	0.130	0.143	0.150	0.156	0.160
02-0949	0.040	0.046	0.051	0.058	0.066	0.075	0.085	0.091	0.096	0.105	0.112	0.128	0.138	0.150	0.160
02-1050	0.030	0.037	0.042	0.050	0.060	0.070	0.079	0.083	0.087	0.095	0.100	0.109	0.113	0.117	0.120
02-2434	0.043	0.055	0.063	0.079	0.095	0.110	0.125	0.134	0.141	0.154	0.162	0.176	0.182	0.187	0.190
02-2787	0.028	0.036	0.040	0.049	0.058	0.066	0.074	0.079	0.083	0.090	0.094	0.102	0.105	0.108	0.110
02-4645	0.052	0.059	0.063	0.072	0.082	0.093	0.106	0.114	0.120	0.134	0.143	0.163	0.176	0.190	0.200
02-4702	0.037	0.042	0.045	0.051	0.058	0.066	0.076	0.082	0.088	0.099	0.107	0.125	0.137	0.151	0.162
02-4761	0.043	0.048	0.051	0.058	0.066	0.075	0.086	0.094	0.100	0.113	0.123	0.145	0.160	0.177	0.190
02-5627	0.034	0.040	0.044	0.051	0.060	0.070	0.082	0.090	0.096	0.109	0.119	0.139	0.153	0.168	0.180
02-6250	0.041	0.053	0.060	0.069	0.074	0.079	0.091	0.102	0.109	0.123	0.133	0.154	0.168	0.182	0.193
02-6865	0.048	0.056	0.062	0.073	0.086	0.102	0.121	0.135	0.145	0.168	0.184	0.222	0.248	0.277	0.300
02-7460	0.036	0.053	0.064	0.078	0.085	0.090	0.094	0.097	0.100	0.112	0.122	0.139	0.148	0.158	0.164
02-8396	0.045	0.052	0.056	0.064	0.074	0.083	0.090	0.094	0.098	0.110	0.118	0.129	0.134	0.138	0.140
02-9211	0.026	0.030	0.033	0.039	0.046	0.056	0.069	0.079	0.087	0.107	0.123	0.162	0.192	0.229	0.260
02-9309	0.032	0.048	0.061	0.089	0.124	0.167	0.228	0.284	0.325	0.384	0.429	0.548	0.647	0.780	0.899
02-9376	0.029	0.040	0.049	0.065	0.085	0.108	0.144	0.177	0.201	0.242	0.273	0.356	0.424	0.513	0.592
02-9645	0.054	0.080	0.100	0.145	0.202	0.271	0.356	0.418	0.461	0.536	0.591	0.729	0.847	1.020	1.203
02-9652	0.031	0.038	0.043	0.053	0.065	0.080	0.098	0.110	0.119	0.139	0.154	0.186	0.208	0.232	0.250
02-9654	0.015	0.021	0.026	0.034	0.044	0.055	0.071	0.085	0.095	0.112	0.125	0.158	0.185	0.217	0.234
02-9656	0.036	0.048	0.056	0.075	0.100	0.132	0.175	0.205	0.231	0.288	0.332	0.436	0.511	0.599	0.670
02-9657	0.019	0.026	0.031	0.041	0.054	0.070	0.090	0.104	0.115	0.139	0.156	0.195	0.221	0.249	0.270
04-0014	0.025	0.041	0.053	0.077	0.103	0.132	0.166	0.189	0.206	0.244	0.271	0.335	0.381	0.432	0.474
04-0029	0.030	0.037	0.042	0.051	0.059	0.070	0.098	0.122	0.134	0.146	0.153	0.173	0.188	0.206	0.220
04-0088	0.036	0.054	0.068	0.097	0.135	0.180	0.235	0.272	0.301	0.363	0.406	0.495	0.549	0.603	0.640
04-0115	0.043	0.072	0.093	0.131	0.163	0.200	0.269	0.323	0.361	0.424	0.471	0.601	0.704	0.835	0.950
04-0136	0.032	0.052	0.066	0.089	0.107	0.126	0.162	0.189	0.208	0.242	0.267	0.333	0.384	0.447	0.500
04-0144	0.044	0.052	0.061	0.086	0.155	0.280	0.388	0.448	0.484	0.532	0.568	0.717	0.869	1.092	1.310
04-0161	0.025	0.040	0.050	0.069	0.087	0.107	0.137	0.157	0.172	0.200	0.219	0.258	0.282	0.307	0.325
04-0204	0.020	0.026	0.031	0.040	0.053	0.070	0.088	0.099	0.108	0.129	0.142	0.166	0.180	0.192	0.200
04-0212	0.040	0.054	0.064	0.085	0.109	0.143	0.218	0.279	0.313	0.348	0.370	0.435	0.486	0.548	0.600
04-0232	0.021	0.031	0.039	0.054	0.074	0.091	0.096	0.097	0.099	0.103	0.107	0.123	0.138	0.160	0.180
04-0235	0.040	0.065	0.084	0.119	0.155	0.193	0.237	0.266	0.289	0.342	0.380	0.468	0.528	0.596	0.650
04-0244	0.025	0.031	0.034	0.041	0.049	0.058	0.068	0.074	0.080	0.097	0.110	0.141	0.163	0.189	0.210
04-0322	0.036	0.049	0.059	0.081	0.113	0.151	0.179	0.195	0.211	0.265	0.307	0.387	0.437	0.486	0.520
04-0327	0.047	0.066	0.082	0.122	0.192	0.297	0.417	0.495	0.551	0.654	0.718	0.847	0.925	1.000	1.051
04-0343	0.040	0.050	0.058	0.077	0.108	0.150	0.198	0.229	0.250	0.288	0.310	0.354	0.380	0.404	0.420
04-0379	0.029	0.039	0.047	0.062	0.081	0.105	0.135	0.155	0.171	0.205	0.230	0.286	0.324	0.367	0.400
04-0383	0.018	0.024	0.028	0.040	0.061	0.093	0.129	0.151	0.163	0.176	0.186	0.225	0.264	0.319	0.370
04-0395	0.030	0.048	0.061	0.086	0.114	0.140	0.159	0.170	0.180	0.214	0.240	0.295	0.331	0.370	0.400
04-0418	0.023	0.027	0.030	0.038	0.055	0.080	0.106	0.120	0.128	0.136	0.142	0.166	0.189	0.221	0.250
04-0422	0.040	0.057	0.071	0.104	0.162	0.242	0.323	0.372	0.407	0.476	0.516	0.588	0.627	0.661	0.680
04-0436	0.033	0.041	0.046	0.055	0.066	0.074	0.077	0.078	0.079	0.082	0.085	0.095	0.105	0.118	0.129
04-0442	0.020	0.023	0.027	0.034	0.049	0.070	0.088	0.097	0.100	0.101	0.102	0.114	0.130	0.154	0.176
04-0449	0.054	0.060	0.067	0.084	0.125	0.196	0.288	0.346	0.376	0.404	0.423	0.487	0.541	0.612	0.673
04-0521	0.026	0.031	0.034	0.040	0.049	0.057	0.061	0.063	0.064	0.066	0.067	0.077	0.090	0.109	0.127
04-0606	0.050	0.059	0.065	0.079	0.096	0.121	0.190	0.252	0.285	0.318	0.337	0.389	0.425	0.467	0.500
04-0607	0.049	0.055	0.062	0.078	0.110	0.165	0.253	0.315	0.346	0.372	0.390	0.461	0.527	0.617	0.700
04-0673	0.057	0.074	0.088	0.122	0.183	0.271	0.364	0.422	0.462	0.542	0.576	0.608	0.621	0.629	0.631
04-0682	0.018	0.024	0.028	0.037	0.049	0.064	0.076	0.084	0.090	0.108	0.121	0.151	0.171	0.194	0.212
04-0684	0.017	0.027	0.036	0.055	0.084	0.121	0.163	0.188	0.205	0.232	0.250	0.293	0.322	0.354	0.380
04-0693	0.022	0.034	0.043	0.063	0.093	0.130	0.164	0.185	0.200	0.232	0.253	0.291	0.314	0.336	0.350
04-0731	0.031	0.039	0.045	0.057	0.073	0.094	0.124	0.145	0.156	0.172	0.179	0.190	0.196	0.199	0.200
04-0738	0.025	0.026	0.028	0.033	0.060	0.116	0.143	0.157	0.168	0.194	0.215	0.269	0.311	0.363	0.408

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-0741	0.060	0.077	0.092	0.130	0.208	0.330	0.449	0.520	0.571	0.661	0.724	0.883	0.998	1.134	1.245
04-0742	0.042	0.062	0.079	0.120	0.192	0.300	0.438	0.529	0.590	0.687	0.750	0.901	1.003	1.118	1.207
04-0755	0.033	0.049	0.061	0.092	0.141	0.215	0.330	0.409	0.452	0.498	0.525	0.592	0.637	0.687	0.725
04-0790	0.030	0.052	0.070	0.110	0.165	0.228	0.282	0.312	0.334	0.375	0.406	0.489	0.554	0.634	0.703
04-0798	0.070	0.128	0.173	0.260	0.342	0.433	0.569	0.663	0.729	0.844	0.923	1.112	1.243	1.392	1.510
04-0819	0.030	0.038	0.044	0.058	0.079	0.107	0.142	0.165	0.178	0.197	0.208	0.232	0.246	0.260	0.270
04-0822	0.020	0.028	0.035	0.050	0.076	0.103	0.113	0.117	0.122	0.140	0.155	0.191	0.218	0.251	0.278
04-0850	0.037	0.053	0.065	0.091	0.125	0.166	0.206	0.230	0.250	0.295	0.330	0.421	0.490	0.576	0.650
04-0883	0.037	0.056	0.071	0.103	0.147	0.205	0.280	0.334	0.377	0.474	0.543	0.697	0.801	0.915	1.000
04-0897	0.055	0.080	0.098	0.138	0.187	0.254	0.375	0.464	0.514	0.569	0.606	0.723	0.819	0.942	1.050
04-0924	0.029	0.040	0.048	0.061	0.074	0.086	0.095	0.100	0.103	0.107	0.110	0.117	0.121	0.126	0.130
04-0927	0.032	0.038	0.043	0.053	0.068	0.085	0.099	0.106	0.110	0.117	0.121	0.133	0.143	0.154	0.163
04-0931	0.022	0.032	0.041	0.063	0.092	0.130	0.190	0.245	0.286	0.354	0.405	0.536	0.635	0.733	0.747
04-0943	0.031	0.037	0.041	0.052	0.069	0.093	0.116	0.130	0.142	0.169	0.188	0.231	0.260	0.293	0.318
04-0979	0.020	0.030	0.037	0.050	0.065	0.080	0.090	0.095	0.100	0.114	0.126	0.155	0.178	0.205	0.229
04-0983	0.063	0.081	0.092	0.110	0.126	0.140	0.151	0.158	0.165	0.188	0.209	0.258	0.295	0.341	0.380
04-1005	0.042	0.073	0.096	0.145	0.198	0.260	0.340	0.396	0.440	0.539	0.605	0.737	0.817	0.897	0.950
04-1010	0.050	0.068	0.080	0.104	0.131	0.165	0.213	0.247	0.272	0.320	0.356	0.450	0.521	0.608	0.683
04-1018	0.056	0.082	0.101	0.143	0.195	0.270	0.440	0.579	0.656	0.738	0.780	0.869	0.920	0.968	1.000
04-1048	0.049	0.061	0.068	0.080	0.092	0.102	0.111	0.116	0.119	0.125	0.128	0.132	0.134	0.135	0.135
04-1060	0.024	0.034	0.042	0.057	0.076	0.096	0.112	0.120	0.127	0.142	0.150	0.164	0.171	0.177	0.180
04-1072	0.030	0.037	0.043	0.055	0.072	0.097	0.138	0.167	0.182	0.196	0.205	0.230	0.249	0.272	0.290
04-1075	0.022	0.033	0.041	0.058	0.081	0.112	0.156	0.185	0.200	0.216	0.225	0.252	0.271	0.294	0.313
04-1080	0.025	0.035	0.043	0.062	0.091	0.133	0.194	0.239	0.274	0.352	0.400	0.487	0.536	0.578	0.600
04-1112	0.016	0.025	0.031	0.046	0.065	0.087	0.116	0.136	0.151	0.183	0.207	0.267	0.311	0.356	0.376
04-1130	0.053	0.078	0.098	0.140	0.197	0.274	0.399	0.488	0.542	0.614	0.660	0.781	0.867	0.968	1.050
04-1142	0.032	0.054	0.071	0.107	0.147	0.198	0.284	0.347	0.386	0.438	0.473	0.576	0.657	0.760	0.848
04-1149	0.030	0.040	0.048	0.065	0.088	0.120	0.176	0.220	0.249	0.295	0.325	0.400	0.452	0.512	0.560
04-1159	0.030	0.045	0.056	0.082	0.118	0.168	0.240	0.291	0.327	0.386	0.427	0.536	0.618	0.717	0.800
04-1170	0.022	0.033	0.041	0.057	0.075	0.097	0.122	0.139	0.152	0.181	0.203	0.259	0.300	0.342	0.362
04-1194	0.042	0.062	0.078	0.112	0.156	0.208	0.276	0.333	0.373	0.436	0.482	0.597	0.691	0.817	0.932
04-1206	0.026	0.033	0.039	0.053	0.078	0.110	0.128	0.138	0.148	0.179	0.204	0.258	0.295	0.337	0.370
04-1214	0.027	0.033	0.037	0.045	0.056	0.072	0.102	0.126	0.141	0.162	0.174	0.199	0.214	0.228	0.238
04-1215	0.024	0.037	0.047	0.067	0.091	0.121	0.164	0.195	0.217	0.259	0.290	0.375	0.442	0.527	0.601
04-1244	0.022	0.026	0.030	0.037	0.050	0.066	0.081	0.090	0.096	0.107	0.115	0.139	0.159	0.185	0.208
04-1250	0.044	0.055	0.064	0.084	0.114	0.156	0.216	0.258	0.286	0.332	0.364	0.456	0.527	0.618	0.697
04-1253	0.037	0.059	0.074	0.102	0.124	0.151	0.209	0.260	0.300	0.390	0.450	0.564	0.631	0.693	0.729
04-1272	0.037	0.047	0.054	0.072	0.103	0.145	0.186	0.212	0.234	0.290	0.332	0.425	0.487	0.557	0.610
04-1277	0.039	0.049	0.058	0.080	0.120	0.183	0.274	0.337	0.374	0.423	0.450	0.508	0.543	0.577	0.600
04-1288	0.035	0.044	0.051	0.064	0.081	0.100	0.116	0.124	0.128	0.134	0.137	0.142	0.145	0.148	0.149
04-1300	0.040	0.061	0.077	0.110	0.152	0.202	0.263	0.304	0.334	0.392	0.433	0.531	0.600	0.680	0.744
04-1312	0.023	0.030	0.037	0.053	0.083	0.135	0.219	0.284	0.328	0.412	0.446	0.473	0.483	0.490	0.491
04-1316	0.020	0.027	0.032	0.045	0.070	0.100	0.114	0.120	0.126	0.139	0.150	0.184	0.214	0.254	0.290
04-1369	0.043	0.063	0.081	0.130	0.241	0.406	0.515	0.572	0.617	0.713	0.786	0.981	1.132	1.322	1.485
04-1373	0.060	0.090	0.115	0.176	0.285	0.440	0.598	0.696	0.770	0.925	1.023	1.213	1.325	1.431	1.500
04-1424	0.050	0.067	0.079	0.104	0.136	0.177	0.241	0.288	0.320	0.374	0.410	0.492	0.546	0.605	0.650
04-1428	0.030	0.041	0.048	0.060	0.072	0.082	0.086	0.088	0.090	0.102	0.114	0.139	0.158	0.181	0.199
04-1462	0.033	0.043	0.053	0.076	0.122	0.200	0.314	0.399	0.461	0.583	0.652	0.769	0.832	0.880	0.900
04-1476	0.027	0.037	0.045	0.059	0.075	0.095	0.126	0.148	0.161	0.178	0.189	0.221	0.246	0.275	0.300
04-1497	0.018	0.032	0.043	0.064	0.085	0.111	0.156	0.191	0.218	0.271	0.307	0.389	0.444	0.503	0.548
04-1518	0.026	0.039	0.049	0.068	0.090	0.116	0.155	0.184	0.205	0.245	0.277	0.371	0.452	0.561	0.661
04-1520	0.027	0.040	0.050	0.072	0.104	0.144	0.192	0.222	0.243	0.275	0.300	0.387	0.469	0.586	0.697
04-1540	0.030	0.045	0.057	0.079	0.102	0.134	0.221	0.301	0.351	0.409	0.450	0.595	0.729	0.919	1.100
04-1588	0.029	0.041	0.050	0.068	0.091	0.117	0.147	0.168	0.183	0.215	0.237	0.281	0.307	0.333	0.350
04-1603	0.017	0.028	0.036	0.054	0.076	0.107	0.162	0.204	0.232	0.271	0.300	0.399	0.490	0.618	0.740

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-1606	0.025	0.034	0.040	0.053	0.069	0.090	0.123	0.147	0.164	0.194	0.215	0.271	0.312	0.363	0.405
04-1614	0.023	0.035	0.043	0.059	0.074	0.090	0.106	0.116	0.124	0.143	0.156	0.183	0.200	0.217	0.230
04-1624	0.035	0.043	0.051	0.070	0.111	0.170	0.212	0.234	0.250	0.279	0.300	0.365	0.418	0.488	0.550
04-1653	0.025	0.038	0.049	0.077	0.121	0.193	0.339	0.458	0.527	0.610	0.650	0.721	0.758	0.787	0.800
04-1680	0.025	0.038	0.048	0.069	0.094	0.122	0.172	0.227	0.268	0.321	0.364	0.479	0.576	0.703	0.811
04-1697	0.040	0.059	0.073	0.103	0.141	0.192	0.277	0.341	0.384	0.456	0.500	0.591	0.646	0.701	0.738
04-1700	0.022	0.024	0.026	0.032	0.044	0.067	0.112	0.153	0.181	0.231	0.258	0.306	0.332	0.352	0.360
04-1715	0.014	0.020	0.024	0.036	0.056	0.086	0.125	0.150	0.167	0.191	0.208	0.254	0.290	0.333	0.370
04-1733	0.025	0.031	0.035	0.043	0.054	0.066	0.081	0.092	0.100	0.118	0.131	0.160	0.180	0.202	0.219
04-1743	0.026	0.038	0.046	0.061	0.078	0.096	0.124	0.149	0.167	0.195	0.216	0.272	0.318	0.381	0.441
04-1754	0.040	0.050	0.057	0.072	0.093	0.120	0.152	0.175	0.194	0.244	0.284	0.380	0.451	0.535	0.605
04-1758	0.018	0.025	0.029	0.038	0.047	0.058	0.076	0.089	0.098	0.116	0.128	0.156	0.175	0.197	0.213
04-1784	0.025	0.037	0.045	0.060	0.076	0.093	0.113	0.126	0.136	0.160	0.177	0.215	0.240	0.268	0.290
04-1805	0.016	0.022	0.026	0.034	0.043	0.053	0.066	0.075	0.082	0.099	0.112	0.140	0.158	0.178	0.193
04-1806	0.030	0.035	0.040	0.053	0.082	0.131	0.190	0.227	0.249	0.278	0.296	0.347	0.384	0.428	0.465
04-1807	0.026	0.035	0.041	0.053	0.069	0.090	0.117	0.136	0.151	0.185	0.211	0.271	0.313	0.362	0.400
04-1837	0.029	0.038	0.046	0.066	0.113	0.180	0.217	0.235	0.250	0.281	0.305	0.378	0.441	0.525	0.600
04-1864	0.023	0.035	0.043	0.058	0.074	0.091	0.109	0.121	0.131	0.155	0.173	0.214	0.242	0.275	0.300
04-1878	0.037	0.052	0.062	0.085	0.114	0.150	0.195	0.226	0.250	0.303	0.341	0.424	0.478	0.536	0.580
04-1886	0.014	0.022	0.028	0.043	0.064	0.093	0.137	0.169	0.194	0.243	0.276	0.350	0.399	0.451	0.490
04-1907	0.031	0.041	0.047	0.058	0.068	0.081	0.105	0.124	0.140	0.176	0.203	0.269	0.317	0.374	0.421
04-1912	0.028	0.037	0.045	0.067	0.113	0.190	0.274	0.326	0.360	0.414	0.449	0.533	0.590	0.655	0.705
04-1916	0.032	0.039	0.045	0.059	0.081	0.115	0.166	0.205	0.232	0.281	0.311	0.370	0.405	0.437	0.458
04-1948	0.020	0.028	0.033	0.044	0.056	0.070	0.092	0.108	0.120	0.144	0.160	0.191	0.210	0.228	0.240
04-1990	0.030	0.032	0.034	0.040	0.056	0.084	0.117	0.138	0.150	0.165	0.175	0.210	0.240	0.279	0.315
04-2012	0.020	0.030	0.037	0.050	0.065	0.080	0.095	0.103	0.110	0.124	0.135	0.163	0.185	0.211	0.234
04-2027	0.025	0.027	0.029	0.035	0.047	0.067	0.090	0.105	0.118	0.146	0.167	0.218	0.255	0.298	0.333
04-2031	0.030	0.042	0.050	0.071	0.104	0.146	0.180	0.199	0.215	0.252	0.282	0.366	0.435	0.525	0.606
04-2048	0.022	0.036	0.047	0.072	0.113	0.153	0.165	0.170	0.176	0.204	0.229	0.280	0.316	0.356	0.388
04-2081	0.025	0.033	0.040	0.056	0.085	0.125	0.156	0.175	0.192	0.245	0.286	0.371	0.427	0.486	0.529
04-2084	0.016	0.024	0.031	0.047	0.068	0.094	0.135	0.174	0.203	0.252	0.291	0.390	0.467	0.546	0.561
04-2090	0.030	0.045	0.056	0.083	0.123	0.177	0.252	0.301	0.332	0.374	0.403	0.498	0.578	0.685	0.781
04-2139	0.038	0.053	0.063	0.082	0.103	0.126	0.155	0.175	0.189	0.219	0.242	0.297	0.338	0.388	0.427
04-2147	0.029	0.038	0.046	0.064	0.098	0.145	0.189	0.215	0.234	0.272	0.295	0.338	0.363	0.386	0.400
04-2148	0.035	0.050	0.060	0.082	0.109	0.144	0.194	0.227	0.247	0.274	0.290	0.328	0.353	0.380	0.400
04-2150	0.034	0.049	0.059	0.081	0.108	0.140	0.178	0.203	0.223	0.264	0.293	0.352	0.388	0.425	0.450
04-2214	0.032	0.046	0.057	0.079	0.105	0.135	0.177	0.214	0.242	0.286	0.320	0.411	0.487	0.584	0.669
04-2218	0.030	0.051	0.069	0.107	0.157	0.219	0.296	0.349	0.389	0.477	0.533	0.640	0.704	0.763	0.800
04-2239	0.045	0.061	0.076	0.115	0.201	0.340	0.483	0.564	0.610	0.663	0.700	0.825	0.933	1.074	1.200
04-2255	0.019	0.025	0.029	0.035	0.041	0.047	0.055	0.059	0.063	0.071	0.077	0.092	0.102	0.114	0.121
04-2257	0.031	0.035	0.038	0.043	0.048	0.055	0.063	0.068	0.072	0.081	0.088	0.102	0.111	0.122	0.130
04-2294	0.027	0.036	0.042	0.055	0.072	0.093	0.120	0.139	0.154	0.187	0.211	0.267	0.305	0.348	0.382
04-2306	0.029	0.036	0.041	0.051	0.064	0.080	0.102	0.118	0.131	0.162	0.185	0.236	0.271	0.310	0.340
04-2319	0.020	0.021	0.022	0.023	0.024	0.026	0.030	0.033	0.035	0.040	0.043	0.048	0.051	0.054	0.055
04-2327	0.068	0.081	0.090	0.107	0.127	0.150	0.181	0.200	0.211	0.225	0.234	0.254	0.267	0.281	0.292
04-2331	0.019	0.030	0.037	0.052	0.068	0.084	0.100	0.110	0.117	0.131	0.140	0.161	0.175	0.190	0.202
04-2338	0.030	0.045	0.057	0.086	0.129	0.196	0.334	0.448	0.516	0.599	0.648	0.768	0.847	0.934	1.000
04-2346	0.017	0.023	0.028	0.036	0.044	0.054	0.072	0.086	0.095	0.111	0.122	0.151	0.172	0.197	0.218
04-2362	0.028	0.035	0.041	0.053	0.073	0.098	0.116	0.126	0.135	0.162	0.183	0.230	0.263	0.300	0.330
04-2389	0.021	0.025	0.028	0.034	0.041	0.050	0.062	0.070	0.077	0.092	0.104	0.131	0.151	0.175	0.194
04-2402	0.027	0.039	0.049	0.077	0.137	0.237	0.348	0.418	0.463	0.534	0.580	0.697	0.780	0.876	0.953
04-2406	0.043	0.060	0.074	0.106	0.158	0.232	0.330	0.395	0.436	0.495	0.534	0.641	0.721	0.819	0.900
04-2467	0.033	0.042	0.050	0.068	0.096	0.142	0.229	0.300	0.349	0.426	0.475	0.588	0.662	0.741	0.800
04-2494	0.028	0.041	0.050	0.068	0.088	0.113	0.158	0.194	0.219	0.262	0.293	0.382	0.455	0.548	0.630
04-2500	0.035	0.049	0.060	0.085	0.124	0.180	0.263	0.321	0.359	0.413	0.450	0.559	0.645	0.754	0.850

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-2504	0.028	0.040	0.048	0.065	0.085	0.110	0.147	0.174	0.193	0.228	0.252	0.307	0.344	0.385	0.417
04-2506	0.046	0.050	0.054	0.064	0.083	0.116	0.182	0.236	0.268	0.309	0.331	0.378	0.406	0.432	0.450
04-2539	0.041	0.057	0.070	0.098	0.142	0.200	0.257	0.293	0.320	0.380	0.420	0.504	0.556	0.611	0.650
04-2568	0.016	0.024	0.031	0.043	0.058	0.075	0.097	0.113	0.125	0.152	0.171	0.208	0.231	0.254	0.270
04-2574	0.026	0.035	0.042	0.056	0.075	0.101	0.146	0.182	0.207	0.250	0.280	0.361	0.422	0.497	0.560
04-2598	0.029	0.037	0.042	0.054	0.072	0.093	0.110	0.119	0.125	0.137	0.144	0.159	0.167	0.176	0.182
04-2640	0.021	0.028	0.034	0.045	0.060	0.080	0.105	0.122	0.136	0.168	0.191	0.244	0.281	0.322	0.354
04-2705	0.028	0.034	0.039	0.050	0.068	0.094	0.126	0.147	0.164	0.198	0.223	0.281	0.322	0.368	0.405
04-2706	0.022	0.031	0.037	0.049	0.063	0.079	0.101	0.119	0.133	0.160	0.181	0.238	0.286	0.348	0.401
04-2713	0.042	0.046	0.050	0.059	0.077	0.101	0.118	0.127	0.131	0.137	0.140	0.143	0.145	0.146	0.146
04-2728	0.017	0.025	0.030	0.042	0.057	0.076	0.101	0.119	0.131	0.154	0.170	0.207	0.231	0.259	0.280
04-2749	0.040	0.056	0.068	0.092	0.121	0.160	0.221	0.267	0.300	0.363	0.400	0.468	0.507	0.541	0.560
04-2756	0.027	0.037	0.045	0.062	0.083	0.110	0.144	0.168	0.186	0.227	0.257	0.323	0.366	0.414	0.450
04-2760	0.024	0.030	0.034	0.042	0.052	0.064	0.077	0.086	0.093	0.113	0.129	0.166	0.193	0.224	0.250
04-2771	0.020	0.029	0.036	0.049	0.062	0.075	0.090	0.100	0.107	0.122	0.133	0.161	0.184	0.216	0.246
04-2805	0.030	0.041	0.048	0.065	0.087	0.117	0.158	0.188	0.213	0.272	0.318	0.431	0.516	0.616	0.700
04-2895	0.030	0.039	0.045	0.059	0.076	0.103	0.171	0.234	0.278	0.342	0.388	0.530	0.651	0.812	0.961
04-2899	0.023	0.030	0.035	0.047	0.066	0.093	0.131	0.157	0.176	0.208	0.229	0.274	0.302	0.332	0.353
04-2910	0.025	0.036	0.045	0.062	0.083	0.110	0.145	0.169	0.189	0.233	0.266	0.341	0.394	0.453	0.500
04-2920	0.022	0.030	0.036	0.049	0.068	0.088	0.099	0.104	0.110	0.129	0.144	0.176	0.197	0.221	0.240
04-2922	0.024	0.039	0.050	0.071	0.091	0.111	0.133	0.147	0.159	0.188	0.210	0.261	0.297	0.339	0.373
04-2934	0.023	0.035	0.044	0.063	0.088	0.120	0.156	0.180	0.199	0.244	0.273	0.325	0.354	0.379	0.394
04-2941	0.031	0.051	0.067	0.099	0.138	0.182	0.232	0.263	0.286	0.327	0.358	0.446	0.518	0.609	0.690
04-2958	0.037	0.046	0.052	0.067	0.086	0.113	0.151	0.181	0.207	0.272	0.325	0.469	0.586	0.735	0.867
04-2964	0.028	0.035	0.040	0.050	0.063	0.080	0.101	0.116	0.128	0.157	0.176	0.213	0.235	0.256	0.270
04-3020	0.025	0.035	0.043	0.059	0.079	0.103	0.135	0.158	0.176	0.218	0.253	0.343	0.415	0.491	0.527
04-3038	0.026	0.032	0.037	0.049	0.067	0.096	0.143	0.181	0.209	0.268	0.301	0.354	0.382	0.401	0.407
04-3083	0.016	0.023	0.028	0.037	0.047	0.059	0.075	0.087	0.095	0.110	0.122	0.155	0.182	0.217	0.248
04-3093	0.034	0.048	0.058	0.080	0.110	0.152	0.219	0.271	0.307	0.375	0.415	0.487	0.527	0.562	0.580
04-3113	0.027	0.034	0.040	0.053	0.074	0.100	0.124	0.138	0.149	0.173	0.192	0.242	0.280	0.328	0.370
04-3120	0.030	0.042	0.050	0.065	0.079	0.097	0.146	0.192	0.223	0.271	0.306	0.412	0.502	0.621	0.730
04-3134	0.032	0.045	0.056	0.081	0.124	0.185	0.242	0.280	0.313	0.415	0.480	0.577	0.628	0.662	0.670
04-3157	0.022	0.027	0.031	0.039	0.051	0.069	0.099	0.119	0.131	0.144	0.152	0.173	0.188	0.206	0.220
04-3161	0.025	0.037	0.045	0.061	0.076	0.093	0.123	0.147	0.166	0.209	0.242	0.324	0.385	0.458	0.518
04-3176	0.029	0.035	0.039	0.048	0.059	0.073	0.092	0.105	0.116	0.139	0.156	0.194	0.220	0.249	0.272
04-3182	0.021	0.027	0.031	0.038	0.045	0.055	0.082	0.108	0.125	0.151	0.168	0.209	0.237	0.269	0.294
04-3191	0.019	0.029	0.037	0.054	0.076	0.104	0.145	0.175	0.199	0.250	0.292	0.413	0.516	0.656	0.785
04-3242	0.022	0.033	0.042	0.059	0.079	0.106	0.152	0.186	0.207	0.238	0.258	0.305	0.337	0.373	0.400
04-3257	0.024	0.029	0.032	0.040	0.052	0.068	0.082	0.091	0.098	0.117	0.133	0.174	0.206	0.247	0.283
04-3261	0.024	0.030	0.034	0.042	0.054	0.069	0.090	0.106	0.118	0.143	0.162	0.209	0.243	0.284	0.318
04-3288	0.024	0.035	0.044	0.064	0.094	0.129	0.158	0.174	0.187	0.216	0.240	0.317	0.387	0.485	0.578
04-3320	0.019	0.030	0.039	0.061	0.091	0.131	0.189	0.232	0.265	0.334	0.387	0.521	0.623	0.731	0.783
04-3357	0.040	0.059	0.073	0.099	0.127	0.160	0.216	0.258	0.286	0.340	0.363	0.385	0.394	0.399	0.400
04-3369	0.031	0.039	0.046	0.062	0.094	0.134	0.153	0.163	0.173	0.211	0.240	0.294	0.326	0.358	0.380
04-3384	0.033	0.048	0.060	0.089	0.133	0.196	0.279	0.334	0.370	0.425	0.458	0.529	0.573	0.618	0.650
04-3402	0.045	0.069	0.087	0.126	0.172	0.227	0.317	0.420	0.496	0.601	0.688	0.935	1.153	1.437	1.679
04-3417	0.028	0.043	0.054	0.077	0.105	0.137	0.173	0.196	0.214	0.253	0.275	0.308	0.325	0.336	0.340
04-3419	0.030	0.046	0.057	0.081	0.110	0.145	0.186	0.214	0.236	0.287	0.321	0.384	0.421	0.455	0.476
04-3463	0.041	0.058	0.070	0.096	0.129	0.169	0.221	0.255	0.276	0.307	0.328	0.390	0.438	0.498	0.550
04-3489	0.041	0.049	0.053	0.063	0.075	0.087	0.101	0.108	0.110	0.109	0.108	0.110	0.113	0.117	0.121
04-3491	0.028	0.044	0.057	0.087	0.134	0.197	0.273	0.320	0.351	0.399	0.430	0.509	0.564	0.628	0.680
04-3498	0.028	0.036	0.040	0.048	0.056	0.063	0.072	0.078	0.082	0.091	0.097	0.112	0.123	0.136	0.143
04-3502	0.021	0.032	0.039	0.055	0.074	0.096	0.123	0.143	0.157	0.186	0.209	0.265	0.306	0.349	0.369
04-3551	0.049	0.071	0.089	0.129	0.186	0.269	0.431	0.551	0.610	0.655	0.686	0.812	0.932	1.097	1.250
04-3573	0.030	0.041	0.050	0.071	0.110	0.166	0.226	0.264	0.293	0.354	0.397	0.493	0.557	0.627	0.680

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-3578	0.024	0.031	0.037	0.050	0.071	0.100	0.129	0.147	0.162	0.198	0.225	0.284	0.323	0.367	0.400
04-3614	0.024	0.028	0.032	0.041	0.059	0.090	0.130	0.158	0.178	0.212	0.235	0.295	0.338	0.390	0.433
04-3621	0.022	0.030	0.036	0.049	0.065	0.090	0.151	0.205	0.237	0.271	0.293	0.352	0.395	0.445	0.487
04-3666	0.039	0.056	0.069	0.097	0.133	0.178	0.237	0.278	0.307	0.362	0.400	0.494	0.560	0.638	0.700
04-3672	0.040	0.056	0.069	0.096	0.134	0.184	0.244	0.284	0.315	0.381	0.426	0.523	0.585	0.652	0.700
04-3684	0.021	0.032	0.040	0.060	0.093	0.135	0.172	0.192	0.207	0.232	0.252	0.335	0.424	0.561	0.700
04-3704	0.077	0.113	0.142	0.206	0.290	0.393	0.515	0.597	0.654	0.755	0.825	1.000	1.154	1.394	1.670
04-3710	0.028	0.037	0.044	0.060	0.087	0.120	0.145	0.159	0.170	0.194	0.212	0.255	0.285	0.321	0.350
04-3714	0.022	0.033	0.041	0.060	0.089	0.125	0.161	0.181	0.189	0.196	0.200	0.219	0.237	0.260	0.280
04-3725	0.021	0.028	0.034	0.047	0.070	0.103	0.147	0.176	0.196	0.227	0.247	0.291	0.319	0.348	0.370
04-3747	0.023	0.027	0.030	0.037	0.046	0.059	0.075	0.086	0.094	0.110	0.123	0.158	0.186	0.222	0.253
04-3761	0.022	0.028	0.033	0.045	0.063	0.090	0.138	0.177	0.204	0.248	0.280	0.370	0.441	0.532	0.611
04-3791	0.030	0.038	0.045	0.063	0.109	0.170	0.191	0.200	0.209	0.237	0.260	0.320	0.368	0.428	0.480
04-3821	0.018	0.026	0.031	0.043	0.057	0.077	0.115	0.146	0.167	0.201	0.221	0.263	0.289	0.313	0.330
04-3824	0.020	0.024	0.028	0.038	0.060	0.090	0.108	0.118	0.124	0.136	0.144	0.168	0.187	0.210	0.230
04-3855	0.044	0.057	0.066	0.082	0.099	0.116	0.135	0.146	0.154	0.168	0.177	0.194	0.205	0.215	0.222
04-3859	0.024	0.034	0.041	0.056	0.076	0.100	0.130	0.151	0.168	0.204	0.231	0.292	0.335	0.382	0.420
04-3863	0.027	0.041	0.051	0.074	0.107	0.141	0.159	0.168	0.176	0.201	0.217	0.242	0.255	0.265	0.270
04-3875	0.024	0.033	0.040	0.055	0.074	0.100	0.133	0.157	0.178	0.233	0.276	0.374	0.442	0.520	0.580
04-3891	0.028	0.041	0.052	0.082	0.124	0.179	0.264	0.338	0.394	0.490	0.563	0.748	0.883	1.019	1.077
04-3896	0.035	0.041	0.047	0.060	0.084	0.120	0.156	0.180	0.200	0.252	0.290	0.371	0.423	0.479	0.520
04-3925	0.023	0.034	0.042	0.060	0.080	0.104	0.134	0.156	0.173	0.205	0.230	0.294	0.344	0.404	0.448
04-3928	0.024	0.035	0.044	0.063	0.085	0.112	0.145	0.170	0.189	0.225	0.253	0.328	0.392	0.483	0.573
04-3939	0.037	0.048	0.058	0.080	0.117	0.175	0.257	0.316	0.357	0.429	0.472	0.559	0.610	0.658	0.690
04-3987	0.024	0.029	0.034	0.044	0.063	0.090	0.117	0.133	0.142	0.154	0.163	0.192	0.217	0.251	0.280
04-4010	0.019	0.031	0.041	0.065	0.098	0.140	0.211	0.291	0.351	0.432	0.494	0.651	0.771	0.889	0.905
04-4025	0.024	0.034	0.041	0.056	0.075	0.097	0.124	0.141	0.153	0.175	0.189	0.219	0.237	0.256	0.270
04-4035	0.032	0.045	0.054	0.074	0.097	0.125	0.157	0.179	0.195	0.230	0.254	0.302	0.331	0.360	0.380
04-4082	0.027	0.031	0.036	0.050	0.094	0.164	0.189	0.200	0.210	0.239	0.260	0.307	0.338	0.373	0.400
04-4097	0.020	0.030	0.037	0.056	0.087	0.130	0.173	0.201	0.224	0.279	0.320	0.412	0.475	0.546	0.600
04-4144	0.020	0.027	0.033	0.046	0.066	0.096	0.144	0.180	0.206	0.249	0.280	0.373	0.449	0.550	0.641
04-4156	0.018	0.028	0.036	0.056	0.083	0.118	0.169	0.216	0.252	0.316	0.365	0.492	0.591	0.693	0.714
04-4176	0.041	0.058	0.071	0.101	0.146	0.206	0.269	0.310	0.343	0.418	0.471	0.585	0.660	0.741	0.800
04-4191	0.023	0.033	0.041	0.060	0.096	0.146	0.187	0.210	0.229	0.269	0.299	0.374	0.429	0.495	0.550
04-4204	0.022	0.033	0.041	0.057	0.075	0.098	0.125	0.146	0.161	0.191	0.214	0.278	0.334	0.417	0.503
04-4223	0.035	0.045	0.052	0.063	0.073	0.084	0.105	0.119	0.128	0.141	0.146	0.149	0.150	0.151	0.151
04-4232	0.025	0.035	0.043	0.065	0.111	0.181	0.239	0.273	0.300	0.359	0.400	0.488	0.545	0.605	0.650
04-4259	0.040	0.056	0.066	0.083	0.100	0.116	0.137	0.151	0.160	0.176	0.187	0.210	0.223	0.234	0.237
04-4274	0.048	0.072	0.090	0.132	0.190	0.267	0.369	0.443	0.503	0.647	0.741	0.913	1.013	1.101	1.150
04-4278	0.014	0.020	0.025	0.033	0.043	0.053	0.064	0.072	0.078	0.096	0.110	0.141	0.162	0.186	0.204
04-4288	0.029	0.043	0.053	0.078	0.115	0.164	0.221	0.260	0.291	0.363	0.415	0.531	0.609	0.695	0.760
04-4297	0.050	0.058	0.063	0.075	0.092	0.110	0.121	0.127	0.131	0.142	0.148	0.158	0.162	0.166	0.168
04-4374	0.021	0.030	0.035	0.047	0.059	0.075	0.106	0.132	0.150	0.183	0.203	0.239	0.259	0.276	0.285
04-4389	0.070	0.089	0.104	0.140	0.202	0.290	0.388	0.449	0.490	0.562	0.600	0.665	0.699	0.727	0.740
04-4412	0.050	0.065	0.079	0.113	0.183	0.290	0.392	0.454	0.500	0.585	0.648	0.817	0.948	1.111	1.252
04-4467	0.045	0.069	0.086	0.112	0.129	0.149	0.200	0.243	0.271	0.315	0.344	0.418	0.470	0.531	0.580
04-4484	0.025	0.036	0.043	0.059	0.076	0.100	0.149	0.189	0.215	0.253	0.279	0.346	0.395	0.452	0.500
04-4488	0.020	0.026	0.032	0.045	0.070	0.105	0.139	0.160	0.176	0.207	0.230	0.296	0.349	0.419	0.480
04-4500	0.037	0.058	0.075	0.109	0.152	0.204	0.267	0.309	0.343	0.423	0.477	0.583	0.648	0.712	0.754
04-4508	0.010	0.014	0.017	0.023	0.034	0.047	0.052	0.055	0.058	0.069	0.079	0.100	0.115	0.133	0.147
04-4520	0.021	0.030	0.036	0.047	0.059	0.073	0.094	0.115	0.130	0.152	0.168	0.211	0.245	0.285	0.307
04-4523	0.031	0.046	0.057	0.079	0.104	0.131	0.168	0.195	0.215	0.252	0.280	0.350	0.401	0.455	0.481
04-4536	0.025	0.032	0.036	0.045	0.054	0.065	0.084	0.097	0.105	0.115	0.123	0.152	0.180	0.218	0.255
04-4555	0.018	0.026	0.032	0.047	0.075	0.112	0.137	0.151	0.161	0.182	0.198	0.237	0.266	0.300	0.328
04-4577	0.027	0.040	0.049	0.070	0.097	0.132	0.184	0.221	0.244	0.278	0.300	0.351	0.385	0.422	0.450

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-4587	0.027	0.040	0.050	0.072	0.101	0.138	0.186	0.221	0.248	0.309	0.354	0.454	0.521	0.595	0.650
04-4591	0.026	0.032	0.036	0.045	0.058	0.075	0.094	0.107	0.117	0.142	0.161	0.204	0.234	0.267	0.294
04-4616	0.032	0.046	0.057	0.080	0.111	0.156	0.247	0.323	0.374	0.454	0.506	0.634	0.722	0.822	0.901
04-4647	0.035	0.052	0.064	0.086	0.109	0.134	0.163	0.181	0.196	0.227	0.252	0.319	0.372	0.440	0.500
04-4671	0.057	0.090	0.115	0.172	0.248	0.351	0.498	0.604	0.681	0.823	0.920	1.145	1.298	1.468	1.600
04-4675	0.025	0.035	0.042	0.055	0.071	0.089	0.121	0.155	0.181	0.216	0.243	0.314	0.368	0.423	0.430
04-4690	0.024	0.037	0.047	0.071	0.105	0.152	0.216	0.262	0.299	0.378	0.435	0.571	0.667	0.777	0.864
04-4701	0.020	0.025	0.029	0.040	0.060	0.093	0.133	0.160	0.182	0.228	0.261	0.337	0.390	0.449	0.494
04-4705	0.029	0.041	0.051	0.072	0.105	0.145	0.183	0.204	0.216	0.232	0.243	0.272	0.294	0.319	0.340
04-4712	0.024	0.034	0.042	0.060	0.089	0.127	0.163	0.184	0.199	0.230	0.249	0.286	0.307	0.327	0.340
04-4713	0.047	0.064	0.079	0.114	0.177	0.269	0.368	0.434	0.488	0.623	0.711	0.873	0.968	1.052	1.100
04-4726	0.028	0.039	0.047	0.066	0.095	0.134	0.184	0.217	0.242	0.288	0.322	0.414	0.485	0.573	0.650
04-4735	0.022	0.030	0.036	0.049	0.071	0.098	0.117	0.128	0.137	0.161	0.181	0.230	0.268	0.314	0.354
04-4749	0.014	0.022	0.028	0.039	0.053	0.068	0.088	0.105	0.118	0.140	0.157	0.204	0.243	0.292	0.333
04-4773	0.043	0.072	0.095	0.146	0.211	0.300	0.455	0.570	0.641	0.743	0.800	0.919	0.988	1.055	1.100
04-4812	0.030	0.034	0.039	0.054	0.099	0.184	0.248	0.282	0.304	0.337	0.360	0.427	0.479	0.544	0.600
04-4823	0.012	0.015	0.018	0.025	0.042	0.060	0.061	0.061	0.062	0.068	0.074	0.089	0.102	0.119	0.133
04-4838	0.028	0.030	0.032	0.037	0.047	0.065	0.094	0.115	0.125	0.135	0.140	0.152	0.158	0.165	0.170
04-4851	0.032	0.049	0.064	0.100	0.163	0.251	0.334	0.384	0.425	0.516	0.584	0.751	0.874	1.019	1.139
04-4863	0.019	0.029	0.038	0.056	0.076	0.098	0.133	0.170	0.196	0.233	0.263	0.347	0.419	0.513	0.593
04-4881	0.028	0.035	0.041	0.057	0.091	0.145	0.203	0.238	0.256	0.277	0.290	0.324	0.349	0.377	0.399
04-4884	0.026	0.029	0.032	0.040	0.056	0.080	0.102	0.114	0.120	0.127	0.132	0.153	0.174	0.203	0.230
04-4890	0.027	0.039	0.048	0.067	0.096	0.129	0.154	0.166	0.175	0.189	0.200	0.236	0.269	0.311	0.350
04-4957	0.022	0.028	0.034	0.047	0.075	0.110	0.125	0.133	0.140	0.160	0.177	0.217	0.248	0.284	0.315
04-4997	0.020	0.027	0.032	0.046	0.074	0.110	0.130	0.141	0.150	0.175	0.193	0.226	0.247	0.267	0.280
04-5017	0.023	0.035	0.043	0.060	0.078	0.100	0.135	0.161	0.180	0.215	0.239	0.299	0.342	0.392	0.433
04-5026	0.049	0.069	0.086	0.129	0.203	0.324	0.522	0.670	0.763	0.895	0.968	1.113	1.196	1.273	1.320
04-5032	0.020	0.021	0.022	0.024	0.039	0.065	0.071	0.074	0.078	0.097	0.113	0.145	0.167	0.191	0.208
04-5064	0.030	0.044	0.053	0.072	0.094	0.120	0.150	0.173	0.191	0.227	0.256	0.340	0.415	0.520	0.612
04-5067	0.031	0.042	0.051	0.072	0.107	0.151	0.189	0.210	0.225	0.251	0.269	0.316	0.351	0.393	0.427
04-5085	0.032	0.042	0.050	0.069	0.099	0.140	0.180	0.203	0.221	0.254	0.278	0.342	0.390	0.450	0.500
04-5098	0.029	0.042	0.051	0.071	0.100	0.133	0.164	0.181	0.192	0.208	0.220	0.257	0.288	0.327	0.362
04-5107	0.026	0.037	0.046	0.063	0.083	0.106	0.137	0.162	0.180	0.215	0.243	0.319	0.389	0.499	0.621
04-5115	0.029	0.042	0.051	0.070	0.091	0.115	0.155	0.195	0.225	0.269	0.304	0.397	0.474	0.574	0.660
04-5118	0.034	0.037	0.039	0.044	0.051	0.060	0.067	0.071	0.075	0.089	0.100	0.125	0.142	0.161	0.177
04-5119	0.018	0.026	0.031	0.042	0.053	0.066	0.083	0.094	0.103	0.122	0.137	0.174	0.201	0.228	0.240
04-5120	0.025	0.032	0.036	0.042	0.045	0.049	0.061	0.071	0.075	0.078	0.080	0.095	0.113	0.141	0.169
04-5123	0.033	0.047	0.058	0.083	0.122	0.173	0.222	0.253	0.277	0.332	0.369	0.443	0.488	0.533	0.564
04-5147	0.035	0.050	0.062	0.090	0.128	0.182	0.257	0.314	0.361	0.473	0.560	0.775	0.934	1.124	1.280
04-5151	0.018	0.026	0.032	0.042	0.052	0.065	0.090	0.109	0.123	0.147	0.162	0.194	0.215	0.235	0.250
04-5184	0.030	0.054	0.072	0.107	0.137	0.171	0.227	0.269	0.300	0.359	0.400	0.497	0.564	0.640	0.700
04-5212	0.024	0.035	0.043	0.059	0.077	0.097	0.133	0.174	0.203	0.240	0.270	0.350	0.418	0.509	0.593
04-5215	0.042	0.067	0.087	0.128	0.175	0.241	0.386	0.508	0.584	0.679	0.743	0.923	1.061	1.233	1.379
04-5218	0.054	0.083	0.106	0.164	0.261	0.402	0.586	0.704	0.770	0.848	0.900	1.065	1.200	1.373	1.524
04-5231	0.027	0.031	0.034	0.040	0.051	0.065	0.081	0.092	0.100	0.119	0.130	0.148	0.158	0.166	0.170
04-5233	0.025	0.033	0.039	0.049	0.061	0.074	0.084	0.090	0.095	0.110	0.122	0.155	0.181	0.214	0.244
04-5244	0.021	0.033	0.043	0.066	0.103	0.152	0.196	0.224	0.250	0.338	0.400	0.501	0.557	0.601	0.620
04-5258	0.031	0.047	0.059	0.085	0.120	0.166	0.225	0.267	0.300	0.378	0.429	0.524	0.580	0.630	0.660
04-5311	0.024	0.026	0.028	0.033	0.048	0.079	0.141	0.196	0.229	0.272	0.297	0.358	0.398	0.441	0.473
04-5338	0.030	0.035	0.039	0.049	0.067	0.090	0.103	0.110	0.115	0.124	0.131	0.152	0.169	0.190	0.209
04-5352	0.036	0.050	0.062	0.087	0.126	0.179	0.237	0.274	0.301	0.351	0.385	0.469	0.527	0.595	0.650
04-5356	0.030	0.045	0.056	0.077	0.098	0.125	0.177	0.220	0.250	0.303	0.338	0.418	0.471	0.529	0.573
04-5360	0.022	0.039	0.052	0.074	0.091	0.110	0.152	0.186	0.209	0.248	0.272	0.321	0.351	0.380	0.400
04-5371	0.024	0.034	0.041	0.056	0.076	0.100	0.134	0.155	0.165	0.174	0.180	0.198	0.211	0.227	0.240
04-5378	0.022	0.030	0.036	0.051	0.077	0.110	0.139	0.155	0.165	0.181	0.192	0.223	0.247	0.276	0.300

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-5385	0.016	0.022	0.027	0.041	0.074	0.114	0.122	0.126	0.130	0.157	0.182	0.234	0.272	0.315	0.349
04-5400	0.037	0.052	0.064	0.091	0.133	0.186	0.232	0.259	0.283	0.346	0.390	0.472	0.522	0.569	0.600
04-5449	0.025	0.035	0.043	0.058	0.076	0.100	0.144	0.179	0.205	0.254	0.288	0.370	0.426	0.491	0.542
04-5496	0.041	0.059	0.073	0.102	0.140	0.187	0.247	0.288	0.320	0.391	0.441	0.551	0.623	0.701	0.760
04-5502	0.032	0.048	0.059	0.078	0.097	0.115	0.136	0.148	0.155	0.164	0.170	0.183	0.191	0.199	0.205
04-5528	0.020	0.021	0.022	0.024	0.030	0.040	0.052	0.061	0.068	0.084	0.096	0.125	0.146	0.170	0.190
04-5532	0.025	0.031	0.035	0.042	0.051	0.061	0.076	0.085	0.091	0.099	0.105	0.127	0.148	0.178	0.205
04-5535	0.025	0.030	0.034	0.042	0.052	0.065	0.079	0.088	0.095	0.113	0.126	0.154	0.173	0.194	0.210
04-5550	0.013	0.020	0.024	0.034	0.045	0.057	0.073	0.085	0.094	0.111	0.125	0.158	0.184	0.212	0.227
04-5586	0.031	0.049	0.062	0.090	0.121	0.162	0.254	0.325	0.360	0.388	0.405	0.459	0.502	0.555	0.600
04-5598	0.024	0.035	0.044	0.065	0.096	0.140	0.199	0.241	0.274	0.346	0.389	0.463	0.503	0.535	0.550
04-5602	0.023	0.032	0.038	0.049	0.059	0.070	0.088	0.102	0.110	0.123	0.132	0.152	0.165	0.179	0.190
04-5623	0.032	0.043	0.051	0.070	0.100	0.142	0.198	0.237	0.267	0.332	0.370	0.432	0.465	0.490	0.500
04-5629	0.033	0.044	0.054	0.075	0.109	0.160	0.252	0.316	0.343	0.359	0.370	0.431	0.496	0.591	0.680
04-5632	0.045	0.071	0.090	0.134	0.190	0.268	0.415	0.531	0.604	0.704	0.772	0.960	1.103	1.279	1.429
04-5669	0.038	0.049	0.059	0.086	0.149	0.255	0.369	0.434	0.469	0.505	0.530	0.615	0.688	0.782	0.866
04-5679	0.025	0.027	0.031	0.040	0.069	0.134	0.224	0.290	0.334	0.418	0.450	0.470	0.478	0.482	0.483
04-5713	0.020	0.028	0.034	0.051	0.082	0.130	0.188	0.225	0.248	0.281	0.300	0.339	0.362	0.385	0.400
04-5721	0.049	0.078	0.097	0.127	0.146	0.163	0.190	0.209	0.223	0.250	0.267	0.304	0.327	0.351	0.368
04-5738	0.022	0.026	0.029	0.034	0.040	0.047	0.057	0.064	0.069	0.082	0.091	0.113	0.128	0.146	0.160
04-5741	0.022	0.029	0.034	0.040	0.044	0.048	0.054	0.059	0.063	0.076	0.086	0.111	0.129	0.151	0.170
04-5747	0.024	0.031	0.036	0.047	0.062	0.080	0.102	0.117	0.128	0.153	0.170	0.206	0.229	0.253	0.270
04-5756	0.027	0.035	0.041	0.053	0.069	0.089	0.119	0.139	0.148	0.156	0.162	0.191	0.222	0.267	0.310
04-5779	0.034	0.050	0.062	0.086	0.115	0.148	0.186	0.211	0.230	0.270	0.295	0.344	0.373	0.401	0.420
04-5785	0.020	0.023	0.025	0.031	0.041	0.057	0.078	0.091	0.097	0.101	0.103	0.118	0.134	0.158	0.180
04-5795	0.025	0.033	0.039	0.053	0.076	0.105	0.130	0.145	0.157	0.182	0.200	0.244	0.275	0.311	0.340
04-5844	0.029	0.043	0.054	0.077	0.111	0.150	0.182	0.200	0.213	0.239	0.256	0.297	0.324	0.356	0.380
04-5866	0.029	0.040	0.050	0.072	0.111	0.167	0.227	0.261	0.280	0.301	0.316	0.375	0.430	0.507	0.577
04-5890	0.049	0.063	0.071	0.083	0.092	0.100	0.110	0.116	0.120	0.126	0.130	0.140	0.148	0.156	0.163
04-5909	0.024	0.037	0.047	0.067	0.087	0.115	0.185	0.249	0.292	0.352	0.393	0.501	0.582	0.678	0.759
04-5915	0.026	0.038	0.047	0.066	0.089	0.118	0.168	0.202	0.220	0.241	0.251	0.272	0.283	0.294	0.300
04-5933	0.036	0.049	0.059	0.082	0.120	0.170	0.217	0.243	0.260	0.284	0.301	0.360	0.412	0.483	0.546
04-5941	0.013	0.017	0.021	0.028	0.037	0.047	0.063	0.081	0.094	0.112	0.125	0.160	0.186	0.212	0.216
04-5983	0.030	0.032	0.035	0.042	0.058	0.090	0.156	0.207	0.230	0.243	0.251	0.286	0.318	0.361	0.400
04-6006	0.075	0.116	0.148	0.217	0.309	0.425	0.574	0.672	0.740	0.856	0.937	1.147	1.301	1.486	1.640
04-6027	0.034	0.049	0.061	0.090	0.137	0.200	0.260	0.297	0.326	0.397	0.440	0.513	0.552	0.584	0.600
04-6074	0.024	0.031	0.037	0.052	0.081	0.121	0.155	0.175	0.188	0.211	0.227	0.274	0.312	0.359	0.400
04-6105	0.021	0.023	0.025	0.032	0.053	0.095	0.146	0.177	0.190	0.199	0.205	0.247	0.297	0.374	0.450
04-6115	0.056	0.057	0.059	0.063	0.070	0.080	0.087	0.092	0.095	0.104	0.110	0.121	0.128	0.135	0.139
04-6118	0.040	0.045	0.049	0.055	0.062	0.070	0.079	0.085	0.090	0.102	0.110	0.122	0.128	0.133	0.136
04-6136	0.033	0.049	0.062	0.090	0.128	0.180	0.265	0.329	0.374	0.456	0.503	0.589	0.637	0.678	0.700
04-6144	0.025	0.032	0.037	0.047	0.061	0.079	0.099	0.111	0.118	0.127	0.134	0.160	0.185	0.219	0.251
04-6162	0.033	0.050	0.063	0.092	0.128	0.171	0.231	0.284	0.321	0.378	0.421	0.533	0.628	0.756	0.870
04-6168	0.040	0.045	0.048	0.052	0.056	0.060	0.068	0.074	0.080	0.103	0.120	0.148	0.165	0.179	0.186
04-6175	0.040	0.061	0.076	0.100	0.119	0.140	0.177	0.204	0.220	0.242	0.258	0.307	0.349	0.402	0.449
04-6194	0.024	0.031	0.036	0.047	0.060	0.077	0.107	0.129	0.143	0.161	0.173	0.212	0.246	0.289	0.328
04-6197	0.051	0.058	0.062	0.072	0.086	0.102	0.115	0.123	0.128	0.139	0.146	0.160	0.168	0.177	0.183
04-6252	0.023	0.039	0.053	0.084	0.130	0.189	0.253	0.290	0.312	0.341	0.359	0.407	0.441	0.481	0.513
04-6305	0.023	0.035	0.043	0.060	0.082	0.100	0.105	0.107	0.110	0.121	0.130	0.150	0.163	0.179	0.191
04-6328	0.020	0.023	0.027	0.035	0.053	0.082	0.115	0.135	0.147	0.161	0.171	0.209	0.244	0.293	0.338
04-6336	0.022	0.032	0.040	0.055	0.074	0.098	0.126	0.145	0.160	0.195	0.222	0.284	0.328	0.379	0.419
04-6356	0.027	0.040	0.050	0.076	0.120	0.181	0.236	0.268	0.294	0.352	0.390	0.468	0.517	0.566	0.600
04-6370	0.021	0.035	0.045	0.068	0.096	0.130	0.169	0.196	0.217	0.264	0.303	0.412	0.504	0.625	0.736
04-6377	0.020	0.027	0.032	0.044	0.063	0.087	0.109	0.122	0.132	0.154	0.173	0.235	0.293	0.378	0.460
04-6379	0.036	0.044	0.049	0.058	0.065	0.074	0.097	0.119	0.137	0.178	0.211	0.297	0.364	0.448	0.520

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-6390	0.057	0.074	0.085	0.103	0.120	0.136	0.156	0.167	0.175	0.191	0.200	0.219	0.227	0.226	0.212
04-6455	0.027	0.040	0.050	0.069	0.092	0.118	0.150	0.171	0.188	0.226	0.256	0.334	0.395	0.471	0.537
04-6476	0.023	0.033	0.041	0.055	0.070	0.088	0.113	0.131	0.145	0.173	0.193	0.240	0.273	0.310	0.340
04-6498	0.024	0.041	0.056	0.090	0.143	0.210	0.275	0.309	0.328	0.349	0.364	0.420	0.471	0.539	0.600
04-6506	0.021	0.026	0.030	0.041	0.062	0.090	0.104	0.112	0.119	0.146	0.168	0.218	0.254	0.296	0.330
04-6508	0.025	0.039	0.049	0.069	0.093	0.120	0.151	0.172	0.189	0.229	0.257	0.319	0.361	0.406	0.440
04-6521	0.035	0.040	0.044	0.055	0.077	0.110	0.138	0.156	0.171	0.215	0.243	0.289	0.314	0.333	0.342
04-6597	0.027	0.039	0.048	0.067	0.089	0.120	0.194	0.257	0.295	0.338	0.367	0.455	0.527	0.619	0.700
04-6610	0.026	0.037	0.044	0.061	0.084	0.110	0.136	0.150	0.159	0.171	0.179	0.201	0.216	0.235	0.250
04-6624	0.020	0.027	0.032	0.045	0.069	0.100	0.122	0.134	0.143	0.161	0.176	0.221	0.260	0.312	0.360
04-6635	0.046	0.063	0.074	0.096	0.119	0.144	0.175	0.195	0.208	0.229	0.243	0.276	0.298	0.322	0.341
04-6646	0.024	0.030	0.035	0.045	0.062	0.083	0.096	0.103	0.109	0.123	0.134	0.165	0.191	0.224	0.254
04-6650	0.030	0.036	0.042	0.059	0.100	0.166	0.215	0.243	0.266	0.318	0.354	0.428	0.476	0.525	0.560
04-6657	0.070	0.094	0.114	0.160	0.237	0.350	0.496	0.592	0.650	0.728	0.780	0.928	1.042	1.181	1.300
04-6663	0.027	0.040	0.049	0.067	0.087	0.112	0.148	0.173	0.190	0.219	0.240	0.303	0.355	0.422	0.482
04-6675	0.015	0.023	0.028	0.039	0.052	0.067	0.086	0.099	0.110	0.130	0.146	0.185	0.214	0.246	0.263
04-6685	0.028	0.042	0.054	0.080	0.118	0.171	0.254	0.314	0.353	0.413	0.451	0.537	0.594	0.654	0.700
04-6699	0.054	0.055	0.057	0.060	0.068	0.076	0.079	0.081	0.083	0.094	0.104	0.130	0.150	0.177	0.200
04-6703	0.027	0.039	0.048	0.067	0.089	0.117	0.157	0.186	0.205	0.237	0.261	0.333	0.393	0.473	0.545
04-6719	0.043	0.064	0.080	0.114	0.157	0.212	0.294	0.352	0.394	0.467	0.520	0.659	0.764	0.892	1.000
04-6726	0.022	0.027	0.031	0.042	0.069	0.105	0.120	0.127	0.133	0.148	0.162	0.209	0.255	0.321	0.386
04-6730	0.029	0.041	0.051	0.071	0.100	0.136	0.177	0.202	0.221	0.255	0.280	0.355	0.418	0.501	0.575
04-6736	0.028	0.041	0.050	0.069	0.090	0.114	0.155	0.197	0.228	0.270	0.302	0.385	0.453	0.539	0.605
04-6742	0.025	0.035	0.043	0.060	0.084	0.117	0.164	0.197	0.216	0.241	0.259	0.321	0.378	0.455	0.526
04-6754	0.024	0.036	0.045	0.062	0.079	0.099	0.135	0.163	0.181	0.209	0.228	0.279	0.317	0.362	0.400
04-6826	0.026	0.033	0.039	0.053	0.077	0.109	0.138	0.156	0.169	0.195	0.213	0.252	0.277	0.304	0.324
04-6893	0.035	0.053	0.067	0.098	0.138	0.190	0.256	0.302	0.341	0.442	0.504	0.601	0.652	0.688	0.700
04-6910	0.036	0.058	0.076	0.120	0.188	0.283	0.401	0.481	0.539	0.647	0.721	0.896	1.017	1.152	1.259
04-6926	0.023	0.027	0.032	0.042	0.066	0.100	0.121	0.131	0.139	0.155	0.167	0.200	0.226	0.258	0.286
04-6940	0.033	0.051	0.064	0.092	0.125	0.170	0.250	0.312	0.351	0.406	0.445	0.563	0.660	0.787	0.900
04-6942	0.030	0.046	0.058	0.083	0.112	0.146	0.203	0.266	0.312	0.373	0.422	0.555	0.667	0.814	0.943
04-6943	0.024	0.024	0.025	0.027	0.043	0.080	0.116	0.139	0.159	0.204	0.238	0.320	0.380	0.450	0.507
04-6946	0.030	0.043	0.054	0.076	0.107	0.149	0.205	0.246	0.280	0.358	0.416	0.556	0.655	0.769	0.860
04-6960	0.021	0.029	0.035	0.050	0.076	0.114	0.162	0.193	0.211	0.234	0.250	0.298	0.337	0.387	0.430
04-6962	0.022	0.031	0.038	0.055	0.080	0.115	0.159	0.189	0.212	0.259	0.290	0.358	0.401	0.447	0.480
04-6964	0.018	0.022	0.027	0.038	0.066	0.108	0.132	0.144	0.153	0.170	0.183	0.230	0.275	0.339	0.400
04-6998	0.039	0.054	0.066	0.092	0.127	0.180	0.307	0.422	0.496	0.603	0.658	0.753	0.802	0.839	0.854
04-7009	0.016	0.026	0.033	0.052	0.075	0.105	0.144	0.172	0.193	0.241	0.278	0.373	0.449	0.539	0.606
04-7016	0.029	0.042	0.051	0.070	0.091	0.115	0.145	0.168	0.185	0.222	0.252	0.336	0.412	0.517	0.608
04-7024	0.033	0.048	0.060	0.083	0.111	0.146	0.202	0.242	0.270	0.317	0.350	0.431	0.489	0.556	0.610
04-7050	0.030	0.045	0.057	0.085	0.127	0.181	0.240	0.276	0.303	0.353	0.390	0.493	0.575	0.679	0.770
04-7077	0.018	0.026	0.032	0.044	0.058	0.074	0.095	0.112	0.124	0.146	0.164	0.207	0.240	0.274	0.289
04-7085	0.029	0.037	0.043	0.057	0.080	0.116	0.180	0.230	0.262	0.306	0.333	0.399	0.443	0.492	0.530
04-7096	0.040	0.063	0.080	0.118	0.167	0.228	0.311	0.367	0.405	0.467	0.508	0.608	0.678	0.757	0.820
04-7108	0.024	0.030	0.035	0.049	0.076	0.122	0.187	0.229	0.250	0.268	0.280	0.332	0.383	0.454	0.520
04-7109	0.023	0.033	0.041	0.061	0.098	0.150	0.205	0.236	0.250	0.262	0.270	0.315	0.364	0.434	0.500
04-7111	0.023	0.034	0.041	0.056	0.074	0.096	0.124	0.148	0.166	0.202	0.231	0.313	0.383	0.475	0.554
04-7123	0.031	0.047	0.059	0.082	0.108	0.136	0.175	0.206	0.230	0.273	0.308	0.407	0.496	0.618	0.724
04-7150	0.026	0.038	0.047	0.065	0.088	0.117	0.162	0.194	0.214	0.242	0.264	0.340	0.412	0.514	0.611
04-7195	0.025	0.028	0.032	0.042	0.072	0.131	0.196	0.239	0.271	0.344	0.371	0.378	0.381	0.382	0.382
04-7244	0.028	0.038	0.046	0.065	0.098	0.141	0.178	0.200	0.218	0.261	0.296	0.389	0.463	0.557	0.640
04-7253	0.022	0.030	0.037	0.051	0.073	0.100	0.127	0.141	0.149	0.158	0.165	0.193	0.221	0.260	0.295
04-7279	0.055	0.085	0.110	0.169	0.263	0.400	0.609	0.750	0.825	0.901	0.950	1.102	1.222	1.372	1.500
04-7292	0.029	0.034	0.039	0.049	0.067	0.094	0.131	0.156	0.172	0.193	0.208	0.254	0.291	0.339	0.382
04-7296	0.028	0.037	0.043	0.059	0.085	0.120	0.157	0.181	0.202	0.253	0.291	0.376	0.434	0.498	0.547

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-7304	0.030	0.039	0.045	0.060	0.081	0.109	0.147	0.173	0.192	0.225	0.249	0.309	0.354	0.406	0.450
04-7306	0.021	0.031	0.038	0.052	0.068	0.085	0.115	0.146	0.169	0.200	0.224	0.290	0.346	0.422	0.491
04-7339	0.022	0.032	0.039	0.056	0.081	0.112	0.137	0.152	0.165	0.197	0.220	0.267	0.297	0.328	0.350
04-7370	0.025	0.031	0.036	0.048	0.069	0.100	0.139	0.164	0.180	0.203	0.218	0.261	0.295	0.336	0.371
04-7404	0.029	0.042	0.054	0.084	0.145	0.232	0.299	0.337	0.368	0.449	0.497	0.574	0.614	0.645	0.657
04-7414	0.023	0.034	0.042	0.062	0.094	0.135	0.174	0.198	0.215	0.249	0.274	0.343	0.396	0.463	0.521
04-7446	0.025	0.033	0.038	0.050	0.066	0.084	0.096	0.103	0.110	0.133	0.150	0.181	0.199	0.217	0.228
04-7470	0.024	0.028	0.032	0.042	0.064	0.098	0.129	0.146	0.159	0.181	0.197	0.250	0.298	0.362	0.422
04-7473	0.019	0.028	0.034	0.047	0.060	0.075	0.098	0.118	0.133	0.159	0.180	0.238	0.289	0.358	0.418
04-7489	0.044	0.053	0.062	0.085	0.132	0.215	0.338	0.422	0.467	0.511	0.540	0.634	0.712	0.812	0.900
04-7516	0.023	0.033	0.039	0.053	0.068	0.087	0.114	0.133	0.146	0.168	0.184	0.228	0.262	0.304	0.340
04-7581	0.030	0.042	0.052	0.073	0.104	0.146	0.202	0.241	0.271	0.329	0.370	0.472	0.545	0.630	0.700
04-7600	0.052	0.085	0.111	0.167	0.238	0.330	0.454	0.543	0.615	0.785	0.901	1.131	1.273	1.410	1.500
04-7630	0.023	0.028	0.032	0.043	0.067	0.100	0.118	0.127	0.134	0.148	0.159	0.193	0.221	0.258	0.292
04-7633	0.026	0.030	0.034	0.045	0.074	0.110	0.118	0.121	0.124	0.132	0.140	0.173	0.209	0.263	0.316
04-7641	0.023	0.028	0.033	0.046	0.071	0.120	0.221	0.307	0.359	0.421	0.459	0.554	0.619	0.693	0.750
04-7643	0.023	0.030	0.036	0.051	0.081	0.130	0.185	0.222	0.250	0.310	0.349	0.430	0.480	0.530	0.564
04-7646	0.023	0.033	0.042	0.062	0.099	0.150	0.193	0.218	0.238	0.282	0.313	0.379	0.421	0.467	0.500
04-7656	0.022	0.025	0.028	0.034	0.046	0.064	0.086	0.100	0.111	0.129	0.144	0.191	0.234	0.293	0.350
04-7668	0.020	0.028	0.034	0.046	0.062	0.080	0.102	0.118	0.130	0.155	0.173	0.211	0.236	0.261	0.280
04-7669	0.024	0.029	0.033	0.042	0.054	0.070	0.088	0.101	0.110	0.131	0.145	0.175	0.195	0.215	0.230
04-7672	0.025	0.039	0.049	0.073	0.106	0.150	0.208	0.250	0.284	0.361	0.417	0.544	0.631	0.727	0.800
04-7689	0.036	0.047	0.056	0.076	0.106	0.150	0.236	0.296	0.320	0.330	0.336	0.376	0.421	0.483	0.540
04-7698	0.024	0.034	0.041	0.059	0.088	0.126	0.163	0.186	0.206	0.254	0.289	0.369	0.424	0.487	0.535
04-7711	0.031	0.052	0.069	0.110	0.168	0.250	0.387	0.478	0.513	0.529	0.541	0.640	0.766	0.961	1.154
04-7719	0.024	0.031	0.036	0.048	0.065	0.087	0.109	0.122	0.133	0.158	0.177	0.220	0.250	0.285	0.312
04-7723	0.038	0.044	0.049	0.061	0.081	0.110	0.146	0.172	0.193	0.242	0.278	0.364	0.424	0.494	0.550
04-7731	0.023	0.028	0.033	0.046	0.077	0.122	0.148	0.162	0.175	0.212	0.242	0.310	0.358	0.414	0.459
04-7734	0.024	0.036	0.045	0.065	0.092	0.127	0.175	0.208	0.233	0.279	0.313	0.411	0.491	0.594	0.687
04-7735	0.021	0.032	0.042	0.065	0.107	0.160	0.194	0.212	0.229	0.276	0.315	0.411	0.484	0.574	0.650
04-7755	0.034	0.048	0.058	0.079	0.109	0.143	0.171	0.186	0.200	0.236	0.260	0.302	0.326	0.347	0.360
04-7759	0.025	0.033	0.041	0.059	0.095	0.150	0.210	0.249	0.277	0.328	0.364	0.459	0.530	0.617	0.690
04-7762	0.030	0.044	0.055	0.081	0.120	0.170	0.222	0.255	0.281	0.338	0.381	0.485	0.559	0.648	0.720
04-7767	0.022	0.027	0.032	0.044	0.072	0.110	0.131	0.142	0.150	0.169	0.183	0.222	0.251	0.289	0.321
04-7769	0.022	0.030	0.036	0.051	0.077	0.110	0.130	0.141	0.150	0.174	0.192	0.229	0.254	0.280	0.300
04-7772	0.023	0.033	0.040	0.057	0.084	0.117	0.143	0.157	0.168	0.190	0.205	0.238	0.259	0.282	0.300
04-7776	0.037	0.060	0.078	0.119	0.175	0.250	0.352	0.422	0.469	0.548	0.600	0.728	0.817	0.919	1.000
04-7807	0.031	0.045	0.055	0.075	0.100	0.131	0.170	0.195	0.214	0.248	0.273	0.337	0.384	0.442	0.490
04-7813	0.045	0.050	0.055	0.067	0.089	0.120	0.149	0.168	0.184	0.223	0.253	0.327	0.382	0.449	0.504
04-7817	0.028	0.044	0.055	0.069	0.074	0.080	0.097	0.114	0.127	0.162	0.189	0.249	0.290	0.335	0.370
04-7821	0.024	0.036	0.045	0.060	0.076	0.091	0.101	0.106	0.110	0.121	0.131	0.159	0.183	0.215	0.244
04-7834	0.024	0.033	0.039	0.053	0.074	0.099	0.124	0.140	0.151	0.174	0.190	0.227	0.251	0.279	0.300
04-7837	0.030	0.044	0.055	0.080	0.118	0.170	0.234	0.278	0.315	0.401	0.464	0.604	0.699	0.802	0.880
04-7846	0.038	0.043	0.046	0.053	0.061	0.070	0.079	0.085	0.090	0.105	0.117	0.144	0.162	0.183	0.200
04-7851	0.027	0.040	0.051	0.074	0.106	0.150	0.207	0.248	0.281	0.356	0.411	0.536	0.622	0.717	0.790
04-7864	0.024	0.028	0.033	0.043	0.064	0.098	0.133	0.154	0.168	0.192	0.207	0.244	0.269	0.298	0.320
04-7867	0.024	0.032	0.039	0.055	0.087	0.130	0.161	0.178	0.193	0.228	0.255	0.326	0.380	0.448	0.506
04-7870	0.027	0.037	0.044	0.058	0.074	0.092	0.115	0.134	0.148	0.173	0.191	0.237	0.268	0.295	0.300
04-7876	0.030	0.046	0.057	0.074	0.087	0.100	0.114	0.123	0.131	0.155	0.176	0.233	0.280	0.343	0.400
04-7888	0.025	0.035	0.043	0.060	0.087	0.120	0.149	0.168	0.184	0.231	0.269	0.355	0.415	0.485	0.540
04-7891	0.035	0.041	0.045	0.057	0.077	0.109	0.165	0.207	0.229	0.250	0.265	0.324	0.381	0.461	0.536
04-7894	0.034	0.045	0.053	0.073	0.104	0.150	0.225	0.278	0.311	0.352	0.380	0.465	0.534	0.622	0.700
04-7902	0.024	0.032	0.038	0.054	0.082	0.120	0.151	0.171	0.190	0.258	0.319	0.467	0.581	0.722	0.840
04-7905	0.027	0.042	0.053	0.074	0.097	0.124	0.156	0.179	0.201	0.271	0.331	0.466	0.563	0.673	0.760
04-7916	0.027	0.040	0.051	0.074	0.109	0.151	0.190	0.213	0.230	0.264	0.289	0.355	0.406	0.467	0.520

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-7926	0.030	0.043	0.053	0.078	0.121	0.180	0.238	0.273	0.300	0.355	0.397	0.519	0.619	0.751	0.870
04-7933	0.025	0.039	0.049	0.072	0.100	0.140	0.217	0.282	0.332	0.436	0.502	0.627	0.700	0.764	0.800
04-7946	0.019	0.025	0.030	0.041	0.056	0.076	0.104	0.124	0.142	0.182	0.214	0.292	0.351	0.421	0.480
04-7965	0.022	0.026	0.030	0.038	0.051	0.070	0.100	0.123	0.140	0.171	0.190	0.231	0.256	0.282	0.300
04-7976	0.020	0.030	0.037	0.053	0.071	0.092	0.131	0.183	0.222	0.269	0.308	0.417	0.511	0.632	0.734
04-7987	0.030	0.056	0.076	0.110	0.135	0.160	0.204	0.236	0.258	0.291	0.317	0.404	0.484	0.595	0.699
04-8014	0.028	0.043	0.055	0.080	0.112	0.150	0.198	0.234	0.260	0.303	0.335	0.417	0.493	0.612	0.750
04-8025	0.019	0.027	0.032	0.044	0.060	0.080	0.107	0.126	0.142	0.178	0.204	0.266	0.310	0.360	0.400
04-8045	0.025	0.036	0.043	0.059	0.077	0.100	0.145	0.182	0.209	0.258	0.288	0.344	0.375	0.404	0.420
04-8068	0.029	0.041	0.051	0.072	0.105	0.148	0.189	0.214	0.232	0.266	0.291	0.360	0.414	0.481	0.540
04-8072	0.013	0.019	0.024	0.035	0.049	0.067	0.093	0.114	0.130	0.161	0.184	0.243	0.286	0.328	0.346
04-8105	0.040	0.061	0.078	0.120	0.194	0.300	0.404	0.469	0.522	0.645	0.729	0.902	1.011	1.122	1.200
04-8135	0.026	0.040	0.051	0.074	0.101	0.140	0.249	0.343	0.386	0.409	0.425	0.495	0.565	0.661	0.750
04-8163	0.022	0.029	0.034	0.044	0.056	0.073	0.116	0.156	0.182	0.218	0.242	0.306	0.353	0.410	0.457
04-8173	0.019	0.025	0.030	0.043	0.066	0.100	0.131	0.151	0.167	0.208	0.239	0.312	0.363	0.423	0.470
04-8175	0.041	0.046	0.050	0.058	0.067	0.081	0.131	0.178	0.200	0.213	0.221	0.247	0.268	0.293	0.315
04-8200	0.026	0.035	0.040	0.050	0.060	0.070	0.081	0.088	0.094	0.105	0.113	0.130	0.141	0.149	0.149
04-8207	0.056	0.057	0.058	0.061	0.109	0.250	0.449	0.588	0.655	0.713	0.745	0.828	0.882	0.942	0.989
04-8218	0.040	0.042	0.044	0.050	0.072	0.120	0.201	0.267	0.312	0.388	0.430	0.509	0.553	0.590	0.610
04-8243	0.030	0.053	0.070	0.100	0.124	0.150	0.201	0.241	0.271	0.323	0.362	0.475	0.569	0.691	0.800
04-8261	0.010	0.015	0.018	0.026	0.034	0.047	0.100	0.165	0.206	0.250	0.280	0.370	0.444	0.540	0.625
04-8272	0.024	0.030	0.035	0.049	0.075	0.120	0.187	0.236	0.267	0.307	0.337	0.450	0.562	0.727	0.890
04-8277	0.024	0.032	0.038	0.050	0.067	0.090	0.126	0.152	0.172	0.208	0.236	0.317	0.384	0.472	0.552
04-8317	0.051	0.064	0.073	0.094	0.122	0.162	0.223	0.268	0.300	0.360	0.400	0.491	0.552	0.618	0.668
04-8331	0.023	0.044	0.060	0.096	0.133	0.182	0.292	0.386	0.448	0.545	0.600	0.706	0.766	0.819	0.850
04-8338	0.014	0.022	0.027	0.038	0.050	0.064	0.084	0.103	0.116	0.137	0.153	0.193	0.223	0.255	0.269
04-8353	0.024	0.034	0.042	0.060	0.087	0.120	0.146	0.161	0.172	0.195	0.212	0.255	0.287	0.325	0.357
04-8355	0.028	0.034	0.038	0.050	0.071	0.105	0.159	0.196	0.215	0.232	0.242	0.269	0.288	0.310	0.328
04-8380	0.035	0.044	0.053	0.078	0.138	0.244	0.359	0.430	0.473	0.537	0.573	0.651	0.698	0.745	0.778
04-8406	0.030	0.045	0.057	0.080	0.108	0.143	0.197	0.232	0.250	0.268	0.280	0.315	0.341	0.373	0.400
04-8446	0.022	0.029	0.035	0.046	0.062	0.079	0.092	0.099	0.104	0.115	0.124	0.153	0.178	0.213	0.245
04-8460	0.020	0.030	0.038	0.056	0.085	0.125	0.171	0.198	0.214	0.233	0.246	0.290	0.328	0.378	0.423
04-8463	0.031	0.052	0.070	0.114	0.185	0.286	0.413	0.494	0.546	0.622	0.672	0.803	0.899	1.011	1.104
04-8476	0.055	0.079	0.100	0.153	0.257	0.422	0.621	0.746	0.821	0.920	0.985	1.165	1.300	1.463	1.600
04-8490	0.032	0.058	0.078	0.118	0.158	0.202	0.263	0.307	0.343	0.435	0.489	0.571	0.614	0.643	0.651
04-8557	0.019	0.026	0.031	0.038	0.043	0.049	0.059	0.067	0.073	0.088	0.099	0.121	0.135	0.149	0.159
04-8558	0.021	0.029	0.034	0.044	0.054	0.065	0.081	0.093	0.100	0.112	0.120	0.138	0.149	0.161	0.170
04-8560	0.018	0.025	0.030	0.039	0.049	0.060	0.074	0.083	0.090	0.102	0.110	0.127	0.137	0.147	0.155
04-8580	0.025	0.034	0.040	0.055	0.076	0.105	0.151	0.183	0.205	0.238	0.259	0.311	0.347	0.388	0.420
04-8587	0.025	0.032	0.038	0.050	0.068	0.090	0.110	0.122	0.131	0.150	0.165	0.216	0.265	0.333	0.399
04-8606	0.037	0.057	0.072	0.110	0.167	0.250	0.386	0.484	0.540	0.609	0.650	0.745	0.806	0.871	0.920
04-8680	0.023	0.032	0.039	0.057	0.092	0.130	0.138	0.141	0.145	0.161	0.175	0.210	0.237	0.271	0.300
04-8702	0.033	0.039	0.044	0.057	0.083	0.122	0.155	0.174	0.190	0.227	0.250	0.290	0.311	0.330	0.340
04-8703	0.013	0.019	0.023	0.033	0.045	0.062	0.093	0.117	0.135	0.166	0.186	0.233	0.264	0.298	0.323
04-8713	0.033	0.035	0.038	0.045	0.063	0.091	0.117	0.131	0.140	0.152	0.160	0.188	0.212	0.244	0.273
04-8752	0.023	0.031	0.037	0.048	0.062	0.080	0.101	0.114	0.125	0.148	0.163	0.196	0.217	0.240	0.256
04-8758	0.046	0.061	0.073	0.100	0.141	0.200	0.283	0.344	0.390	0.488	0.550	0.666	0.733	0.794	0.830
04-8826	0.035	0.039	0.043	0.054	0.079	0.119	0.161	0.186	0.200	0.217	0.229	0.280	0.331	0.404	0.474
04-8839	0.027	0.035	0.040	0.049	0.057	0.068	0.093	0.114	0.128	0.148	0.163	0.208	0.246	0.297	0.342
04-8873	0.027	0.030	0.033	0.040	0.055	0.078	0.099	0.112	0.120	0.136	0.144	0.157	0.163	0.168	0.170
04-8885	0.030	0.036	0.043	0.059	0.095	0.160	0.255	0.319	0.350	0.375	0.392	0.455	0.510	0.584	0.650
04-8892	0.033	0.051	0.064	0.085	0.105	0.120	0.126	0.129	0.131	0.137	0.142	0.157	0.170	0.186	0.200
04-8912	0.026	0.036	0.044	0.065	0.107	0.168	0.220	0.248	0.266	0.293	0.311	0.366	0.410	0.465	0.512
04-8914	0.025	0.037	0.047	0.070	0.108	0.160	0.219	0.256	0.281	0.324	0.352	0.414	0.455	0.498	0.530
04-8917	0.035	0.046	0.054	0.074	0.107	0.155	0.212	0.248	0.270	0.302	0.324	0.382	0.425	0.476	0.519

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-8928	0.035	0.037	0.041	0.050	0.080	0.142	0.214	0.259	0.281	0.302	0.315	0.363	0.404	0.458	0.506
04-8973	0.033	0.048	0.059	0.080	0.103	0.128	0.160	0.180	0.196	0.229	0.254	0.318	0.373	0.446	0.514
04-8992	0.032	0.049	0.062	0.091	0.130	0.182	0.249	0.297	0.335	0.421	0.483	0.623	0.715	0.814	0.889
04-8997	0.023	0.029	0.032	0.040	0.050	0.060	0.065	0.068	0.070	0.076	0.081	0.093	0.101	0.112	0.120
04-8999	0.020	0.025	0.028	0.034	0.043	0.052	0.056	0.058	0.060	0.069	0.076	0.088	0.095	0.101	0.105
04-9001	0.019	0.021	0.024	0.030	0.048	0.075	0.086	0.091	0.095	0.104	0.110	0.126	0.137	0.151	0.162
04-9026	0.025	0.030	0.034	0.043	0.060	0.081	0.097	0.106	0.113	0.128	0.141	0.183	0.223	0.280	0.334
04-9035	0.015	0.021	0.025	0.033	0.041	0.050	0.059	0.065	0.070	0.086	0.100	0.131	0.153	0.179	0.200
04-9043	0.030	0.038	0.044	0.058	0.079	0.114	0.192	0.264	0.315	0.404	0.455	0.551	0.605	0.651	0.675
04-9047	0.053	0.080	0.100	0.143	0.200	0.272	0.364	0.426	0.470	0.546	0.602	0.763	0.892	1.059	1.206
04-9053	0.020	0.025	0.028	0.035	0.043	0.053	0.066	0.074	0.080	0.089	0.095	0.110	0.121	0.134	0.144
04-9073	0.024	0.027	0.029	0.033	0.040	0.050	0.061	0.068	0.073	0.083	0.091	0.113	0.131	0.155	0.175
04-9087	0.029	0.047	0.059	0.080	0.096	0.113	0.143	0.165	0.180	0.203	0.222	0.295	0.371	0.485	0.600
04-9099	0.031	0.041	0.047	0.058	0.067	0.078	0.099	0.115	0.125	0.141	0.151	0.178	0.198	0.221	0.240
04-9105	0.034	0.045	0.054	0.077	0.115	0.177	0.278	0.351	0.395	0.449	0.483	0.577	0.647	0.731	0.800
04-9111	0.024	0.032	0.038	0.050	0.063	0.080	0.102	0.119	0.133	0.168	0.198	0.279	0.345	0.432	0.510
04-9120	0.049	0.076	0.096	0.132	0.167	0.207	0.275	0.323	0.354	0.398	0.429	0.527	0.610	0.718	0.815
04-9122	0.022	0.026	0.030	0.040	0.064	0.107	0.173	0.218	0.238	0.252	0.261	0.299	0.334	0.382	0.425
04-9124	0.023	0.026	0.030	0.040	0.069	0.124	0.185	0.224	0.248	0.284	0.307	0.366	0.408	0.457	0.496
04-9152	0.033	0.049	0.062	0.087	0.117	0.157	0.233	0.295	0.341	0.425	0.484	0.624	0.722	0.833	0.920
04-9158	0.027	0.036	0.044	0.064	0.101	0.160	0.238	0.293	0.336	0.424	0.483	0.610	0.691	0.775	0.835
04-9167	0.024	0.031	0.036	0.050	0.076	0.118	0.169	0.203	0.226	0.267	0.293	0.350	0.386	0.423	0.450
04-9173	0.021	0.031	0.038	0.053	0.073	0.100	0.135	0.160	0.180	0.226	0.260	0.338	0.392	0.453	0.500
04-9177	0.022	0.036	0.048	0.075	0.115	0.166	0.216	0.247	0.272	0.327	0.364	0.436	0.479	0.522	0.550
04-9185	0.026	0.033	0.039	0.054	0.090	0.140	0.168	0.181	0.188	0.197	0.203	0.236	0.271	0.321	0.368
04-9189	0.018	0.026	0.032	0.048	0.077	0.114	0.142	0.156	0.165	0.180	0.190	0.223	0.250	0.286	0.317
04-9200	0.019	0.025	0.030	0.044	0.077	0.125	0.153	0.167	0.176	0.193	0.204	0.230	0.247	0.266	0.280
04-9251	0.026	0.039	0.049	0.071	0.099	0.135	0.179	0.210	0.235	0.288	0.325	0.406	0.458	0.511	0.550
04-9273	0.025	0.030	0.035	0.049	0.084	0.151	0.225	0.276	0.317	0.414	0.479	0.611	0.693	0.772	0.824
04-9283	0.025	0.029	0.032	0.041	0.059	0.087	0.111	0.125	0.136	0.157	0.174	0.225	0.270	0.330	0.386
04-9325	0.023	0.030	0.035	0.044	0.053	0.063	0.082	0.093	0.098	0.100	0.102	0.125	0.160	0.217	0.279
04-9351	0.030	0.038	0.044	0.058	0.082	0.117	0.159	0.188	0.210	0.255	0.282	0.330	0.356	0.378	0.390
04-9367	0.027	0.033	0.038	0.049	0.067	0.090	0.108	0.118	0.124	0.134	0.142	0.171	0.198	0.235	0.269
04-9378	0.037	0.049	0.057	0.071	0.085	0.100	0.114	0.124	0.134	0.171	0.206	0.302	0.384	0.498	0.604
04-9386	0.030	0.034	0.038	0.048	0.066	0.100	0.176	0.244	0.284	0.327	0.357	0.454	0.537	0.648	0.750
04-9390	0.028	0.034	0.039	0.049	0.063	0.080	0.100	0.111	0.118	0.126	0.133	0.164	0.197	0.246	0.295
04-9423	0.022	0.031	0.038	0.054	0.077	0.107	0.138	0.157	0.170	0.192	0.205	0.233	0.249	0.266	0.278
04-9447	0.034	0.037	0.041	0.053	0.092	0.169	0.239	0.282	0.314	0.378	0.425	0.549	0.644	0.762	0.862
04-9452	0.021	0.024	0.026	0.032	0.042	0.058	0.078	0.091	0.100	0.115	0.125	0.153	0.175	0.202	0.225
04-9456	0.026	0.029	0.033	0.043	0.066	0.107	0.165	0.205	0.232	0.271	0.297	0.371	0.428	0.498	0.559
04-9473	0.024	0.034	0.042	0.060	0.091	0.123	0.136	0.142	0.147	0.159	0.169	0.204	0.236	0.281	0.323
04-9482	0.038	0.042	0.049	0.066	0.123	0.237	0.331	0.383	0.414	0.458	0.485	0.551	0.596	0.645	0.684
04-9490	0.030	0.035	0.039	0.049	0.066	0.089	0.113	0.129	0.142	0.176	0.200	0.252	0.285	0.321	0.347
04-9499	0.025	0.033	0.038	0.049	0.062	0.080	0.108	0.128	0.142	0.166	0.180	0.208	0.225	0.241	0.251
04-9512	0.033	0.043	0.049	0.063	0.080	0.100	0.122	0.136	0.147	0.170	0.189	0.241	0.284	0.340	0.390
04-9540	0.034	0.044	0.053	0.078	0.136	0.239	0.372	0.455	0.495	0.528	0.550	0.627	0.693	0.778	0.852
04-9560	0.018	0.024	0.028	0.036	0.047	0.060	0.078	0.090	0.100	0.123	0.140	0.176	0.200	0.225	0.244
04-9582	0.023	0.029	0.035	0.047	0.069	0.100	0.132	0.153	0.172	0.229	0.267	0.327	0.360	0.384	0.393
04-9599	0.019	0.026	0.031	0.042	0.054	0.070	0.089	0.102	0.112	0.133	0.148	0.181	0.201	0.224	0.240
04-9604	0.023	0.028	0.033	0.044	0.067	0.100	0.125	0.138	0.147	0.164	0.176	0.209	0.233	0.264	0.289
04-9621	0.030	0.045	0.057	0.080	0.106	0.140	0.204	0.253	0.285	0.329	0.361	0.464	0.554	0.676	0.789
04-9633	0.080	0.116	0.143	0.195	0.257	0.327	0.405	0.454	0.491	0.569	0.618	0.709	0.761	0.809	0.840
04-9660	0.023	0.034	0.042	0.061	0.086	0.120	0.165	0.197	0.223	0.282	0.325	0.424	0.493	0.570	0.630
04-9671	0.047	0.068	0.084	0.115	0.148	0.180	0.213	0.232	0.245	0.271	0.290	0.334	0.367	0.412	0.452
04-9677	0.018	0.024	0.029	0.040	0.058	0.080	0.100	0.111	0.120	0.139	0.151	0.174	0.188	0.201	0.210

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
04-9684	0.024	0.027	0.031	0.043	0.076	0.142	0.222	0.274	0.307	0.352	0.382	0.467	0.532	0.612	0.680
04-9699	0.016	0.022	0.026	0.036	0.048	0.065	0.087	0.103	0.116	0.145	0.167	0.218	0.255	0.297	0.330
04-9742	0.025	0.037	0.046	0.067	0.102	0.143	0.172	0.187	0.196	0.210	0.218	0.239	0.252	0.267	0.279
04-9754	0.034	0.044	0.051	0.069	0.099	0.138	0.173	0.194	0.210	0.247	0.272	0.323	0.355	0.387	0.410
04-9775	0.036	0.045	0.053	0.070	0.097	0.137	0.203	0.253	0.284	0.330	0.358	0.418	0.455	0.493	0.520
04-9781	0.024	0.031	0.036	0.049	0.071	0.100	0.124	0.138	0.148	0.168	0.181	0.212	0.232	0.255	0.272
04-9814	0.053	0.077	0.094	0.133	0.184	0.251	0.344	0.410	0.459	0.565	0.623	0.713	0.759	0.791	0.800
04-9847	0.024	0.029	0.034	0.047	0.076	0.120	0.155	0.175	0.192	0.232	0.264	0.352	0.424	0.517	0.600
04-9851	0.021	0.033	0.042	0.066	0.105	0.160	0.226	0.269	0.301	0.363	0.403	0.491	0.548	0.607	0.650
04-9855	0.040	0.046	0.053	0.069	0.106	0.170	0.249	0.300	0.328	0.360	0.380	0.442	0.490	0.549	0.600
04-9866	0.030	0.032	0.034	0.040	0.052	0.071	0.098	0.118	0.130	0.148	0.160	0.189	0.210	0.233	0.252
26-0150	0.022	0.030	0.035	0.043	0.050	0.058	0.068	0.075	0.080	0.090	0.096	0.107	0.114	0.119	0.123
26-0714	0.030	0.036	0.041	0.050	0.064	0.080	0.096	0.105	0.112	0.127	0.135	0.149	0.156	0.162	0.165
26-0718	0.028	0.040	0.046	0.054	0.056	0.058	0.064	0.070	0.074	0.085	0.094	0.111	0.122	0.134	0.143
26-1071	0.035	0.040	0.044	0.054	0.076	0.100	0.106	0.108	0.110	0.116	0.120	0.130	0.137	0.144	0.150
26-1485	0.024	0.030	0.035	0.047	0.066	0.095	0.140	0.171	0.190	0.218	0.230	0.248	0.256	0.262	0.263
26-2243	0.035	0.048	0.057	0.070	0.081	0.090	0.100	0.106	0.111	0.126	0.135	0.150	0.158	0.165	0.168
26-2394	0.011	0.016	0.019	0.025	0.032	0.041	0.054	0.066	0.075	0.090	0.101	0.131	0.154	0.176	0.179
26-2431	0.012	0.018	0.022	0.031	0.041	0.051	0.069	0.092	0.107	0.121	0.131	0.155	0.171	0.191	0.207
26-2840	0.017	0.023	0.026	0.032	0.039	0.045	0.055	0.063	0.069	0.078	0.084	0.100	0.112	0.122	0.121
26-3090	0.017	0.023	0.026	0.034	0.043	0.053	0.065	0.072	0.078	0.090	0.098	0.112	0.119	0.126	0.130
26-3205	0.030	0.046	0.057	0.078	0.097	0.120	0.169	0.210	0.238	0.286	0.320	0.410	0.478	0.562	0.632
26-3285	0.018	0.026	0.031	0.040	0.048	0.056	0.065	0.070	0.074	0.080	0.084	0.094	0.101	0.109	0.115
26-3515	0.020	0.033	0.041	0.054	0.062	0.070	0.084	0.093	0.100	0.113	0.120	0.130	0.135	0.139	0.140
26-3980	0.024	0.031	0.035	0.042	0.048	0.055	0.063	0.068	0.072	0.085	0.092	0.102	0.106	0.109	0.110
26-4349	0.028	0.031	0.034	0.039	0.049	0.060	0.065	0.068	0.070	0.075	0.078	0.085	0.089	0.093	0.096
26-4429	0.025	0.031	0.035	0.041	0.046	0.052	0.059	0.064	0.068	0.075	0.081	0.096	0.106	0.115	0.117
26-4436	0.036	0.041	0.044	0.050	0.056	0.063	0.070	0.075	0.079	0.090	0.098	0.113	0.123	0.132	0.139
26-4542	0.025	0.041	0.052	0.074	0.094	0.120	0.182	0.237	0.278	0.354	0.402	0.497	0.554	0.607	0.640
26-5168	0.025	0.033	0.038	0.046	0.055	0.064	0.073	0.079	0.083	0.092	0.098	0.111	0.119	0.125	0.123
26-5191	0.025	0.027	0.029	0.035	0.054	0.092	0.131	0.155	0.170	0.193	0.207	0.237	0.256	0.276	0.290
26-5441	0.030	0.035	0.041	0.055	0.088	0.148	0.221	0.269	0.298	0.337	0.362	0.429	0.477	0.534	0.581
26-5605	0.024	0.029	0.032	0.040	0.054	0.070	0.080	0.085	0.090	0.102	0.110	0.123	0.129	0.135	0.138
26-5890	0.021	0.028	0.033	0.041	0.049	0.056	0.065	0.071	0.075	0.083	0.089	0.103	0.111	0.119	0.121
26-5931	0.016	0.025	0.031	0.044	0.057	0.074	0.106	0.130	0.144	0.161	0.172	0.205	0.230	0.262	0.289
26-6691	0.045	0.057	0.065	0.077	0.087	0.098	0.113	0.123	0.130	0.145	0.155	0.177	0.191	0.206	0.218
26-6779	0.024	0.031	0.035	0.043	0.051	0.060	0.074	0.084	0.091	0.107	0.118	0.141	0.155	0.169	0.180
26-7261	0.024	0.029	0.033	0.041	0.051	0.064	0.085	0.101	0.111	0.128	0.138	0.159	0.172	0.185	0.194
26-7358	0.026	0.034	0.038	0.047	0.056	0.065	0.074	0.079	0.083	0.090	0.094	0.102	0.106	0.109	0.110
26-7369	0.040	0.056	0.065	0.080	0.090	0.100	0.111	0.119	0.125	0.142	0.153	0.173	0.184	0.194	0.200
26-7443	0.024	0.030	0.033	0.040	0.047	0.056	0.072	0.085	0.095	0.115	0.127	0.147	0.158	0.166	0.170
26-7463	0.005	0.008	0.009	0.012	0.015	0.019	0.029	0.047	0.059	0.067	0.072	0.084	0.091	0.095	0.089
26-7609	0.020	0.028	0.033	0.043	0.053	0.063	0.079	0.096	0.107	0.121	0.131	0.156	0.173	0.190	0.193
26-7612	0.021	0.027	0.031	0.038	0.047	0.055	0.064	0.070	0.074	0.082	0.087	0.097	0.102	0.107	0.110
26-7953	0.019	0.024	0.028	0.034	0.042	0.050	0.060	0.066	0.071	0.080	0.087	0.101	0.110	0.119	0.125
26-8034	0.021	0.027	0.031	0.038	0.045	0.052	0.060	0.064	0.067	0.074	0.079	0.090	0.096	0.100	0.099
26-8160	0.006	0.008	0.009	0.011	0.013	0.016	0.022	0.033	0.040	0.045	0.049	0.057	0.062	0.065	0.062
26-8170	0.006	0.008	0.009	0.011	0.013	0.016	0.023	0.033	0.040	0.045	0.049	0.057	0.063	0.066	0.062
26-8186	0.019	0.029	0.036	0.050	0.067	0.086	0.116	0.148	0.170	0.196	0.215	0.261	0.294	0.321	0.316
26-8761	0.026	0.035	0.042	0.056	0.073	0.094	0.118	0.135	0.147	0.174	0.193	0.232	0.256	0.282	0.300
26-8822	0.021	0.024	0.026	0.030	0.035	0.040	0.046	0.050	0.053	0.059	0.063	0.072	0.078	0.085	0.090
26-8838	0.015	0.020	0.023	0.029	0.034	0.040	0.048	0.054	0.059	0.067	0.073	0.088	0.098	0.106	0.103
26-8977	0.026	0.037	0.044	0.060	0.079	0.100	0.124	0.140	0.151	0.176	0.192	0.224	0.242	0.259	0.270
26-9229	0.023	0.028	0.031	0.037	0.044	0.050	0.057	0.061	0.064	0.070	0.073	0.080	0.084	0.088	0.090
35-0036	0.019	0.026	0.031	0.040	0.050	0.060	0.071	0.078	0.084	0.094	0.101	0.113	0.120	0.126	0.130

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
35-0118	0.054	0.062	0.067	0.075	0.083	0.090	0.096	0.100	0.103	0.108	0.110	0.115	0.117	0.119	0.120
35-0304	0.020	0.027	0.032	0.042	0.055	0.071	0.090	0.102	0.112	0.132	0.146	0.177	0.196	0.216	0.230
35-0853	0.038	0.040	0.043	0.048	0.059	0.072	0.082	0.087	0.091	0.099	0.106	0.129	0.151	0.180	0.208
35-1055	0.025	0.038	0.049	0.075	0.118	0.170	0.207	0.227	0.240	0.264	0.280	0.319	0.346	0.376	0.400
35-1149	0.033	0.039	0.043	0.054	0.073	0.100	0.130	0.149	0.161	0.178	0.190	0.226	0.255	0.292	0.324
35-1207	0.031	0.043	0.052	0.070	0.093	0.120	0.153	0.175	0.192	0.228	0.254	0.307	0.340	0.375	0.400
35-1448	0.037	0.042	0.047	0.060	0.088	0.137	0.197	0.238	0.265	0.308	0.336	0.400	0.443	0.490	0.525
35-1571	0.023	0.024	0.026	0.030	0.040	0.058	0.076	0.088	0.096	0.109	0.118	0.144	0.164	0.189	0.210
35-1574	0.015	0.020	0.024	0.031	0.040	0.051	0.066	0.080	0.090	0.108	0.122	0.160	0.189	0.219	0.225
35-1828	0.027	0.032	0.036	0.046	0.062	0.086	0.124	0.154	0.175	0.214	0.240	0.304	0.348	0.399	0.439
35-1946	0.033	0.040	0.048	0.069	0.128	0.220	0.255	0.273	0.292	0.370	0.435	0.563	0.647	0.736	0.800
35-2295	0.023	0.032	0.040	0.055	0.075	0.100	0.132	0.155	0.173	0.214	0.243	0.309	0.354	0.403	0.440
35-3232	0.025	0.033	0.039	0.051	0.065	0.080	0.097	0.108	0.116	0.133	0.144	0.166	0.179	0.192	0.200
35-3305	0.024	0.034	0.041	0.056	0.076	0.100	0.130	0.152	0.168	0.205	0.231	0.289	0.327	0.369	0.400
35-3356	0.026	0.038	0.047	0.068	0.095	0.130	0.175	0.206	0.231	0.286	0.326	0.414	0.472	0.534	0.580
35-3445	0.020	0.028	0.034	0.046	0.061	0.080	0.103	0.119	0.132	0.159	0.179	0.221	0.249	0.278	0.300
35-3509	0.030	0.035	0.039	0.049	0.071	0.104	0.135	0.154	0.170	0.207	0.230	0.270	0.293	0.312	0.322
35-3692	0.040	0.052	0.060	0.074	0.088	0.100	0.111	0.117	0.122	0.131	0.136	0.144	0.148	0.150	0.150
35-4060	0.023	0.032	0.040	0.057	0.086	0.120	0.141	0.152	0.162	0.195	0.219	0.263	0.289	0.314	0.330
35-4133	0.039	0.060	0.075	0.108	0.149	0.200	0.261	0.302	0.334	0.402	0.449	0.546	0.604	0.661	0.700
35-4216	0.020	0.027	0.033	0.044	0.058	0.076	0.098	0.113	0.124	0.149	0.167	0.207	0.232	0.260	0.280
35-4403	0.024	0.032	0.037	0.050	0.069	0.094	0.122	0.138	0.146	0.153	0.158	0.178	0.196	0.220	0.242
35-4426	0.017	0.024	0.031	0.047	0.068	0.096	0.138	0.175	0.203	0.253	0.292	0.394	0.475	0.560	0.581
35-4506	0.024	0.032	0.037	0.047	0.058	0.070	0.087	0.099	0.110	0.143	0.160	0.172	0.177	0.179	0.180
35-4511	0.020	0.024	0.028	0.035	0.046	0.060	0.070	0.075	0.080	0.092	0.100	0.118	0.129	0.142	0.151
35-4635	0.017	0.024	0.030	0.042	0.055	0.071	0.093	0.108	0.120	0.145	0.165	0.214	0.250	0.287	0.304
35-4670	0.025	0.031	0.035	0.043	0.051	0.062	0.082	0.096	0.105	0.116	0.123	0.144	0.161	0.182	0.200
35-4721	0.029	0.046	0.059	0.087	0.124	0.170	0.226	0.265	0.295	0.360	0.405	0.499	0.556	0.612	0.650
35-5055	0.028	0.038	0.045	0.060	0.078	0.100	0.127	0.145	0.160	0.191	0.213	0.260	0.292	0.325	0.350
35-5170	0.023	0.027	0.030	0.035	0.040	0.046	0.054	0.060	0.064	0.071	0.075	0.082	0.085	0.088	0.090
35-5174	0.020	0.023	0.025	0.030	0.039	0.050	0.060	0.066	0.070	0.076	0.080	0.088	0.092	0.097	0.100
35-5424	0.017	0.024	0.029	0.041	0.055	0.071	0.094	0.111	0.124	0.150	0.170	0.219	0.256	0.294	0.311
35-5429	0.023	0.031	0.036	0.048	0.062	0.080	0.102	0.116	0.128	0.153	0.170	0.208	0.233	0.260	0.280
35-5656	0.021	0.029	0.035	0.047	0.063	0.080	0.100	0.114	0.124	0.146	0.161	0.191	0.209	0.227	0.240
35-6426	0.021	0.029	0.035	0.046	0.058	0.072	0.092	0.109	0.121	0.142	0.159	0.200	0.231	0.261	0.262
35-6784	0.022	0.035	0.046	0.072	0.109	0.155	0.215	0.257	0.290	0.369	0.432	0.602	0.739	0.894	0.984
35-6795	0.036	0.061	0.082	0.133	0.201	0.286	0.394	0.466	0.524	0.655	0.761	1.051	1.294	1.577	1.746
35-6820	0.029	0.045	0.057	0.083	0.114	0.150	0.190	0.217	0.238	0.280	0.308	0.361	0.390	0.415	0.430
35-6907	0.020	0.029	0.036	0.051	0.070	0.093	0.126	0.150	0.169	0.208	0.239	0.319	0.380	0.445	0.476
35-7169	0.013	0.018	0.023	0.034	0.047	0.064	0.090	0.111	0.128	0.160	0.185	0.251	0.303	0.358	0.370
35-7171	0.020	0.028	0.034	0.046	0.061	0.080	0.103	0.119	0.132	0.159	0.179	0.221	0.249	0.278	0.300
35-7354	0.026	0.034	0.039	0.051	0.064	0.080	0.099	0.112	0.122	0.143	0.158	0.190	0.211	0.233	0.250
35-7391	0.018	0.026	0.032	0.044	0.060	0.078	0.103	0.122	0.137	0.165	0.186	0.240	0.281	0.323	0.340
35-7698	0.017	0.025	0.032	0.046	0.065	0.089	0.124	0.152	0.173	0.214	0.246	0.330	0.394	0.464	0.501
35-7848	0.020	0.029	0.036	0.052	0.074	0.102	0.139	0.163	0.177	0.196	0.209	0.243	0.268	0.297	0.321
35-8007	0.022	0.029	0.035	0.045	0.057	0.071	0.087	0.098	0.106	0.123	0.135	0.159	0.174	0.189	0.200
35-8173	0.030	0.041	0.050	0.067	0.088	0.113	0.140	0.159	0.173	0.201	0.222	0.273	0.310	0.348	0.364
35-8338	0.014	0.020	0.025	0.035	0.047	0.060	0.080	0.095	0.106	0.128	0.145	0.188	0.219	0.251	0.265
35-8514	0.015	0.022	0.028	0.040	0.055	0.074	0.100	0.120	0.136	0.168	0.193	0.258	0.307	0.360	0.386
35-8812	0.020	0.026	0.031	0.040	0.051	0.063	0.083	0.103	0.118	0.139	0.154	0.195	0.225	0.254	0.255
35-9390	0.021	0.030	0.038	0.055	0.077	0.105	0.146	0.179	0.204	0.249	0.284	0.372	0.441	0.512	0.527
35-9604	0.020	0.024	0.028	0.036	0.051	0.070	0.085	0.093	0.100	0.115	0.124	0.140	0.148	0.156	0.160
72-0001	0.024	0.034	0.041	0.059	0.084	0.123	0.194	0.252	0.296	0.384	0.434	0.516	0.559	0.590	0.600
72-0002	0.045	0.069	0.088	0.133	0.198	0.291	0.442	0.549	0.613	0.694	0.743	0.863	0.943	1.031	1.100
72-0004	0.024	0.025	0.026	0.030	0.045	0.072	0.097	0.112	0.121	0.134	0.144	0.184	0.225	0.284	0.343

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
72-0005	0.029	0.052	0.068	0.098	0.124	0.147	0.171	0.184	0.192	0.202	0.210	0.256	0.309	0.391	0.472
72-0006	0.050	0.065	0.080	0.120	0.211	0.376	0.590	0.725	0.791	0.853	0.887	0.969	1.020	1.075	1.116
72-0007	0.022	0.035	0.044	0.058	0.067	0.075	0.082	0.086	0.090	0.099	0.108	0.141	0.176	0.229	0.283
72-0009	0.022	0.031	0.038	0.054	0.078	0.112	0.166	0.202	0.219	0.232	0.240	0.277	0.312	0.360	0.404
72-0010	0.042	0.067	0.087	0.133	0.197	0.285	0.425	0.519	0.569	0.622	0.651	0.719	0.762	0.807	0.840
72-0011	0.034	0.041	0.047	0.061	0.086	0.121	0.153	0.171	0.182	0.198	0.210	0.249	0.284	0.329	0.370
72-0012	0.030	0.034	0.038	0.046	0.061	0.080	0.090	0.096	0.100	0.111	0.120	0.141	0.157	0.175	0.190
72-0014	0.048	0.056	0.065	0.093	0.172	0.336	0.548	0.683	0.747	0.803	0.834	0.910	0.959	1.012	1.052
72-0015	0.063	0.102	0.130	0.189	0.252	0.330	0.466	0.569	0.640	0.764	0.840	0.997	1.092	1.186	1.250
72-0016	0.021	0.031	0.038	0.047	0.052	0.056	0.065	0.072	0.077	0.089	0.100	0.134	0.166	0.211	0.254
72-0017	0.044	0.064	0.082	0.125	0.205	0.327	0.472	0.566	0.630	0.743	0.804	0.908	0.963	1.007	1.027
72-0018	0.038	0.047	0.054	0.071	0.103	0.149	0.196	0.222	0.236	0.251	0.261	0.300	0.335	0.381	0.423
72-0019	0.050	0.061	0.070	0.090	0.125	0.176	0.241	0.284	0.310	0.351	0.371	0.402	0.417	0.427	0.430
72-0021	0.042	0.046	0.051	0.065	0.114	0.210	0.284	0.325	0.352	0.397	0.426	0.498	0.548	0.605	0.650
72-0022	0.045	0.071	0.091	0.136	0.196	0.270	0.362	0.427	0.478	0.588	0.665	0.828	0.929	1.030	1.100
72-0025	0.030	0.040	0.047	0.055	0.060	0.064	0.074	0.080	0.082	0.083	0.084	0.098	0.118	0.151	0.183
72-0026	0.023	0.035	0.045	0.065	0.088	0.122	0.201	0.272	0.321	0.405	0.452	0.531	0.574	0.607	0.620
72-0027	0.035	0.053	0.066	0.092	0.119	0.150	0.194	0.222	0.237	0.253	0.264	0.315	0.368	0.443	0.514
72-0029	0.020	0.033	0.043	0.060	0.075	0.092	0.124	0.149	0.167	0.203	0.228	0.288	0.330	0.379	0.417
72-0030	0.019	0.026	0.031	0.042	0.054	0.070	0.089	0.102	0.112	0.133	0.148	0.181	0.201	0.224	0.240
72-0031	0.073	0.110	0.137	0.192	0.257	0.330	0.421	0.474	0.501	0.528	0.547	0.622	0.690	0.782	0.864
72-0034	0.054	0.085	0.109	0.157	0.211	0.282	0.433	0.545	0.599	0.641	0.665	0.735	0.785	0.843	0.890
72-0035	0.013	0.020	0.025	0.040	0.070	0.107	0.122	0.129	0.136	0.158	0.174	0.209	0.232	0.257	0.277
72-0036	0.024	0.033	0.039	0.052	0.069	0.090	0.116	0.133	0.147	0.177	0.198	0.247	0.281	0.320	0.350
72-0039	0.023	0.033	0.040	0.056	0.076	0.100	0.129	0.148	0.162	0.193	0.214	0.257	0.284	0.311	0.330
72-0040	0.028	0.037	0.043	0.058	0.080	0.110	0.146	0.169	0.182	0.200	0.212	0.248	0.276	0.310	0.340
72-0041	0.022	0.028	0.034	0.048	0.076	0.124	0.203	0.263	0.300	0.352	0.380	0.432	0.461	0.486	0.500
72-0043	0.033	0.049	0.062	0.096	0.154	0.244	0.374	0.461	0.511	0.572	0.606	0.683	0.730	0.778	0.813
79-1021	0.017	0.023	0.028	0.039	0.054	0.076	0.107	0.130	0.150	0.199	0.239	0.340	0.419	0.517	0.600
79-1075	0.019	0.027	0.033	0.046	0.064	0.090	0.127	0.156	0.180	0.239	0.286	0.408	0.503	0.620	0.720
79-1262	0.028	0.033	0.038	0.051	0.076	0.119	0.187	0.232	0.252	0.264	0.273	0.342	0.431	0.577	0.731
79-1335	0.019	0.028	0.035	0.051	0.072	0.100	0.147	0.184	0.210	0.254	0.287	0.383	0.463	0.568	0.662
79-1385	0.026	0.039	0.048	0.071	0.103	0.149	0.215	0.265	0.308	0.411	0.491	0.681	0.818	0.975	1.100
79-2001	0.022	0.031	0.038	0.053	0.073	0.100	0.136	0.162	0.183	0.232	0.269	0.357	0.420	0.492	0.550
79-2015	0.034	0.048	0.058	0.080	0.110	0.150	0.203	0.241	0.272	0.343	0.397	0.524	0.614	0.717	0.800
79-2017	0.032	0.049	0.062	0.089	0.120	0.156	0.231	0.336	0.413	0.491	0.554	0.729	0.881	1.085	1.273
79-2118	0.040	0.052	0.062	0.085	0.120	0.173	0.248	0.306	0.356	0.478	0.577	0.834	1.035	1.286	1.500
79-2222	0.020	0.029	0.036	0.050	0.065	0.081	0.108	0.134	0.153	0.181	0.204	0.265	0.317	0.387	0.451
79-2287	0.054	0.088	0.114	0.169	0.234	0.320	0.466	0.577	0.653	0.778	0.860	1.051	1.180	1.321	1.430
79-2357	0.043	0.048	0.053	0.065	0.086	0.120	0.163	0.194	0.220	0.280	0.327	0.440	0.523	0.620	0.700
79-2893	0.045	0.059	0.068	0.084	0.100	0.120	0.161	0.196	0.225	0.291	0.342	0.469	0.563	0.676	0.770
79-2996	0.034	0.043	0.050	0.063	0.079	0.100	0.137	0.168	0.194	0.255	0.304	0.430	0.527	0.647	0.750
79-3015	0.039	0.055	0.068	0.100	0.156	0.242	0.367	0.452	0.498	0.547	0.581	0.701	0.808	0.953	1.084
79-3023	0.021	0.031	0.038	0.052	0.068	0.086	0.116	0.147	0.170	0.202	0.226	0.293	0.349	0.425	0.495
79-3132	0.026	0.039	0.049	0.070	0.095	0.123	0.171	0.226	0.264	0.309	0.343	0.430	0.502	0.603	0.701
79-3259	0.050	0.065	0.078	0.110	0.172	0.273	0.412	0.509	0.571	0.663	0.724	0.883	0.998	1.134	1.245
79-3337	0.034	0.044	0.051	0.065	0.080	0.100	0.132	0.158	0.178	0.223	0.256	0.334	0.388	0.451	0.500
79-3355	0.022	0.029	0.035	0.047	0.063	0.084	0.113	0.134	0.152	0.192	0.224	0.301	0.357	0.425	0.480
79-6304	0.033	0.035	0.036	0.040	0.046	0.054	0.065	0.070	0.072	0.069	0.068	0.078	0.094	0.121	0.149
79-6383	0.023	0.035	0.045	0.067	0.101	0.140	0.171	0.186	0.196	0.210	0.220	0.248	0.270	0.297	0.320
79-9002	0.052	0.054	0.056	0.062	0.076	0.100	0.125	0.142	0.155	0.184	0.203	0.240	0.263	0.285	0.300
79-9004	0.034	0.046	0.052	0.064	0.074	0.085	0.100	0.112	0.121	0.135	0.145	0.171	0.190	0.212	0.229
79-9028	0.030	0.044	0.054	0.078	0.111	0.160	0.258	0.342	0.400	0.492	0.557	0.736	0.876	1.050	1.200
80-0198	0.015	0.020	0.025	0.035	0.052	0.076	0.107	0.128	0.144	0.176	0.201	0.275	0.337	0.421	0.498
80-0205	0.026	0.038	0.047	0.064	0.084	0.107	0.136	0.159	0.177	0.213	0.243	0.327	0.404	0.509	0.600

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
80-0208	0.030	0.045	0.056	0.079	0.104	0.133	0.187	0.255	0.305	0.370	0.424	0.579	0.714	0.889	1.036
80-0211	0.030	0.047	0.059	0.084	0.113	0.148	0.191	0.224	0.255	0.367	0.457	0.629	0.737	0.839	0.900
80-0221	0.026	0.036	0.043	0.058	0.077	0.100	0.128	0.147	0.162	0.194	0.217	0.265	0.297	0.330	0.354
80-0226	0.029	0.045	0.057	0.081	0.109	0.142	0.181	0.209	0.235	0.319	0.383	0.505	0.582	0.655	0.700
80-0227	0.042	0.064	0.081	0.116	0.160	0.211	0.297	0.398	0.474	0.574	0.657	0.894	1.101	1.372	1.602
80-0228	0.038	0.047	0.055	0.076	0.126	0.200	0.241	0.264	0.287	0.373	0.444	0.595	0.699	0.814	0.900
80-0229	0.035	0.051	0.064	0.093	0.138	0.200	0.271	0.318	0.356	0.440	0.500	0.634	0.725	0.824	0.900
80-0230	0.040	0.052	0.063	0.091	0.147	0.237	0.328	0.391	0.450	0.646	0.794	1.065	1.229	1.374	1.450
80-0231	0.040	0.063	0.081	0.118	0.163	0.223	0.337	0.429	0.493	0.602	0.674	0.847	0.965	1.097	1.200
80-0232	0.032	0.051	0.068	0.110	0.185	0.300	0.443	0.541	0.617	0.770	0.878	1.130	1.304	1.499	1.650
80-0233	0.030	0.039	0.048	0.070	0.121	0.200	0.253	0.283	0.310	0.389	0.451	0.593	0.693	0.808	0.900
80-0234	0.031	0.047	0.058	0.081	0.105	0.135	0.192	0.238	0.272	0.333	0.378	0.504	0.606	0.735	0.850
80-0236	0.041	0.055	0.067	0.096	0.147	0.222	0.301	0.355	0.400	0.516	0.600	0.777	0.893	1.014	1.100
80-0238	0.030	0.055	0.076	0.120	0.175	0.230	0.265	0.283	0.300	0.344	0.380	0.470	0.539	0.624	0.696
80-0242	0.041	0.062	0.078	0.111	0.148	0.199	0.318	0.424	0.500	0.628	0.711	0.899	1.023	1.154	1.250
80-0249	0.032	0.047	0.058	0.080	0.104	0.134	0.185	0.223	0.250	0.296	0.329	0.416	0.482	0.562	0.630
80-0251	0.038	0.061	0.078	0.110	0.143	0.180	0.224	0.254	0.280	0.347	0.400	0.523	0.612	0.716	0.800
80-0255	0.042	0.056	0.068	0.099	0.160	0.262	0.390	0.484	0.567	0.786	0.949	1.296	1.525	1.761	1.922
80-0256	0.024	0.035	0.043	0.057	0.070	0.087	0.123	0.155	0.177	0.216	0.245	0.325	0.389	0.469	0.540
80-0258	0.028	0.045	0.057	0.080	0.105	0.132	0.165	0.187	0.204	0.239	0.267	0.350	0.420	0.515	0.602
80-0259	0.039	0.058	0.071	0.097	0.128	0.162	0.204	0.234	0.257	0.305	0.343	0.453	0.553	0.693	0.819
80-0262	0.045	0.068	0.086	0.120	0.158	0.199	0.256	0.303	0.339	0.404	0.458	0.609	0.742	0.920	1.073
80-0310	0.025	0.038	0.048	0.068	0.091	0.119	0.158	0.188	0.213	0.276	0.327	0.456	0.555	0.677	0.780
80-0325	0.030	0.046	0.058	0.080	0.102	0.130	0.189	0.241	0.282	0.366	0.428	0.576	0.682	0.804	0.900
80-0334	0.026	0.040	0.050	0.071	0.094	0.126	0.190	0.244	0.283	0.351	0.397	0.510	0.589	0.679	0.750
80-0335	0.031	0.047	0.059	0.082	0.106	0.136	0.187	0.229	0.266	0.373	0.450	0.594	0.680	0.758	0.800
80-0338	0.030	0.046	0.058	0.083	0.112	0.146	0.193	0.226	0.251	0.302	0.342	0.455	0.548	0.670	0.780
80-0346	0.028	0.043	0.054	0.077	0.103	0.135	0.176	0.205	0.228	0.277	0.317	0.428	0.520	0.641	0.750
80-0349	0.016	0.023	0.027	0.037	0.047	0.060	0.087	0.125	0.153	0.185	0.212	0.289	0.356	0.445	0.522
80-0352	0.020	0.025	0.029	0.040	0.060	0.090	0.119	0.138	0.152	0.181	0.204	0.270	0.326	0.399	0.466
80-0361	0.027	0.039	0.047	0.064	0.083	0.105	0.133	0.154	0.170	0.204	0.231	0.309	0.378	0.473	0.557
80-0376	0.030	0.043	0.053	0.072	0.094	0.123	0.173	0.215	0.250	0.336	0.400	0.539	0.632	0.730	0.800
80-0380	0.015	0.021	0.026	0.034	0.044	0.055	0.079	0.113	0.137	0.168	0.193	0.267	0.331	0.416	0.488
80-0386	0.033	0.045	0.055	0.075	0.101	0.140	0.214	0.277	0.325	0.419	0.483	0.627	0.723	0.825	0.900
80-0387	0.015	0.021	0.025	0.034	0.043	0.054	0.078	0.111	0.136	0.166	0.191	0.262	0.325	0.406	0.477
80-0389	0.033	0.044	0.052	0.070	0.094	0.130	0.198	0.256	0.300	0.390	0.450	0.578	0.660	0.743	0.800
80-0390	0.033	0.049	0.062	0.090	0.126	0.180	0.295	0.402	0.488	0.674	0.800	1.054	1.212	1.360	1.450
80-0393	0.034	0.047	0.057	0.080	0.111	0.156	0.225	0.277	0.315	0.382	0.429	0.552	0.645	0.756	0.850
80-0398	0.038	0.053	0.064	0.085	0.110	0.140	0.176	0.202	0.225	0.289	0.342	0.473	0.573	0.696	0.800
80-0402	0.028	0.041	0.050	0.067	0.084	0.103	0.134	0.156	0.172	0.199	0.218	0.267	0.302	0.345	0.380
80-0406	0.016	0.022	0.027	0.036	0.046	0.057	0.084	0.121	0.149	0.181	0.209	0.287	0.355	0.445	0.522
80-0407	0.015	0.022	0.026	0.035	0.044	0.056	0.080	0.115	0.140	0.170	0.194	0.264	0.325	0.405	0.475
80-0408	0.024	0.034	0.042	0.057	0.075	0.097	0.129	0.159	0.181	0.219	0.250	0.337	0.412	0.512	0.600
80-0409	0.020	0.027	0.031	0.040	0.049	0.061	0.098	0.134	0.159	0.196	0.222	0.301	0.366	0.453	0.531
80-0410	0.015	0.021	0.026	0.034	0.044	0.055	0.081	0.116	0.143	0.174	0.200	0.275	0.340	0.426	0.499
80-0411	0.024	0.035	0.042	0.057	0.075	0.096	0.124	0.148	0.166	0.202	0.232	0.317	0.393	0.496	0.584
80-0415	0.021	0.030	0.037	0.052	0.072	0.100	0.137	0.165	0.187	0.240	0.278	0.358	0.409	0.462	0.500
80-0416	0.020	0.027	0.031	0.041	0.052	0.068	0.111	0.153	0.181	0.221	0.250	0.335	0.406	0.497	0.580
80-0421	0.030	0.046	0.057	0.078	0.096	0.120	0.180	0.236	0.280	0.371	0.429	0.541	0.607	0.666	0.700
80-0436	0.024	0.036	0.044	0.059	0.075	0.092	0.116	0.138	0.153	0.176	0.194	0.240	0.276	0.321	0.353
80-0438	0.023	0.034	0.041	0.056	0.073	0.092	0.116	0.132	0.145	0.172	0.193	0.253	0.308	0.394	0.491
80-0439	0.029	0.042	0.052	0.071	0.093	0.118	0.149	0.170	0.187	0.222	0.250	0.333	0.405	0.501	0.590
81-0001	0.021	0.031	0.037	0.052	0.070	0.093	0.120	0.138	0.153	0.188	0.212	0.262	0.294	0.327	0.350
81-0002	0.024	0.035	0.042	0.058	0.078	0.100	0.126	0.144	0.157	0.184	0.203	0.241	0.263	0.285	0.300
81-0003	0.025	0.036	0.043	0.059	0.078	0.100	0.126	0.143	0.156	0.183	0.202	0.240	0.262	0.285	0.300

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
81-0012	0.030	0.032	0.035	0.041	0.057	0.082	0.105	0.119	0.131	0.160	0.179	0.217	0.241	0.264	0.280
81-0014	0.023	0.035	0.043	0.059	0.074	0.090	0.108	0.119	0.127	0.142	0.153	0.178	0.194	0.213	0.228
81-0019	0.023	0.033	0.041	0.057	0.077	0.100	0.127	0.144	0.158	0.186	0.205	0.243	0.265	0.286	0.300
81-0020	0.023	0.033	0.041	0.057	0.077	0.100	0.127	0.144	0.158	0.186	0.205	0.243	0.265	0.286	0.300
81-0021	0.023	0.034	0.041	0.057	0.077	0.100	0.127	0.145	0.158	0.187	0.205	0.242	0.264	0.285	0.300
81-0023	0.023	0.033	0.041	0.057	0.077	0.100	0.127	0.144	0.158	0.186	0.205	0.243	0.265	0.286	0.300
81-0024	0.026	0.035	0.042	0.060	0.092	0.133	0.161	0.175	0.187	0.213	0.230	0.264	0.285	0.305	0.320
81-0025	0.028	0.045	0.057	0.083	0.114	0.150	0.190	0.215	0.234	0.275	0.299	0.343	0.367	0.388	0.400
81-0029	0.020	0.029	0.036	0.050	0.066	0.080	0.094	0.103	0.109	0.121	0.129	0.141	0.146	0.149	0.150
81-0030	0.022	0.034	0.043	0.060	0.078	0.100	0.136	0.162	0.180	0.212	0.231	0.270	0.293	0.315	0.330
81-0037	0.026	0.039	0.049	0.069	0.094	0.120	0.143	0.156	0.166	0.190	0.207	0.241	0.262	0.284	0.300
81-0038	0.024	0.035	0.044	0.062	0.089	0.120	0.146	0.161	0.174	0.206	0.227	0.267	0.291	0.315	0.330
81-0040	0.026	0.037	0.045	0.064	0.093	0.130	0.170	0.194	0.210	0.236	0.250	0.273	0.286	0.295	0.300
81-0044	0.023	0.033	0.041	0.057	0.077	0.100	0.127	0.144	0.158	0.186	0.205	0.243	0.265	0.286	0.300
81-0055	0.024	0.034	0.042	0.056	0.072	0.090	0.107	0.117	0.127	0.154	0.176	0.226	0.261	0.302	0.335
81-0060	0.024	0.029	0.033	0.045	0.076	0.120	0.140	0.148	0.150	0.147	0.145	0.158	0.177	0.207	0.235
81-0068	0.027	0.030	0.034	0.046	0.084	0.154	0.207	0.233	0.241	0.245	0.247	0.251	0.253	0.256	0.257
82-0201	0.026	0.044	0.060	0.108	0.224	0.403	0.515	0.573	0.620	0.725	0.800	0.974	1.095	1.232	1.340
83-6004	0.030	0.041	0.051	0.075	0.122	0.193	0.257	0.296	0.328	0.404	0.450	0.524	0.563	0.593	0.606
83-6009	0.041	0.061	0.077	0.109	0.150	0.200	0.259	0.299	0.333	0.420	0.477	0.575	0.630	0.676	0.700
83-6010	0.051	0.073	0.090	0.127	0.178	0.250	0.376	0.473	0.536	0.637	0.693	0.799	0.858	0.910	0.940
83-6014	0.023	0.036	0.046	0.064	0.086	0.105	0.115	0.120	0.125	0.149	0.169	0.210	0.237	0.268	0.291
83-6015	0.032	0.049	0.061	0.086	0.116	0.150	0.187	0.212	0.231	0.268	0.293	0.340	0.365	0.387	0.400
83-6017	0.035	0.054	0.067	0.095	0.126	0.164	0.217	0.254	0.282	0.339	0.372	0.430	0.461	0.487	0.500
83-6020	0.026	0.036	0.043	0.061	0.091	0.127	0.147	0.158	0.170	0.220	0.260	0.329	0.370	0.408	0.430
83-6021	0.029	0.047	0.060	0.088	0.122	0.160	0.203	0.228	0.245	0.276	0.290	0.307	0.314	0.319	0.320
83-6022	0.023	0.035	0.044	0.061	0.079	0.100	0.126	0.142	0.154	0.174	0.188	0.229	0.261	0.302	0.337
83-6023	0.023	0.034	0.042	0.058	0.078	0.100	0.125	0.142	0.155	0.181	0.198	0.232	0.251	0.269	0.280
83-6024	0.029	0.043	0.052	0.073	0.100	0.133	0.177	0.209	0.233	0.280	0.315	0.399	0.460	0.525	0.557
83-6026	0.036	0.055	0.069	0.099	0.137	0.180	0.229	0.262	0.287	0.338	0.373	0.439	0.476	0.510	0.530
83-6032	0.039	0.059	0.074	0.108	0.153	0.210	0.286	0.338	0.374	0.438	0.479	0.569	0.626	0.686	0.730
83-6038	0.046	0.071	0.089	0.129	0.179	0.240	0.312	0.360	0.397	0.479	0.529	0.614	0.661	0.700	0.720
83-6039	0.043	0.065	0.082	0.118	0.165	0.220	0.286	0.331	0.366	0.439	0.489	0.592	0.652	0.711	0.750
83-6041	0.034	0.048	0.059	0.080	0.108	0.140	0.169	0.186	0.197	0.218	0.230	0.254	0.268	0.281	0.290
83-6052	0.024	0.036	0.044	0.059	0.074	0.090	0.107	0.117	0.124	0.137	0.147	0.175	0.197	0.226	0.250
83-6054	0.024	0.033	0.039	0.051	0.065	0.080	0.098	0.109	0.118	0.136	0.147	0.168	0.181	0.192	0.200
83-6055	0.051	0.078	0.099	0.142	0.197	0.260	0.333	0.382	0.420	0.498	0.550	0.654	0.712	0.766	0.800
83-6056	0.024	0.035	0.042	0.058	0.077	0.100	0.127	0.144	0.157	0.187	0.203	0.227	0.240	0.248	0.250
83-6057	0.024	0.035	0.042	0.058	0.077	0.100	0.127	0.144	0.157	0.185	0.203	0.235	0.253	0.269	0.278
83-6083	0.024	0.035	0.043	0.058	0.073	0.090	0.111	0.126	0.137	0.163	0.180	0.214	0.235	0.256	0.270
83-6085	0.023	0.033	0.041	0.057	0.077	0.100	0.127	0.144	0.158	0.186	0.205	0.243	0.265	0.286	0.300
83-6086	0.024	0.032	0.038	0.050	0.069	0.090	0.105	0.113	0.121	0.146	0.167	0.213	0.245	0.282	0.312
83-6088	0.030	0.043	0.053	0.075	0.110	0.150	0.177	0.192	0.206	0.255	0.287	0.334	0.359	0.377	0.384
83-6094	0.040	0.048	0.056	0.078	0.134	0.237	0.344	0.410	0.455	0.535	0.576	0.641	0.674	0.697	0.705
83-6097	0.032	0.046	0.056	0.078	0.105	0.140	0.188	0.223	0.250	0.309	0.350	0.434	0.487	0.542	0.580
83-6100	0.029	0.041	0.051	0.073	0.108	0.151	0.188	0.210	0.228	0.271	0.304	0.385	0.445	0.517	0.577
83-6102	0.025	0.037	0.045	0.063	0.085	0.110	0.140	0.160	0.175	0.207	0.228	0.270	0.296	0.322	0.340
84-0135	0.038	0.057	0.072	0.105	0.148	0.200	0.264	0.309	0.343	0.418	0.470	0.579	0.646	0.713	0.760
84-0934	0.025	0.039	0.051	0.076	0.116	0.159	0.181	0.193	0.205	0.251	0.288	0.362	0.411	0.462	0.500
84-0969	0.033	0.052	0.067	0.098	0.137	0.180	0.228	0.260	0.284	0.334	0.366	0.427	0.459	0.486	0.500
84-2057	0.035	0.063	0.083	0.120	0.150	0.180	0.224	0.255	0.278	0.330	0.360	0.405	0.428	0.444	0.450
84-3435	0.023	0.033	0.040	0.056	0.076	0.100	0.128	0.147	0.162	0.193	0.214	0.258	0.285	0.312	0.330
84-3941	0.029	0.038	0.044	0.060	0.084	0.119	0.167	0.198	0.218	0.247	0.263	0.295	0.314	0.331	0.342
84-4277	0.030	0.035	0.040	0.053	0.081	0.129	0.178	0.211	0.237	0.298	0.335	0.401	0.437	0.467	0.483
84-4502	0.034	0.038	0.043	0.057	0.105	0.200	0.273	0.311	0.334	0.365	0.387	0.460	0.522	0.605	0.678

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
84-4652	0.045	0.075	0.097	0.135	0.165	0.198	0.260	0.302	0.322	0.337	0.348	0.405	0.465	0.552	0.634
84-5647	0.033	0.051	0.065	0.093	0.128	0.170	0.219	0.252	0.277	0.331	0.367	0.437	0.480	0.522	0.550
84-5996	0.038	0.060	0.077	0.112	0.157	0.210	0.268	0.303	0.328	0.371	0.400	0.467	0.512	0.561	0.600
84-6187	0.029	0.045	0.056	0.082	0.114	0.150	0.192	0.220	0.241	0.285	0.315	0.372	0.404	0.433	0.450
84-6188	0.036	0.037	0.039	0.043	0.072	0.142	0.213	0.256	0.283	0.324	0.345	0.382	0.402	0.417	0.425
84-6290	0.030	0.043	0.052	0.072	0.097	0.130	0.181	0.218	0.244	0.296	0.323	0.364	0.384	0.397	0.400
84-6292	0.018	0.028	0.035	0.050	0.069	0.092	0.125	0.152	0.173	0.213	0.243	0.322	0.382	0.443	0.454
84-6792	0.026	0.036	0.043	0.060	0.086	0.117	0.144	0.159	0.172	0.201	0.223	0.273	0.308	0.349	0.381
84-6833	0.028	0.035	0.040	0.054	0.082	0.120	0.148	0.164	0.178	0.215	0.242	0.298	0.335	0.374	0.403
84-6853	0.036	0.042	0.049	0.068	0.121	0.207	0.263	0.287	0.293	0.290	0.288	0.315	0.355	0.417	0.475
84-7027	0.025	0.026	0.027	0.031	0.054	0.096	0.109	0.115	0.120	0.138	0.149	0.164	0.171	0.176	0.177
84-7028	0.026	0.039	0.049	0.071	0.099	0.132	0.178	0.214	0.242	0.296	0.340	0.453	0.541	0.632	0.649
84-7088	0.033	0.036	0.039	0.048	0.073	0.118	0.161	0.188	0.206	0.242	0.260	0.285	0.297	0.305	0.307
84-7707	0.029	0.035	0.041	0.059	0.110	0.191	0.239	0.259	0.264	0.261	0.260	0.284	0.320	0.376	0.428
84-7880	0.036	0.055	0.069	0.099	0.137	0.180	0.224	0.250	0.270	0.315	0.339	0.372	0.388	0.398	0.400
84-7881	0.023	0.036	0.045	0.066	0.094	0.129	0.170	0.198	0.220	0.271	0.309	0.398	0.461	0.534	0.592
84-8286	0.024	0.036	0.044	0.061	0.079	0.100	0.130	0.152	0.169	0.210	0.237	0.287	0.317	0.344	0.360
84-8351	0.025	0.038	0.049	0.070	0.097	0.130	0.182	0.215	0.228	0.235	0.240	0.273	0.312	0.368	0.420
84-8353	0.022	0.031	0.039	0.059	0.098	0.160	0.237	0.289	0.325	0.389	0.426	0.498	0.539	0.577	0.600
84-8374	0.030	0.044	0.055	0.077	0.105	0.140	0.182	0.211	0.233	0.280	0.313	0.383	0.426	0.469	0.500
84-8376	0.024	0.034	0.040	0.054	0.070	0.090	0.113	0.128	0.141	0.172	0.193	0.234	0.259	0.284	0.300
84-8500	0.023	0.034	0.042	0.060	0.082	0.110	0.148	0.173	0.189	0.214	0.229	0.264	0.286	0.310	0.328
84-8634	0.031	0.050	0.064	0.095	0.135	0.180	0.232	0.267	0.294	0.350	0.387	0.458	0.497	0.530	0.550
84-8920	0.035	0.054	0.069	0.100	0.138	0.180	0.228	0.259	0.283	0.332	0.364	0.425	0.457	0.484	0.500
84-8922	0.035	0.054	0.069	0.100	0.138	0.180	0.228	0.259	0.283	0.332	0.364	0.425	0.457	0.484	0.500
84-8943	0.035	0.054	0.069	0.100	0.138	0.180	0.228	0.259	0.283	0.332	0.364	0.425	0.457	0.484	0.500
84-8954	0.025	0.036	0.044	0.061	0.083	0.110	0.142	0.164	0.180	0.216	0.241	0.293	0.325	0.357	0.380
84-9770	0.039	0.059	0.074	0.108	0.156	0.210	0.253	0.276	0.292	0.322	0.342	0.386	0.415	0.446	0.470
85-0006	0.039	0.056	0.069	0.096	0.130	0.170	0.217	0.249	0.274	0.325	0.361	0.434	0.477	0.520	0.550
85-0007	0.023	0.034	0.042	0.058	0.078	0.100	0.125	0.142	0.155	0.181	0.198	0.232	0.251	0.269	0.280
85-0013	0.024	0.031	0.037	0.050	0.074	0.105	0.132	0.146	0.157	0.178	0.190	0.214	0.228	0.241	0.250
85-0014	0.030	0.033	0.038	0.050	0.083	0.140	0.181	0.203	0.220	0.257	0.280	0.326	0.354	0.382	0.400
89-0041	0.039	0.059	0.073	0.102	0.132	0.171	0.267	0.349	0.400	0.462	0.505	0.635	0.741	0.878	1.000
89-0051	0.017	0.027	0.036	0.056	0.087	0.132	0.192	0.233	0.260	0.302	0.330	0.408	0.467	0.539	0.600
89-0099	0.019	0.028	0.034	0.047	0.061	0.079	0.105	0.132	0.151	0.183	0.208	0.278	0.337	0.415	0.485
89-0215	0.028	0.038	0.044	0.057	0.072	0.090	0.111	0.124	0.134	0.155	0.170	0.209	0.237	0.271	0.300
89-0221	0.032	0.041	0.048	0.060	0.074	0.090	0.105	0.114	0.121	0.134	0.142	0.155	0.161	0.167	0.170
89-0239	0.018	0.025	0.031	0.045	0.062	0.082	0.110	0.131	0.147	0.178	0.202	0.262	0.306	0.353	0.375
89-0245	0.025	0.035	0.042	0.058	0.078	0.104	0.134	0.155	0.172	0.212	0.243	0.327	0.392	0.465	0.505
90-0011	0.043	0.054	0.062	0.080	0.106	0.147	0.225	0.287	0.327	0.382	0.420	0.533	0.624	0.740	0.843
90-0034	0.075	0.086	0.093	0.105	0.117	0.130	0.149	0.161	0.170	0.185	0.197	0.231	0.259	0.294	0.325
90-0035	0.033	0.049	0.061	0.085	0.112	0.141	0.182	0.217	0.242	0.288	0.324	0.423	0.509	0.625	0.727
90-0057	0.045	0.061	0.073	0.098	0.133	0.172	0.205	0.224	0.238	0.266	0.284	0.324	0.351	0.379	0.400
90-0062	0.037	0.056	0.070	0.099	0.132	0.173	0.239	0.290	0.328	0.404	0.460	0.596	0.693	0.807	0.900
90-0089	0.043	0.059	0.070	0.095	0.128	0.170	0.224	0.262	0.293	0.362	0.412	0.529	0.609	0.699	0.770
90-0090	0.043	0.064	0.079	0.111	0.146	0.194	0.292	0.372	0.422	0.491	0.534	0.639	0.710	0.789	0.850
90-0102	0.034	0.042	0.048	0.060	0.078	0.100	0.118	0.130	0.141	0.177	0.210	0.294	0.362	0.451	0.530
90-0124	0.027	0.036	0.042	0.056	0.075	0.100	0.134	0.158	0.179	0.226	0.263	0.352	0.418	0.496	0.560
90-0151	0.027	0.034	0.040	0.052	0.072	0.100	0.127	0.144	0.160	0.203	0.238	0.325	0.391	0.472	0.540
90-0152	0.038	0.044	0.049	0.060	0.075	0.097	0.138	0.171	0.193	0.226	0.251	0.339	0.422	0.542	0.659
90-0155	0.026	0.034	0.039	0.052	0.068	0.090	0.119	0.141	0.158	0.199	0.230	0.307	0.364	0.431	0.487
90-0157	0.052	0.060	0.067	0.084	0.115	0.159	0.203	0.231	0.252	0.293	0.323	0.404	0.466	0.544	0.610
90-0178	0.020	0.027	0.032	0.044	0.059	0.080	0.108	0.129	0.146	0.186	0.217	0.293	0.349	0.415	0.470
90-0199	0.046	0.069	0.085	0.117	0.153	0.195	0.254	0.294	0.322	0.365	0.400	0.525	0.647	0.826	1.000
90-0212	0.035	0.042	0.047	0.060	0.080	0.110	0.148	0.176	0.199	0.252	0.293	0.392	0.464	0.550	0.620

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
90-0216	0.040	0.053	0.061	0.078	0.097	0.119	0.153	0.176	0.193	0.223	0.243	0.293	0.328	0.368	0.400
90-0217	0.037	0.051	0.061	0.082	0.107	0.142	0.219	0.285	0.330	0.399	0.447	0.577	0.676	0.797	0.900
90-0222	0.042	0.052	0.060	0.077	0.103	0.133	0.151	0.161	0.168	0.185	0.196	0.221	0.238	0.256	0.270
90-0224	0.086	0.100	0.109	0.130	0.158	0.194	0.236	0.267	0.293	0.365	0.420	0.535	0.610	0.691	0.750
90-0233	0.048	0.062	0.074	0.099	0.138	0.195	0.278	0.337	0.373	0.424	0.458	0.554	0.627	0.716	0.792
90-0248	0.032	0.037	0.041	0.052	0.075	0.110	0.144	0.167	0.187	0.239	0.280	0.382	0.459	0.552	0.630
90-0250	0.028	0.033	0.036	0.045	0.059	0.080	0.107	0.127	0.144	0.183	0.213	0.287	0.341	0.406	0.460
92-0030	0.062	0.082	0.095	0.118	0.139	0.160	0.183	0.197	0.208	0.229	0.245	0.280	0.304	0.330	0.344
92-0120	0.035	0.049	0.060	0.084	0.118	0.164	0.226	0.270	0.300	0.353	0.390	0.484	0.552	0.633	0.700
92-0210	0.027	0.037	0.045	0.060	0.078	0.099	0.130	0.157	0.177	0.214	0.243	0.322	0.388	0.474	0.548
92-0240	0.022	0.026	0.030	0.039	0.056	0.081	0.102	0.114	0.124	0.146	0.162	0.196	0.218	0.241	0.259
92-0270	0.068	0.080	0.087	0.100	0.112	0.125	0.141	0.152	0.159	0.173	0.182	0.198	0.207	0.215	0.220
92-0405	0.022	0.028	0.033	0.042	0.054	0.070	0.088	0.101	0.110	0.131	0.145	0.175	0.195	0.215	0.230
92-0510	0.021	0.029	0.034	0.046	0.062	0.082	0.102	0.114	0.124	0.146	0.162	0.196	0.217	0.241	0.258
92-0600	0.019	0.026	0.031	0.040	0.050	0.061	0.079	0.096	0.108	0.126	0.140	0.175	0.201	0.225	0.223
92-0745	0.017	0.022	0.026	0.034	0.045	0.060	0.080	0.094	0.106	0.133	0.155	0.207	0.246	0.292	0.330
92-0755	0.044	0.066	0.082	0.113	0.145	0.189	0.290	0.379	0.437	0.521	0.580	0.749	0.882	1.052	1.200
92-0900	0.030	0.044	0.053	0.071	0.088	0.110	0.153	0.187	0.212	0.255	0.287	0.372	0.437	0.517	0.586
92-0960	0.024	0.042	0.055	0.078	0.094	0.112	0.152	0.184	0.207	0.244	0.272	0.363	0.444	0.556	0.662
92-1020	0.027	0.039	0.048	0.066	0.088	0.113	0.147	0.173	0.192	0.229	0.259	0.337	0.406	0.504	0.604
92-1080	0.031	0.044	0.053	0.071	0.090	0.113	0.150	0.188	0.217	0.269	0.313	0.446	0.567	0.730	0.863
92-1190	0.047	0.071	0.089	0.130	0.186	0.260	0.359	0.430	0.486	0.611	0.699	0.891	1.018	1.154	1.254
92-1200	0.040	0.061	0.078	0.120	0.191	0.293	0.417	0.497	0.550	0.635	0.691	0.833	0.934	1.051	1.146
92-1230	0.023	0.034	0.042	0.057	0.075	0.096	0.124	0.147	0.165	0.197	0.222	0.291	0.350	0.433	0.515
92-1260	0.020	0.025	0.028	0.036	0.047	0.060	0.076	0.087	0.095	0.113	0.126	0.154	0.173	0.194	0.210
92-1320	0.040	0.055	0.066	0.089	0.115	0.144	0.182	0.207	0.226	0.262	0.288	0.353	0.403	0.464	0.512
92-1350	0.050	0.069	0.084	0.117	0.156	0.204	0.277	0.347	0.397	0.469	0.523	0.659	0.771	0.921	1.058
92-1410	0.020	0.029	0.034	0.045	0.056	0.069	0.088	0.102	0.113	0.134	0.150	0.193	0.229	0.278	0.325
92-1470	0.021	0.027	0.031	0.039	0.047	0.056	0.068	0.077	0.085	0.112	0.136	0.195	0.242	0.301	0.351
92-1590	0.027	0.038	0.045	0.061	0.079	0.100	0.132	0.161	0.182	0.219	0.248	0.326	0.390	0.474	0.547
92-1710	0.028	0.040	0.048	0.064	0.083	0.106	0.140	0.169	0.191	0.228	0.258	0.334	0.396	0.478	0.551
92-1800	0.033	0.049	0.059	0.079	0.100	0.120	0.138	0.148	0.155	0.169	0.177	0.191	0.199	0.206	0.210
92-1830	0.024	0.028	0.032	0.041	0.057	0.080	0.105	0.122	0.135	0.160	0.180	0.247	0.311	0.403	0.493
92-1840	0.018	0.025	0.030	0.040	0.051	0.063	0.079	0.090	0.098	0.117	0.133	0.176	0.218	0.286	0.366
92-1890	0.020	0.028	0.033	0.043	0.054	0.067	0.085	0.099	0.109	0.129	0.145	0.187	0.221	0.268	0.313
92-1920	0.041	0.059	0.072	0.098	0.129	0.170	0.244	0.299	0.330	0.366	0.390	0.469	0.536	0.623	0.700
92-1950	0.041	0.057	0.070	0.101	0.155	0.233	0.315	0.367	0.404	0.474	0.523	0.646	0.735	0.839	0.925
92-2010	0.023	0.031	0.037	0.050	0.068	0.090	0.109	0.121	0.132	0.162	0.185	0.235	0.270	0.308	0.337
92-2050	0.039	0.054	0.065	0.091	0.131	0.185	0.250	0.295	0.330	0.406	0.464	0.612	0.725	0.863	0.980
92-2140	0.021	0.030	0.036	0.047	0.059	0.073	0.093	0.108	0.120	0.144	0.164	0.223	0.274	0.343	0.408
92-2150	0.024	0.033	0.040	0.054	0.076	0.100	0.118	0.128	0.136	0.157	0.171	0.198	0.214	0.229	0.240
92-2160	0.022	0.030	0.036	0.048	0.062	0.080	0.101	0.115	0.126	0.149	0.164	0.198	0.219	0.240	0.256
92-2190	0.024	0.035	0.043	0.059	0.078	0.100	0.125	0.141	0.154	0.179	0.197	0.230	0.250	0.268	0.280
92-2310	0.027	0.039	0.047	0.063	0.082	0.103	0.132	0.154	0.171	0.204	0.231	0.304	0.369	0.467	0.571
92-2430	0.036	0.050	0.061	0.084	0.116	0.160	0.225	0.273	0.306	0.363	0.403	0.510	0.592	0.691	0.776
92-2460	0.021	0.029	0.035	0.049	0.066	0.090	0.122	0.145	0.164	0.207	0.241	0.321	0.378	0.446	0.500
92-2550	0.032	0.047	0.057	0.081	0.113	0.156	0.213	0.254	0.287	0.363	0.421	0.554	0.647	0.753	0.836
92-2645	0.029	0.042	0.051	0.070	0.094	0.122	0.161	0.197	0.223	0.270	0.308	0.410	0.497	0.611	0.711
92-2820	0.022	0.028	0.032	0.041	0.054	0.070	0.090	0.104	0.115	0.140	0.158	0.199	0.226	0.257	0.280
92-2850	0.022	0.027	0.031	0.039	0.052	0.070	0.094	0.112	0.126	0.160	0.187	0.254	0.305	0.368	0.420
92-2880	0.023	0.031	0.036	0.047	0.060	0.077	0.099	0.115	0.129	0.163	0.189	0.253	0.299	0.355	0.400
92-3121	0.026	0.038	0.047	0.065	0.086	0.112	0.146	0.176	0.198	0.239	0.271	0.358	0.431	0.527	0.612
92-3150	0.025	0.036	0.044	0.059	0.077	0.099	0.131	0.158	0.179	0.219	0.252	0.343	0.421	0.523	0.609
92-3180	0.048	0.065	0.076	0.099	0.123	0.156	0.224	0.279	0.317	0.375	0.416	0.528	0.614	0.721	0.812
92-3195	0.019	0.025	0.030	0.040	0.053	0.070	0.092	0.107	0.119	0.147	0.167	0.214	0.246	0.282	0.310

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
92-3210	0.050	0.070	0.085	0.115	0.154	0.200	0.249	0.280	0.305	0.361	0.406	0.528	0.627	0.754	0.866
92-3270	0.051	0.064	0.075	0.098	0.133	0.183	0.257	0.310	0.349	0.417	0.466	0.593	0.688	0.803	0.900
92-3300	0.021	0.029	0.034	0.047	0.062	0.080	0.102	0.117	0.128	0.153	0.170	0.206	0.229	0.253	0.270
92-3360	0.041	0.059	0.073	0.103	0.141	0.188	0.254	0.314	0.357	0.424	0.475	0.607	0.717	0.863	0.999
92-3450	0.040	0.058	0.072	0.100	0.134	0.180	0.258	0.318	0.360	0.431	0.480	0.606	0.699	0.809	0.900
92-3540	0.027	0.038	0.045	0.060	0.075	0.094	0.121	0.141	0.158	0.200	0.236	0.331	0.409	0.510	0.600
92-3624	0.040	0.056	0.068	0.094	0.129	0.175	0.237	0.282	0.319	0.404	0.467	0.609	0.707	0.816	0.900
92-3648	0.044	0.063	0.077	0.109	0.151	0.201	0.272	0.336	0.382	0.454	0.508	0.649	0.766	0.924	1.070
93-0003	0.021	0.031	0.039	0.054	0.072	0.093	0.125	0.157	0.180	0.216	0.244	0.321	0.387	0.473	0.547
93-0004	0.037	0.057	0.072	0.103	0.136	0.180	0.268	0.344	0.402	0.521	0.601	0.768	0.874	0.979	1.050
93-0017	0.022	0.032	0.039	0.053	0.069	0.090	0.128	0.158	0.182	0.230	0.265	0.349	0.408	0.476	0.530
93-0018	0.033	0.048	0.059	0.084	0.118	0.164	0.226	0.270	0.307	0.391	0.454	0.598	0.699	0.812	0.900
93-0020	0.044	0.068	0.086	0.124	0.168	0.223	0.311	0.375	0.422	0.504	0.565	0.731	0.861	1.024	1.166
93-0025	0.031	0.046	0.057	0.083	0.118	0.165	0.229	0.275	0.313	0.400	0.465	0.618	0.727	0.851	0.950
93-0030	0.052	0.080	0.101	0.143	0.191	0.245	0.321	0.381	0.425	0.502	0.562	0.728	0.879	1.097	1.308
93-0032	0.021	0.030	0.037	0.052	0.073	0.100	0.137	0.163	0.185	0.235	0.273	0.362	0.425	0.498	0.556
93-0036	0.032	0.047	0.059	0.085	0.121	0.170	0.236	0.285	0.324	0.415	0.483	0.643	0.757	0.888	0.991
93-0039	0.042	0.064	0.080	0.113	0.152	0.199	0.258	0.298	0.331	0.405	0.460	0.594	0.691	0.806	0.900
93-0049	0.023	0.034	0.042	0.059	0.080	0.104	0.137	0.169	0.192	0.231	0.262	0.350	0.426	0.527	0.614
93-0059	0.056	0.086	0.108	0.152	0.203	0.260	0.338	0.397	0.438	0.511	0.565	0.709	0.844	1.062	1.320
93-0064	0.047	0.082	0.107	0.156	0.199	0.248	0.337	0.405	0.451	0.526	0.581	0.742	0.875	1.047	1.200
93-0065	0.055	0.076	0.092	0.128	0.180	0.249	0.330	0.387	0.435	0.560	0.653	0.853	0.986	1.128	1.232
93-0066	0.021	0.030	0.036	0.051	0.072	0.100	0.139	0.167	0.191	0.246	0.289	0.392	0.468	0.557	0.629
93-0085	0.050	0.074	0.091	0.128	0.173	0.230	0.313	0.374	0.424	0.536	0.618	0.807	0.938	1.086	1.200
93-0094	0.036	0.054	0.069	0.099	0.136	0.180	0.242	0.301	0.344	0.409	0.459	0.593	0.707	0.859	0.996
93-0096	0.039	0.058	0.073	0.104	0.146	0.200	0.270	0.319	0.358	0.446	0.508	0.644	0.733	0.829	0.900
93-0121	0.036	0.055	0.069	0.100	0.143	0.200	0.274	0.327	0.369	0.464	0.534	0.692	0.798	0.913	1.000
93-0122	0.031	0.046	0.057	0.082	0.118	0.167	0.234	0.285	0.326	0.425	0.497	0.654	0.758	0.869	0.950
93-0128	0.033	0.050	0.063	0.090	0.121	0.162	0.229	0.280	0.315	0.373	0.415	0.532	0.623	0.739	0.840
93-0134	0.046	0.074	0.095	0.140	0.193	0.263	0.382	0.479	0.559	0.752	0.879	1.113	1.249	1.367	1.430
93-0140	0.043	0.067	0.085	0.122	0.168	0.221	0.296	0.366	0.418	0.498	0.562	0.737	0.889	1.091	1.270
93-0141	0.021	0.030	0.037	0.052	0.072	0.100	0.138	0.166	0.189	0.242	0.283	0.380	0.451	0.534	0.600
93-0152	0.053	0.086	0.110	0.160	0.214	0.279	0.375	0.447	0.504	0.632	0.729	0.964	1.135	1.336	1.500
93-0163	0.061	0.094	0.118	0.167	0.221	0.285	0.375	0.437	0.481	0.559	0.619	0.798	0.950	1.152	1.336
93-0167	0.020	0.027	0.033	0.045	0.063	0.090	0.128	0.156	0.181	0.242	0.290	0.406	0.491	0.590	0.670
93-0168	0.019	0.028	0.035	0.049	0.065	0.084	0.115	0.153	0.182	0.219	0.249	0.333	0.405	0.498	0.576
93-0171	0.032	0.049	0.061	0.089	0.124	0.172	0.250	0.309	0.350	0.419	0.468	0.604	0.711	0.844	0.960
93-0172	0.038	0.048	0.056	0.077	0.115	0.176	0.260	0.323	0.373	0.483	0.562	0.742	0.864	0.999	1.100
93-0173	0.058	0.088	0.110	0.154	0.203	0.258	0.334	0.391	0.432	0.503	0.556	0.695	0.822	1.020	1.247
93-0174	0.045	0.056	0.064	0.084	0.115	0.160	0.216	0.255	0.287	0.360	0.411	0.516	0.584	0.652	0.700
93-0175	0.019	0.026	0.032	0.045	0.065	0.095	0.142	0.177	0.203	0.250	0.285	0.390	0.478	0.595	0.703
93-0177	0.019	0.027	0.033	0.047	0.069	0.100	0.138	0.164	0.184	0.223	0.253	0.332	0.392	0.468	0.533
93-0187	0.027	0.041	0.052	0.075	0.101	0.132	0.185	0.245	0.289	0.345	0.390	0.511	0.614	0.746	0.862
93-0188	0.026	0.040	0.050	0.070	0.095	0.124	0.165	0.203	0.232	0.277	0.313	0.412	0.498	0.611	0.709
93-0189	0.026	0.039	0.049	0.069	0.091	0.118	0.157	0.186	0.209	0.260	0.300	0.405	0.487	0.591	0.680
93-0190	0.032	0.049	0.060	0.084	0.112	0.145	0.185	0.214	0.235	0.275	0.305	0.385	0.456	0.560	0.673
93-0191	0.030	0.044	0.054	0.077	0.108	0.150	0.205	0.246	0.278	0.353	0.409	0.541	0.633	0.737	0.820
93-0192	0.021	0.029	0.036	0.051	0.072	0.100	0.139	0.168	0.192	0.248	0.291	0.397	0.474	0.565	0.640
93-0193	0.024	0.036	0.045	0.064	0.086	0.112	0.159	0.215	0.257	0.308	0.349	0.461	0.555	0.676	0.782
93-0196	0.025	0.034	0.042	0.060	0.090	0.138	0.214	0.272	0.313	0.384	0.435	0.569	0.671	0.795	0.900
93-0206	0.036	0.054	0.067	0.094	0.125	0.162	0.208	0.244	0.270	0.314	0.348	0.438	0.520	0.647	0.790
93-0207	0.033	0.054	0.072	0.118	0.198	0.319	0.459	0.556	0.637	0.842	0.980	1.237	1.388	1.523	1.600
93-0209	0.052	0.062	0.069	0.083	0.098	0.120	0.170	0.216	0.251	0.319	0.367	0.477	0.553	0.636	0.700
93-0216	0.018	0.027	0.034	0.047	0.063	0.081	0.111	0.145	0.171	0.207	0.237	0.322	0.396	0.491	0.569
93-0218	0.045	0.070	0.089	0.126	0.166	0.218	0.318	0.400	0.456	0.548	0.614	0.793	0.931	1.103	1.250

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
93-0219	0.026	0.039	0.049	0.068	0.091	0.117	0.150	0.176	0.195	0.228	0.253	0.320	0.381	0.476	0.584
93-0221	0.023	0.035	0.043	0.060	0.078	0.101	0.148	0.189	0.218	0.270	0.310	0.424	0.517	0.640	0.750
93-0223	0.022	0.032	0.039	0.054	0.074	0.100	0.134	0.157	0.176	0.217	0.248	0.324	0.380	0.446	0.500
93-0224	0.057	0.085	0.106	0.151	0.206	0.276	0.374	0.445	0.503	0.635	0.732	0.954	1.107	1.279	1.412
93-0225	0.055	0.075	0.091	0.128	0.188	0.270	0.359	0.416	0.456	0.526	0.580	0.745	0.886	1.076	1.250
93-0227	0.019	0.028	0.035	0.049	0.065	0.083	0.122	0.176	0.215	0.258	0.292	0.385	0.463	0.566	0.656
93-0230	0.030	0.045	0.056	0.078	0.104	0.137	0.193	0.237	0.269	0.330	0.376	0.496	0.588	0.703	0.800
93-0231	0.018	0.027	0.034	0.047	0.062	0.080	0.110	0.143	0.168	0.205	0.236	0.326	0.405	0.507	0.591
93-0232	0.030	0.053	0.071	0.109	0.149	0.198	0.280	0.344	0.393	0.493	0.560	0.702	0.792	0.885	0.950
93-0234	0.024	0.036	0.046	0.066	0.090	0.117	0.165	0.221	0.263	0.315	0.358	0.472	0.568	0.694	0.803
93-0238	0.045	0.064	0.077	0.105	0.137	0.177	0.228	0.265	0.296	0.375	0.436	0.580	0.684	0.805	0.902
93-0242	0.033	0.050	0.063	0.090	0.122	0.158	0.223	0.296	0.350	0.417	0.470	0.610	0.728	0.885	1.025
93-0244	0.030	0.041	0.050	0.066	0.085	0.110	0.150	0.179	0.201	0.239	0.269	0.356	0.430	0.527	0.616
93-0245	0.042	0.063	0.078	0.108	0.141	0.176	0.225	0.260	0.286	0.333	0.370	0.468	0.558	0.699	0.861
93-0249	0.027	0.041	0.051	0.074	0.100	0.131	0.183	0.243	0.286	0.343	0.389	0.511	0.615	0.750	0.866
94-0057	0.034	0.041	0.046	0.058	0.075	0.102	0.152	0.195	0.228	0.293	0.336	0.423	0.476	0.527	0.560
94-0063	0.044	0.054	0.065	0.092	0.154	0.270	0.423	0.535	0.620	0.803	0.900	1.035	1.101	1.144	1.154
94-0064	0.032	0.038	0.043	0.056	0.079	0.117	0.177	0.222	0.252	0.301	0.332	0.405	0.453	0.506	0.546
94-0065	0.028	0.039	0.049	0.071	0.108	0.164	0.245	0.301	0.337	0.386	0.420	0.516	0.591	0.684	0.764
94-0067	0.028	0.038	0.046	0.063	0.085	0.117	0.175	0.222	0.257	0.324	0.366	0.450	0.501	0.549	0.580
94-0074	0.025	0.034	0.041	0.060	0.085	0.119	0.173	0.225	0.263	0.323	0.368	0.479	0.562	0.645	0.656
94-0270	0.033	0.051	0.064	0.094	0.132	0.180	0.239	0.280	0.312	0.380	0.429	0.530	0.593	0.656	0.700
94-0273	0.026	0.039	0.049	0.071	0.101	0.140	0.191	0.228	0.258	0.324	0.372	0.483	0.557	0.638	0.700
95-0013	0.019	0.030	0.039	0.058	0.083	0.113	0.164	0.217	0.256	0.313	0.357	0.467	0.551	0.633	0.644
95-0061	0.020	0.026	0.030	0.042	0.063	0.100	0.159	0.206	0.240	0.302	0.340	0.418	0.466	0.511	0.541
95-0093	0.030	0.033	0.036	0.047	0.086	0.172	0.266	0.324	0.361	0.418	0.446	0.491	0.514	0.531	0.537
95-0109	0.023	0.035	0.044	0.065	0.096	0.138	0.193	0.232	0.264	0.336	0.388	0.505	0.584	0.671	0.736
95-0172	0.028	0.045	0.059	0.090	0.135	0.190	0.236	0.264	0.290	0.365	0.424	0.559	0.654	0.763	0.850
95-0263	0.037	0.057	0.071	0.101	0.137	0.180	0.233	0.269	0.297	0.359	0.401	0.490	0.547	0.607	0.650
95-0325	0.038	0.059	0.075	0.112	0.162	0.230	0.320	0.384	0.434	0.543	0.620	0.787	0.897	1.014	1.100
96-0110	0.034	0.049	0.061	0.084	0.114	0.150	0.193	0.221	0.244	0.291	0.323	0.390	0.431	0.472	0.500
96-0247	0.025	0.035	0.042	0.057	0.077	0.100	0.128	0.148	0.162	0.194	0.217	0.265	0.295	0.327	0.350
96-0251	0.034	0.051	0.063	0.088	0.117	0.150	0.185	0.207	0.224	0.259	0.281	0.326	0.353	0.381	0.400
96-0317	0.046	0.068	0.084	0.118	0.160	0.210	0.268	0.308	0.338	0.401	0.445	0.533	0.585	0.636	0.670
96-0418	0.035	0.051	0.064	0.090	0.126	0.170	0.214	0.241	0.261	0.305	0.333	0.385	0.415	0.443	0.460
96-0513	0.034	0.052	0.066	0.096	0.132	0.175	0.240	0.305	0.353	0.422	0.477	0.625	0.751	0.917	1.062
96-0611	0.029	0.046	0.060	0.089	0.129	0.178	0.232	0.266	0.290	0.335	0.362	0.416	0.448	0.479	0.500
96-0626	0.021	0.031	0.038	0.053	0.070	0.092	0.134	0.167	0.192	0.236	0.269	0.359	0.431	0.521	0.600
97-0002	0.039	0.060	0.075	0.107	0.144	0.191	0.270	0.330	0.370	0.435	0.479	0.589	0.667	0.757	0.830
97-0012	0.036	0.055	0.070	0.100	0.136	0.180	0.240	0.285	0.324	0.437	0.520	0.682	0.782	0.879	0.940
97-0015	0.040	0.060	0.075	0.110	0.159	0.230	0.339	0.422	0.485	0.613	0.700	0.890	1.015	1.145	1.240
97-0022	0.029	0.044	0.055	0.078	0.104	0.137	0.199	0.248	0.282	0.339	0.380	0.492	0.579	0.687	0.780
97-0024	0.040	0.061	0.076	0.106	0.139	0.182	0.261	0.322	0.365	0.435	0.484	0.615	0.715	0.837	0.940
97-0028	0.039	0.059	0.073	0.104	0.141	0.189	0.271	0.333	0.376	0.448	0.500	0.641	0.749	0.884	1.000
97-0032	0.048	0.066	0.080	0.110	0.151	0.210	0.316	0.401	0.460	0.562	0.627	0.765	0.851	0.939	1.000
97-0040	0.047	0.071	0.089	0.128	0.181	0.250	0.338	0.401	0.451	0.563	0.644	0.825	0.944	1.073	1.170
97-0055	0.027	0.037	0.046	0.065	0.096	0.140	0.194	0.232	0.263	0.336	0.390	0.519	0.611	0.716	0.800
97-0064	0.026	0.037	0.045	0.063	0.088	0.122	0.169	0.205	0.234	0.303	0.357	0.489	0.587	0.704	0.800
97-0080	0.036	0.054	0.067	0.095	0.127	0.170	0.246	0.307	0.355	0.458	0.527	0.668	0.756	0.843	0.900
97-0083	0.033	0.050	0.063	0.091	0.126	0.171	0.242	0.293	0.329	0.389	0.431	0.546	0.635	0.746	0.840
97-0086	0.033	0.049	0.061	0.087	0.118	0.158	0.226	0.276	0.310	0.362	0.400	0.510	0.598	0.713	0.814
97-0090	0.047	0.073	0.093	0.137	0.196	0.270	0.362	0.426	0.476	0.585	0.662	0.825	0.926	1.028	1.100
97-0093	0.026	0.036	0.044	0.060	0.082	0.110	0.147	0.173	0.194	0.242	0.277	0.359	0.415	0.480	0.530
97-0099	0.025	0.036	0.045	0.061	0.081	0.104	0.129	0.146	0.158	0.185	0.205	0.259	0.307	0.377	0.451
97-0112	0.080	0.119	0.151	0.225	0.343	0.500	0.663	0.765	0.841	0.997	1.100	1.318	1.455	1.598	1.700

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
97-0123	0.080	0.118	0.148	0.220	0.339	0.500	0.653	0.747	0.821	0.989	1.099	1.311	1.438	1.560	1.640
97-0126	0.065	0.094	0.119	0.177	0.252	0.338	0.454	0.544	0.605	0.696	0.759	0.908	1.020	1.155	1.261
97-0133	0.073	0.107	0.135	0.204	0.324	0.487	0.630	0.714	0.779	0.914	1.010	1.242	1.406	1.596	1.750
97-0135	0.085	0.127	0.158	0.227	0.319	0.437	0.587	0.686	0.755	0.874	0.957	1.176	1.338	1.535	1.700
97-0139	0.052	0.082	0.105	0.156	0.225	0.315	0.429	0.506	0.560	0.656	0.722	0.886	1.003	1.139	1.250
97-0155	0.053	0.083	0.105	0.156	0.224	0.312	0.423	0.500	0.561	0.698	0.789	0.968	1.077	1.182	1.250
97-0162	0.042	0.064	0.082	0.121	0.176	0.248	0.346	0.411	0.450	0.502	0.538	0.653	0.750	0.877	0.990
97-0168	0.068	0.095	0.116	0.163	0.233	0.330	0.458	0.551	0.627	0.807	0.929	1.170	1.317	1.459	1.550
97-0174	0.036	0.057	0.075	0.115	0.175	0.257	0.361	0.429	0.475	0.546	0.596	0.743	0.862	1.015	1.149
97-0196	0.029	0.043	0.054	0.079	0.114	0.160	0.217	0.256	0.286	0.348	0.393	0.506	0.589	0.688	0.770
97-0199	0.035	0.056	0.073	0.108	0.153	0.207	0.272	0.314	0.345	0.403	0.446	0.559	0.644	0.749	0.839
97-0233	0.035	0.052	0.064	0.092	0.130	0.180	0.245	0.290	0.327	0.411	0.469	0.590	0.667	0.745	0.800
97-0237	0.044	0.064	0.078	0.111	0.154	0.210	0.283	0.334	0.376	0.469	0.537	0.691	0.796	0.911	1.000
97-0239	0.043	0.062	0.076	0.106	0.147	0.200	0.273	0.324	0.361	0.430	0.480	0.606	0.698	0.809	0.900
97-0240	0.044	0.063	0.078	0.110	0.154	0.210	0.283	0.336	0.378	0.472	0.542	0.700	0.808	0.928	1.020
97-0246	0.032	0.046	0.055	0.075	0.096	0.120	0.157	0.191	0.216	0.257	0.289	0.375	0.447	0.541	0.622
97-0259	0.041	0.061	0.075	0.107	0.148	0.200	0.265	0.309	0.345	0.422	0.476	0.595	0.671	0.751	0.810
97-0260	0.023	0.033	0.040	0.055	0.075	0.100	0.131	0.152	0.169	0.206	0.233	0.291	0.329	0.370	0.400
97-0268	0.033	0.048	0.059	0.084	0.117	0.160	0.216	0.256	0.287	0.359	0.412	0.531	0.612	0.701	0.770
97-0272	0.034	0.050	0.061	0.083	0.110	0.141	0.182	0.216	0.240	0.281	0.313	0.393	0.458	0.544	0.620
97-0275	0.027	0.041	0.052	0.076	0.106	0.141	0.186	0.224	0.250	0.291	0.320	0.395	0.459	0.551	0.650
97-0277	0.037	0.050	0.060	0.085	0.128	0.190	0.259	0.303	0.335	0.390	0.431	0.556	0.661	0.802	0.930
97-0281	0.029	0.040	0.048	0.066	0.089	0.120	0.160	0.189	0.212	0.265	0.303	0.383	0.435	0.490	0.530
97-0297	0.025	0.037	0.046	0.064	0.084	0.107	0.141	0.169	0.190	0.224	0.251	0.324	0.388	0.472	0.547
97-0305	0.049	0.074	0.094	0.144	0.230	0.350	0.472	0.549	0.610	0.747	0.839	1.028	1.147	1.267	1.350
97-0330	0.039	0.058	0.073	0.105	0.147	0.200	0.266	0.312	0.349	0.428	0.484	0.605	0.682	0.762	0.820
97-0331	0.030	0.047	0.059	0.087	0.123	0.170	0.229	0.270	0.302	0.373	0.422	0.527	0.596	0.668	0.720
97-0343	0.040	0.063	0.081	0.120	0.168	0.230	0.329	0.400	0.444	0.504	0.546	0.669	0.767	0.891	1.000
97-0351	0.047	0.070	0.087	0.125	0.175	0.240	0.324	0.382	0.424	0.505	0.560	0.688	0.774	0.870	0.945
97-0352	0.036	0.051	0.061	0.085	0.117	0.160	0.217	0.259	0.293	0.372	0.432	0.574	0.676	0.795	0.890
97-0357	0.041	0.063	0.081	0.120	0.174	0.250	0.370	0.458	0.521	0.629	0.700	0.861	0.968	1.083	1.170
97-0358	0.031	0.042	0.051	0.068	0.091	0.120	0.156	0.182	0.202	0.247	0.279	0.353	0.403	0.458	0.500
97-0359	0.045	0.067	0.085	0.122	0.169	0.225	0.299	0.359	0.402	0.468	0.517	0.637	0.734	0.863	0.985
97-0363	0.047	0.070	0.087	0.125	0.175	0.240	0.323	0.381	0.427	0.531	0.602	0.745	0.833	0.921	0.980
97-0373	0.060	0.093	0.117	0.167	0.225	0.298	0.415	0.501	0.560	0.658	0.725	0.898	1.025	1.176	1.300
97-0375	0.037	0.051	0.063	0.089	0.130	0.191	0.276	0.339	0.388	0.495	0.570	0.734	0.842	0.957	1.040
97-0376	0.046	0.068	0.084	0.115	0.146	0.186	0.271	0.340	0.386	0.454	0.500	0.620	0.708	0.813	0.900
97-0383	0.075	0.100	0.119	0.163	0.227	0.320	0.479	0.590	0.647	0.698	0.733	0.872	1.003	1.184	1.350
97-0386	0.032	0.042	0.049	0.066	0.093	0.130	0.169	0.193	0.213	0.258	0.288	0.349	0.386	0.424	0.450
97-0394	0.054	0.090	0.116	0.166	0.214	0.270	0.369	0.445	0.500	0.601	0.668	0.818	0.916	1.021	1.100
97-0397	0.028	0.040	0.050	0.071	0.100	0.140	0.193	0.232	0.263	0.336	0.390	0.513	0.599	0.694	0.768
97-0402	0.033	0.047	0.058	0.080	0.110	0.150	0.202	0.239	0.268	0.336	0.385	0.501	0.580	0.670	0.740
97-0411	0.030	0.042	0.051	0.069	0.092	0.120	0.154	0.177	0.196	0.235	0.262	0.322	0.360	0.400	0.430
97-0420	0.025	0.036	0.044	0.060	0.081	0.107	0.140	0.161	0.175	0.196	0.212	0.261	0.304	0.360	0.410
97-0421	0.037	0.058	0.074	0.108	0.152	0.206	0.273	0.317	0.349	0.407	0.449	0.562	0.649	0.757	0.850
97-0427	0.050	0.078	0.098	0.140	0.185	0.242	0.337	0.408	0.458	0.544	0.600	0.724	0.803	0.888	0.950
97-0435	0.055	0.078	0.098	0.149	0.249	0.390	0.489	0.546	0.600	0.771	0.901	1.158	1.321	1.487	1.600
97-0441	0.047	0.071	0.089	0.127	0.177	0.240	0.323	0.378	0.417	0.484	0.530	0.645	0.727	0.822	0.900
97-0443	0.029	0.042	0.052	0.075	0.107	0.150	0.208	0.251	0.286	0.366	0.428	0.573	0.677	0.795	0.890
97-0445	0.031	0.042	0.051	0.069	0.093	0.125	0.168	0.199	0.224	0.282	0.325	0.425	0.496	0.577	0.640
97-0451	0.036	0.052	0.064	0.091	0.129	0.180	0.250	0.302	0.345	0.445	0.522	0.708	0.843	1.002	1.130
97-0455	0.054	0.080	0.100	0.143	0.198	0.269	0.372	0.445	0.496	0.584	0.644	0.787	0.886	0.998	1.087
97-0461	0.027	0.039	0.048	0.068	0.095	0.130	0.175	0.208	0.233	0.291	0.333	0.429	0.494	0.565	0.620
97-0468	0.020	0.027	0.033	0.044	0.060	0.080	0.106	0.124	0.139	0.172	0.197	0.253	0.292	0.336	0.370
97-0471	0.043	0.064	0.080	0.114	0.157	0.212	0.291	0.347	0.387	0.458	0.507	0.629	0.716	0.818	0.900

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
97-0481	0.029	0.044	0.056	0.080	0.108	0.142	0.189	0.235	0.267	0.312	0.346	0.429	0.495	0.580	0.651
97-0496	0.034	0.048	0.059	0.085	0.125	0.180	0.240	0.278	0.306	0.357	0.393	0.485	0.553	0.633	0.700
97-0498	0.073	0.109	0.137	0.195	0.265	0.362	0.547	0.695	0.793	0.940	1.034	1.257	1.407	1.573	1.700
97-0499	0.042	0.061	0.075	0.106	0.147	0.200	0.267	0.315	0.353	0.437	0.498	0.635	0.726	0.825	0.900
97-0504	0.030	0.045	0.055	0.074	0.093	0.114	0.148	0.173	0.190	0.219	0.240	0.297	0.340	0.394	0.440
97-0512	0.070	0.105	0.131	0.188	0.263	0.355	0.463	0.534	0.588	0.695	0.774	0.977	1.129	1.313	1.469
97-0517	0.039	0.060	0.076	0.109	0.146	0.195	0.280	0.346	0.390	0.461	0.509	0.630	0.717	0.818	0.900
97-0518	0.050	0.075	0.095	0.145	0.231	0.358	0.508	0.606	0.675	0.796	0.875	1.055	1.174	1.302	1.400
97-0526	0.032	0.046	0.056	0.079	0.110	0.150	0.203	0.242	0.273	0.344	0.397	0.520	0.606	0.703	0.780
97-0532	0.051	0.081	0.103	0.149	0.203	0.270	0.376	0.453	0.508	0.605	0.670	0.817	0.914	1.020	1.100
97-0537	0.037	0.055	0.069	0.098	0.136	0.182	0.248	0.310	0.354	0.422	0.473	0.609	0.723	0.872	1.003
97-0540	0.031	0.046	0.057	0.084	0.117	0.159	0.215	0.264	0.299	0.354	0.396	0.507	0.601	0.730	0.844
97-0545	0.062	0.094	0.119	0.175	0.251	0.350	0.479	0.572	0.646	0.811	0.932	1.202	1.381	1.575	1.720
97-0549	0.036	0.055	0.069	0.099	0.136	0.180	0.231	0.264	0.288	0.332	0.365	0.456	0.528	0.619	0.698
97-0551	0.034	0.050	0.062	0.088	0.124	0.170	0.230	0.273	0.307	0.384	0.440	0.568	0.653	0.748	0.820
97-0553	0.020	0.028	0.035	0.054	0.095	0.160	0.214	0.246	0.274	0.344	0.397	0.522	0.612	0.716	0.800
97-0557	0.035	0.040	0.045	0.057	0.085	0.124	0.146	0.159	0.171	0.211	0.244	0.319	0.372	0.435	0.485
97-0571	0.062	0.074	0.086	0.117	0.187	0.291	0.362	0.400	0.428	0.480	0.522	0.659	0.784	0.957	1.118
97-0576	0.042	0.065	0.082	0.116	0.152	0.198	0.283	0.350	0.396	0.469	0.520	0.658	0.762	0.891	1.000
97-0580	0.041	0.066	0.085	0.126	0.175	0.240	0.348	0.429	0.485	0.580	0.640	0.771	0.853	0.939	1.000
97-0584	0.038	0.051	0.061	0.083	0.112	0.150	0.201	0.238	0.268	0.338	0.391	0.517	0.608	0.714	0.800
97-0589	0.071	0.109	0.137	0.195	0.260	0.340	0.456	0.536	0.592	0.687	0.750	0.899	0.999	1.112	1.200
97-0592	0.017	0.028	0.035	0.051	0.068	0.088	0.111	0.126	0.137	0.158	0.173	0.216	0.250	0.294	0.332
97-0594	0.056	0.086	0.108	0.155	0.209	0.279	0.404	0.501	0.565	0.666	0.733	0.903	1.024	1.164	1.278
97-0601	0.040	0.061	0.076	0.109	0.148	0.194	0.252	0.300	0.333	0.389	0.431	0.536	0.623	0.738	0.845
97-0613	0.018	0.025	0.029	0.039	0.053	0.070	0.093	0.110	0.123	0.154	0.178	0.234	0.275	0.322	0.360
97-0615	0.033	0.049	0.061	0.087	0.118	0.155	0.207	0.253	0.287	0.340	0.381	0.490	0.579	0.696	0.796
97-0618	0.035	0.053	0.066	0.093	0.122	0.161	0.252	0.331	0.383	0.459	0.510	0.649	0.754	0.882	0.990
97-0619	0.035	0.054	0.068	0.100	0.143	0.200	0.273	0.325	0.366	0.458	0.525	0.673	0.770	0.873	0.950
97-0620	0.035	0.051	0.061	0.082	0.103	0.128	0.161	0.184	0.205	0.259	0.303	0.415	0.503	0.612	0.706
97-0622	0.031	0.043	0.053	0.073	0.102	0.140	0.191	0.229	0.260	0.330	0.384	0.513	0.606	0.714	0.800
97-0627	0.042	0.055	0.066	0.090	0.128	0.182	0.256	0.307	0.342	0.397	0.437	0.551	0.642	0.757	0.859
97-0632	0.026	0.037	0.045	0.059	0.074	0.090	0.110	0.123	0.133	0.153	0.169	0.217	0.258	0.313	0.363
97-0641	0.025	0.033	0.038	0.051	0.070	0.097	0.138	0.167	0.188	0.222	0.246	0.315	0.371	0.441	0.503
97-0646	0.050	0.078	0.100	0.145	0.200	0.269	0.372	0.446	0.499	0.593	0.661	0.838	0.971	1.133	1.270
97-0648	0.041	0.061	0.076	0.109	0.151	0.202	0.272	0.334	0.379	0.448	0.500	0.637	0.750	0.901	1.036
97-0651	0.036	0.053	0.065	0.089	0.117	0.150	0.193	0.230	0.256	0.299	0.333	0.418	0.487	0.579	0.660
97-0663	0.044	0.065	0.081	0.116	0.162	0.217	0.289	0.349	0.392	0.462	0.514	0.650	0.764	0.916	1.055
97-0680	0.062	0.095	0.119	0.174	0.247	0.340	0.462	0.545	0.606	0.724	0.803	0.982	1.101	1.230	1.328
97-0696	0.079	0.119	0.148	0.213	0.298	0.403	0.531	0.614	0.673	0.780	0.856	1.051	1.195	1.367	1.510
97-0703	0.034	0.048	0.059	0.081	0.110	0.146	0.193	0.226	0.253	0.316	0.363	0.471	0.547	0.633	0.700
97-0712	0.022	0.032	0.039	0.055	0.075	0.100	0.132	0.153	0.170	0.208	0.235	0.293	0.331	0.371	0.400
97-0720	0.067	0.100	0.125	0.179	0.249	0.337	0.450	0.526	0.580	0.677	0.749	0.950	1.110	1.313	1.491
97-0723	0.051	0.075	0.094	0.137	0.194	0.265	0.357	0.430	0.482	0.569	0.633	0.803	0.951	1.158	1.346
97-0728	0.030	0.042	0.050	0.069	0.093	0.125	0.166	0.195	0.218	0.270	0.309	0.397	0.458	0.527	0.580
97-0745	0.020	0.032	0.041	0.064	0.103	0.152	0.188	0.209	0.226	0.269	0.302	0.387	0.452	0.532	0.600
97-0749	0.019	0.025	0.030	0.040	0.053	0.070	0.092	0.108	0.121	0.150	0.171	0.222	0.257	0.298	0.330
97-0757	0.043	0.063	0.078	0.113	0.164	0.228	0.297	0.340	0.372	0.434	0.480	0.604	0.699	0.818	0.921
97-0761	0.040	0.059	0.074	0.105	0.146	0.200	0.270	0.319	0.354	0.419	0.467	0.600	0.705	0.838	0.955
97-0765	0.038	0.056	0.069	0.100	0.142	0.200	0.278	0.336	0.383	0.493	0.574	0.752	0.873	1.003	1.100
97-0772	0.038	0.056	0.069	0.100	0.142	0.200	0.279	0.337	0.385	0.499	0.581	0.757	0.872	0.993	1.080
97-0796	0.036	0.053	0.066	0.094	0.128	0.169	0.231	0.295	0.343	0.410	0.462	0.603	0.721	0.872	1.000
97-0797	0.047	0.071	0.089	0.126	0.170	0.226	0.315	0.381	0.428	0.509	0.567	0.721	0.837	0.979	1.100
97-0799	0.032	0.047	0.058	0.082	0.115	0.160	0.220	0.263	0.299	0.380	0.442	0.587	0.690	0.807	0.900
97-0802	0.048	0.073	0.092	0.135	0.193	0.270	0.371	0.445	0.504	0.636	0.734	0.957	1.108	1.274	1.400

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
97-0816	0.035	0.052	0.065	0.092	0.127	0.168	0.225	0.275	0.312	0.371	0.416	0.535	0.634	0.765	0.881
97-0823	0.034	0.046	0.054	0.071	0.093	0.120	0.156	0.181	0.201	0.243	0.276	0.361	0.427	0.509	0.580
97-0824	0.033	0.048	0.058	0.080	0.107	0.140	0.178	0.204	0.223	0.263	0.291	0.352	0.393	0.437	0.470
97-0828	0.030	0.042	0.051	0.071	0.097	0.130	0.172	0.202	0.226	0.278	0.316	0.402	0.459	0.522	0.570
97-0834	0.027	0.040	0.049	0.067	0.089	0.113	0.142	0.162	0.176	0.206	0.230	0.292	0.349	0.436	0.531
97-0838	0.025	0.039	0.049	0.071	0.099	0.132	0.179	0.224	0.256	0.302	0.338	0.430	0.505	0.604	0.690
97-0852	0.023	0.033	0.041	0.058	0.081	0.110	0.146	0.172	0.192	0.237	0.268	0.339	0.385	0.434	0.470
97-0865	0.027	0.040	0.050	0.073	0.108	0.153	0.202	0.234	0.261	0.328	0.376	0.472	0.533	0.594	0.636
97-0871	0.060	0.094	0.119	0.170	0.230	0.295	0.358	0.397	0.430	0.512	0.570	0.689	0.765	0.843	0.900
97-0880	0.040	0.055	0.068	0.100	0.160	0.250	0.342	0.397	0.437	0.505	0.557	0.714	0.846	1.023	1.183
97-0885	0.029	0.042	0.053	0.075	0.106	0.147	0.202	0.242	0.274	0.348	0.402	0.526	0.611	0.707	0.780
97-0894	0.077	0.115	0.144	0.204	0.278	0.373	0.520	0.626	0.700	0.823	0.907	1.120	1.273	1.453	1.600
97-0903	0.029	0.044	0.055	0.079	0.107	0.138	0.194	0.258	0.305	0.364	0.410	0.533	0.636	0.769	0.885
97-0904	0.045	0.068	0.085	0.120	0.162	0.218	0.317	0.394	0.447	0.533	0.592	0.745	0.857	0.990	1.100
97-0917	0.033	0.051	0.065	0.095	0.133	0.178	0.234	0.270	0.294	0.331	0.358	0.443	0.516	0.613	0.700
97-0919	0.068	0.103	0.130	0.192	0.282	0.396	0.506	0.576	0.638	0.811	0.940	1.203	1.372	1.547	1.670
97-0920	0.022	0.034	0.043	0.061	0.083	0.107	0.139	0.167	0.187	0.216	0.238	0.295	0.340	0.400	0.454
97-0924	0.036	0.064	0.085	0.127	0.169	0.219	0.311	0.382	0.434	0.526	0.590	0.748	0.862	0.993	1.100
97-0925	0.032	0.038	0.043	0.056	0.083	0.120	0.139	0.150	0.161	0.203	0.239	0.320	0.378	0.445	0.500
97-0927	0.059	0.088	0.110	0.160	0.223	0.299	0.392	0.462	0.511	0.596	0.657	0.814	0.944	1.124	1.292
97-0932	0.066	0.096	0.122	0.180	0.255	0.342	0.459	0.551	0.613	0.706	0.770	0.923	1.040	1.185	1.304
97-0941	0.050	0.076	0.096	0.141	0.200	0.275	0.370	0.436	0.489	0.604	0.686	0.863	0.977	1.095	1.180
97-0950	0.041	0.058	0.070	0.098	0.135	0.185	0.251	0.299	0.338	0.427	0.495	0.654	0.767	0.897	1.000
97-0952	0.027	0.038	0.046	0.064	0.088	0.120	0.162	0.193	0.218	0.274	0.317	0.416	0.486	0.567	0.630
97-0960	0.030	0.042	0.051	0.069	0.092	0.120	0.155	0.178	0.196	0.234	0.262	0.326	0.370	0.419	0.458
97-0965	0.029	0.039	0.047	0.065	0.088	0.120	0.163	0.195	0.220	0.281	0.327	0.440	0.523	0.620	0.700
97-0987	0.037	0.062	0.082	0.124	0.177	0.238	0.304	0.345	0.372	0.417	0.451	0.552	0.636	0.746	0.843
97-0989	0.037	0.052	0.062	0.085	0.114	0.150	0.195	0.226	0.250	0.303	0.341	0.424	0.478	0.536	0.580
97-0993	0.026	0.037	0.046	0.066	0.093	0.130	0.181	0.218	0.249	0.320	0.375	0.506	0.601	0.711	0.800
97-0994	0.036	0.054	0.068	0.099	0.142	0.200	0.277	0.333	0.378	0.481	0.558	0.736	0.858	0.995	1.100
97-1007	0.048	0.079	0.102	0.149	0.200	0.258	0.335	0.387	0.425	0.492	0.543	0.686	0.800	0.947	1.076
97-1009	0.032	0.049	0.062	0.088	0.118	0.157	0.221	0.269	0.301	0.351	0.387	0.486	0.563	0.659	0.742
97-1010	0.037	0.058	0.075	0.111	0.154	0.203	0.277	0.344	0.393	0.470	0.530	0.695	0.837	1.024	1.185
97-1056	0.042	0.060	0.073	0.103	0.144	0.200	0.276	0.332	0.377	0.484	0.565	0.761	0.902	1.067	1.200
97-1072	0.036	0.054	0.067	0.095	0.130	0.172	0.230	0.285	0.325	0.386	0.433	0.557	0.659	0.793	0.909
97-1192	0.031	0.041	0.049	0.065	0.086	0.112	0.146	0.170	0.189	0.232	0.263	0.336	0.387	0.445	0.490
97-1199	0.042	0.063	0.079	0.113	0.155	0.207	0.274	0.330	0.369	0.431	0.476	0.589	0.680	0.802	0.915
97-1209	0.026	0.038	0.048	0.068	0.091	0.117	0.155	0.188	0.213	0.253	0.286	0.379	0.462	0.576	0.675
97-1225	0.044	0.066	0.082	0.118	0.161	0.212	0.284	0.350	0.397	0.468	0.522	0.660	0.774	0.922	1.055
97-1226	0.027	0.040	0.049	0.069	0.094	0.122	0.162	0.196	0.222	0.265	0.299	0.391	0.469	0.571	0.659
97-1240	0.036	0.054	0.068	0.099	0.142	0.200	0.277	0.333	0.378	0.481	0.558	0.736	0.858	0.995	1.100
97-1283	0.026	0.035	0.043	0.059	0.081	0.110	0.149	0.178	0.201	0.256	0.297	0.397	0.468	0.552	0.620
97-1286	0.032	0.046	0.055	0.074	0.094	0.115	0.141	0.157	0.170	0.196	0.217	0.271	0.319	0.388	0.461
97-1306	0.039	0.060	0.078	0.127	0.225	0.383	0.575	0.695	0.765	0.852	0.908	1.070	1.193	1.343	1.470
98-0016	0.021	0.029	0.035	0.048	0.064	0.085	0.114	0.137	0.155	0.193	0.223	0.304	0.368	0.440	0.481
98-0017	0.038	0.050	0.060	0.083	0.121	0.178	0.253	0.307	0.350	0.443	0.512	0.675	0.791	0.924	1.029
98-0020	0.026	0.033	0.038	0.049	0.065	0.088	0.119	0.142	0.161	0.203	0.235	0.318	0.381	0.458	0.524
98-0023	0.026	0.039	0.047	0.063	0.077	0.093	0.120	0.142	0.160	0.203	0.238	0.326	0.393	0.475	0.545
98-0024	0.038	0.056	0.069	0.099	0.140	0.196	0.279	0.341	0.389	0.494	0.563	0.697	0.777	0.853	0.900
98-0025	0.127	0.187	0.236	0.354	0.542	0.824	1.218	1.508	1.732	2.177	2.519	3.463	4.224	5.201	6.067
98-0026	0.108	0.164	0.207	0.304	0.435	0.618	0.903	1.119	1.279	1.569	1.789	2.421	2.942	3.624	4.239
98-0028	0.098	0.148	0.187	0.275	0.395	0.562	0.817	1.011	1.158	1.442	1.658	2.256	2.737	3.354	3.900
98-0029	0.097	0.146	0.184	0.271	0.395	0.567	0.807	0.981	1.115	1.378	1.581	2.152	2.618	3.226	3.770
98-0031	0.151	0.200	0.237	0.317	0.428	0.580	0.792	0.955	1.091	1.422	1.687	2.365	2.892	3.544	4.100
98-0032	0.146	0.198	0.237	0.322	0.435	0.598	0.883	1.115	1.293	1.640	1.895	2.540	3.018	3.591	4.064

Station ID	1hr	2hr	3hr	6hr	12hr	1day	2day	3day	4day	7day	10day	20day	30day	45day	60day
98-0033	0.096	0.141	0.183	0.290	0.450	0.669	0.970	1.205	1.385	1.741	2.019	2.753	3.370	4.202	4.975
98-0034	0.155	0.225	0.279	0.401	0.575	0.816	1.143	1.381	1.567	1.951	2.252	3.088	3.768	4.652	5.442
98-0035	0.128	0.191	0.240	0.350	0.504	0.713	1.003	1.208	1.358	1.632	1.831	2.352	2.745	3.226	3.633
98-0036	0.107	0.156	0.193	0.274	0.386	0.532	0.714	0.840	0.939	1.149	1.310	1.736	2.067	2.481	2.840
98-0037	0.089	0.132	0.165	0.238	0.336	0.466	0.634	0.752	0.845	1.037	1.188	1.615	1.967	2.429	2.847
98-0038	0.119	0.173	0.214	0.307	0.437	0.610	0.823	0.972	1.091	1.348	1.553	2.124	2.593	3.207	3.759
98-0039	0.102	0.153	0.194	0.290	0.431	0.637	0.946	1.178	1.354	1.688	1.943	2.664	3.252	4.019	4.705
98-0040	0.128	0.186	0.230	0.328	0.464	0.642	0.857	1.005	1.123	1.378	1.583	2.157	2.632	3.257	3.822
98-0041	0.110	0.167	0.210	0.308	0.441	0.620	0.878	1.064	1.200	1.443	1.626	2.150	2.578	3.136	3.635
98-0042	0.164	0.248	0.313	0.464	0.679	0.980	1.400	1.716	1.979	2.600	3.079	4.241	5.092	6.092	6.900
98-0045	0.091	0.137	0.174	0.262	0.396	0.594	0.888	1.108	1.275	1.591	1.830	2.494	3.027	3.712	4.318
98-0046	0.107	0.155	0.192	0.274	0.388	0.539	0.730	0.863	0.967	1.184	1.354	1.824	2.205	2.699	3.140
98-0047	0.202	0.287	0.352	0.499	0.707	1.000	1.416	1.733	1.995	2.606	3.080	4.248	5.116	6.151	7.000
98-0052	0.085	0.128	0.162	0.240	0.353	0.517	0.773	0.973	1.132	1.469	1.722	2.354	2.821	3.377	3.834
98-0069	0.100	0.139	0.171	0.253	0.401	0.631	0.914	1.107	1.251	1.520	1.716	2.238	2.638	3.132	3.554
98-0070	0.169	0.245	0.309	0.471	0.771	1.230	1.749	2.087	2.337	2.802	3.138	4.021	4.690	5.507	6.200
98-0080	0.131	0.181	0.219	0.304	0.426	0.600	0.847	1.042	1.214	1.665	2.063	3.199	4.187	5.539	6.800
98-0081	0.127	0.179	0.218	0.305	0.425	0.584	0.783	0.926	1.045	1.325	1.562	2.259	2.870	3.716	4.515
98-0082	0.125	0.169	0.202	0.275	0.377	0.520	0.722	0.878	1.010	1.334	1.591	2.219	2.687	3.244	3.700
98-0091	0.110	0.166	0.209	0.303	0.428	0.588	0.780	0.914	1.027	1.303	1.530	2.141	2.637	3.278	3.850
98-0100	0.085	0.129	0.162	0.235	0.331	0.454	0.601	0.704	0.790	0.992	1.162	1.655	2.083	2.668	3.215
98-0101	0.116	0.176	0.221	0.322	0.457	0.630	0.834	0.975	1.094	1.373	1.609	2.299	2.903	3.734	4.516
98-0110	0.173	0.239	0.290	0.401	0.556	0.770	1.067	1.290	1.477	1.921	2.272	3.146	3.806	4.604	5.270
98-0126	0.088	0.109	0.123	0.154	0.194	0.247	0.319	0.372	0.416	0.522	0.606	0.817	0.976	1.172	1.337
98-0136	0.105	0.141	0.180	0.288	0.461	0.694	0.969	1.154	1.300	1.643	1.924	2.723	3.442	4.459	5.442
98-0137	0.115	0.148	0.173	0.225	0.294	0.386	0.510	0.602	0.678	0.856	0.995	1.340	1.599	1.910	2.170
98-0142	0.089	0.111	0.126	0.159	0.202	0.260	0.339	0.398	0.447	0.565	0.659	0.898	1.081	1.307	1.500
98-0143	0.078	0.105	0.125	0.166	0.217	0.282	0.361	0.418	0.465	0.577	0.673	0.960	1.215	1.573	1.914
98-0147	0.098	0.131	0.156	0.209	0.275	0.357	0.453	0.518	0.569	0.687	0.779	1.024	1.234	1.534	1.834
99-1010	0.191	0.318	0.422	0.670	1.035	1.545	2.225	2.712	3.097	3.916	4.515	5.951	6.976	8.157	9.100

Appendix A.4 PRISM report
(report was formatted by HDSC)

Final Report

Production of Precipitation Frequency Grids for California Using a Specifically Optimized PRISM System

Prepared for
National Weather Service, Hydrologic Design Service Center
Silver Spring, Maryland

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April 2011

1. Project goal

The Hydrometeorological Design Studies Center (HDSC) within the Office of Hydrologic Development of NOAA's National Weather Service is updating precipitation frequency estimates for California. In order to complete the spatial interpolation of point estimates, HDSC requires spatially interpolated grids of MAM (Mean Annual Maximum) precipitation. The contractor, the PRISM Climate Group at Oregon State University (OSU), was tasked with producing a series of grids for precipitation frequency estimation using an optimized system based on the Parameter-elevation Regressions on Independent Slopes Model (PRISM) and HDSC-calculated point estimates for the state of California.

2. Background

HDSC used L-moment based regional frequency analysis approach to estimate precipitation frequencies. In this approach, the mean of the underlying precipitation frequency distribution is estimated at point locations with a sufficient history of observations. The form of the distribution and its parameters are estimated regionally. Once the form of the distribution has been selected and its parameters have been estimated, precipitation frequency estimates can be computed from grids of the MAM. The grids that are the subject of this report are spatially interpolated grids of the point estimates of the MAM for various precipitation durations. The point estimates of the MAM were provided by HDSC. HDSC selected an appropriate precipitation frequency distribution along with regionally estimated parameters and used this information with the grids of the MAM to derive grids of precipitation frequency estimates.

The PRISM Climate Group has previously performed similar work to produce spatially interpolated MAM grids for updates of precipitation frequency estimates in the Semiarid Southwest United States, the Ohio River Basin and Surrounding States, Puerto Rico/US Virgin Islands, and Hawaiian Islands study areas.

3. Report

This report describes tasks performed to produce draft mean annual maximum (MAM) grids for 17 precipitation durations: 15 and 30 minutes; 1, 2, 3, 6, and 12 hours; and 1, 2, 3, 4, 7, 10, 20, 30, 45, and 60 days for CA. The 15 and 30-minute and 3-day durations were new, having not been modeled before. The tasks described were not necessarily performed in the order described, nor were they performed just once. The process was dynamic and had numerous feedbacks.

3.1. Adapting the PRISM system

The PRISM modeling system was adapted for use in this project after a small investigation was performed for the Semiarid Southwest United States, and subsequently used in the Ohio River Basin and Surrounding States, Puerto Rico/Virgin Islands, and Hawaiian Islands study areas. This investigation and adaptation procedure is summarized below.

PRISM is a knowledge-based system that uses point data, a digital elevation model (DEM), and many other geographic data sets to generate gridded estimates of climatic parameters (Daly et al. 1994, 2002, 2003, 2006, 2008) at monthly to daily time scales. Originally developed for precipitation estimation, PRISM has been generalized and applied successfully to temperature, among other parameters. PRISM has been used extensively to map precipitation, dew point, and minimum and maximum temperature over the United States, Canada, China, and other countries. Details on PRISM formulation can be found in Daly et al. (2002, 2003, 2008), which are available from http://prism.oregonstate.edu/docs/.

Adapting the PRISM system for mapping precipitation frequencies required an approach slightly different than the standard modeling procedure. The amount of station data available to HDSC for precipitation frequency was much less than that available for high-quality precipitation maps, such as the peer-reviewed PRISM 1971-2000 mean precipitation maps (Daly et al. 2008). Data sources suitable for long-term mean precipitation but not for precipitation frequency included snow courses, short-term COOP stations, remote storage gauges, and others. In addition, data for precipitation durations of less than 24 hours were available from hourly precipitation stations only. This meant that mapping precipitation frequency using HDSC stations would sacrifice a significant amount of the spatial detail present in the 1971-2000 mean precipitation maps.

A pilot project to identify ways of capturing more spatial detail in the precipitation frequency maps was undertaken. Early tests showed that mean annual precipitation (MAP) was an excellent predictor of precipitation frequency in a local area, much better than elevation, which is typically used as the underlying, gridded predictor variable in PRISM applications. In these initial tests, the DEM, the predictor grid in PRISM, was replaced by the official USDA digital map of MAP for the lower 48 states (USDA-NRCS 1998, Daly et al. 2000). Detailed information on the creation of the USDA PRISM precipitation grids is available from Daly and Johnson (1999). MAP was found to have superior predictive capability over the DEM for locations in the southwestern US. The relationships between MAP and precipitation frequency were strong because many of the effects of various physiographic features on mean precipitation patterns had already been incorporated into the MAP grid from PRISM. Preliminary PRISM maps of 2-year and 100-year, 24-hour precipitation were made for the Semiarid Southwest and compared to hand-drawn HDSC maps of the same statistics. Differences were minimal, and mostly related to differences in station data used.

Further investigation found that the square-root transformation of MAP produced somewhat more linear, tighter and cleaner regression functions, and hence, more stable predictions, than the untransformed values; this transformation was incorporated into subsequent model applications. Square-root MAP was a good local predictor of not only longer-duration precipitation frequency statistics, but for short-duration statistics, as well. Therefore, it was determined that a modified PRISM system that used

square-root MAP as the predictive grid was suitable for producing high-quality precipitation frequency maps for this project.

For this study, an updated official USDA grid of MAP for CA (1971-2000 average) was used (Figure 1). This grid was developed under funding from the USDA Natural Resources Conservation Service, and is described in Daly et al. (2008).

3.2. PRISM configuration and operation for California

In general, PRISM interpolation consists of a local moving-window regression function between a predictor grid and station values of the element to be interpolated. The regression function is guided by an encoded knowledge base and inference engine (Daly et al., 2002, 2008). This knowledge base/inference engine is a series of rules, decisions and calculations that set weights for the station data points entering the regression function. In general, a weighting function contains knowledge about an important relationship between the climate field and a geographic or meteorological factor. The inference engine sets values for input parameters by using default values, or it may use the regression function to infer grid cell-specific parameter settings for the situation at hand. PRISM acquires knowledge through assimilation of station data, spatial data sets such as MAP and others, and a control file containing parameter settings.

The other center of knowledge and inference is that of the user. The user accesses literature, previously published maps, spatial data sets, and a graphical user interface to guide the model application. One of the most important roles of the user is to form expectations for the modeled climatic patterns, i.e., what is deemed "reasonable." Based on knowledgeable expectations, the user selects the station weighting algorithms to be used and determines whether any parameters should be changed from their default values. Through the graphical user interface, the user can click on any grid cell, run the model with a given set of algorithms and parameter settings, view the results graphically, and access a traceback of the decisions and calculations leading to the model prediction.

For each grid cell, the moving-window regression function for MAM vs. MAP took the form

$$\text{MAM value} = \beta_1 * \text{sqrt(MAP)} + \beta_0 \quad (1)$$

where β_1 is the slope and β_0 is the intercept of the regression equation, and MAP is the grid cell value of mean annual precipitation.

Upon entering the regression function, each station was assigned a weight that is based on several factors. For PRISM MAP mapping (used as the predictor grid in this study), the combined weight of a station was a function of distance, elevation, cluster, vertical layer, topographic facet, coastal proximity, and effective terrain weights, respectively. A full discussion of the general PRISM station weighting functions is available from Daly et al. (2008).

Given that the MAP grid incorporated detailed information about the complex spatial patterns of precipitation, only a subset of these weighting functions was needed for this study. For California, the combined weight of a station was a function of distance and clustering, respectively. A station is down-weighted when it is relatively from the target grid cell, or when it is clustered with other stations (which can lead to over-representation).

The moving-window regression function was populated by station data provided by the HDSC. A PRISM GUI snapshot of the moving-window relationship between MAP and 24-hour MAM in southern California is shown in Figure 2.

There were relatively few stations with data for durations of 12 hours or less from which to perform the interpolation. In addition, it was clear that the spatial patterns of durations of 12 hours or less could be very different than those of durations of 24 hours or more. This issue was encountered in a previous study for Puerto Rico. During that study the following procedure was developed, and adopted here:

(1) Convert available ≤ 12-hour station values to an MAM/24-hr MAM ratio (termed R24) by dividing by the 24-hour values;

(2) using the station R24 data in (1), interpolate R24 values for each ≤ 12-hour duration (15, 30, and 60 minutes; and 2, 3, 6, and 12 hours) using PRISM in inverse-distance weighting mode;

(3) using bi-linear interpolation from the cells in the R24 grids from (2), estimate R24 at the location of each station having data for ≥ 24-hour durations only;

(4) multiply the estimated R24 values from (3) by the 24-hour value at each ≥ 24-hour station to obtain estimated ≤ 12-hour values;

(5) append the estimated stations from (4) to the ≤ 12-hour station list to generate a station list that matches the density of that for ≥ 24 hours; and

(6) interpolate MAM values for ≤ 12-hour durations with PRISM, using MAP as the predictor grid.

Investigation of the little available data failed to provide convincing evidence that the spatial patterns of R24 values were strongly affected by coastal proximity, topographic facets, or other factors. Therefore, the slope of the moving-window regression function for R24 vs. MAP of the form

$$R24 = \beta_1 * \text{sqrt}(MAP) + \beta_0 \quad (2)$$

was forced to zero everywhere. This meant that the interpolated value of R24 was a function of distance and cluster weighting only (essentially inverse-distance weighting).

Relevant PRISM parameters for applications to 60-minute R24 and 24-hour MAM statistics are listed in Tables 1 and 2, respectively. Further explanations of these parameters and associated equations are available in Daly et al. (2002, 2008).

The values of radius of influence (*R)*, the minimum number of total (s_t) stations required in the regression were based on information from user assessment via the PRISM graphical user interface, and on a jackknife cross-validation exercise, in which each station was deleted from the data set one at a time, a prediction made in its absence, and mean absolute error statistics compiled (see Results section).

The input parameter that changed readily among the various durations was the default slope (β_{1d}) of the regression function. Slopes are expressed in units that are normalized by the average observed value of the precipitation in the regression data set for the target cell. Evidence gathered during PRISM model development indicates that this method of expression is relatively stable in both space and time (Daly et al. 1994).

Bounds are put on the slopes to minimize unreasonable slopes that might occasionally be generated due to local station data patterns; if the slope is out of bounds and cannot be brought within bounds by the PRISM outlier deletion algorithm, the default slope is invoked (Daly et al., 2002). The maximum slope bound was set to a uniformly high value of 30.0, to accommodate a large range of valid slopes; lower values were not needed to handle extreme values, because all values were within reasonable ranges. Slope default values were based on PRISM diagnostics that provided information on the distribution of slopes across the modeling region. The default value was set to approximate the average regression slope calculated by PRISM. For these applications, default slopes typically increased with increasing duration (Table 3). In general, the longer the duration, the larger the slope. This is primarily a result of higher precipitation amounts at the longer durations, and the tendency for longer-duration MAM statistics to bear a stronger and steeper relationship with MAP than shorter-duration statistics.

3.3. Preparation and review of draft grids

Draft grids for the 60-minute, 12-hour, 24-hour and 10-day durations were produced and made available to HDSC for evaluation. All of the necessary station data were provided by HDSC. The process began with a careful scrutiny of the station data and PRISM behavior. A version of PRISM which predicts for stations locations in the absence of each station (termed jackknifing) was run, and stations that were difficult for PRISM to predict for were identified, and sent to HDSC for review. HDSC removed the

stations, modified their values, or determined that the stations were accurate as-is. This process was performed iteratively, until an acceptable station data set was produced. The draft PRISM grids were subsequently completed and submitted to HDSC for review.

HDSC submitted the draft PRISM grids for external review. They received a comment from Marin County that the precipitation patterns were not sufficiently detailed to completely represent the orographic patterns in their county. Marin County provided additional station data, which were incorporated into subsequent drafts.

3.4. Final grids

Having found the revised draft grids acceptable, HDSC requested that grids for all durations be completed. At this time, three additional durations (not in the original work plan) were requested: 15 and 30 minutes, and 3 days. Before delivering the final grids to HDSC, the PRISM Climate Group checked them for internal consistency. In other words, the value of the MAM at each grid point for each duration must be greater than the value for shorter durations at the same grid point. If an inconsistency of this nature occurs, the current convention is to start with the 24 duration as a baseline, and set longer durations to slightly higher values and shorter durations to slightly lower values. A small consistency adjustment was needed in only one location in the desert east of the Sierra Nevada, where very low precipitation amounts created very small differences in values between adjacent durations.

The final delivered grids inherited the spatial resolution of the latest 1971-2000 PRISM mean annual precipitation grids for California, which is 30 arc-seconds (~800 meters). The grid cell units are in mm*100. Final MAM grids delivered to HDSC are as follows:

15-minute
30-minute
60-minute
2-hour
3-hour
6-hour
12-hour
24-hour
48-hour
3-day
4-day
7-day
10-day
20-day
30-day
45-day
60-day

Total: 17

3.5. Performance evaluation

PRISM cross-validation statistics for 60-minute/24-hour MAM ratio and the 60-minute and 24-hour MAM intensities were compiled and summarized in Table 4. These errors were estimated using an omit-one jackknife method, where each station is omitted from the data set, estimated in its absence, then replaced. Since the 60-minute/24-hour MAM ratio was expressed as a percent, the percent bias and mean absolute error are the given as the bias and MAE in the original percent units (not as a percentage of the percent).

For the 60-minute/24-hour MAM ratio, the overall bias was about 1 percent and the mean absolute error (MAE) less than 4 percent. For the 60-minute, 24-hour, and 10-day MAM intensities, biases were about 2 percent, and the MAE decreased with duration from 9.7 percent at 60-minute duration to 8.8 percent at 10-day duration. Biases for 15-minute to 12-hour durations were similar to those for the 60-minute duration, ranging from 2.0 to 2.2 percent, and MAEs ranging from 8.9 to 10.4 percent. Errors for 2- to 60-day durations were similar to those for the 24-hour and 10-day durations, with biases ranging from 2.1-2.3 percent, and MAEs from 8.5 to 8.9 percent. Given the lack of data at durations of less than 24 hours, one would have expected the 15-minute to 12-hour MAM errors to be substantially higher than those for the 24-hour to 60-day MAMs. A likely reason why this was not the case was that the addition of many synthesized stations, derived from a PRISM interpolation of R24 values, resulted in a station data set that was spatially consistent, and thus, somewhat easier to interpolate with each station deleted from the data set. Therefore, there is little doubt that the true interpolation errors for the 60-minute MAM are higher than those shown in Table 4.

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Table 1. Values of relevant PRISM parameters for interpolation of 60-minute/24-hour mean annual maximum ratio (60-minute R24) for California. See Daly et al. (2002) for details on PRISM parameters.

Name	Description	Value
Regression Function		
R	Radius of influence	10 km*
s_t	Minimum number of total stations desired in regression	45 stations
β_{1m}	Minimum valid regression slope	0.0[+]
β_{1x}	Maximum valid regression slope	0.0[+]
β_{1d}	Default valid regression slope	0.0[+]
Distance Weighting		
A	Distance weighting exponent	2.0
F_d	Importance factor for distance weighting	1.0
D_m	Minimum allowable distance	0.0 km
Elevation Weighting		
B	MAP weighting exponent	NA/NA
F_z	Importance factor for MAP weighting	NA/NA
Δz_m	Minimum station-grid cell MAP difference below which MAP weighting is maximum	NA/NA
Δz_x	Maximum station-grid cell MAP difference above which MAP weight is zero	NA/NA

* Expands to encompass minimum number of total stations desired in regression (s_t).

[+] Slopes are expressed in units that are normalized by the average observed value of the precipitation in the regression data set for the target cell. Units here are 1/[sqrt(MAP(mm))*1000].

Table 2. Values of relevant PRISM parameters for modeling of 24-hour mean annual maximum statistics for California. See Daly et al. (2002) for details on PRISM parameters.

Name	Description	Value
Regression Function		
R	Radius of influence	10 km*
s_t	Minimum number of total stations desired in regression	45 stations
β_{1m}	Minimum valid regression slope	0.0^+
β_{1x}	Maximum valid regression slope	30.0^+
β_{1d}	Default valid regression slope	2.8^+
Distance Weighting		
A	Distance weighting exponent	2.0
F_d	Importance factor for distance weighting	1.0
D_m	Minimum allowable distance	0.0 km
Elevation Weighting		
B	Elevation weighting exponent	0.0
F_z	Importance factor for elev weighting	0.0
Δz_m	Minimum station-grid cell elev difference below which MAP weighting is maximum	NA
Δz_x	Maximum station-grid cell elevation difference above which station is eliminated from data set	50 m upwards, 5000 m downwards

* Expands to encompass minimum number of total stations desired in regression (s_t).

+ Slopes are expressed in units that are normalized by the average observed value of the precipitation in the regression data set for the target cell. Units here are 1/[sqrt(MAP(mm))*1000].

Table 3. Values of PRISM slope parameters for modeling of MAM statistics for California for all durations. For durations of 12 hours and below, station data were expressed as the ratio of the given duration's MAM value to the 24-hour MAM value, and interpolated; this was followed by an interpolation of the actual MAM values. See text for details. See Table 1 for definitions of parameters.

		California	
Duration	β_{1m}	β_{1x}	β_{1d}
15m/24h ratio	0.0	0.0	0.0
30m/24h ratio	0.0	0.0	0.0
1h/24h ratio	0.0	0.0	0.0
2h/24h ratio	0.0	0.0	0.0
3h/24h ratio	0.0	0.0	0.0
6h/24h ratio	0.0	0.0	0.0
12h/24h ratio	0.0	0.0	0.0
15 minute MAM	0.0	30.0	2.3
30 minute MAM	0.0	30.0	2.3
1 hour MAM	0.0	30.0	2.3
2 hour MAM	0.0	30.0	2.3
3 hour MAM	0.0	30.0	2.4
6 hour MAM	0.0	30.0	2.5
12 hour MAM	0.0	30.0	2.7
24 hour MAM	0.0	30.0	2.8
48 hour MAM	0.0	30.0	3.0
3 day MAM	0.0	30.0	3.1
4 day MAM	0.0	30.0	3.2
7 day MAM	0.0	30.0	3.6
10 day MAM	0.0	30.0	3.8
20 day MAM	0.0	30.0	4.2
30 day MAM	0.0	30.0	4.5
45 day MAM	0.0	30.0	4.6
60 day MAM	0.0	30.0	4.8

Table 4. PRISM cross-validation errors for 60-minute/24-hour MAM ratio and 24-hour MAM applications to California. Since the 60-minute/24-hour MAM ratio was expressed as a percent, the percent bias and mean absolute error are the given as the bias and MAE in the original percent units (not as a percentage of the percent).

Statistic	N	% Bias	% MAE
60-min/24-hr MAM ratio	392	-0.96	3.67
60-minute MAM	1304	2.07	9.67
24-hour MAM	1304	1.89	8.98
10-day MAM	1269	2.36	8.79

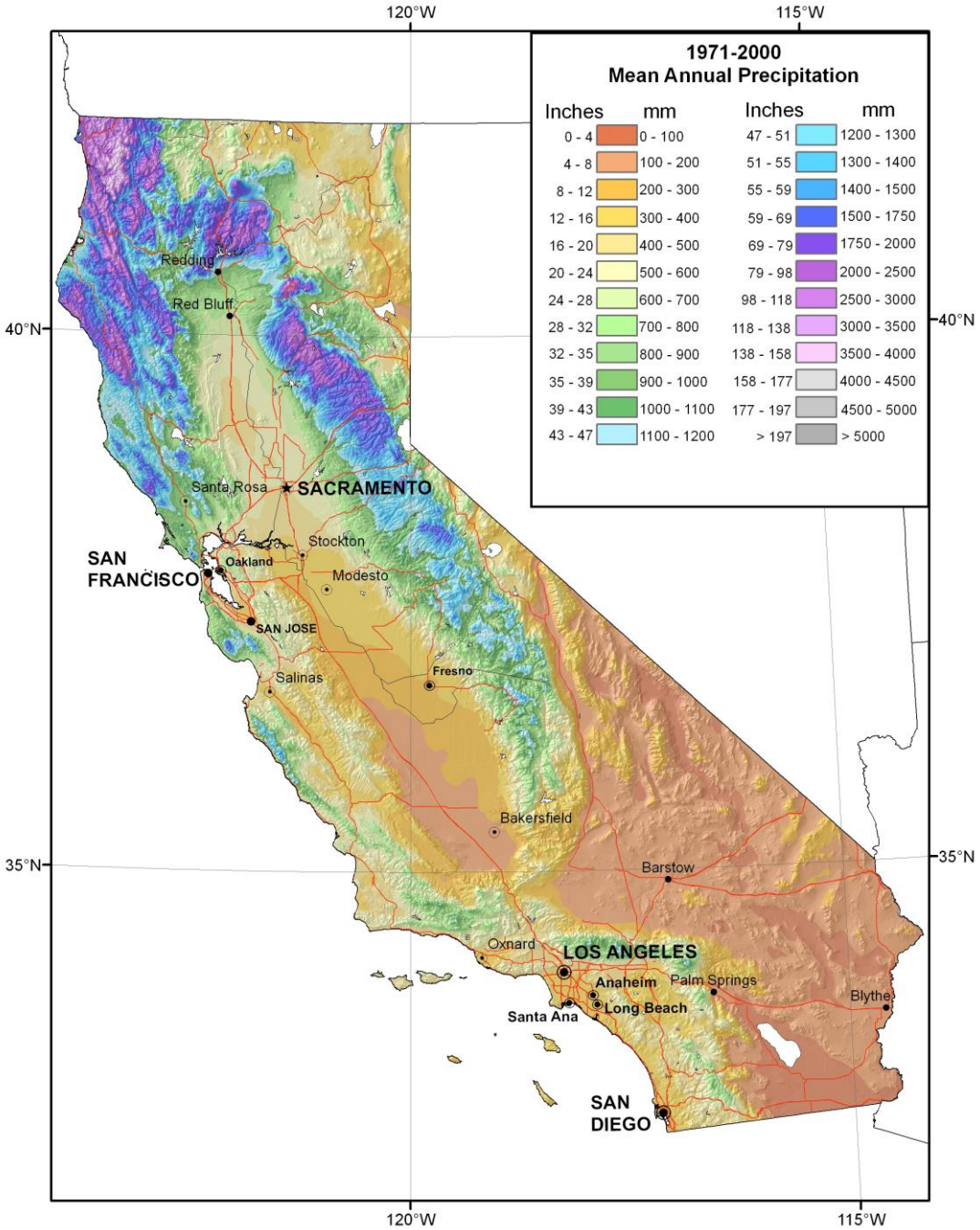


Figure 1. PRISM 1971-2000 mean annual precipitation (MAP) grid for California.

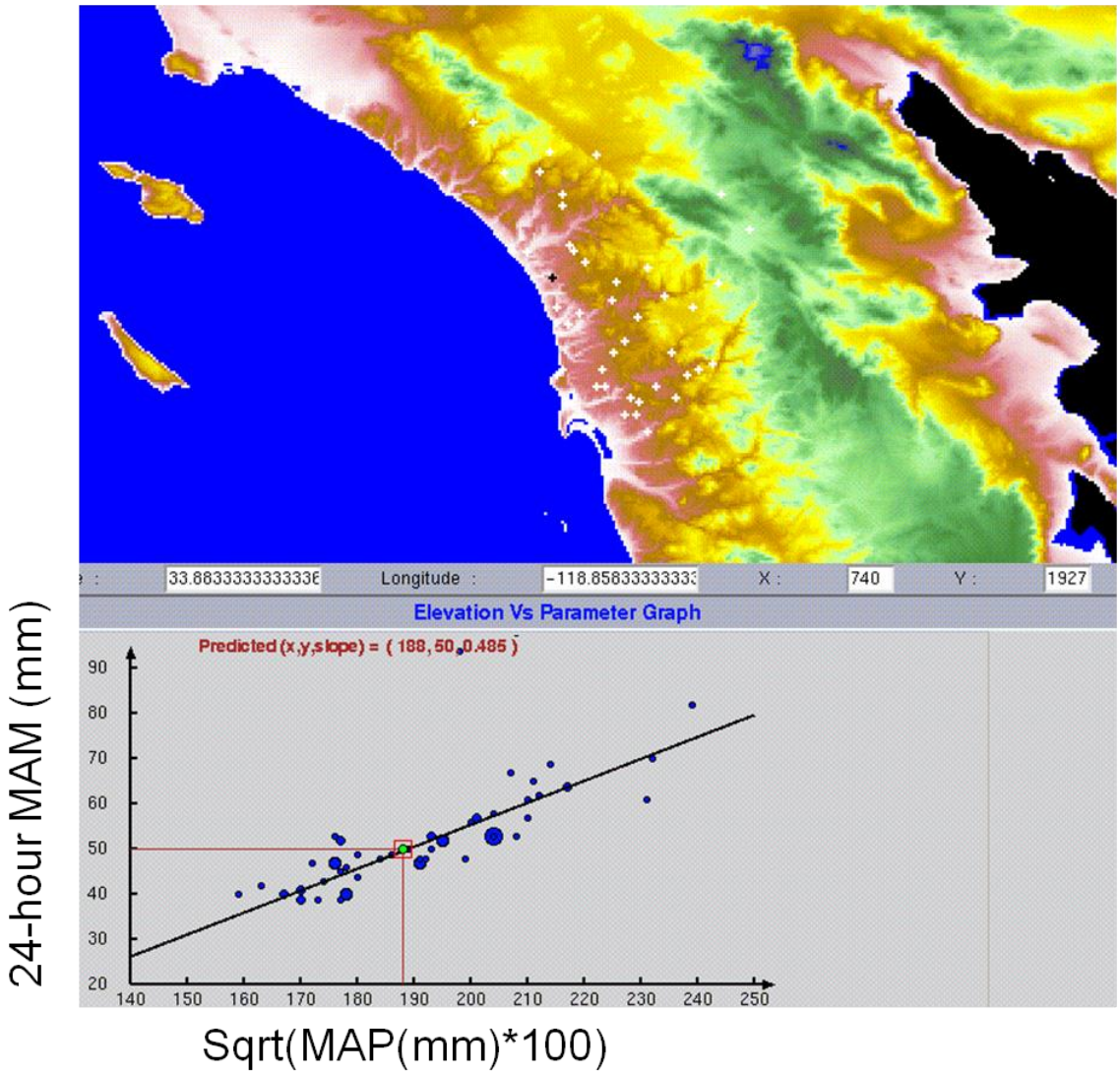


Figure 2. PRISM GUI snapshot of the moving-window weighted regression between the square root of mean annual precipitation and 24-hour mean annual maximum precipitation (MAM) in southern California.

Appendix A.5 Peer review comments and responses

A peer review of preliminary results for the California precipitation frequency project was carried out during an eight week period starting on July 22, 2010. The request for review was sent via email to the over 600 members of the HDSC list-server from all over the United States and other interested parties in California. Potential reviewers were asked to evaluate the reasonableness of point precipitation frequency estimates as well as their spatial patterns. The review included the following items:

1. List of all stations used in the analysis. The list included information on station name, state, source of data, assigned station ID, latitude, longitude, elevation, and period of record. It also showed information if the station was merged with another station, if the station was co-located with another station with a different ID, and if metadata at the station were changed.
2. List of all stations that were received by HDSC, but not considered in analysis. This list contained stations that were not used, either because there was another station with a longer period of record nearby, station data were not reliable, or the station period of record was not long enough and it was not a candidate for merging with any nearby station.
3. At-station depth-duration-frequency curves for a range of durations for which annual maximum series (AMS) data were extracted.
4. Spatially-interpolated maps of mean annual maxima for 60-minute, 24-hour and 10-day durations.
5. Precipitation frequency estimates for 60-minute, 24-hour and 10-day durations and for 2-year and 100-year average recurrence intervals.

Five reviews were received, some of which represented consolidated feedback from several individuals in the same agency. All reviewers' comments and HDSC's responses are shown below. Similar comments were grouped together and are accompanied by a single HDSC response. The comments and their respective HDSC responses have been divided into five categories:

1. Station metadata;
2. At-station precipitation frequency estimates;
3. Precipitation frequency grids/maps;
4. Intensity (or depth)-duration-frequency (IDF or DDF) curves;
5. Web interface.

1. Comments pertaining to station metadata

1.1 Of the roughly 100 rain gage stations listed in the "CA_Metadata_Used.xls" spreadsheet that are within District 11 boundary, 26 gages were identified as "Directly Used" (23 in San Diego Co. & 3 in Imperial Co.) and incorporated into this Atlas. All were found to be accurate regarding their geographic location. I also checked the geographic location of 21 "Directly Used" rain gage stations adjacent to D-11 (3 in Orange Co., 11 in Riverside Co. & 7 in the State of Arizona). One of those stations, in Riverside Co. may be improperly located. The "Eagle Mountain" (Station ID 04-2598) is listed at Longitude -115.4508° but the actual mountain peak by that name is near Longitude -115° 45' 08". Perhaps the gage is accurately located and the name is the only nearby reference but it seems like it's misplaced?

HDSC response: We investigated the location of Eagle Mountain station. Both the geographic location and the name of the station are correct. The name of the station is a reference to Eagle Mountain Road, not to the Eagle Mountain Peak that, as the reviewer correctly points out, is at a different location.

1.2 We have imported the rain gauges into GIS to compare your coordinates (lat, long) to our active gauges [Contra Costa County]. We find that many of them do not line up well (see attached example). Please confirm that we should be using the GCS_North_American_1983 geographic coordinate system?...

The lat/long values you have are different than what we provided... We would like clarification on how the lat/long values were used and what precision you used... Understanding the geographic projections will help me provide better feedback/confirmation on the station locations. 1. What geographic projection did you assume our lat/long values were in? 2. What geographic projection are your lat/long values in?...

Your spreadsheet shows some stations in our county as being sourced by other counties…. The Alameda County stations could be in our County due to lat/long errors or they could be attributed to the wrong county. For example the one gage that plots near Lafayette reservoir (LAFRES_122, 81-0068 , is likely managed by East Municipal Utility District (HQ in Alameda County?), but the source says Alameda County. There is one station in our county that says the source is Santa Clara County. We cannot readily verify the locations of the NCDC or RAWS stations.

HDSC response: Yes, we used the GCS_North_American_1983 geographic coordinate system. We found and corrected an error in our conversion of the metadata coordinates for the Contra Costa County stations. We rechecked metadata information for all stations used in our analysis.

In our metadata table, the source field indicated who provided the data, not necessarily who maintained the station. Alameda County provided some stations that are located in Contra Costa County and the location of these stations was verified by them.

2. Comments pertaining to at-station precipitation frequency estimates

2.1 Looking at some locations where precipitation gages exist, we see changes between NOAA14 and NOAA Atlas 2 that seem reasonable; however, other locations are of great concern! We created a table [a relevant excerpt is shown in Table A.5.1] to show our random sampling. The table compares the NOAA14 100-yr estimates with three other sources 1. Jim Goodridge's Regional [Precipitation] Study for CA Dep Water Resources 2. NOAA Atlas 2 3. HMR 59, Probable Maximum [Precipitation] for California, NOAA. The locations we sampled shown in yellow are of concern.

We are able to derive estimates of extreme events (200yr, 500yr, 1000yr, 10,0000 yr from NOAA Atlas 2 by using a formula. While we acknowledge that NOAA Atlas 2 was not derived to estimate values of those extreme events, it gives us a feeling for how a big a change were seeing with the NOAA14 estimates. …[We used] a formula to extrapolate the Gumbel frequency curve since the Gumbel frequency curve is a straight line on Gumbel paper…. In some of these, the NOAA14 estimates exceed or equal the 10,000 yr event estimate from NOAA Atlas 2. Also, for the first station (Johnsondale), the new NOAA14 100YR depth is getting close to the Probable Maximum Precipitation from HMR 59. Sacramento District of the Corps is currently studying the Kern River. The top six gages in our spreadsheet (Johnsondale thru Weldon) are located in

this region. In December 1966, a real extreme storm hit this area. Some gages recorded precipitation that approached the estimated Probable Maximum Precipitation for that area. …[It was] said that the NWS updated the PMP because of this event.

Table A.5.1. Excerpt from peer reviewer's table comparing 100-year 24-hour estimates from previous work by Jim Goodridge, NOAA Atlas 2 (NA2), probable maximum precipitation (PMP) from HMR 59 and NOAA Atlas 14 (NA14).

	Lat	Long	Elev	Record length	Goodridge 100-yr	NA 2 100-yr	HMR 59 PMP	NA14 100-yr	% Diff NA2 to NA14
Johnsondale	35.970	-118.540	4680	24	9.12	8.15	19.5	16.0	96%
Woffard Heights	35.717	-118.450	2700	79	3.63	5.09	11.9	6.5	28%
Isabella Dam ISB	35.646	-118.479	2660	60	4.00	4.46	10.9	7.5	68%
Giant Forest GNF	36.568	-118.757	6412	77	10.65	13.43	30.0	17.0	27%
Milo 5NE	36.278	-118.711	3400	38	9.38	13.76	31.0	10.0	-27%
Weldon	35.667	-118.300	2680	38	2.76	3.50	10.0	6.0	71%
Gem Lake	37.752	-119.1403	8970	71	3.96	7.50	13.6	5.5	-27%
Soda Springs	39.326	-120.367	6885	111	7.92	12.43	25.1	10.0	-20%
Portola	39.805	-120.471	4850	94	4.05	4.94	10.8	7.5	52%
Downieville	39.559	-120.83	2915	101	9.18	11.00	22.0	11.5	5%
Chester	36.312	-121.568	4530	99	4.96	6.00	12.3	9.5	58%
Paradise	39.750	-121.61	1780	80	5.25	11.39	27.9	11.0	-3%
Oroville	39.508	-121.567	165	109	4.62	5.77	14.0	6.0	4%
Englebright	39.240	-121.2525	850	56	5.11	7.19	17.0	7.0	-3%
Auburn	38.889	-121.067	1292	110	5.66	6.46	16.0	7.5	16%
New Hogan	38.151	-120.8	554	56	3.95	5.15	13.6	4.8	-7%
Hetch Hetchy	37.945	-119.782	3870	98	6.08	9.25	20.8	9.0	-3%
Pine Flat	36.824	-119.3374	615	59	4.77	4.69	11.2	6.0	28%
Success Dam	36.058	-118.918	590	49	3.53	4.00	10.4	3.7	-8%

HDSC response: We have carefully investigated the stations with the largest differences between NOAA Atlas 14 and NOAA Atlas 2 precipitation frequency estimates for data quality and appropriate regionalization, including in the area along Kern River. Subsequent regionalization and quality control efforts after the peer review lowered the NOAA Atlas 14 frequency estimates for the stations of concern. However, considerable differences remain between the NOAA Atlas 2 and final NOAA Atlas 14 estimates at few locations, especially for longer average recurrence intervals. The new estimates are based on up to 40 more years of data than those published in NOAA Atlas 2 and improved analysis techniques, so we are confident in these final estimates.

Johnsondale and Isabella Dam, where substantial differences still remain, have had major precipitation/flood events occurring since 1966: the Great Flood of 1966 and the November flood of 2002. 24-hour precipitation amounts measured during those two events far exceeded the NOAA Atlas 2 100-year, 24-hour estimate of 4.46 inches at Isabella Dam. In fact, Johnsondale has had four 24-hour events since 1963 that exceeded the 100-year estimate of 8.15 inches from

NOAA Atlas 2 when adjusted for constrained observations (7.35 inches in 1963, 15 inches in 1966, 12.38 inches in 2002, 8 inches in 2010).

2.2 …based on a study performed by [a commercial contractor], the 100-year depth at the Petaluma Fire Station is 5.40 inches in 24 hr. Analysis was based on 98 years of data, including the 1982 storm depth of 6.4 inches and with the interval correction factor of 1.14. Therefore, the NOAA estimate of 6.37 inches appears to be too high (even higher than the revised 500-year depth of 6.35 inches)….City of Santa Rosa: 100-yr, 24 hr event is 5.2 inches. There will be an inch increase in these areas and will have significant impact on floodplain and risk mitigation for these communities.

HDSC response: Annual maximum series for Petaluma Airport (04-6826) and Petaluma Fire Station (84-6833) stations have 95 years and 60 years of data, respectively. An unconstrained 24-hour amount of 6.4 inches from the 1982 event is included in both series. Based on empirical distributions, 100-year estimates for these stations should be above 6 inches. We re-examined at-station precipitation frequency estimates and their spatial patterns for the area for 100-year ARI and we think that the final 100-year, 24-hour estimate of 6.12 inches at Petaluma is reasonable.

Similarly, Santa Rosa (04-7965) station has 103 years of annual maximum data with a maximum 1-day rainfall of 5.23 inches. We investigated probability plots for different distributions for this location as well as spatial patterns for 100-year 24-hour estimates in this area; the final 100-year 24-hour estimate of 5.8 inches seems reasonable.

2.3 Peak isopluvial lines for the Lost Coast area and Smith River canyon are in slightly different locations from previous version. I cannot tell if this is based on additional information, mapping techniques or spatial smoothing.

HDSC response: An additional 40 years of data and a much denser network of gauged locations were available for this project. In addition, quality control, frequency analysis, and spatial interpolation techniques have improved since the previous publication. Please refer to our documentation (Section 7) for analysis of the differences in precipitation frequency estimates between the two NOAA Atlases.

2.4 As for the rain gage data itself, in general the District 11 distribution looks appropriate. Specifically, I compared each of the gages in San Diego County… The peak isopluvial in San Diego Co. had previously been this Cuyamaca (Station ID 04-2239) Gage with the Palomar (Station ID 04-6657) Gage the 2nd highest. The data presented here has decreased the Cuyamaca data, as stated above, by about 30% and increased the Palomar data by about 35% so that now the Palomar Station is the peak location. This may indeed be accurate although the MAM 60-minute map looks like the peak, for this duration, may still be at the Cuyamaca Station location.

HDSC response: We have carefully investigated at-station frequency estimates and the spatial contours around the two peaks (Palomar and Cuyamaca stations). Based on the available data, an average annual maximum is higher for sub-daily durations at the Palomar peak and it is higher for daily durations at the Cuyamaca peak. However, the differences in precipitation frequency estimates for these two locations are small and it is unclear if they are due to a natural phenomenon or they can be attributed to the uncertainty in the data and estimation methods.

2.5 Of the Arizona rain gage stations that border District 11, I'm not too familiar with the rainfall patterns but on the surface it does seem that the Kofa Mine (Station ID 02-4702) gage rainfall amounts are considerably higher than a number of gages in the nearby vicinity.

HDSC response: Annual maximum series data for Kofa Mine (02-4702) station has been thoroughly checked for high outliers and quality of data. In addition, Kofa Mine, located in Arizona, was not assigned to final region of any California station, so it did not influence precipitation frequency estimates for any station in California.

2.6 We are wondering if your procedure for estimating Precipitation Frequency is somehow not correctly adjusting for HIGH OUTLIERS? This might explain why some locations in this region [along the Kern River] have huge changes in depths for the 100yr event since the 1966 storm might be causing a drastic change in statistics for this area.

HDSC response: We investigated and thoroughly scrutinized high outliers at all stations for all durations. Any inconsistencies in results that arose from a station that captured an extreme event coupled with a short record length were also carefully investigated and, if appropriate, the station in question was removed from the dataset. In addition, the regional approach based on L-moments that was used in this project is particularly robust to outliers.

2.7 We have looked at one station (Rodeo Fire 85-0013) and plotted our local standard information over it. … In general, the PFD curves provide higher storm amounts for the shorter duration storms and lower storm amounts for the longer duration storms....We would like to know what procedure or software you used to create your PFD curves so that we can better compare your results to ours.

HDSC response: The regional approach based on L-moment statistics used in this project is described in Section 4 of this document.

3. Comments pertaining to precipitation frequency grids/maps

3.1 … precipitation frequency estimates for Marin County are suspect and severely lacking the geospatial variability that would be expected given the county's coastal location and topography, which result in [topographically] enhanced rainfall. Data that we have collected (and submitted for the purposes of your update) better reflect this variability. I feel that the three data points in the county used to arrive at the Atlas 14 IDF estimates are not sufficient for providing a useful product. Two of these sites are within close proximity of one another and none are along either the Pacific or Bay coasts.

HDSC response: Prior to the peer review, several stations in the area did not meet the minimum requirement for data years and so were not used in the analysis. After the review, the user provided annual maximum series data that greatly increased the station density in the area and improved the resolution of spatial characteristics in the area. Updated estimates much better reflect expected spatial patterns.

3.2 …It is difficult to review the color ramp versions of these maps. When the colors are made somewhat transparent to allow for the "landforms" to show through, the resulting shades (intensities) are not easy to discern, especially for someone like me who has difficulty differentiating within certain color groups in general. I personally prefer "contour-like" maps for value extraction but do appreciate the color ramp versions for general "tendency-like" regional displays.

HDSC response: Cartographic maps were created to serve as visual aids and are not recommended for estimating precipitation frequency estimates. Users are advised to take advantage of the PFDS interface or the underlying ASCII grids for obtaining precipitation frequency estimates.

3.3 Maps: Using a larger color square in the key may make it easier to determine which color matches the coloring in the map. The colors don't seem to match quite right.

HDSC response: This was corrected in the final maps.

4. Comments pertaining to the IDF or DDF curves

4.1 In the past we've felt that the Imperial County (Desert Region) intensity values given in the IDF32 and previous versions, were not reflective of the high intensity, short duration storm characteristics that the region experiences. We had directions in our drainage guidelines to design "on-site" facilities considering the 100-year storm intensities and tried to persuade our designers to use these values, if economically and functionally practical. Since the NOAA Atlas 14 application has been available we've noticed that (on the couple of projects that we've had in the desert region) the NOAA 25-year intensity values do indeed compare favorably to the previous IDF program's 100-year values. So, we've been comfortable with the Atlas 14 values (lack of equations, aside) and have been eagerly anticipating the release of this Coastal region application (if we can get the equations incorporated, or method to develop them standardized.) So thanks for your participation and coordination efforts on this project. It will hopefully be a great tool that can be easy to use, accessible to all and we'll have the comfort of knowing that it was developed by the rainfall estimation experts.

HDSC response: We do not provide IDF curves in analytical form as analytical fitting could potentially significantly alter estimates. However, if desired, one can use the values from the IDF table to develop an IDF analytical equation.

4.2 IDF curves: Could the curve equation be displayed? (Engineers like exact numbers even if they shouldn't be.) This is still a point IDF whereas IDF2000 interpolates for us, making life easier. If I could get an interpolated IDF curve by clicking on the map at the location of my watershed, it would be more useful.

HDSC response: See response in 4.1.

4.3. Although the graphs themselves and the tech notes on the Atlas 14 website indicate these IDF relationships cannot be represented by a single equation, the practicality of its use would warrant

a procedure for developing an equation to use or a procedure to develop such an equation between values that appear in the table. This is needed for studies where the duration/rainfall intensity is continually being recalculated as the storm runoff amount is routed through the drainage basin. The concern again is, consistency and reproducibility, such that two users with the same chart or table can, to an adequate level of detail, arrive at the same rainfall value. This lends to the credibility of the final study results.

HDSC response: See response in 4.1.

4.4 We noticed there is no 72-hour depth. We realize that the 72-hr depth was not done for NOAA Atlas 14 in Nevada, but we feel this is a critical duration in California. Our design storms are usually balanced to this duration and this duration may determine whether a dam spills or not. A linear interpolation between the 48-hour and the 96-hour depths will result in an inaccurate 3-day depth (3-day depth being too small). If there is a way to obtain this estimate, it would be greatly appreciated.

HDSC response: Per this request, we added 3-day duration to the final set of durations for which precipitation frequency estimates are calculated.

4.5 All of the rain gage Depth-Duration-Frequency charts in the peer review portal have a curve for the "20-yr" return period whereas the Atlas 14 provides a "25-yr" return period graph and table. A good portion of our studies (on-site drainage design) require the 25-yr return period values. Hopefully this value will be included in the final version of this application.

HDSC response: Final depth-duration-frequency tables and plots include the 25-year average recurrence interval.

4.6 The charts and graphs in the output are not detailed enough to provide consistently reproducible value extractions. Two users may estimate different values, for rainfall intensity for example, from the same graph, or if two users interpolate differently (linear vs. logarithmic) between values in the table.

HDSC response: We provide estimates for a wide range of frequencies and durations. However, if interpolation between given values is necessary, while different interpolation methods will produce slightly different estimates, the differences will be well within the confidence limits of the estimates.

5. Comments pertaining to the web interface

5.1 Interactive map: the "mouse-over" is very sensitive, hard to exactly hover over the station. When finally hovering appropriately, a pop-up next to the cursor with the station name would be more user-friendly than displaying on the side.

HDSC response: This issue was corrected.

5.2 A zoom-in button would be appreciated, similar to the peer review "5. At-Station" rain gage selection map, so that as you zoom closer, more location details appear, in order to select (click on) a specific point more accurately. Previously Atlas 14 displayed (in the output) a nice location map showing where the point location was selected. That appears to have been replaced with a link to a mapping webpage but has no "flag" or point location identified that I can see, in the current version. This was good for the review verification process whereas now the chosen Lat/Long will have to be located on a map to verify the correctness of the chosen "project" location.

HDSC response: The web pages have been updated with the publication of Volume 6 and include zooming in functionality from Google Maps© to allow precision when selecting a location.

Appendix A.6 Temporal distributions of annual maxima

1. Introduction

Temporal distributions of annual maxima are provided for 6-, 12-, 24-, and 96-hour durations. The temporal distributions are expressed in probability terms as cumulative percentages of precipitation totals at various time steps. To provide detailed information on the varying temporal distributions, separate temporal distributions were also derived for four precipitation cases defined by the duration quartile in which the greatest percentage of the total precipitation occurred.

Stations were grouped into fourteen climate regions, shown in Figure A.6.1, and separate temporal distributions were derived for each climate region. Regions were delineated based on extreme precipitation characteristics expressed through 24-hour mean annual maximum (MAM) estimates, mean annual precipitation (MAP), elevation, latitude, and proximity to the coast. In some cases, transitional regions were created between very distinct climate regions.

Climate regions. Some of the highest precipitation amounts occur in region 1, where precipitation is orographically enhanced by the western facing Coastal Range Mountains as moisture-laden storms reach the shoreline. In transitional region 2 which is more inland, the elevation increases slightly, but as it is farther from the coast, precipitation amounts begin to decrease. To the south, region 7 is also influenced by the Coastal Range, but the terrain is not as varied and precipitation amounts are lower due to the stronger influence of the eastern Pacific high pressure that forces maritime storms to the north especially during the summer. Region 8 is a drier transitional region due to its leeward proximity to the Coastal Range.

Beyond these mountains, the low-lying interior Central Valley regions (5, 9 and 10) are cut off from the maritime moisture and receive much less precipitation. The more northern region 5 has relatively higher precipitation amounts than regions 9 and 10. Region 9 contains some of the lowest precipitation amounts in the state. MAP and MAM begin to increase in the transitional region 10 and then peak in the Sierra Nevada Range (regions 6 and 11). Region 6 may have lower elevations than region 11, but because it is farther north, it receives increased amounts of precipitation. In northeastern region 3, elevations remain high due to the Cascade Range and Sierra Nevada Range, but leeward characteristics relative to the moisture flow cause it to be a transitional zone into the lower precipitation amounts of region 4 which is part of North America's Great Basin.

In the south, region 12 comprises the LA Basin encircled by a series of mountains that stretch from west to east. This region has the highest precipitation amounts in southern California. Region 13 in southwest California along the coast is flanked by mountains on its northern and eastern sides but the region is so far south that it is impacted by fewer storms. The Cascade Range, Sierra Nevada and LA Basin mountains serve to cut off moisture to eastern California forming a very dry, desert climate particularly in the southeast (region 14). However, the southeastern desert region is susceptible to the Mexican Monsoon during the summer months where tropical Pacific moisture flows up from the southwest triggering brief but heavy downpours especially at higher elevations.

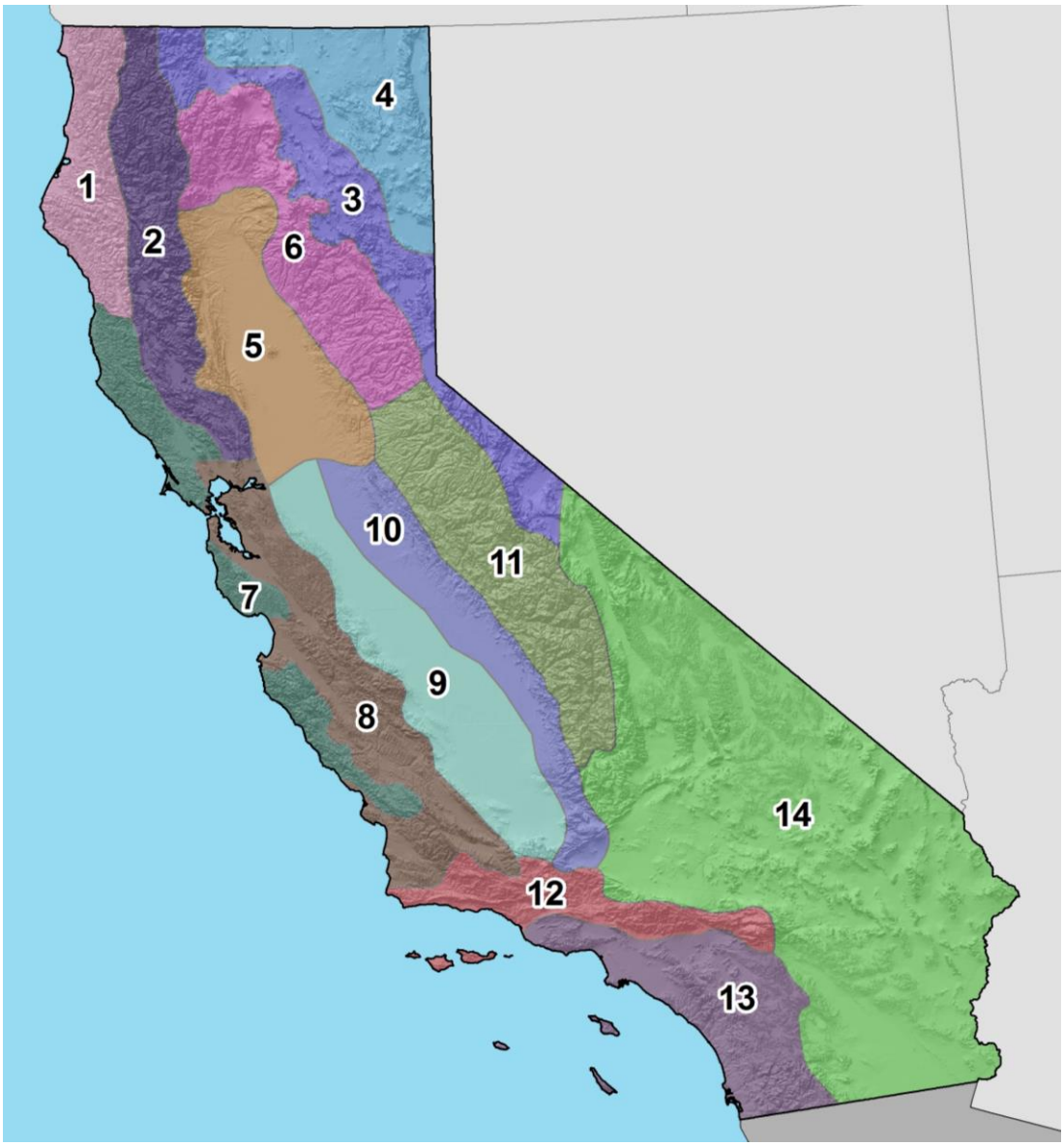


Figure A.6.1. Climate regions used for temporal distribution and seasonality analyses.

2. Methodology and results

The methodology used to produce the temporal distributions is similar to the one developed by Huff (1967) except in the definition of precipitation cases. In accordance with the way a precipitation case ('event') was defined for the precipitation frequency analysis, a precipitation case for the temporal distribution analysis was computed as the total accumulation over a specific duration (6-, 12-, 24-, or 96-hours). As a result, it may contain parts of one or more storms. Because of that, temporal distribution curves presented here may be different from corresponding temporal distribution curves obtained from the analysis of single storms.

Also, precipitation cases for this project always start with precipitation but not necessarily end with precipitation resulting in potentially more front-loaded cases when compared with distributions derived from the single storm approach. To reduce biases, a constraint was imposed to exclude cases with a

continuous dry period that lasted for more than 30% of the duration. This restriction produced a less variant sample. By imposing the restriction on continuous dry periods, the number of cases available for temporal distribution analysis decreased with duration because long, continuous precipitation events occurred less frequently than continuous short-duration events. Cases were selected from the annual maximum series at each station. Table A.6.1 shows the total number of precipitation cases and number of cases in each quartile for each region for each selected duration.

For each precipitation case, cumulative precipitation amounts were converted into percentages of the total precipitation amount at one hour time increments. All cases for a specific duration were then combined and probabilities of occurrence of precipitation totals were computed at each hour. The temporal distribution curves for nine deciles (10% to 90%) were smoothed using linear programming method (Bonta and Rao, 1988) and plotted in the same graph. Figure A.6.2 shows as an example of temporal distribution curves for the four selected durations for region 13; time steps were converted into percentages of durations for easier comparison.

The cases were further divided into four categories by the quartile in which the greatest percentage of the total precipitation occurred. Table A.6.1 shows the numbers and proportion of precipitation cases used to derive the temporal distributions in each quartile. Unlike the cases of 12-, 24-, and 96-hour durations in which the number of data points can be equally divided by four, the cases of 6-hour duration contain only six data points and they cannot be evenly distributed into four quartiles. Therefore, in this analysis, for 6-hour duration, the first quartile contains precipitation cases where the most precipitation occurred in the first hour, the second quartile contains precipitation cases where the most precipitation occurred in the second and third hours, the third quartile contains precipitation cases where the most precipitation occurred in the fourth hour, and the fourth quartile contains precipitation cases where the most precipitation occurred in the fifth and sixth hours. This uneven distribution affects the number of cases contained in each quartile for the 6-hour duration. Figures A.6.3 through A.6.6 show the temporal distribution curves for four quartile cases for 6-hour, 12-hour, 24-hour and 96-hour durations, respectively.

Table A.6.1. Total number of precipitation cases and number (and percent) of cases in each quartile for selected durations for each designated climate region.

Duration	Region	All cases	First-quartile cases	Second-quartile cases	Third-quartile cases	Fourth-quartile cases
6-hour	1	424	66 (16%)	117 (28%)	149 (35%)	92 (22%)
	2	573	80 (14%)	177 (31%)	177 (31%)	139 (24%)
	3	583	107 (18%)	182 (31%)	168 (29%)	126 (22%)
	4	274	57 (21%)	82 (30%)	91 (33%)	44 (16%)
	5	883	143 (16%)	240 (27%)	313 (35%)	187 (21%)
	6	968	173 (18%)	241 (25%)	297 (31%)	257 (27%)
	7	775	103 (13%)	224 (29%)	295 (38%)	153 (20%)
	8	1573	258 (16%)	511 (32%)	539 (34%)	265 (17%)
	9	397	71 (18%)	127 (32%)	127 (32%)	72 (18%)
	10	394	88 (22%)	121 (31%)	114 (29%)	71 (18%)
	11	884	154 (17%)	269 (30%)	253 (29%)	208 (24%)
	12	1054	121 (11%)	276 (26%)	399 (38%)	258 (24%)
	13	1880	329 (18%)	561 (30%)	627 (33%)	363 (19%)
	14	693	150 (22%)	203 (29%)	213 (31%)	127 (18%)

Duration	Region	All cases	First-quartile cases	Second-quartile cases	Third-quartile cases	Fourth-quartile cases
12-hour	1	415	86 (21%)	122 (29%)	134 (32%)	73 (18%)
	2	561	100 (18%)	152 (27%)	202 (36%)	107 (19%)
	3	557	143 (26%)	178 (32%)	164 (29%)	72 (13%)
	4	228	53 (23%)	72 (32%)	74 (32%)	29 (13%)
	5	859	159 (19%)	231 (27%)	269 (31%)	200 (23%)
	6	958	172 (18%)	260 (27%)	299 (31%)	227 (24%)
	7	735	134 (18%)	228 (31%)	233 (32%)	140 (19%)
	8	1405	290 (21%)	460 (33%)	426 (30%)	229 (16%)
	9	319	82 (26%)	113 (35%)	73 (23%)	51 (16%)
	10	370	88 (24%)	117 (32%)	95 (26%)	70 (19%)
	11	867	140 (16%)	281 (32%)	269 (31%)	177 (20%)
	12	1012	165 (16%)	324 (32%)	340 (34%)	183 (18%)
	13	1730	363 (21%)	587 (34%)	490 (28%)	290 (17%)
	14	541	129 (24%)	182 (34%)	148 (27%)	82 (15%)
24-hour	1	404	87 (22%)	128 (32%)	120 (30%)	69 (17%)
	2	546	113 (21%)	183 (34%)	146 (27%)	104 (19%)
	3	490	133 (27%)	180 (37%)	108 (22%)	69 (14%)
	4	198	65 (33%)	59 (30%)	43 (22%)	31 (16%)
	5	793	195 (25%)	195 (25%)	202 (25%)	201 (25%)
	6	930	149 (16%)	264 (28%)	300 (32%)	217 (23%)
	7	680	164 (24%)	206 (30%)	173 (25%)	137 (20%)
	8	1275	443 (35%)	339 (27%)	285 (22%)	208 (16%)
	9	254	93 (37%)	60 (24%)	72 (28%)	29 (11%)
	10	310	90 (29%)	93 (30%)	75 (24%)	52 (17%)
	11	805	190 (24%)	287 (36%)	225 (28%)	103 (13%)
	12	881	220 (25%)	276 (31%)	237 (27%)	148 (17%)
	13	1492	451 (30%)	485 (33%)	338 (23%)	218 (15%)
	14	384	137 (36%)	109 (28%)	94 (24%)	44 (11%)
96-hour	1	350	111 (32%)	91 (26%)	87 (25%)	61 (17%)
	2	425	118 (28%)	126 (30%)	101 (24%)	80 (19%)
	3	316	100 (32%)	90 (28%)	81 (26%)	45 (14%)
	4	125	38 (30%)	37 (30%)	25 (20%)	25 (20%)
	5	497	177 (36%)	120 (24%)	114 (23%)	86 (17%)
	6	681	197 (29%)	155 (23%)	178 (26%)	151 (22%)
	7	477	170 (36%)	123 (26%)	102 (21%)	82 (17%)
	8	727	265 (36%)	170 (23%)	201 (28%)	91 (13%)
	9	128	43 (34%)	27 (21%)	31 (24%)	27 (21%)
	10	134	32 (24%)	36 (27%)	35 (26%)	31 (23%)
	11	431	157 (36%)	108 (25%)	115 (27%)	51 (12%)
	12	356	123 (35%)	66 (19%)	93 (26%)	74 (21%)
	13	583	219 (38%)	106 (18%)	128 (22%)	130 (22%)
	14	95	38 (40%)	18 (19%)	22 (23%)	17 (18%)

From the Precipitation Frequency Data Server, regional temporal distribution data are available in a tabular form for a selected location under the 'Supplementary information' tab or through the temporal distribution web page (http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_temporal.html). For 6-, 12- and 24-hour durations, temporal distribution data are provided in 0.5-hour increments and for 96-hour duration in hourly increments.

3. Interpretation

Figure A.6.2 shows as an example the temporal distribution curves of all precipitation cases in region 13 for the 6-, 12-, 24-, and 96-hour durations. Time steps were converted into percentages of total durations for easier comparison. Figures A.6.3 through A.6.6 show temporal distribution curves for first-, second-, third-, and fourth-quartile cases for 6-hour, 12-hour, 24-hour and 96-hour durations, respectively. First-quartile plots show temporal distribution curves for cases where the greatest percentage of the total precipitation fell during the first quarter of the duration (e.g., the first 3 hours of a 12-hour duration). The second, third, and fourth quartile plots are similarly for cases where the most precipitation fell in the second, third, or fourth quarter of the duration.

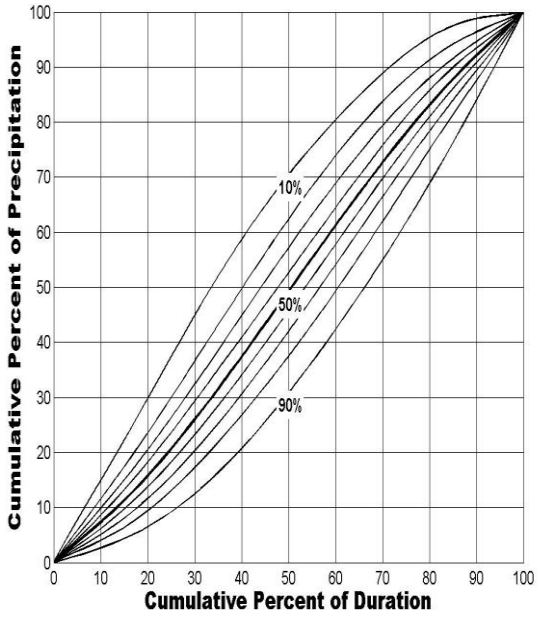
The temporal distribution curves represent the averages of many cases and illustrate the temporal distribution patterns with 10% to 90% occurrence probabilities in 10% increments. For example, the 10% curve in any figure indicates that 10% of the corresponding precipitation cases had distributions that fell above and to the left of the curve. Similarly, 10% of the cases had temporal distribution falling to the right and below the 90% curve. The 50% curve represents the median temporal distribution.

The following is an example of how to interpret the results using the figure (a) in the upper left panel of Figure A.6.5 for 24-hour first-quartile cases in region 13.

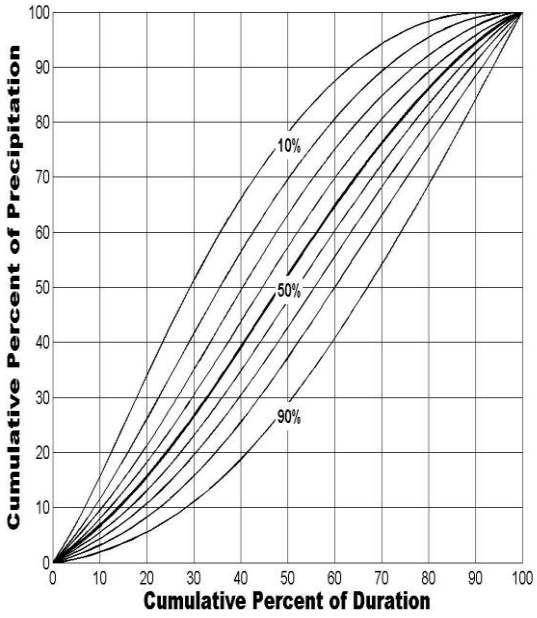
- In 10% of the first-quartile cases, 50% of the total precipitation fell in the first 4.3 hours (18% of duration) and 90% of the total precipitation fell by 12 hours (50% of duration).
- A median case of this type will drop half of the precipitation (50% on the y-axis) in approximately 6.2 hours.
- In 90% of the cases, 50% of the total precipitation fell by 10.6 hours (44% of duration) and 90% of precipitation fell by 22 hours (92% of duration).

Temporal distribution curves are provided in order to show the range of possibilities. Care should be taken in the interpretation and use of temporal distribution curves. For example, the use of different temporal distribution data in hydrologic models may result in very different peak flow estimates. Therefore, they should be selected and used in a way to reflect users' objectives.

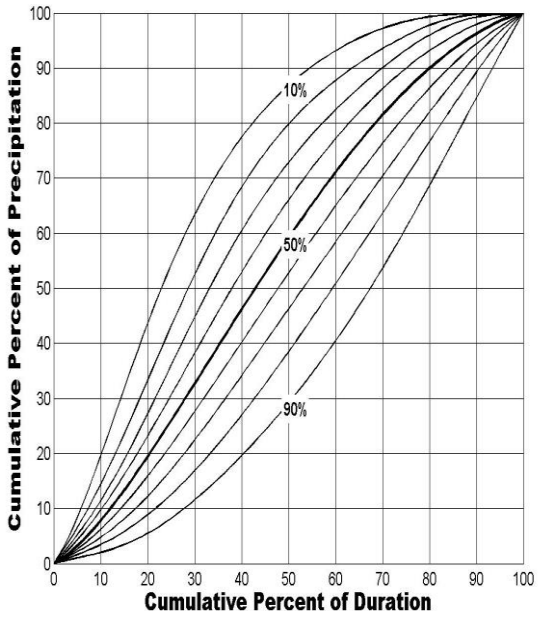
a) 6-hour duration



b) 12-hour duration



c) 24-hour duration



d) 96-hour duration

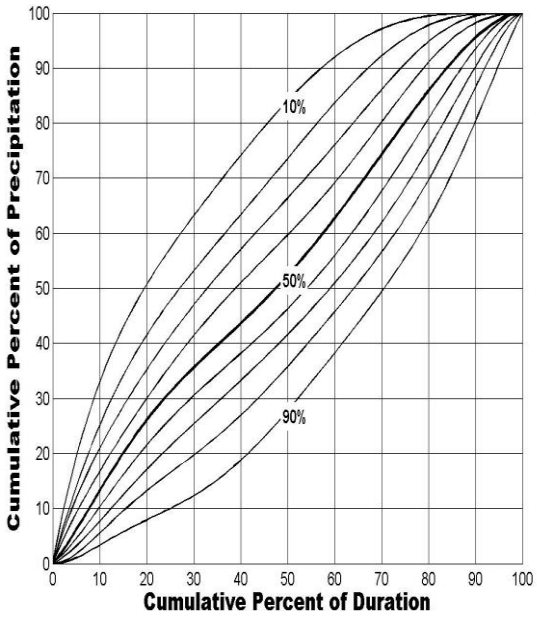
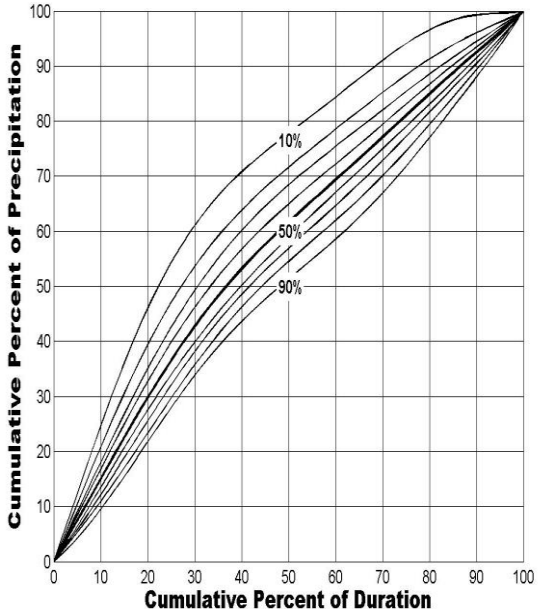
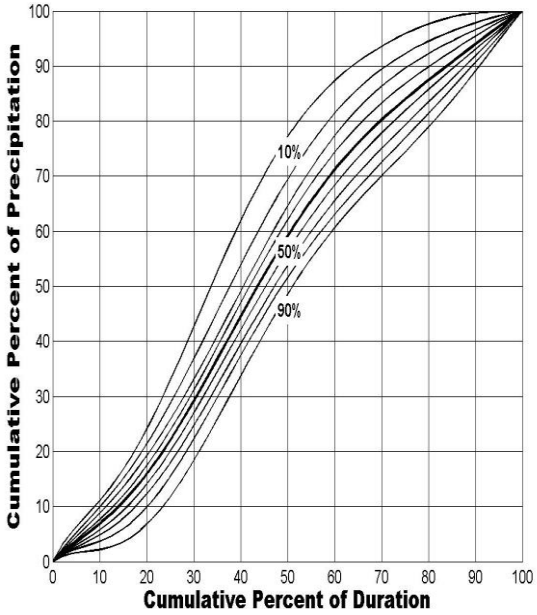


Figure A.6.2. Temporal distribution curves for region 13 all cases for: a) 6-hour, b) 12-hour, c) 24-hour, and d) 96-hour durations.

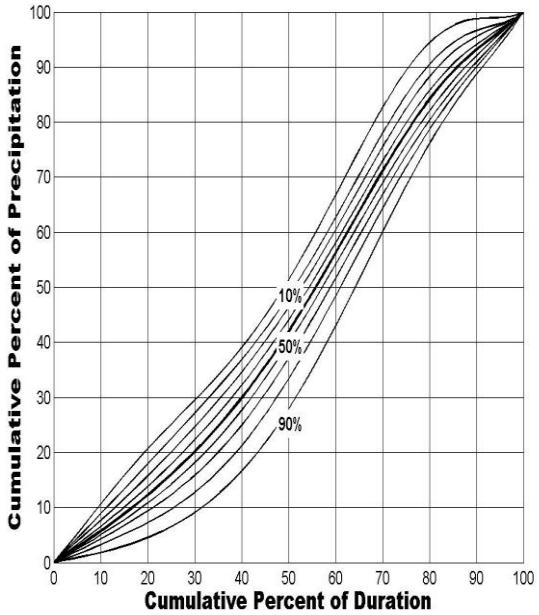
a) First-quartile



b) Second-quartile



c) Third-quartile



d) Fourth-quartile

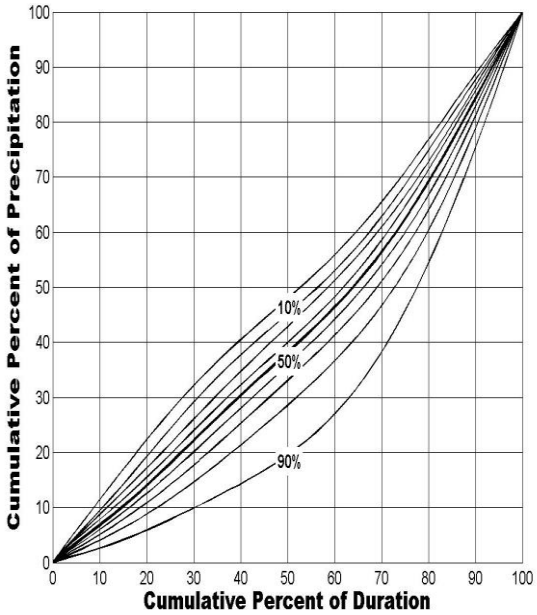
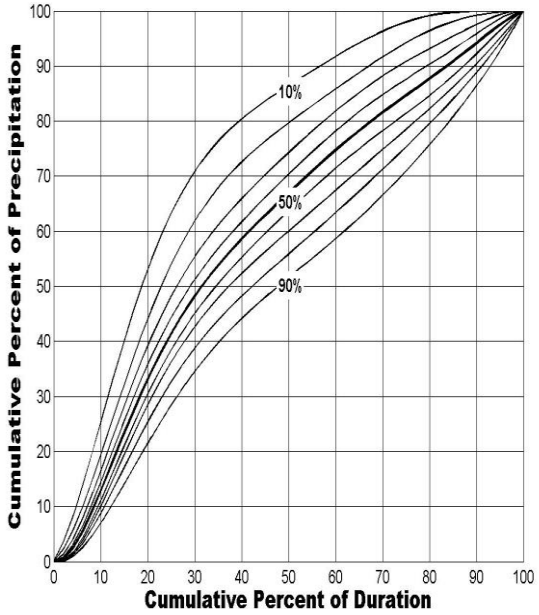
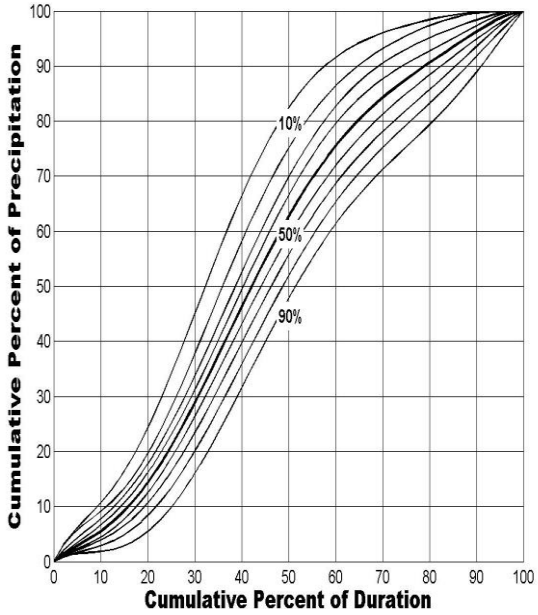


Figure A.6.3. 6-hour temporal distribution curves for region 13: a) first-quartile, b) second-quartile, c) third-quartile, and d) fourth-quartile cases.

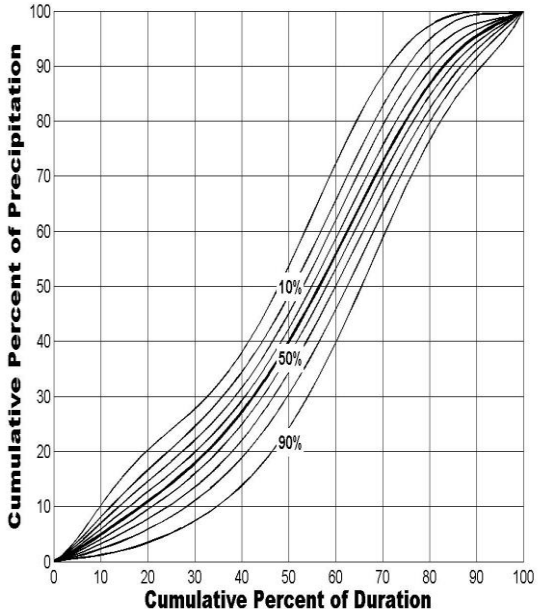
a) First-quartile



b) Second-quartile



c) Third-quartile



d) Fourth-quartile

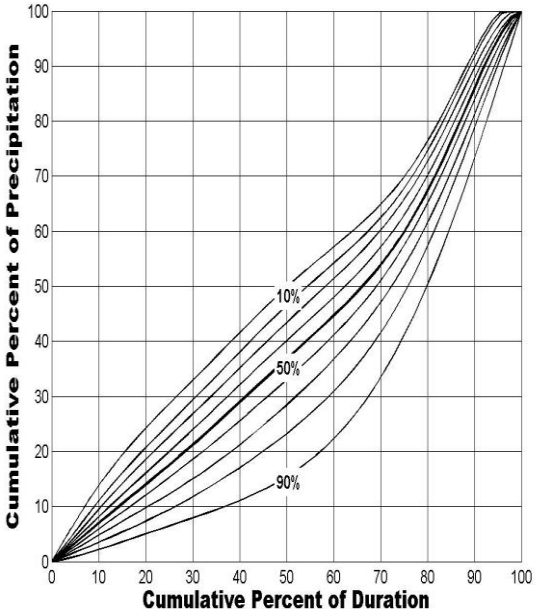
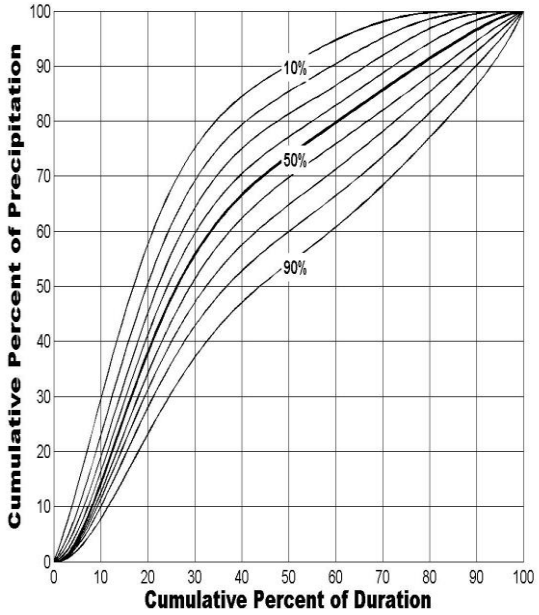
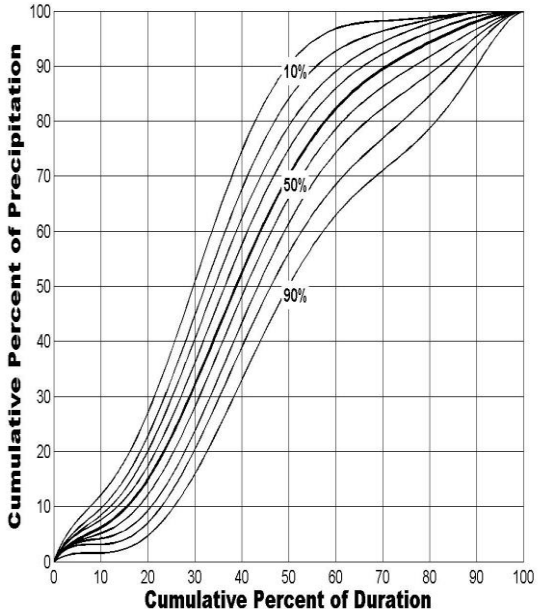


Figure A.6.4. 12-hour temporal distribution curves for region 13: a) first-quartile, b) second-quartile, c) third-quartile, and d) fourth-quartile cases.

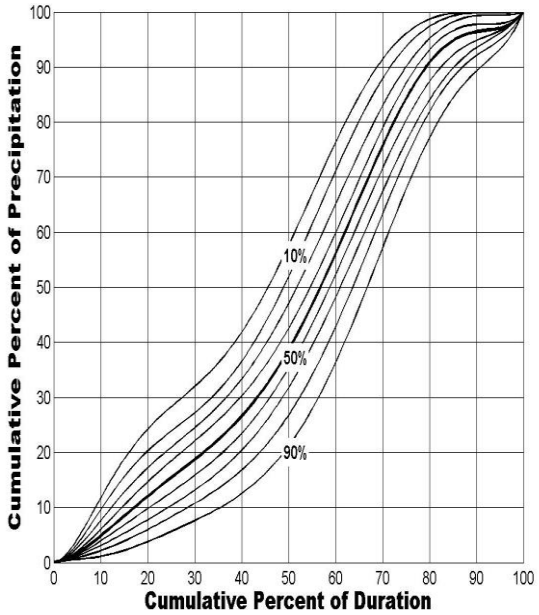
a) First-quartile



b) Second-quartile



c) Third-quartile



d) Fourth-quartile

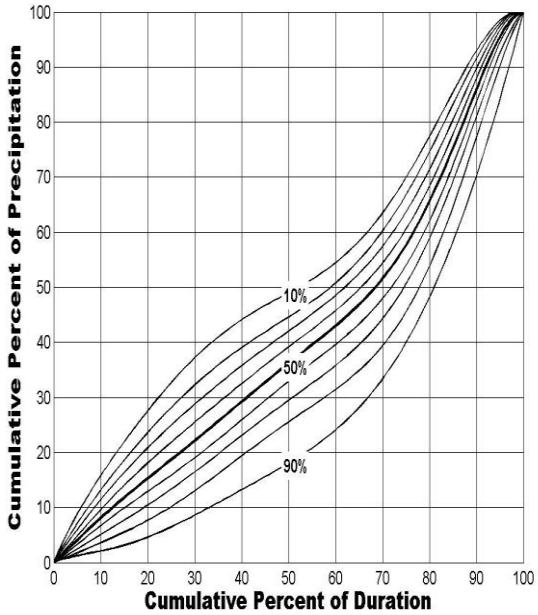
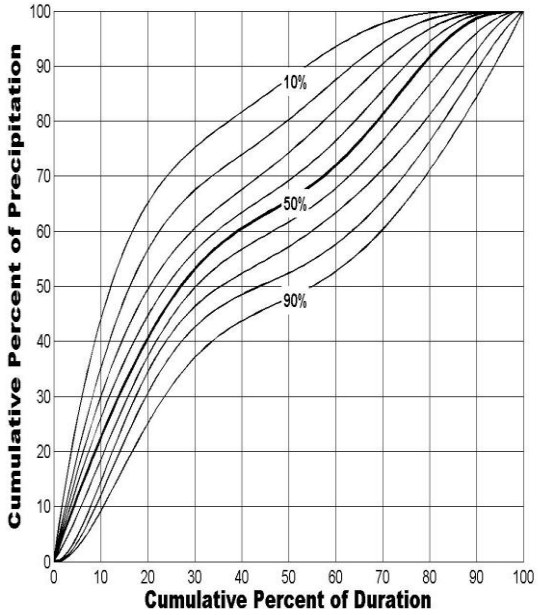
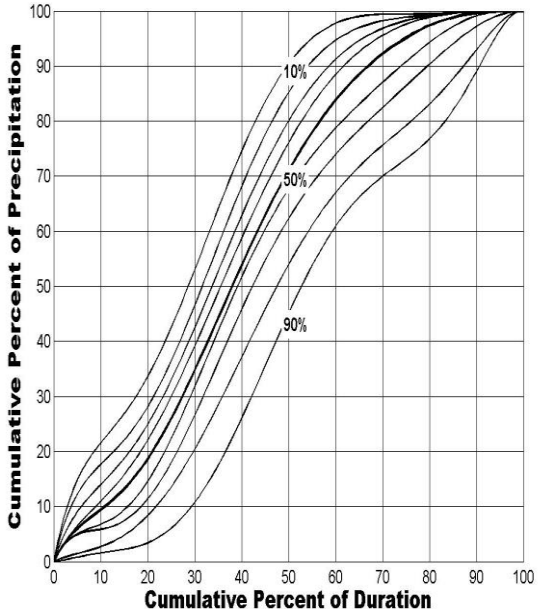


Figure A.6.5. 24-hour temporal distribution curves for region 13: a) first-quartile, b) second-quartile, c) third-quartile, and d) fourth-quartile cases.

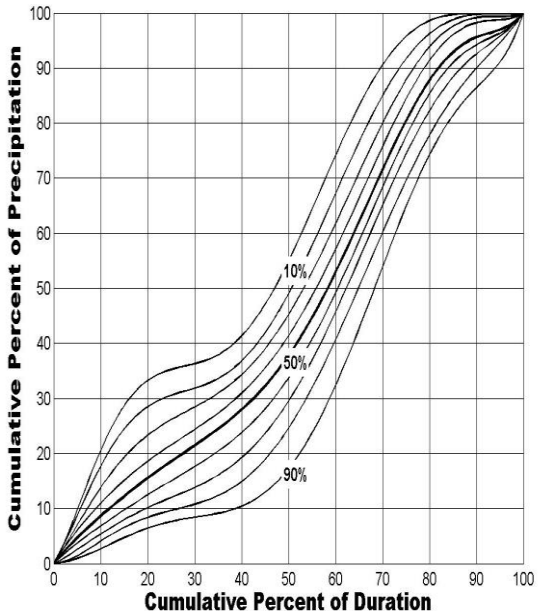
a) First-quartile



b) Second-quartile



c) Third-quartile



d) Fourth-quartile

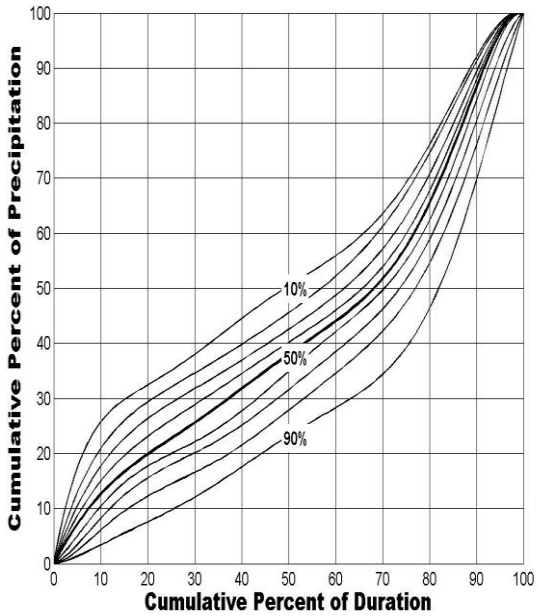


Figure A.6.6. 96-hour temporal distribution curves for region 13: a) first-quartile, b) second-quartile, c) third-quartile, and d) fourth-quartile cases.

Appendix A.7 Seasonality

1. Introduction

To portray the seasonality of extreme precipitation throughout the project area, annual maxima that exceeded precipitation frequency estimates (quantiles) with selected annual exceedance probabilities (AEPs) for chosen durations were examined for each climate region described in Appendix A.6. Graphs showing the monthly variation of the exceedances for a region are provided for each location in the project area via the Precipitation Frequency Data Server (PFDS) at http://hdsc.nws.noaa.gov/hdsc/pfds/. For a selected location, seasonal exceedance graphs can be viewed by selecting 'V. Seasonality analysis' of the 'Supplementary information' tab on the output page.

2. Method

Separate seasonal exceedance graphs were created for each of fourteen climate regions. They show the percentage of annual maxima for a given duration from all stations in a region that exceeded corresponding precipitation frequency estimates at selected AEP levels in each month. Results are provided for unconstrained 60-minute, 24-hour, 2-day, and 10-day durations and for annual exceedance probabilities of 1/2, 1/5, 1/10, 1/25, 1/50, and 1/100.

To prepare the graphs, first, the number of annual maxima exceeding the precipitation frequency estimate at a station for a given AEP was tabulated for each duration. Those numbers were then combined for all stations in a given region, sorted by month, normalized by the total number of data years in the region, and finally plotted via the PFDS.

3. Results

The exceedance graphs for a selected location (see an example for a location in region 9 in Figure A.7.1) indicate percent of annual maxima exceeding the quantiles with selected AEPs for various durations. The percentages are based on regional statistics. On average, 1 % of annual maxima for a given duration in a year (i.e., the sum of percentages of all twelve months) are expected to exceed the 1/100 AEP quantile, 4% is expected to exceed the 1/25 AEP quantile, etc.

Note that seasonality graphs are not intended to be used to derive seasonal precipitation frequency estimates.

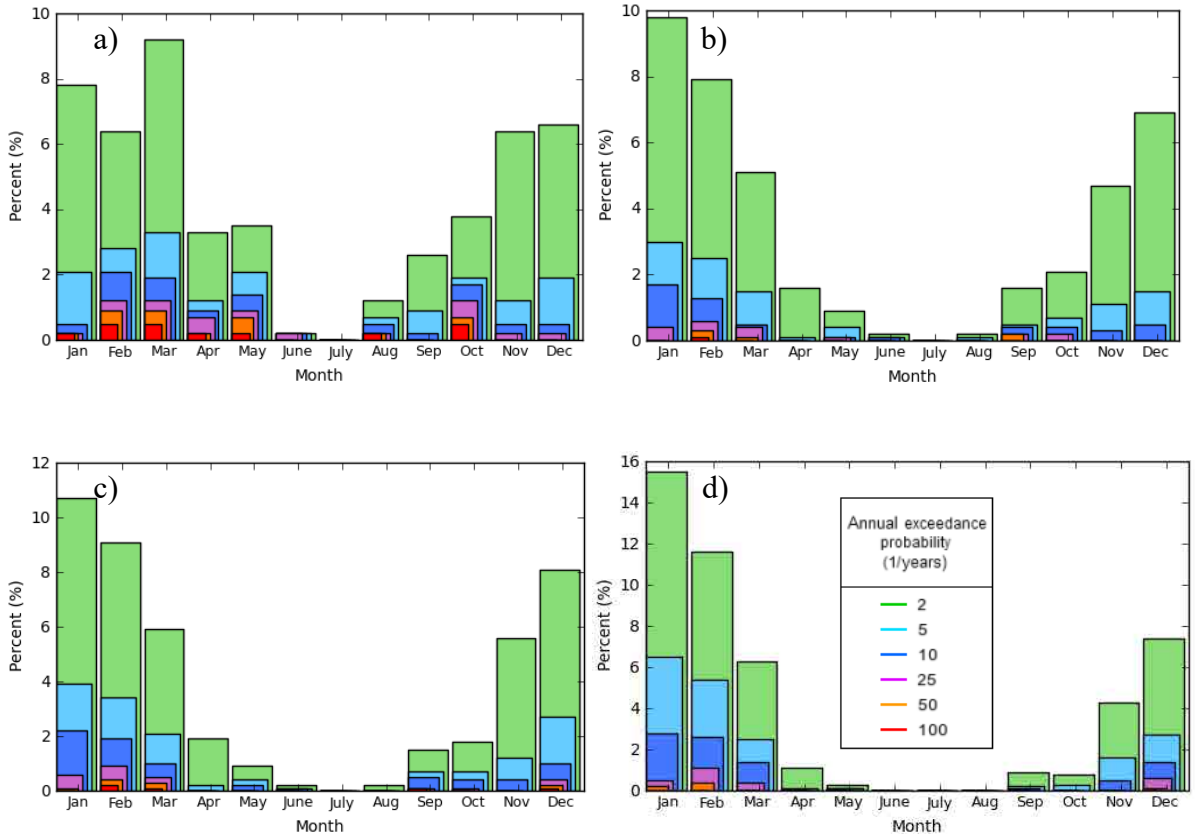


Figure A.7.1. Example of seasonal exceedance graphs for region 9 for the: a) 60-minute, b) 24-hour, c) 2-day, and d) 10-day durations.

Glossary

(All definitions are given relative to precipitation frequency analyses in NOAA Atlas 14 Volume 6)

ANNUAL EXCEEDANCE PROBABILITY (AEP) – The probability associated with exceeding a given amount in any given year once or more than once; the inverse of AEP provides a measure of the average time between years (and not events) in which a particular value is exceeded at least once; the term is associated with analysis of annual maximum series (see also AVERAGE RECCURENCE INTERVAL).

ANNUAL MAXIMUM SERIES (AMS) – Time series of the largest precipitation amounts in a continuous 12-month period (calendar or water year) for a specified duration at a given station.

ASCII GRID – Grid format with a 6-line header, which provides location and size of the grid and precedes the actual grid data. The grid is written as a series of rows, which contain one ASCII integer or floating point value per column in the grid. The first element of the grid corresponds to the upper-left corner of the grid.

AVERAGE RECURRENCE INTERVAL (ARI; a.k.a. RETURN PERIOD, AVERAGE RETURN PERIOD) – Average time between *cases of a particular precipitation magnitude* for a specified duration and at a given location; the term is associated with the analysis of partial duration series. However, ARI is frequently calculated as the inverse of AEP for the annual maximum series; in this case it represents the average period between years in which a given precipitation magnitude is exceeded at least once.

CONSTRAINED OBSERVATION – A precipitation measurement or observation bound by clock hours and occurring in regular intervals. This observation requires conversion to an unconstrained value (see UNCONSTRAINED OBSERVATION) because maximum 60-minute or 24-hour amounts seldom fall within a single hourly or daily observation period.

DATA YEARS – See RECORD LENGTH.

DEPTH-DURATION-FREQUENCY (DDF) CURVE – Graphical depiction of precipitation frequency estimates in terms of depth, duration and frequency (ARI or AEP).

DISTRIBUTION FUNCTION (CUMULATIVE DISTRIBUTION FUNCTION) – Mathematical description that completely describes frequency distribution of a random variable, here precipitation. Distribution functions commonly used to describe precipitation data include 3-parameter distributions such as Generalized Extreme Value (GEV), Generalized Normal, Generalized Pareto, Generalized Logistic and Pearson type III, the 4-parameter Kappa distribution, and the 5-parameter Wakeby distribution.

FEDERAL GEOGRAPHIC DATA COMMITTEE (FGDC) COMPLIANT METADATA – A document that describes the content, quality, condition, and other characteristics of data and follows the guidelines set forth by the FGDC; metadata is “data about data.”

FREQUENCY – General term for specifying the average recurrence interval or annual exceedance probability associated with specific precipitation magnitude for a given duration.

FREQUENCY ANALYSIS – Process of derivation of a mathematical model that represents the relationship between precipitation magnitudes and their frequencies.

FREQUENCY ESTIMATE – Precipitation magnitude associated with specific average recurrence interval or annual exceedance probability for a given duration.

INTENSITY-DURATION-FREQUENCY (IDF) CURVE – Graphical depiction of precipitation frequency estimates in terms of intensity, duration and frequency.

INTERNAL CONSISTENCY – Term used to describe the required behavior of the precipitation frequency estimates from one duration to the next or from one frequency to the next. For instance, it is required that the 100-year 3-hour precipitation frequency estimates be greater than (or at least equal to) corresponding 100-year 2-hour estimates.

L-MOMENTS – L-moments are summary statistics for probability distributions and data samples. They are analogous to ordinary moments, providing measures of location, dispersion, skewness, kurtosis, and other aspects of the shape of probability distributions or data samples, but are computed from linear combinations of the ordered data values (hence the prefix L).

MEAN ANNUAL PRECIPITATION (MAP) – The average precipitation for a year (usually calendar) based on the whole period of record or for a selected period (usually 30 year period such as 1971-2000).

PARTIAL DURATION SERIES (PDS) – Time series that includes all precipitation amounts for a specified duration at a given station above a pre-defined threshold regardless of year; it can include more than one event in any particular year.

PRECIPITATION FREQUENCY DATA SERVER (PFDS) – The on-line portal for all NOAA Atlas 14 deliverables, documentation, and information; http://hdsc.nws.noaa.gov/hdsc/pfds/.

PARAMETER-ELEVATION REGRESSIONS ON INDEPENDENT SLOPES MODEL (PRISM) – Hybrid statistical-geographic approach to mapping climate data developed by Oregon State University's PRISM Climate Group.

QUANTILE – Generic term to indicate the precipitation frequency estimate associated with either ARI or AEP.

RECORD LENGTH – Number of years in which enough precipitation data existed to extract meaningful annual maxima in a station's period of record (or data years).

UNCONSTRAINED OBSERVATION – A precipitation measurement or observation for a defined duration. However the observation is not made at a specific repeating time, rather the duration is a moveable window through time.

WATER YEAR – Any 12-month period, usually selected to begin and end during a relatively dry season. In NOAA Atlas 14 Volume 6, it is defined as the period from October 1 to September 30.

References

NOAA Atlas 14 documents

Bonnin, G., D. Martin, B. Lin, T. Parzybok, M. Yekta, and D. Riley (2004). NOAA Atlas 14 Volume 1, Precipitation-Frequency Atlas of the United States, Semiarid Southwest. NOAA, National Weather Service, Silver Spring, MD.

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EXHIBIT J.2.1
COVER SHEET

PROJECT LOCATION

VALLEYS EDGE - SPECIFIC PLAN
CITY OF CHICO, BUTTE COUNTY, CALIFORNIA

TOTAL CATCHMENT/ WATER SHED
AREA = 3,896.61 AC. (6.08845 SQ. MI.)
ON-SITE = 1,448 AC.
OFF-SITE = 2,448.61 AC.

(BOUNDARY OF CATCHMENT/ WATERSHED AREA LANDS IN MULTIPLE RECORD RAIN FALL ZONES, THEY ARE LISTED FROM HIGHEST TO LOWEST)
UPPER ZONE = 6.0"-6.6"
MID UPPER ZONE = 5.0"-5.9"
MID LOW ZONE = 4.0"-4.9"
LOWER ZONE = 3.6"-3.9"

2yr 24hr RAINFALL DEPTH USED = 3.8"

EXHIBIT H.0
COVER SHEET

CALIFORNIA

Isopluvials of 2-year 24-hour precipitation in inches

NOAA Atlas 14, Volume 6, Version 2
California

Prepared by U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE
OFFICE OF HYDROLOGIC DEVELOPMENT
HYDROMETEOROLOGICAL DESIGN STUDIES CENTER
April 2011

N

SCALE 1:2,500,000
0 10 20 30 40 50 Miles
0 510 20 30 40 50 60 70 Kilometers

0.61 - 1.00 | 1.01 - 2.00 | 2.01 - 3.00 | 3.01 - 4.00 | 4.01 - 5.00 | 5.01 - 6.00 | 6.01 - 7.00 | 7.01 - 8.00 | 8.01 - 9.00 | 9.01 - 10.00 | 10.01 - 10.74

Projection: Lambert Conformal Conic; Datum NAD83; Standard Parallels: 38˚ and 45˚; Central Meridian 112˚.

EXHIBIT J.2.2
COVER SHEET

PROJECT LOCATION

VALLEYS EDGE - SPECIFIC PLAN
CITY OF CHICO, BUTTE COUNTY, CALIFORNIA

TOTAL CATCHMENT/ WATER SHED
AREA = 3,896.61 AC. (6.08845 SQ. MI.)
ON-SITE = 1,448 AC.
OFF-SITE = 2,448.61 AC.

(BOUNDARY OF CATCHMENT/ WATERSHED AREA LANDS IN MULTIPLE RECORD RAIN FALL ZONES, THEY ARE LISTED FROM HIGHEST TO LOWEST)
UPPER ZONE = 8.0"-8.6"
MID UPPER ZONE = 7.0"-7.9"
MIDDLE ZONE = 6.0"-6.9"
MID LOW ZONE = 5.0"-5.9"
LOWER ZONE = 4.7"-4.9"

5yr 24hr RAINFALL DEPTH USED = 4.8"

CALIFORNIA

NOAA Atlas 14, Volume 6, Version 2
California

Prepared by U.S. DEPARTMENT OF COMMERCE
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NATIONAL WEATHER SERVICE
OFFICE OF HYDROLOGIC DEVELOPMENT
HYDROMETEOROLOGICAL DESIGN STUDIES CENTER
April 2011

Isopluvials of 5-year 24-hour precipitation in inches

0.68 - 1.00 | 1.01 - 2.00 | 2.01 - 3.00 | 3.01 - 4.00 | 4.01 - 5.00 | 5.01 - 6.00 | 6.01 - 7.00 | 7.01 - 8.00 | 8.01 - 9.00 | 9.01 - 10.00 | 10.01 - 11.00 | 11.01 - 12.00 | 12.01 - 12.88

N

SCALE 1:2,500,000
0 10 20 30 40 50 Miles
0 510 20 30 40 50 60 70 Kilometers

Projection: Lambert Conformal Conic; Datum NAD83; Standard Parallels: 38˚ and 45˚; Central Meridian 112˚.

EXHIBIT J.2.3
COVER SHEET

PROJECT LOCATION

VALLEYS EDGE - SPECIFIC PLAN
CITY OF CHICO, BUTTE COUNTY, CALIFORNIA

TOTAL CATCHMENT/ WATER SHED
AREA = 3,896.61 AC. (6.08845 SQ. MI.)
ON-SITE = 1,448 AC.
OFF-SITE = 2,448.61 AC.

(BOUNDARY OF CATCHMENT/ WATERSHED AREA LANDS IN FOUR DIFERENT RECORD RAIN FALL ZONES, THEY ARE LISTED FROM HIGHEST TO LOWEST)
UPPER ZONE = 9.0"-96"
MID UPPER ZONE = 8.0"-8.9"
MIDDLE ZONE = 7.0"-7.9"
MID LOW ZONE = 6.0"-6.9"
LOWER ZONE = 5.3"-5.9"

10yr 24hr RAINFALL DEPTH USED = 5.3"

CRESCENT CITY
YREKA
MOUNT SHASTA
ALTURAS
TRINIDAD
EUREKA
FORTUNA
BURNEY
REDDING
YUBA CITY
TRUCKEE
SOUTH LAKE TAHOE
SANTA ROSA
DAVIS
SACRAMENTO
PETALUMA
STOCKTON
OAKLAND
SAN FRANCISCO
MODESTO
SAN JOSE
MAMMOTH LAKES
BISHOP
YOSEMITE LAKES
SANTA CRUZ
MADERA
WATSONVILLE
FRESNO
SALINAS
PORTERVILLE
BAKERSFIELD
SANTA MARIA
BARSTOW
LOMPOC
SOLVANG
PALMDALE
SANTA BARBARA
VICTORVILLE
LOS ANGELES
SAN BERNARDINO
SANTA MONICA
ANAHEIM
RIVERSIDE
PALM SPRINGS
LONG BEACH
SANTA ANA
TEMECULA
SAN DIEGO

CALIFORNIA

Isopluvials of 10-year 24-hour precipitation in inches

0.70 - 1.00
1.01 - 2.00
2.01 - 3.00
3.01 - 4.00
4.01 - 5.00
5.01 - 6.00
6.01 - 7.00
7.01 - 8.00
8.01 - 9.00
9.01 - 10.00
10.01 - 11.00
11.01 - 12.00
12.01 - 13.00
13.01 - 14.00
14.01 - 14.53

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HYDROMETEOROLOGICAL DESIGN STUDIES CENTER
April 2011

N

SCALE 1:2,500,000
0 10 20 30 40 50 Miles
0 510 20 30 40 50 60 70 Kilometers

Projection: Lambert Conformal Conic; Datum NAD83; Standard Parallels: 38˚ and 45˚; Central Meridian 112˚.

EXHIBIT J.2.4
COVER SHEET

PROJECT LOCATION

VALLEYS EDGE - SPECIFIC PLAN

CITY OF CHICO, BUTTE COUNTY, CALIFORNIA

TOTAL CATCHMENT/ WATER SHEDÚREA = 3,896.61 AC. (6.08845 SQ. MI.)
ON-SITE = 1,448 AC.
OFF-SITE = 2,448.61 AC.

(BOUNDARY OF CATCHMENT/ WATERSHED AREA LANDS IN FOUR DIFERENT RECORD RAIN FALL ZONES, THEY ARE LISTED FROM HIGHEST TO LOWEST)
TOPZONE = 10.0"-10.2"
*U*PPER ZONE = 9.0"-9.6"
MID UPPER ZONE = 8.0"-8.9"
MIDDLE ZONE = 7.0"-7.9"
MID LOW ZONE = 6.0"-6.9"
LOWER ZONE = 5.8.0"-5.9"

25yr 24hr RAINFALL DEPTH USED = 6.6"

CRESCENT CITY
YREKA
MOUNT SHASTA
ALTURAS
TRINIDAD
EUREKA
FORTUNA
BURNEY
REDDING
YUBA CITY
TRUCKEE
SOUTH LAKE TAHOE
SANTA ROSA
DAVIS
SACRAMENTO
PETALUMA
STOCKTON
OAKLAND
SAN FRANCISCO
MODESTO
MAMMOTH LAKES
SAN JOSE
BISHOP
SANTA CRUZ
YOSEMITE LAKES
MADERA
WATSONVILLE
FRESNO
SALINAS
PORTERVILLE
BAKERSFIELD
SANTA MARIA
BARSTOW
LOMPOC
SOLVANG
PALMDALE
VICTORVILLE
SANTA BARBARA
LOS ANGELES
SAN BERNARDINO
SANTA MONICA
ANAHEIM
RIVERSIDE
PALM SPRINGS
SANTA ANA
LONG BEACH
TEMECULA
SAN DIEGO

CALIFORNIA

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HYDROMETEOROLOGICAL DESIGN STUDIES CENTER
April 2011

N

SCALE 1:2,500,000
0 10 20 30 40 50 Miles
0 510 20 30 40 50 60 70 Kilometers

Isopluvials of 25-year 24-hour precipitation in inches

1.05 - 2.00 | 2.01 - 3.00 | 3.01 - 4.00 | 4.01 - 5.00 | 5.01 - 6.00 | 6.01 - 7.00 | 7.01 - 8.00 | 8.01 - 9.00 | 9.01 - 10.00 | 10.01 - 11.00 | 11.01 - 12.00 | 12.01 - 13.00 | 13.01 - 14.00 | 14.01 - 15.00 | 15.01 - 16.00 | 16.01 - 17.00 | 17.01 - 17.79

Projection: Lambert Conformal Conic; Datum NAD83; Standard Parallels: 38˚ and 45˚; Central Meridian 112˚.

EXHIBIT J.2.5
COVER SHEET

PROJECT LOCATION

VALLEYS EDGE - SPECIFIC PLAN
CITY OF CHICO, BUTTE COUNTY, CALIFORNIA
TOTAL CATCHMENT/ WATER SHED
AREA = 3,896.61 AC. (6.08845 SQ. MI.)
ON-SITE = 1,448 AC.
OFF-SITE = 2,448.61 AC.

(BOUNDARY OF CATCHMENT/ WATERSHED AREA LANDS IN FOUR DIFERENT RECORD RAIN FALL ZONES, THEY ARE LISTED FROM HIGHEST TO LOWEST)
UPPER ZONE = 11.0"-11.8"
MID UPPER ZONE = 10.0"-10.9"
MIDDLE ZONE = 9.0"-9.9"
MID LOW ZONE = 8.0"-8.9"
LOWER ZONE = 7.2"-7.9"

50yr 24hr RAINFALL DEPTH USED = 7.3"

CRESCENT CITY
YREKA
MOUNT SHASTA
ALTURAS
TRINIDAD
EUREKA
FORTUNA
BURNEY
REDDING
YUBA CITY
TRUCKEE
SOUTH LAKE TAHOE
SANTA ROSA
DAVIS
SACRAMENTO
PETALUMA
STOCKTON
OAKLAND
SAN FRANCISCO
MODESTO
MAMMOTH LAKES
SAN JOSE
BISHOP
YOSEMITE LAKES
SANTA CRUZ
MADERA
WATSONVILLE
FRESNO
SALINAS
PORTERVILLE
BAKERSFIELD
SANTA MARIA
BARSTOW
LOMPOC
SOLVANG
PALMDALE
SANTA BARBARA
VICTORVILLE
LOS ANGELES
SAN BERNARDINO
SANTA MONICA
ANAHEIM
RIVERSIDE
PALM SPRINGS
LONG BEACH
SANTA ANA
TEMECULA
SAN DIEGO

126°W 125°W 124°W 123°W 122°W 121°W 120°W 119°W 118°W 117°W 116°W 115°W
42°N 41°N 40°N 39°N 38°N 37°N 36°N 35°N 34°N 33°N 32°N
124°W 123°W 122°W 121°W 120°W 119°W 118°W 117°W 116°W 115°W 114°W

CALIFORNIA

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HYDROMETEOROLOGICAL DESIGN STUDIES CENTER
April 2011

Isopluvials of 50-year 24-hour precipitation in inches

1.22 - 2.00	5.01 - 6.00	9.01 - 10.00	13.01 - 14.00	17.01 - 18.00
2.01 - 3.00	6.01 - 7.00	10.01 - 11.00	14.01 - 15.00	18.01 - 19.00
3.01 - 4.00	7.01 - 8.00	11.01 - 12.00	15.01 - 16.00	19.01 - 20.00
4.01 - 5.00	8.01 - 9.00	12.01 - 13.00	16.01 - 17.00	20.01 - 20.34

N

SCALE 1:2,500,000
0 10 20 30 40 50 Miles
0 510 20 30 40 50 60 70 Kilometers

Projection: Lambert Conformal Conic; Datum NAD83; Standard Parallels: 38˚ and 45˚; Central Meridian 112˚.

EXHIBIT J.2.6
COVER SHEET

PROJECT LOCATION

VALLEYS EDGE - SPECIFIC PLAN

CITY OF CHICO, BUTTE COUNTY, CALIFORNIA

TOTAL CATCHMENT/ WATER SHED
AREA = 3,896.61 AC. (6.08845 SQ. MI.)
ON-SITE = 1,448 AC.
OFF-SITE = 2,448.61 AC.

(BOUNDARY OF CATCHMENT/ WATERSHED AREA LANDS IN FOUR DIFERENT RECORD RAIN FALL ZONES, THEY ARE LISTED FROM HIGHEST TO LOWEST)
UPPER ZONE = 13.0"-14.9"
MID UPPER ZONE = 11.0"-12.9"
MID LOW ZONE = 9.0"-10.9"
LOWER ZONE = 8.1"-8.9"

100yr 24hr RAINFALL DEPTH USED = 8.7"

CRESCENT CITY
YREKA
MOUNT SHASTA
ALTURAS
TRINIDAD
EUREKA
FORTUNA
REDDING
BURNEY
YUBA CITY
TRUCKEE
SOUTH LAKE TAHOE
SANTA ROSA
DAVIS
SACRAMENTO
PETALUMA
STOCKTON
OAKLAND
SAN FRANCISCO
MODESTO
SAN JOSE
MAMMOTH LAKES
BISHOP
SANTA CRUZ
YOSEMITE LAKES
MADERA
WATSONVILLE
FRESNO
SALINAS
PORTERVILLE
BAKERSFIELD
SANTA MARIA
LOMPOC
SOLVANG
BARSTOW
PALMDALE
VICTORVILLE
SANTA BARBARA
LOS ANGELES
SAN BERNARDINO
SANTA MONICA
ANAHEIM
RIVERSIDE
PALM SPRINGS
LONG BEACH
SANTA ANA
TEMECULA
SAN DIEGO

CALIFORNIA

Isopluvials of 100-year 24-hour precipitation in inches

NOAA Atlas 14, Volume 6, Version 2
California

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NATIONAL WEATHER SERVICE
OFFICE OF HYDROLOGIC DEVELOPMENT
HYDROMETEOROLOGICAL DESIGN STUDIES CENTER
April 2011

N

SCALE 1:2,500,000
0 10 20 30 40 50 Miles
0 510 20 30 40 50 60 70 Kilometers

1.40 - 2.00
2.01 - 4.00
4.01 - 6.00
6.01 - 8.00
8.01 - 10.00
10.01 - 12.00
12.01 - 14.00
14.01 - 16.00
16.01 - 18.00
18.01 - 20.00
20.01 - 22.00
22.01 - 23.00

Projection: Lambert Conformal Conic; Datum NAD83; Standard Parallels: 38˚ and 45˚; Central Meridian 112˚.

EXHIBIT J.2.6
COVER SHEET

PROJECT LOCATION

VALLEYS EDGE - SPECIFIC PLAN

CITY OF CHICO, BUTTE COUNTY, CALIFORNIA

TOTAL CATCHMENT/ WATER SHED
AREA = 3,896.61 AC. (6.08845 SQ. MI.)
ON-SITE = 1,448 AC.
OFF-SITE = 2,448.61 AC.

(BOUNDARY OF CATCHMENT/ WATERSHED AREA LANDS IN FOUR DIFERENT RECORD RAIN FALL ZONES, THEY ARE LISTED FROM HIGHEST TO LOWEST)
UPPER ZONE = 13.0"-14.9"
MID UPPER ZONE = 11.0"-12.9"
MID LOW ZONE = 9.0"-10.9"
LOWER ZONE = 8.1"-8.9"

100yr 24hr RAINFALL DEPTH USED = 8.7"

CRESCENT CITY
YREKA
MOUNT SHASTA
ALTURAS
TRINIDAD
EUREKA
FORTUNA
REDDING
BURNEY
YUBA CITY
TRUCKEE
SOUTH LAKE TAHOE
SANTA ROSA
DAVIS
SACRAMENTO
PETALUMA
STOCKTON
OAKLAND
SAN FRANCISCO
MODESTO
SAN JOSE
MAMMOTH LAKES
BISHOP
SANTA CRUZ
YOSEMITE LAKES
MADERA
WATSONVILLE
FRESNO
SALINAS
PORTERVILLE
BAKERSFIELD
SANTA MARIA
LOMPOC
SOLVANG
BARSTOW
PALMDALE
VICTORVILLE
SANTA BARBARA
LOS ANGELES
SAN BERNARDINO
SANTA MONICA
ANAHEIM
RIVERSIDE
PALM SPRINGS
LONG BEACH
SANTA ANA
TEMECULA
SAN DIEGO

CALIFORNIA

Isopluvials of 100-year 24-hour precipitation in inches

NOAA Atlas 14, Volume 6, Version 2
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NATIONAL WEATHER SERVICE
OFFICE OF HYDROLOGIC DEVELOPMENT
HYDROMETEOROLOGICAL DESIGN STUDIES CENTER
April 2011

N

SCALE 1:2,500,000
0 10 20 30 40 50 Miles
0 510 20 30 40 50 60 70 Kilometers

1.40 - 2.00
2.01 - 4.00
4.01 - 6.00
6.01 - 8.00
8.01 - 10.00
10.01 - 12.00
12.01 - 14.00
14.01 - 16.00
16.01 - 18.00
18.01 - 20.00
20.01 - 22.00
22.01 - 23.00

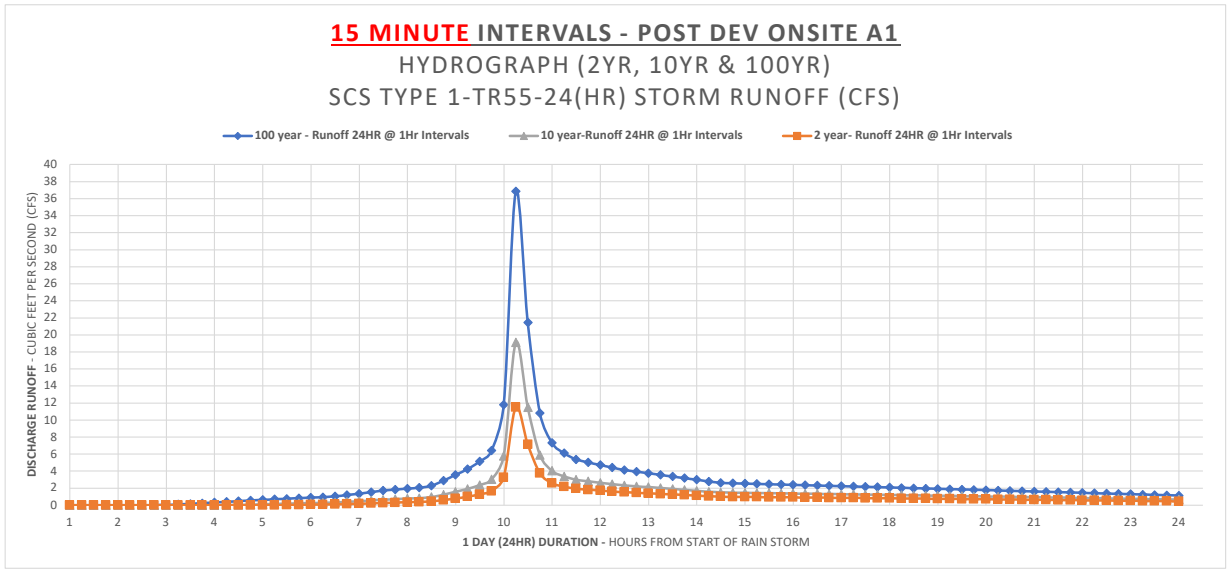
Projection: Lambert Conformal Conic; Datum NAD83; Standard Parallels: 38˚ and 45˚; Central Meridian 112˚.

DRAFT

EXHIBIT K.2.1
ONSITE SHED "A"

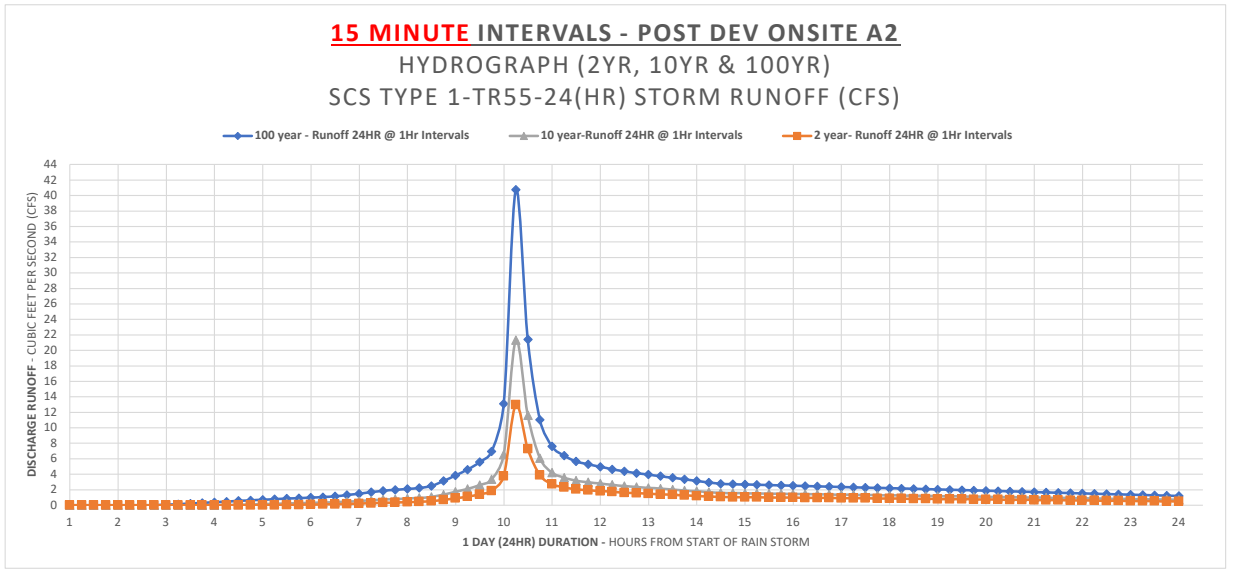
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - A1"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0000
3.0000	0.0000	3.0000	0.0000	3.0000	0.0169
3.2500	0.0000	3.2500	0.0000	3.2500	0.0781
3.5000	0.0000	3.5000	0.0000	3.5000	0.1510
3.7500	0.0000	3.7500	0.0000	3.7500	0.2273
4.0000	0.0000	4.0000	0.0000	4.0000	0.3061
4.2500	0.0000	4.2500	0.0020	4.2500	0.3867
4.5000	0.0000	4.5000	0.0273	4.5000	0.4670
4.7500	0.0000	4.7500	0.0638	4.7500	0.5414
5.0000	0.0000	5.0000	0.1005	5.0000	0.6119
5.2500	0.0000	5.2500	0.1364	5.2500	0.6813
5.5000	0.0030	5.5000	0.1722	5.5000	0.7475
5.7500	0.0199	5.7500	0.2080	5.7500	0.8129
6.0000	0.0416	6.0000	0.2428	6.0000	0.8754
6.2500	0.0627	6.2500	0.2774	6.2500	0.9377
6.5000	0.0865	6.5000	0.3194	6.5000	1.0225
6.7500	0.1182	6.7500	0.3840	6.7500	1.1703
7.0000	0.1568	7.0000	0.4603	7.0000	1.3421
7.2500	0.2017	7.2500	0.5454	7.2500	1.5247
7.5000	0.2492	7.5000	0.6298	7.5000	1.6976
7.7500	0.2918	7.7500	0.6980	7.7500	1.8196
8.0000	0.3333	8.0000	0.7619	8.0000	1.9283
8.2500	0.3750	8.2500	0.8264	8.2500	2.0376
8.5000	0.4444	8.5000	0.9477	8.5000	2.2778
8.7500	0.5913	8.7500	1.2203	8.7500	2.8604
9.0000	0.7757	9.0000	1.5492	9.0000	3.5407
9.2500	0.9836	9.2500	1.9060	9.2500	4.2428
9.5000	1.2554	9.5000	2.3630	9.5000	5.1255
9.7500	1.6562	9.7500	3.0300	9.7500	6.3969
10.0000	3.2683	10.0000	5.7811	10.0000	11.7800
10.2500	11.4714	10.2500	19.1037	10.2500	36.8478
10.5000	7.1171	10.5000	11.4943	10.5000	21.4402
10.7500	3.7277	10.7500	5.8942	10.7500	10.8050
11.0000	2.5737	11.0000	4.0264	11.0000	7.3122
11.2500	2.1661	11.2500	3.3708	11.2500	6.0931
11.5000	1.9257	11.5000	2.9843	11.5000	5.3726
11.7500	1.8060	11.7500	2.7897	11.7500	5.0050
12.0000	1.7068	12.0000	2.6287	12.0000	4.7014
12.2500	1.6066	12.2500	2.4680	12.2500	4.4019
12.5000	1.5149	12.5000	2.3210	12.5000	4.1312
12.7500	1.4465	12.7500	2.2112	12.7500	3.9280
13.0000	1.3821	13.0000	2.1080	13.0000	3.7376
13.2500	1.3166	13.2500	2.0052	13.2500	3.5481
13.5000	1.2502	13.5000	1.9002	13.5000	3.3567
13.7500	1.1820	13.7500	1.7941	13.7500	3.1652
14.0000	1.1136	14.0000	1.6870	14.0000	2.9726
14.2500	1.0431	14.2500	1.5789	14.2500	2.7791
14.5000	0.9877	14.5000	1.4932	14.5000	2.6248
14.7500	0.9674	14.7500	1.4618	14.7500	2.5658
15.0000	0.9546	15.0000	1.4400	15.0000	2.5271
15.2500	0.9427	15.2500	1.4211	15.2500	2.4895
15.5000	0.9300	15.5000	1.4004	15.5000	2.4520
15.7500	0.9179	15.7500	1.3803	15.7500	2.4143
16.0000	0.9051	16.0000	1.3594	16.0000	2.3767
16.2500	0.8922	16.2500	1.3392	16.2500	2.3390
16.5000	0.8793	16.5000	1.3184	16.5000	2.3006
16.7500	0.8654	16.7500	1.2977	16.7500	2.2628
17.0000	0.8526	17.0000	1.2769	17.0000	2.2242
17.2500	0.8387	17.2500	1.2561	17.2500	2.1855
17.5000	0.8258	17.5000	1.2344	17.5000	2.1478
17.7500	0.8119	17.7500	1.2127	17.7500	2.1092
18.0000	0.7981	18.0000	1.1914	18.0000	2.0705
18.2500	0.7842	18.2500	1.1701	18.2500	2.0313
18.5000	0.7703	18.5000	1.1483	18.5000	1.9926
18.7500	0.7554	18.7500	1.1266	18.7500	1.9537
19.0000	0.7415	19.0000	1.1039	19.0000	1.9150
19.2500	0.7276	19.2500	1.0831	19.2500	1.8753
19.5000	0.7128	19.5000	1.0603	19.5000	1.8367
19.7500	0.6979	19.7500	1.0383	19.7500	1.7972
20.0000	0.6840	20.0000	1.0158	20.0000	1.7580
20.2500	0.6691	20.2500	0.9940	20.2500	1.7188
20.5000	0.6542	20.5000	0.9713	20.5000	1.6792
20.7500	0.6394	20.7500	0.9488	20.7500	1.6395
21.0000	0.6245	21.0000	0.9268	21.0000	1.6008
21.2500	0.6096	21.2500	0.9040	21.2500	1.5603
21.5000	0.5947	21.5000	0.8812	21.5000	1.5214
21.7500	0.5798	21.7500	0.8585	21.7500	1.4820
22.0000	0.5649	22.0000	0.8358	22.0000	1.4423
22.2500	0.5491	22.2500	0.8135	22.2500	1.4017
22.5000	0.5342	22.5000	0.7906	22.5000	1.3620
22.7500	0.5193	22.7500	0.7674	22.7500	1.3225
23.0000	0.5034	23.0000	0.7447	23.0000	1.2828
23.2500	0.4886	23.2500	0.7220	23.2500	1.2422
23.5000	0.4727	23.5000	0.6991	23.5000	1.2025
23.7500	0.4577	23.7500	0.6754	23.7500	1.1628
24.0000	0.4419	24.0000	0.6527	24.0000	1.1233



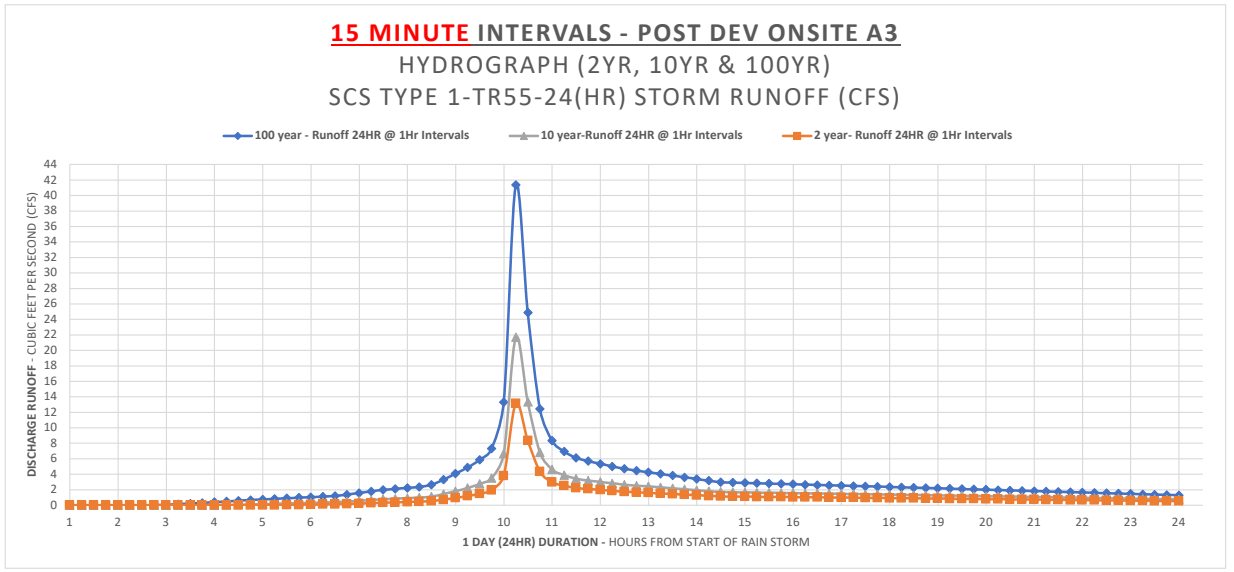
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - A2"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0014
3.0000	0.0000	3.0000	0.0000	3.0000	0.0472
3.2500	0.0000	3.2500	0.0000	3.2500	0.1210
3.5000	0.0000	3.5000	0.0000	3.5000	0.2008
3.7500	0.0000	3.7500	0.0000	3.7500	0.2835
4.0000	0.0000	4.0000	0.0000	4.0000	0.3681
4.2500	0.0000	4.2500	0.0171	4.2500	0.4547
4.5000	0.0000	4.5000	0.0549	4.5000	0.5407
4.7500	0.0000	4.7500	0.0949	4.7500	0.6198
5.0000	0.0000	5.0000	0.1342	5.0000	0.6936
5.2500	0.0000	5.2500	0.1736	5.2500	0.7672
5.5000	0.0178	5.5000	0.2113	5.5000	0.8363
5.7500	0.0412	5.7500	0.2494	5.7500	0.9054
6.0000	0.0639	6.0000	0.2867	6.0000	0.9712
6.2500	0.0875	6.2500	0.3240	6.2500	1.0361
6.5000	0.1141	6.5000	0.3701	6.5000	1.1291
6.7500	0.1499	6.7500	0.4415	6.7500	1.2900
7.0000	0.1935	7.0000	0.5261	7.0000	1.4766
7.2500	0.2435	7.2500	0.6179	7.2500	1.6722
7.5000	0.2951	7.5000	0.7087	7.5000	1.8532
7.7500	0.3404	7.7500	0.7811	7.7500	1.9804
8.0000	0.3847	8.0000	0.8486	8.0000	2.0935
8.2500	0.4302	8.2500	0.9172	8.2500	2.2069
8.5000	0.5086	8.5000	1.0530	8.5000	2.4790
8.7500	0.6746	8.7500	1.3563	8.7500	3.1151
9.0000	0.8782	9.0000	1.7152	9.0000	3.8431
9.2500	1.1058	9.2500	2.0991	9.2500	4.5910
9.5000	1.4055	9.5000	2.5991	9.5000	5.5431
9.7500	1.8472	9.7500	3.3244	9.7500	6.9160
10.0000	3.7296	10.0000	6.5003	10.0000	13.0824
10.2500	12.9650	10.2500	21.3151	10.2500	40.7290
10.5000	7.2512	10.5000	11.5975	10.5000	21.3752
10.7500	3.8670	10.7500	6.0555	10.7500	11.0251
11.0000	2.7006	11.0000	4.1981	11.0000	7.5766
11.2500	2.2971	11.2500	3.5530	11.2500	6.3769
11.5000	2.0474	11.5000	3.1525	11.5000	5.6410
11.7500	1.9236	11.7500	2.9532	11.7500	5.2652
12.0000	1.8172	12.0000	2.7807	12.0000	4.9464
12.2500	1.7095	12.2500	2.6103	12.2500	4.6298
12.5000	1.6115	12.5000	2.4552	12.5000	4.3451
12.7500	1.5393	12.7500	2.3392	12.7500	4.1335
13.0000	1.4700	13.0000	2.2301	13.0000	3.9329
13.2500	1.4002	13.2500	2.1200	13.2500	3.7319
13.5000	1.3284	13.5000	2.0082	13.5000	3.5298
13.7500	1.2552	13.7500	1.8959	13.7500	3.3272
14.0000	1.1814	14.0000	1.7820	14.0000	3.1235
14.2500	1.1073	14.2500	1.6666	14.2500	2.9194
14.5000	1.0496	14.5000	1.5780	14.5000	2.7605
14.7500	1.0295	14.7500	1.5465	14.7500	2.7025
15.0000	1.0157	15.0000	1.5245	15.0000	2.6621
15.2500	1.0020	15.2500	1.5034	15.2500	2.6225
15.5000	0.9892	15.5000	1.4818	15.5000	2.5824
15.7500	0.9754	15.7500	1.4601	15.7500	2.5431
16.0000	0.9616	16.0000	1.4384	16.0000	2.5026
16.2500	0.9478	16.2500	1.4165	16.2500	2.4624
16.5000	0.9340	16.5000	1.3944	16.5000	2.4226
16.7500	0.9192	16.7500	1.3719	16.7500	2.3826
17.0000	0.9054	17.0000	1.3494	17.0000	2.3415
17.2500	0.8906	17.2500	1.3274	17.2500	2.3009
17.5000	0.8769	17.5000	1.3046	17.5000	2.2605
17.7500	0.8621	17.7500	1.2818	17.7500	2.2202
18.0000	0.8473	18.0000	1.2591	18.0000	2.1793
18.2500	0.8325	18.2500	1.2362	18.2500	2.1385
18.5000	0.8167	18.5000	1.2129	18.5000	2.0970
18.7500	0.8019	18.7500	1.1896	18.7500	2.0565
19.0000	0.7871	19.0000	1.1668	19.0000	2.0149
19.2500	0.7714	19.2500	1.1432	19.2500	1.9733
19.5000	0.7566	19.5000	1.1203	19.5000	1.9326
19.7500	0.7408	19.7500	1.0965	19.7500	1.8914
20.0000	0.7250	20.0000	1.0728	20.0000	1.8496
20.2500	0.7092	20.2500	1.0499	20.2500	1.8076
20.5000	0.6934	20.5000	1.0254	20.5000	1.7661
20.7500	0.6776	20.7500	1.0017	20.7500	1.7248
21.0000	0.6618	21.0000	0.9782	21.0000	1.6835
21.2500	0.6461	21.2500	0.9546	21.2500	1.6411
21.5000	0.6303	21.5000	0.9300	21.5000	1.5998
21.7500	0.6145	21.7500	0.9065	21.7500	1.5585
22.0000	0.5987	22.0000	0.8819	22.0000	1.5160
22.2500	0.5819	22.2500	0.8583	22.2500	1.4737
22.5000	0.5661	22.5000	0.8339	22.5000	1.4323
22.7500	0.5494	22.7500	0.8101	22.7500	1.3899
23.0000	0.5336	23.0000	0.7856	23.0000	1.3486
23.2500	0.5168	23.2500	0.7615	23.2500	1.3062
23.5000	0.5010	23.5000	0.7367	23.5000	1.2639
23.7500	0.4842	23.7500	0.7129	23.7500	1.2226
24.0000	0.4674	24.0000	0.6882	24.0000	1.1801



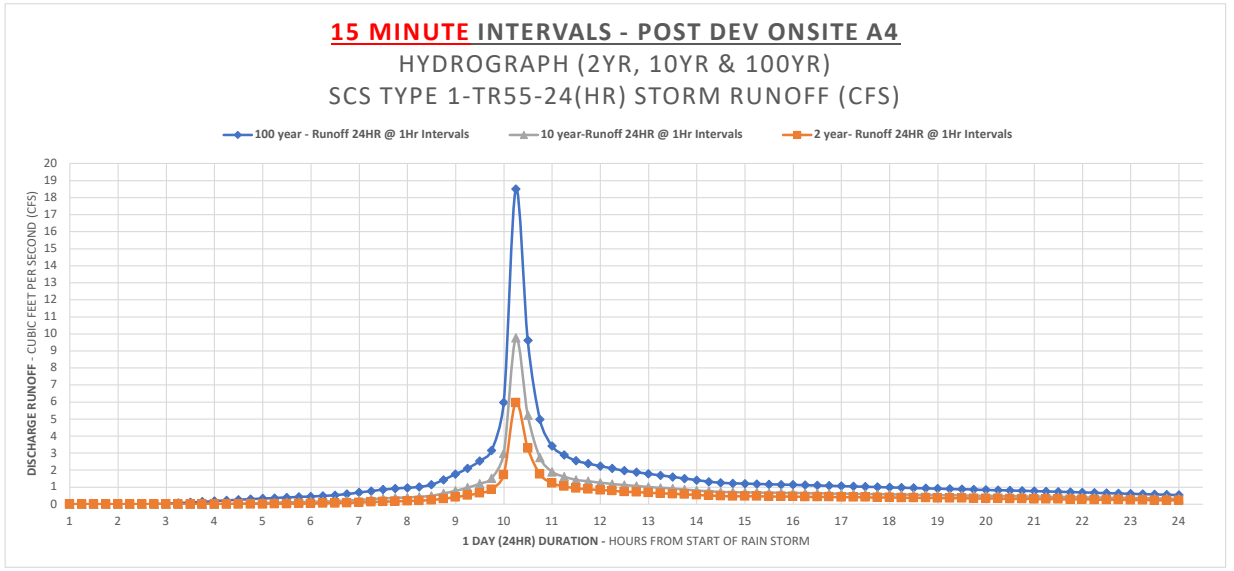
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - A3"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0000
3.0000	0.0000	3.0000	0.0000	3.0000	0.0421
3.2500	0.0000	3.2500	0.0000	3.2500	0.1190
3.5000	0.0000	3.5000	0.0000	3.5000	0.2033
3.7500	0.0000	3.7500	0.0000	3.7500	0.2909
4.0000	0.0000	4.0000	0.0000	4.0000	0.3822
4.2500	0.0000	4.2500	0.0128	4.2500	0.4741
4.5000	0.0000	4.5000	0.0515	4.5000	0.5670
4.7500	0.0000	4.7500	0.0942	4.7500	0.6513
5.0000	0.0000	5.0000	0.1360	5.0000	0.7318
5.2500	0.0000	5.2500	0.1779	5.2500	0.8103
5.5000	0.0148	5.5000	0.2198	5.5000	0.8854
5.7500	0.0388	5.7500	0.2605	5.7500	0.9590
6.0000	0.0639	6.0000	0.3002	6.0000	1.0302
6.2500	0.0885	6.2500	0.3398	6.2500	1.1000
6.5000	0.1161	6.5000	0.3881	6.5000	1.1958
6.7500	0.1540	6.7500	0.4627	6.7500	1.3651
7.0000	0.1999	7.0000	0.5523	7.0000	1.5642
7.2500	0.2521	7.2500	0.6501	7.2500	1.7731
7.5000	0.3080	7.5000	0.7480	7.5000	1.9690
7.7500	0.3568	7.7500	0.8263	7.7500	2.1080
8.0000	0.4040	8.0000	0.8991	8.0000	2.2305
8.2500	0.4522	8.2500	0.9720	8.2500	2.3535
8.5000	0.5327	8.5000	1.1100	8.5000	2.6246
8.7500	0.7045	8.7500	1.4227	8.7500	3.2858
9.0000	0.9201	9.0000	1.8022	9.0000	4.0628
9.2500	1.1615	9.2500	2.2138	9.2500	4.8610
9.5000	1.4756	9.5000	2.7383	9.5000	5.8572
9.7500	1.9378	9.7500	3.5040	9.7500	7.2984
10.0000	3.7933	10.0000	6.6307	10.0000	13.3100
10.2500	13.1114	10.2500	21.6784	10.2500	41.3712
10.5000	8.3303	10.5000	13.3282	10.5000	24.8644
10.7500	4.3308	10.7500	6.7931	10.7500	12.4277
11.0000	2.9715	11.0000	4.6244	11.0000	8.3479
11.2500	2.4896	11.2500	3.8542	11.2500	6.9241
11.5000	2.2104	11.5000	3.4084	11.5000	6.1016
11.7500	2.0715	11.7500	3.1823	11.7500	5.6803
12.0000	1.9560	12.0000	2.9974	12.0000	5.3344
12.2500	1.8410	12.2500	2.8138	12.2500	4.9950
12.5000	1.7347	12.5000	2.6444	12.5000	4.6859
12.7500	1.6559	12.7500	2.5195	12.7500	4.4552
13.0000	1.5809	13.0000	2.4015	13.0000	4.2384
13.2500	1.5053	13.2500	2.2831	13.2500	4.0236
13.5000	1.4290	13.5000	2.1634	13.5000	3.8067
13.7500	1.3517	13.7500	2.0416	13.7500	3.5898
14.0000	1.2720	14.0000	1.9195	14.0000	3.3700
14.2500	1.1927	14.2500	1.7975	14.2500	3.1511
14.5000	1.1288	14.5000	1.6991	14.5000	2.9752
14.7500	1.1048	14.7500	1.6617	14.7500	2.9071
15.0000	1.0902	15.0000	1.6381	15.0000	2.8619
15.2500	1.0757	15.2500	1.6151	15.2500	2.8190
15.5000	1.0621	15.5000	1.5920	15.5000	2.7773
15.7500	1.0476	15.7500	1.5688	15.7500	2.7347
16.0000	1.0329	16.0000	1.5457	16.0000	2.6913
16.2500	1.0174	16.2500	1.5223	16.2500	2.6482
16.5000	1.0028	16.5000	1.4984	16.5000	2.6055
16.7500	0.9872	16.7500	1.4742	16.7500	2.5624
17.0000	0.9726	17.0000	1.4506	17.0000	2.5192
17.2500	0.9570	17.2500	1.4270	17.2500	2.4753
17.5000	0.9414	17.5000	1.4024	17.5000	2.4317
17.7500	0.9258	17.7500	1.3777	17.7500	2.3880
18.0000	0.9094	18.0000	1.3532	18.0000	2.3443
18.2500	0.8937	18.2500	1.3291	18.2500	2.2997
18.5000	0.8781	18.5000	1.3040	18.5000	2.2558
18.7500	0.8616	18.7500	1.2788	18.7500	2.2121
19.0000	0.8449	19.0000	1.2538	19.0000	2.1677
19.2500	0.8288	19.2500	1.2296	19.2500	2.1233
19.5000	0.8127	19.5000	1.2044	19.5000	2.0785
19.7500	0.7956	19.7500	1.1792	19.7500	2.0348
20.0000	0.7793	20.0000	1.1541	20.0000	1.9902
20.2500	0.7621	20.2500	1.1290	20.2500	1.9453
20.5000	0.7456	20.5000	1.1029	20.5000	1.9007
20.7500	0.7290	20.7500	1.0777	20.7500	1.8560
21.0000	0.7117	21.0000	1.0516	21.0000	1.8113
21.2500	0.6947	21.2500	1.0264	21.2500	1.7665
21.5000	0.6772	21.5000	1.0011	21.5000	1.7218
21.7500	0.6606	21.7500	0.9750	21.7500	1.6772
22.0000	0.6430	22.0000	0.9487	22.0000	1.6325
22.2500	0.6254	22.2500	0.9236	22.2500	1.5867
22.5000	0.6087	22.5000	0.8974	22.5000	1.5420
22.7500	0.5913	22.7500	0.8713	22.7500	1.4973
23.0000	0.5737	23.0000	0.8451	23.0000	1.4518
23.2500	0.5561	23.2500	0.8190	23.2500	1.4066
23.5000	0.5386	23.5000	0.7929	23.5000	1.3607
23.7500	0.5210	23.7500	0.7668	23.7500	1.3160
24.0000	0.5034	24.0000	0.7406	24.0000	1.2711



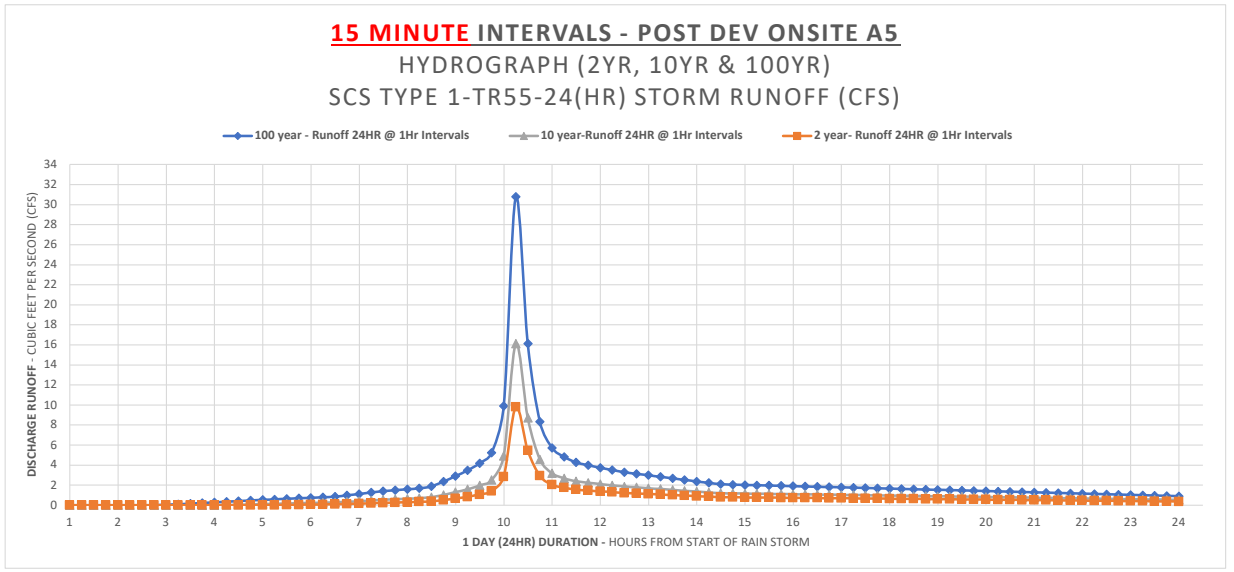
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - A4"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0028
3.0000	0.0000	3.0000	0.0000	3.0000	0.0283
3.2500	0.0000	3.2500	0.0000	3.2500	0.0632
3.5000	0.0000	3.5000	0.0000	3.5000	0.0994
3.7500	0.0000	3.7500	0.0000	3.7500	0.1372
4.0000	0.0000	4.0000	0.0000	4.0000	0.1760
4.2500	0.0000	4.2500	0.0123	4.2500	0.2156
4.5000	0.0000	4.5000	0.0303	4.5000	0.2545
4.7500	0.0000	4.7500	0.0492	4.7500	0.2902
5.0000	0.0000	5.0000	0.0671	5.0000	0.3232
5.2500	0.0030	5.2500	0.0850	5.2500	0.3568
5.5000	0.0123	5.5000	0.1019	5.5000	0.3876
5.7500	0.0230	5.7500	0.1188	5.7500	0.4185
6.0000	0.0331	6.0000	0.1358	6.0000	0.4485
6.2500	0.0441	6.2500	0.1527	6.2500	0.4776
6.5000	0.0561	6.5000	0.1743	6.5000	0.5199
6.7500	0.0729	6.7500	0.2072	6.7500	0.5934
7.0000	0.0938	7.0000	0.2454	7.0000	0.6785
7.2500	0.1165	7.2500	0.2881	7.2500	0.7668
7.5000	0.1403	7.5000	0.3296	7.5000	0.8487
7.7500	0.1606	7.7500	0.3624	7.7500	0.9064
8.0000	0.1811	8.0000	0.3923	8.0000	0.9574
8.2500	0.2015	8.2500	0.4234	8.2500	1.0080
8.5000	0.2376	8.5000	0.4860	8.5000	1.1321
8.7500	0.3148	8.7500	0.6254	8.7500	1.4221
9.0000	0.4084	9.0000	0.7891	9.0000	1.7536
9.2500	0.5119	9.2500	0.9635	9.2500	2.0905
9.5000	0.6506	9.5000	1.1913	9.5000	2.5206
9.7500	0.8511	9.7500	1.5202	9.7500	3.1445
10.0000	1.7234	10.0000	2.9760	10.0000	5.9742
10.2500	5.9576	10.2500	9.7534	10.2500	18.4957
10.5000	3.2784	10.5000	5.2178	10.5000	9.6171
10.7500	1.7524	10.7500	2.7336	10.7500	4.9658
11.0000	1.2258	11.0000	1.8989	11.0000	3.4138
11.2500	1.0433	11.2500	1.6081	11.2500	2.8790
11.5000	0.9299	11.5000	1.4270	11.5000	2.5459
11.7500	0.8737	11.7500	1.3376	11.7500	2.3767
12.0000	0.8251	12.0000	1.2586	12.0000	2.2326
12.2500	0.7761	12.2500	1.1809	12.2500	2.0894
12.5000	0.7316	12.5000	1.1112	12.5000	1.9608
12.7500	0.6990	12.7500	1.0584	12.7500	1.8658
13.0000	0.6671	13.0000	1.0089	13.0000	1.7752
13.2500	0.6354	13.2500	0.9591	13.2500	1.6849
13.5000	0.6025	13.5000	0.9086	13.5000	1.5931
13.7500	0.5695	13.7500	0.8572	13.7500	1.5012
14.0000	0.5357	14.0000	0.8053	14.0000	1.4089
14.2500	0.5018	14.2500	0.7535	14.2500	1.3163
14.5000	0.4755	14.5000	0.7139	14.5000	1.2460
14.7500	0.4666	14.7500	0.6990	14.7500	1.2201
15.0000	0.4607	15.0000	0.6891	15.0000	1.2012
15.2500	0.4540	15.2500	0.6800	15.2500	1.1833
15.5000	0.4480	15.5000	0.6700	15.5000	1.1653
15.7500	0.4420	15.7500	0.6603	15.7500	1.1474
16.0000	0.4360	16.0000	0.6504	16.0000	1.1295
16.2500	0.4291	16.2500	0.6405	16.2500	1.1111
16.5000	0.4232	16.5000	0.6306	16.5000	1.0926
16.7500	0.4170	16.7500	0.6200	16.7500	1.0748
17.0000	0.4100	17.0000	0.6100	17.0000	1.0566
17.2500	0.4035	17.2500	0.5998	17.2500	1.0379
17.5000	0.3970	17.5000	0.5899	17.5000	1.0199
17.7500	0.3900	17.7500	0.5790	17.7500	1.0010
18.0000	0.3836	18.0000	0.5690	18.0000	0.9831
18.2500	0.3767	18.2500	0.5590	18.2500	0.9642
18.5000	0.3700	18.5000	0.5482	18.5000	0.9463
18.7500	0.3630	18.7500	0.5380	18.7500	0.9274
19.0000	0.3560	19.0000	0.5274	19.0000	0.9085
19.2500	0.3491	19.2500	0.5165	19.2500	0.8901
19.5000	0.3421	19.5000	0.5060	19.5000	0.8715
19.7500	0.3352	19.7500	0.4956	19.7500	0.8526
20.0000	0.3283	20.0000	0.4846	20.0000	0.8338
20.2500	0.3210	20.2500	0.4740	20.2500	0.8156
20.5000	0.3140	20.5000	0.4638	20.5000	0.7969
20.7500	0.3070	20.7500	0.4529	20.7500	0.7780
21.0000	0.2996	21.0000	0.4421	21.0000	0.7591
21.2500	0.2927	21.2500	0.4311	21.2500	0.7401
21.5000	0.2850	21.5000	0.4201	21.5000	0.7212
21.7500	0.2780	21.7500	0.4092	21.7500	0.7023
22.0000	0.2709	22.0000	0.3983	22.0000	0.6838
22.2500	0.2630	22.2500	0.3874	22.2500	0.6645
22.5000	0.2561	22.5000	0.3765	22.5000	0.6456
22.7500	0.2490	22.7500	0.3656	22.7500	0.6266
23.0000	0.2413	23.0000	0.3547	23.0000	0.6077
23.2500	0.2340	23.2500	0.3437	23.2500	0.5888
23.5000	0.2264	23.5000	0.3328	23.5000	0.5698
23.7500	0.2190	23.7500	0.3219	23.7500	0.5509
24.0000	0.2116	24.0000	0.3109	24.0000	0.5321



Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - A5"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0000
3.0000	0.0000	3.0000	0.0000	3.0000	0.0325
3.2500	0.0000	3.2500	0.0000	3.2500	0.0879
3.5000	0.0000	3.5000	0.0000	3.5000	0.1482
3.7500	0.0000	3.7500	0.0000	3.7500	0.2104
4.0000	0.0000	4.0000	0.0000	4.0000	0.2745
4.2500	0.0000	4.2500	0.0111	4.2500	0.3396
4.5000	0.0000	4.5000	0.0387	4.5000	0.4044
4.7500	0.0000	4.7500	0.0694	4.7500	0.4637
5.0000	0.0000	5.0000	0.0990	5.0000	0.5200
5.2500	0.0000	5.2500	0.1276	5.2500	0.5755
5.5000	0.0118	5.5000	0.1574	5.5000	0.6281
5.7500	0.0287	5.7500	0.1861	5.7500	0.6798
6.0000	0.0465	6.0000	0.2138	6.0000	0.7296
6.2500	0.0644	6.2500	0.2415	6.2500	0.7787
6.5000	0.0842	6.5000	0.2762	6.5000	0.8494
6.7500	0.1110	6.7500	0.3305	6.7500	0.9699
7.0000	0.1436	7.0000	0.3938	7.0000	1.1111
7.2500	0.1811	7.2500	0.4636	7.2500	1.2586
7.5000	0.2201	7.5000	0.5314	7.5000	1.3959
7.7500	0.2548	7.7500	0.5866	7.7500	1.4914
8.0000	0.2877	8.0000	0.6374	8.0000	1.5776
8.2500	0.3221	8.2500	0.6888	8.2500	1.6636
8.5000	0.3813	8.5000	0.7922	8.5000	1.8689
8.7500	0.5061	8.7500	1.0210	8.7500	2.3502
9.0000	0.6588	9.0000	1.2908	9.0000	2.8996
9.2500	0.8302	9.2500	1.5809	9.2500	3.4637
9.5000	1.0564	9.5000	1.9569	9.5000	4.1853
9.7500	1.3896	9.7500	2.5023	9.7500	5.2186
10.0000	2.8187	10.0000	4.8983	10.0000	9.8839
10.2500	9.8002	10.2500	16.1075	10.2500	30.7644
10.5000	5.4504	10.5000	8.6941	10.5000	16.1319
10.7500	2.9102	10.7500	4.5641	10.7500	8.3175
11.0000	2.0367	11.0000	3.1664	11.0000	5.7194
11.2500	1.7331	11.2500	2.6815	11.2500	4.8198
11.5000	1.5449	11.5000	2.3811	11.5000	4.2619
11.7500	1.4518	11.7500	2.2307	11.7500	3.9796
12.0000	1.3716	12.0000	2.1011	12.0000	3.7385
12.2500	1.2902	12.2500	1.9714	12.2500	3.5000
12.5000	1.2158	12.5000	1.8543	12.5000	3.2846
12.7500	1.1616	12.7500	1.7674	12.7500	3.1246
13.0000	1.1092	13.0000	1.6841	13.0000	2.9734
13.2500	1.0569	13.2500	1.6011	13.2500	2.8215
13.5000	1.0026	13.5000	1.5172	13.5000	2.6680
13.7500	0.9484	13.7500	1.4322	13.7500	2.5151
14.0000	0.8920	14.0000	1.3463	14.0000	2.3612
14.2500	0.8355	14.2500	1.2590	14.2500	2.2070
14.5000	0.7921	14.5000	1.1924	14.5000	2.0869
14.7500	0.7772	14.7500	1.1684	14.7500	2.0437
15.0000	0.7670	15.0000	1.1515	15.0000	2.0131
15.2500	0.7570	15.2500	1.1357	15.2500	1.9824
15.5000	0.7467	15.5000	1.1199	15.5000	1.9527
15.7500	0.7369	15.7500	1.1030	15.7500	1.9229
16.0000	0.7261	16.0000	1.0872	16.0000	1.8922
16.2500	0.7160	16.2500	1.0703	16.2500	1.8616
16.5000	0.7054	16.5000	1.0535	16.5000	1.8319
16.7500	0.6945	16.7500	1.0366	16.7500	1.8013
17.0000	0.6837	17.0000	1.0198	17.0000	1.7706
17.2500	0.6728	17.2500	1.0030	17.2500	1.7400
17.5000	0.6620	17.5000	0.9862	17.5000	1.7094
17.7500	0.6510	17.7500	0.9687	17.7500	1.6786
18.0000	0.6394	18.0000	0.9515	18.0000	1.6479
18.2500	0.6285	18.2500	0.9346	18.2500	1.6162
18.5000	0.6170	18.5000	0.9168	18.5000	1.5855
18.7500	0.6058	18.7500	0.8989	18.7500	1.5549
19.0000	0.5940	19.0000	0.8821	19.0000	1.5232
19.2500	0.5830	19.2500	0.8643	19.2500	1.4926
19.5000	0.5714	19.5000	0.8465	19.5000	1.4609
19.7500	0.5595	19.7500	0.8286	19.7500	1.4303
20.0000	0.5476	20.0000	0.8108	20.0000	1.3985
20.2500	0.5358	20.2500	0.7930	20.2500	1.3669
20.5000	0.5239	20.5000	0.7751	20.5000	1.3362
20.7500	0.5121	20.7500	0.7572	20.7500	1.3045
21.0000	0.5003	21.0000	0.7394	21.0000	1.2728
21.2500	0.4885	21.2500	0.7216	21.2500	1.2412
21.5000	0.4760	21.5000	0.7028	21.5000	1.2095
21.7500	0.4638	21.7500	0.6849	21.7500	1.1779
22.0000	0.4520	22.0000	0.6671	22.0000	1.1462
22.2500	0.4400	22.2500	0.6486	22.2500	1.1145
22.5000	0.4272	22.5000	0.6304	22.5000	1.0828
22.7500	0.4154	22.7500	0.6122	22.7500	1.0512
23.0000	0.4026	23.0000	0.5938	23.0000	1.0195
23.2500	0.3908	23.2500	0.5758	23.2500	0.9878
23.5000	0.3780	23.5000	0.5571	23.5000	0.9561
23.7500	0.3661	23.7500	0.5385	23.7500	0.9245
24.0000	0.3533	24.0000	0.5204	24.0000	0.8928



Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - A6"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0000
3.0000	0.0000	3.0000	0.0000	3.0000	0.0304
3.2500	0.0000	3.2500	0.0000	3.2500	0.0925
3.5000	0.0000	3.5000	0.0000	3.5000	0.1608
3.7500	0.0000	3.7500	0.0000	3.7500	0.2322
4.0000	0.0000	4.0000	0.0000	4.0000	0.3058
4.2500	0.0000	4.2500	0.0079	4.2500	0.3804
4.5000	0.0000	4.5000	0.0389	4.5000	0.4551
4.7500	0.0000	4.7500	0.0729	4.7500	0.5230
5.0000	0.0000	5.0000	0.1069	5.0000	0.5881
5.2500	0.0000	5.2500	0.1410	5.2500	0.6522
5.5000	0.0095	5.5000	0.1741	5.5000	0.7129
5.7500	0.0290	5.7500	0.2071	5.7500	0.7725
6.0000	0.0485	6.0000	0.2392	6.0000	0.8306
6.2500	0.0691	6.2500	0.2712	6.2500	0.8875
6.5000	0.0912	6.5000	0.3116	6.5000	0.9676
6.7500	0.1222	6.7500	0.3727	6.7500	1.1061
7.0000	0.1593	7.0000	0.4456	7.0000	1.2669
7.2500	0.2016	7.2500	0.5248	7.2500	1.4368
7.5000	0.2460	7.5000	0.6031	7.5000	1.5941
7.7500	0.2855	7.7500	0.6656	7.7500	1.7061
8.0000	0.3241	8.0000	0.7242	8.0000	1.8048
8.2500	0.3627	8.2500	0.7842	8.2500	1.9045
8.5000	0.4304	8.5000	0.9005	8.5000	2.1375
8.7500	0.5712	8.7500	1.1601	8.7500	2.6873
9.0000	0.7457	9.0000	1.4684	9.0000	3.3194
9.2500	0.9419	9.2500	1.8028	9.2500	3.9676
9.5000	1.2004	9.5000	2.2340	9.5000	4.7930
9.7500	1.5799	9.7500	2.8599	9.7500	5.9832
10.0000	3.1826	10.0000	5.5714	10.0000	11.2774
10.2500	11.0795	10.2500	18.3135	10.2500	35.0500
10.5000	6.3340	10.5000	10.1395	10.5000	18.9205
10.7500	3.3710	10.7500	5.2956	10.7500	9.6865
11.0000	2.3510	11.0000	3.6607	11.0000	6.6272
11.2500	1.9949	11.2500	3.0924	11.2500	5.5668
11.5000	1.7765	11.5000	2.7434	11.5000	4.9199
11.7500	1.6695	11.7500	2.5682	11.7500	4.5906
12.0000	1.5772	12.0000	2.4196	12.0000	4.3125
12.2500	1.4841	12.2500	2.2706	12.2500	4.0375
12.5000	1.3991	12.5000	2.1356	12.5000	3.7889
12.7500	1.3362	12.7500	2.0352	12.7500	3.6041
13.0000	1.2761	13.0000	1.9405	13.0000	3.4288
13.2500	1.2159	13.2500	1.8448	13.2500	3.2544
13.5000	1.1535	13.5000	1.7475	13.5000	3.0783
13.7500	1.0907	13.7500	1.6504	13.7500	2.9023
14.0000	1.0267	14.0000	1.5507	14.0000	2.7251
14.2500	0.9618	14.2500	1.4510	14.2500	2.5467
14.5000	0.9113	14.5000	1.3735	14.5000	2.4076
14.7500	0.8941	14.7500	1.3460	14.7500	2.3570
15.0000	0.8820	15.0000	1.3265	15.0000	2.3209
15.2500	0.8710	15.2500	1.3079	15.2500	2.2859
15.5000	0.8595	15.5000	1.2894	15.5000	2.2518
15.7500	0.8470	15.7500	1.2709	15.7500	2.2176
16.0000	0.8355	16.0000	1.2517	16.0000	2.1821
16.2500	0.8239	16.2500	1.2328	16.2500	2.1473
16.5000	0.8114	16.5000	1.2136	16.5000	2.1125
16.7500	0.7988	16.7500	1.1945	16.7500	2.0775
17.0000	0.7870	17.0000	1.1752	17.0000	2.0418
17.2500	0.7740	17.2500	1.1557	17.2500	2.0065
17.5000	0.7613	17.5000	1.1362	17.5000	1.9715
17.7500	0.7488	17.7500	1.1163	17.7500	1.9361
18.0000	0.7363	18.0000	1.0962	18.0000	1.9005
18.2500	0.7230	18.2500	1.0766	18.2500	1.8649
18.5000	0.7102	18.5000	1.0562	18.5000	1.8291
18.7500	0.6970	18.7500	1.0362	18.7500	1.7931
19.0000	0.6841	19.0000	1.0161	19.0000	1.7570
19.2500	0.6706	19.2500	0.9961	19.2500	1.7209
19.5000	0.6571	19.5000	0.9750	19.5000	1.6849
19.7500	0.6435	19.7500	0.9549	19.7500	1.6492
20.0000	0.6300	20.0000	0.9339	20.0000	1.6128
20.2500	0.6165	20.2500	0.9144	20.2500	1.5768
20.5000	0.6029	20.5000	0.8938	20.5000	1.5409
20.7500	0.5895	20.7500	0.8726	20.7500	1.5047
21.0000	0.5760	21.0000	0.8518	21.0000	1.4685
21.2500	0.5624	21.2500	0.8313	21.2500	1.4319
21.5000	0.5479	21.5000	0.8106	21.5000	1.3953
21.7500	0.5344	21.7500	0.7896	21.7500	1.3587
22.0000	0.5208	22.0000	0.7685	22.0000	1.3224
22.2500	0.5063	22.2500	0.7475	22.2500	1.2855
22.5000	0.4920	22.5000	0.7267	22.5000	1.2493
22.7500	0.4782	22.7500	0.7054	22.7500	1.2132
23.0000	0.4637	23.0000	0.6842	23.0000	1.1762
23.2500	0.4502	23.2500	0.6631	23.2500	1.1392
23.5000	0.4356	23.5000	0.6421	23.5000	1.1027
23.7500	0.4211	23.7500	0.6210	23.7500	1.0662
24.0000	0.4066	24.0000	0.5995	24.0000	1.0296

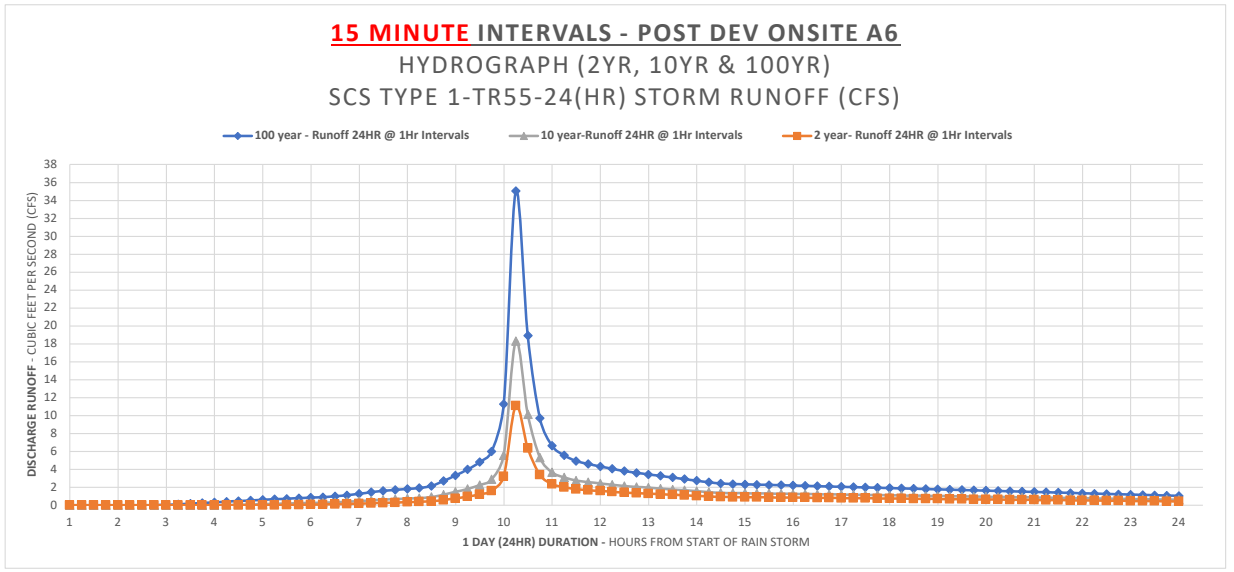


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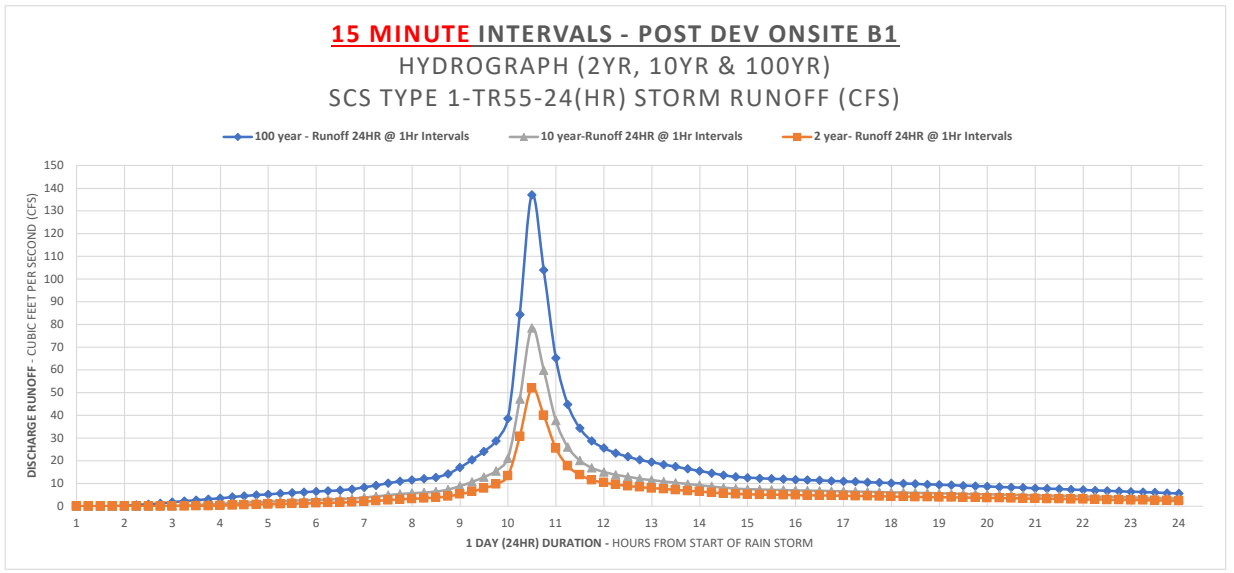
EXHIBIT K.2.1
ONSITE SHED "B"

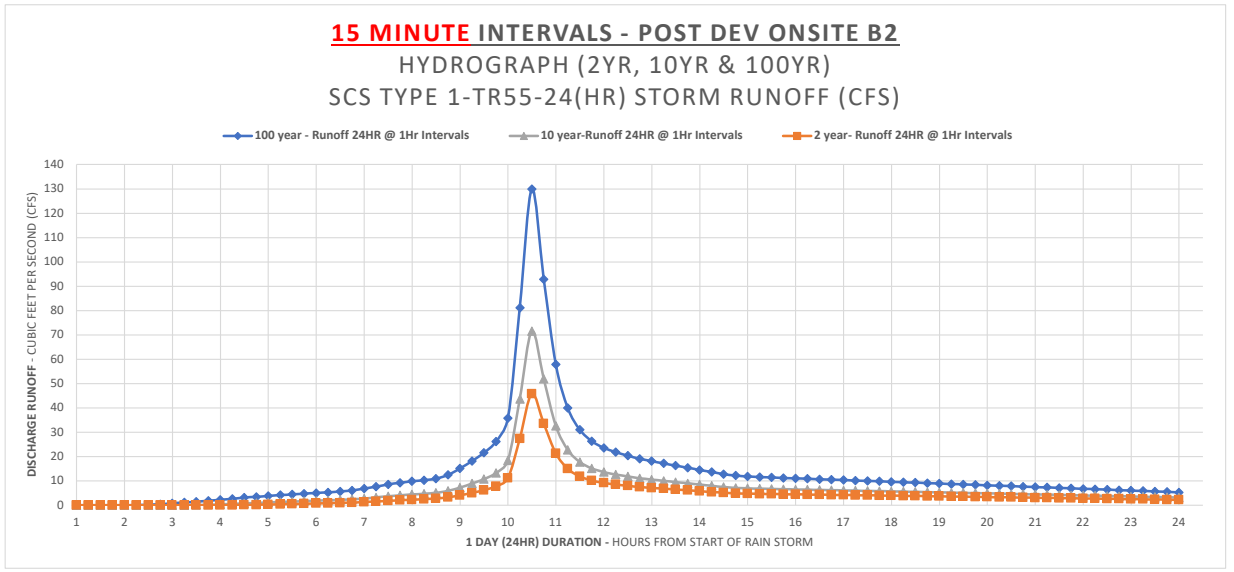
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - B1"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0090
2.0000	0.0000	2.0000	0.0000	2.0000	0.1412
2.2500	0.0000	2.2500	0.0000	2.2500	0.4585
2.5000	0.0000	2.5000	0.0000	2.5000	0.8508
2.7500	0.0000	2.7500	0.0308	2.7500	1.2672
3.0000	0.0000	3.0000	0.1482	3.0000	1.7024
3.2500	0.0000	3.2500	0.3280	3.2500	2.1477
3.5000	0.0166	3.5000	0.5380	3.5000	2.5991
3.7500	0.0870	3.7500	0.7625	3.7500	3.0522
4.0000	0.2029	4.0000	0.9967	4.0000	3.5060
4.2500	0.3386	4.2500	1.2370	4.2500	3.9607
4.5000	0.4844	4.5000	1.4801	4.5000	4.4047
4.7500	0.6319	4.7500	1.7149	4.7500	4.8150
5.0000	0.7752	5.0000	1.9350	5.0000	5.1817
5.2500	0.9145	5.2500	2.1435	5.2500	5.5149
5.5000	1.0507	5.5000	2.3430	5.5000	5.8270
5.7500	1.1840	5.7500	2.5361	5.7500	6.1216
6.0000	1.3139	6.0000	2.7212	6.0000	6.4022
6.2500	1.4410	6.2500	2.9007	6.2500	6.6704
6.5000	1.5732	6.5000	3.0883	6.5000	6.9572
6.7500	1.7563	6.7500	3.3729	6.7500	7.4521
7.0000	2.0120	7.0000	3.7865	7.0000	8.2135
7.2500	2.3176	7.2500	4.2807	7.2500	9.1259
7.5000	2.6480	7.5000	4.8055	7.5000	10.0772
7.7500	2.9554	7.7500	5.2751	7.7500	10.8911
8.0000	3.2162	8.0000	5.6525	8.0000	11.5016
8.2500	3.4492	8.2500	5.9789	8.2500	12.0053
8.5000	3.7201	8.5000	6.3590	8.5000	12.6149
8.7500	4.2957	8.7500	7.2447	8.7500	14.1815
9.0000	5.2724	9.0000	8.7863	9.0000	16.9752
9.2500	6.4729	9.2500	10.6493	9.2500	20.3127
9.5000	7.8518	9.5000	12.7480	9.5000	23.9986
9.7500	9.6585	9.7500	15.4730	9.7500	28.7350
10.0000	13.3554	10.0000	21.0738	10.0000	38.5279
10.2500	30.6946	10.2500	47.1726	10.2500	84.4159
10.5000	52.0006	10.5000	78.4068	10.5000	137.0521
10.7500	40.0089	10.7500	59.8733	10.7500	104.0027
11.0000	25.4942	11.0000	37.7505	11.0000	65.1535
11.2500	17.7475	11.2500	26.0688	11.2500	44.7092
11.5000	13.7129	11.5000	20.0707	11.5000	34.2641
11.7500	11.5541	11.7500	16.8516	11.7500	28.6815
12.0000	10.3333	12.0000	15.0322	12.0000	25.5259
12.2500	9.4960	12.2500	13.7880	12.2500	23.3761
12.5000	8.8621	12.5000	12.8561	12.5000	21.7626
12.7500	8.3350	12.7500	12.0747	12.7500	20.4225
13.0000	7.9021	13.0000	11.4338	13.0000	19.3223
13.2500	7.5081	13.2500	10.8516	13.2500	18.3234
13.5000	7.1264	13.5000	10.2889	13.5000	17.3592
13.7500	6.7461	13.7500	9.7336	13.7500	16.4105
14.0000	6.3640	14.0000	9.1764	14.0000	15.4619
14.2500	5.9823	14.2500	8.6203	14.2500	14.5167
14.5000	5.6115	14.5000	8.0838	14.5000	13.6042
14.7500	5.3369	14.7500	7.6828	14.7500	12.9260
15.0000	5.1795	15.0000	7.4506	15.0000	12.5300
15.2500	5.0755	15.2500	7.2977	15.2500	12.2668
15.5000	4.9909	15.5000	7.1724	15.5000	12.0516
15.7500	4.9133	15.7500	7.0573	15.7500	11.8542
16.0000	4.8384	16.0000	6.9470	16.0000	11.6644
16.2500	4.7637	16.2500	6.8364	16.2500	11.4749
16.5000	4.6882	16.5000	6.7275	16.5000	11.2874
16.7500	4.6134	16.7500	6.6174	16.7500	11.1001
17.0000	4.5379	17.0000	6.5068	17.0000	10.9105
17.2500	4.4625	17.2500	6.3951	17.2500	10.7210
17.5000	4.3870	17.5000	6.2850	17.5000	10.5322
17.7500	4.3103	17.7500	6.1733	17.7500	10.3427
18.0000	4.2338	18.0000	6.0621	18.0000	10.1539
18.2500	4.1571	18.2500	5.9505	18.2500	9.9634
18.5000	4.0799	18.5000	5.8385	18.5000	9.7743
18.7500	4.0033	18.7500	5.7267	18.7500	9.5848
19.0000	3.9257	19.0000	5.6143	19.0000	9.3960
19.2500	3.8482	19.2500	5.5023	19.2500	9.2045
19.5000	3.7706	19.5000	5.3896	19.5000	9.0140
19.7500	3.6927	19.7500	5.2764	19.7500	8.8242
20.0000	3.6148	20.0000	5.1637	20.0000	8.6336
20.2500	3.5362	20.2500	5.0506	20.2500	8.4429
20.5000	3.4573	20.5000	4.9382	20.5000	8.2517
20.7500	3.3790	20.7500	4.8242	20.7500	8.0623
21.0000	3.2999	21.0000	4.7110	21.0000	7.8708
21.2500	3.2215	21.2500	4.5976	21.2500	7.6800
21.5000	3.1426	21.5000	4.4839	21.5000	7.4884
21.7500	3.0640	21.7500	4.3691	21.7500	7.2979
22.0000	2.9841	22.0000	4.2559	22.0000	7.1066
22.2500	2.9042	22.2500	4.1420	22.2500	6.9146
22.5000	2.8247	22.5000	4.0283	22.5000	6.7240
22.7500	2.7458	22.7500	3.9143	22.7500	6.5338
23.0000	2.6650	23.0000	3.8000	23.0000	6.3422
23.2500	2.5866	23.2500	3.6852	23.2500	6.1497
23.5000	2.5060	23.5000	3.5709	23.5000	5.9586
23.7500	2.4261	23.7500	3.4561	23.7500	5.7670
24.0000	2.3465	24.0000	3.3416	24.0000	5.5749



Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - B2"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0085
2.5000	0.0000	2.5000	0.0000	2.5000	0.1168
2.7500	0.0000	2.7500	0.0000	2.7500	0.3726
3.0000	0.0000	3.0000	0.0000	3.0000	0.7010
3.2500	0.0000	3.2500	0.0000	3.2500	1.0639
3.5000	0.0000	3.5000	0.0319	3.5000	1.4417
3.7500	0.0000	3.7500	0.1421	3.7500	1.8296
4.0000	0.0000	4.0000	0.3051	4.0000	2.2272
4.2500	0.0016	4.2500	0.4910	4.2500	2.6324
4.5000	0.0325	4.5000	0.6883	4.5000	3.0356
4.7500	0.1138	4.7500	0.8874	4.7500	3.4172
5.0000	0.2187	5.0000	1.0789	5.0000	3.7670
5.2500	0.3319	5.2500	1.2653	5.2500	4.0935
5.5000	0.4477	5.5000	1.4471	5.5000	4.4055
5.7500	0.5617	5.7500	1.6242	5.7500	4.7028
6.0000	0.6753	6.0000	1.7973	6.0000	4.9900
6.2500	0.7871	6.2500	1.9665	6.2500	5.2642
6.5000	0.9031	6.5000	2.1421	6.5000	5.5597
6.7500	1.0547	6.7500	2.3948	6.7500	6.0383
7.0000	1.2565	7.0000	2.7463	7.0000	6.7389
7.2500	1.4962	7.2500	3.1641	7.2500	7.5656
7.5000	1.7602	7.5000	3.6115	7.5000	8.4363
7.7500	2.0127	7.7500	4.0187	7.7500	9.1797
8.0000	2.2348	8.0000	4.3600	8.0000	9.7578
8.2500	2.4442	8.2500	4.6687	8.2500	10.2587
8.5000	2.6882	8.5000	5.0362	8.5000	10.8685
8.7500	3.1823	8.7500	5.8502	8.7500	12.3991
9.0000	3.9984	9.0000	7.2107	9.0000	15.0228
9.2500	5.0068	9.2500	8.8582	9.2500	18.1142
9.5000	6.1770	9.5000	10.7216	9.5000	21.5397
9.7500	7.7539	9.7500	13.1949	9.7500	26.0684
10.0000	11.0993	10.0000	18.4101	10.0000	35.6655
10.2500	27.3465	10.2500	43.6311	10.2500	81.0987
10.5000	45.7676	10.5000	71.5245	10.5000	129.9447
10.7500	33.4814	10.7500	51.8400	10.7500	92.8658
11.0000	21.2960	11.0000	32.5586	11.0000	57.8341
11.2500	14.9945	11.2500	22.6705	11.2500	39.9100
11.5000	11.8046	11.5000	17.7269	11.5000	30.9796
11.7500	10.0941	11.7500	15.0810	11.7500	26.2531
12.0000	9.1063	12.0000	13.5632	12.0000	23.5180
12.2500	8.4566	12.2500	12.5645	12.2500	21.7388
12.5000	7.9161	12.5000	11.7386	12.5000	20.2783
12.7500	7.4662	12.7500	11.0520	12.7500	19.0572
13.0000	7.0935	13.0000	10.4866	13.0000	18.0541
13.2500	6.7493	13.2500	9.9673	13.2500	17.1368
13.5000	6.4127	13.5000	9.4570	13.5000	16.2464
13.7500	6.0767	13.7500	8.9503	13.7500	15.3587
14.0000	5.7366	14.0000	8.4428	14.0000	14.4734
14.2500	5.3951	14.2500	7.9304	14.2500	13.5872
14.5000	5.0662	14.5000	7.4381	14.5000	12.7310
14.7500	4.8308	14.7500	7.0859	14.7500	12.1193
15.0000	4.6990	15.0000	6.8878	15.0000	11.7730
15.2500	4.6127	15.2500	6.7558	15.2500	11.5394
15.5000	4.5411	15.5000	6.6464	15.5000	11.3454
15.7500	4.4743	15.7500	6.5441	15.7500	11.1645
16.0000	4.4086	16.0000	6.4443	16.0000	10.9878
16.2500	4.3431	16.2500	6.3456	16.2500	10.8113
16.5000	4.2772	16.5000	6.2457	16.5000	10.6361
16.7500	4.2115	16.7500	6.1455	16.7500	10.4613
17.0000	4.1446	17.0000	6.0448	17.0000	10.2849
17.2500	4.0773	17.2500	5.9433	17.2500	10.1080
17.5000	4.0094	17.5000	5.8419	17.5000	9.9311
17.7500	3.9423	17.7500	5.7405	17.7500	9.7535
18.0000	3.8745	18.0000	5.6377	18.0000	9.5761
18.2500	3.8058	18.2500	5.5354	18.2500	9.3986
18.5000	3.7362	18.5000	5.4330	18.5000	9.2195
18.7500	3.6674	18.7500	5.3292	18.7500	9.0420
19.0000	3.5977	19.0000	5.2258	19.0000	8.8635
19.2500	3.5276	19.2500	5.1224	19.2500	8.6834
19.5000	3.4573	19.5000	5.0193	19.5000	8.5049
19.7500	3.3872	19.7500	4.9151	19.7500	8.3268
20.0000	3.3161	20.0000	4.8113	20.0000	8.1484
20.2500	3.2458	20.2500	4.7065	20.2500	7.9685
20.5000	3.1737	20.5000	4.6015	20.5000	7.7888
20.7500	3.1026	20.7500	4.4964	20.7500	7.6096
21.0000	3.0314	21.0000	4.3917	21.0000	7.4290
21.2500	2.9596	21.2500	4.2859	21.2500	7.2491
21.5000	2.8877	21.5000	4.1805	21.5000	7.0684
21.7500	2.8156	21.7500	4.0752	21.7500	6.8885
22.0000	2.7432	22.0000	3.9693	22.0000	6.7086
22.2500	2.6711	22.2500	3.8630	22.2500	6.5269
22.5000	2.5981	22.5000	3.7576	22.5000	6.3460
22.7500	2.5247	22.7500	3.6510	22.7500	6.1661
23.0000	2.4522	23.0000	3.5452	23.0000	5.9846
23.2500	2.3786	23.2500	3.4388	23.2500	5.8044
23.5000	2.3052	23.5000	3.3325	23.5000	5.6240
23.7500	2.2321	23.7500	3.2247	23.7500	5.4431
24.0000	2.1587	24.0000	3.1183	24.0000	5.2615

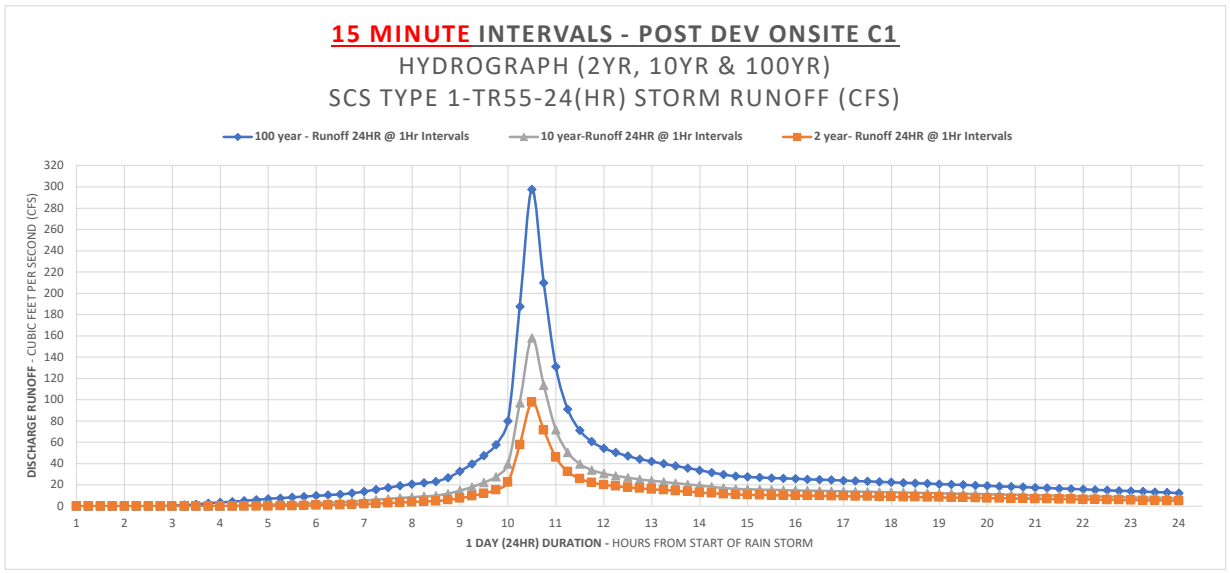


DRAFT

EXHIBIT K.2.1
ONSITE SHED "C"

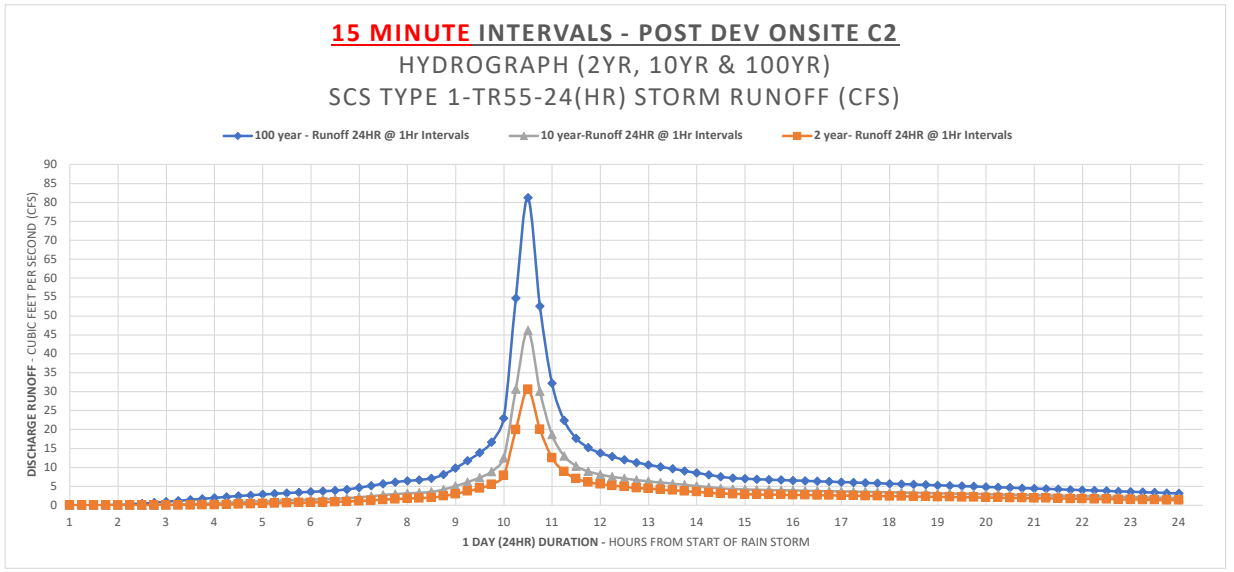
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - C1"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0369
3.0000	0.0000	3.0000	0.0000	3.0000	0.3411
3.2500	0.0000	3.2500	0.0000	3.2500	0.9449
3.5000	0.0000	3.5000	0.0000	3.5000	1.6869
3.7500	0.0000	3.7500	0.0000	3.7500	2.4942
4.0000	0.0000	4.0000	0.0177	4.0000	3.3388
4.2500	0.0000	4.2500	0.1741	4.2500	4.2140
4.5000	0.0000	4.5000	0.4916	4.5000	5.0988
4.7500	0.0000	4.7500	0.8758	4.7500	5.9538
5.0000	0.0000	5.0000	1.2790	5.0000	6.7576
5.2500	0.0541	5.2500	1.6816	5.2500	7.5219
5.5000	0.2104	5.5000	2.0802	5.5000	8.2562
5.7500	0.4239	5.7500	2.4727	5.7500	8.9632
6.0000	0.6562	6.0000	2.8619	6.0000	9.6532
6.2500	0.8932	6.2500	3.2431	6.2500	10.3163
6.5000	1.1399	6.5000	3.6406	6.5000	11.0215
6.7500	1.4425	6.7500	4.1801	6.7500	12.1104
7.0000	1.8277	7.0000	4.9053	7.0000	13.6671
7.2500	2.2890	7.2500	5.7632	7.2500	15.4934
7.5000	2.8064	7.5000	6.6974	7.5000	17.4306
7.7500	3.3204	7.7500	7.5693	7.7500	19.1168
8.0000	3.7982	8.0000	8.3302	8.0000	20.4733
8.2500	4.2596	8.2500	9.0423	8.2500	21.6734
8.5000	4.7909	8.5000	9.8737	8.5000	23.1339
8.7500	5.8040	8.7500	11.6315	8.7500	26.6386
9.0000	7.4527	9.0000	14.5233	9.0000	32.5281
9.2500	9.5069	9.2500	18.0416	9.2500	39.5232
9.5000	11.9603	9.5000	22.1036	9.5000	47.3200
9.7500	15.2983	9.7500	27.6114	9.7500	57.6908
10.0000	22.4737	10.0000	39.4112	10.0000	79.8262
10.2500	57.6580	10.2500	96.9522	10.2500	187.4443
10.5000	97.5860	10.5000	158.0208	10.5000	297.4240
10.7500	71.3541	10.7500	113.4280	10.7500	209.7101
11.0000	45.7231	11.0000	71.8363	11.0000	131.0297
11.2500	32.4412	11.2500	50.4147	11.2500	90.9922
11.5000	25.7628	11.5000	39.6689	11.5000	71.0595
11.7500	22.1861	11.7500	33.9658	11.7500	60.4839
12.0000	20.1132	12.0000	30.6606	12.0000	54.3282
12.2500	18.7446	12.2500	28.4878	12.2500	50.3311
12.5000	17.5815	12.5000	26.6630	12.5000	46.9822
12.7500	16.6091	12.7500	25.1302	12.7500	44.1953
13.0000	15.8053	13.0000	23.8681	13.0000	41.8993
13.2500	15.0614	13.2500	22.7046	13.2500	39.7880
13.5000	14.3288	13.5000	21.5609	13.5000	37.7307
13.7500	13.5910	13.7500	20.4170	13.7500	35.6772
14.0000	12.8460	14.0000	19.2693	14.0000	33.6303
14.2500	12.0879	14.2500	18.1142	14.2500	31.5776
14.5000	11.3588	14.5000	16.9967	14.5000	29.6071
14.7500	10.8444	14.7500	16.2102	14.7500	28.2048
15.0000	10.5626	15.0000	15.7750	15.0000	27.4208
15.2500	10.3782	15.2500	15.4836	15.2500	26.8878
15.5000	10.2239	15.5000	15.2418	15.5000	26.4437
15.7500	10.0811	15.7500	15.0138	15.7500	26.0304
16.0000	9.9398	16.0000	14.7910	16.0000	25.6243
16.2500	9.7979	16.2500	14.5686	16.2500	25.2182
16.5000	9.6549	16.5000	14.3452	16.5000	24.8123
16.7500	9.5109	16.7500	14.1197	16.7500	24.4076
17.0000	9.3649	17.0000	13.8943	17.0000	23.9993
17.2500	9.2182	17.2500	13.6663	17.2500	23.5902
17.5000	9.0696	17.5000	13.4368	17.5000	23.1810
17.7500	8.9210	17.7500	13.2053	17.7500	22.7719
18.0000	8.7699	18.0000	12.9749	18.0000	22.3617
18.2500	8.6188	18.2500	12.7434	18.2500	21.9496
18.5000	8.4661	18.5000	12.5107	18.5000	21.5355
18.7500	8.3128	18.7500	12.2767	18.7500	21.1228
19.0000	8.1582	19.0000	12.0418	19.0000	20.7094
19.2500	8.0036	19.2500	11.8059	19.2500	20.2935
19.5000	7.8469	19.5000	11.5699	19.5000	19.8781
19.7500	7.6903	19.7500	11.3320	19.7500	19.4621
20.0000	7.5314	20.0000	11.0945	20.0000	19.0438
20.2500	7.3730	20.2500	10.8561	20.2500	18.6247
20.5000	7.2125	20.5000	10.6166	20.5000	18.2070
20.7500	7.0529	20.7500	10.3761	20.7500	17.7893
21.0000	6.8923	21.0000	10.1350	21.0000	17.3706
21.2500	6.7312	21.2500	9.8937	21.2500	16.9519
21.5000	6.5690	21.5000	9.6518	21.5000	16.5299
21.7500	6.4068	21.7500	9.4093	21.7500	16.1109
22.0000	6.2430	22.0000	9.1668	22.0000	15.6902
22.2500	6.0799	22.2500	8.9230	22.2500	15.2693
22.5000	5.9157	22.5000	8.6799	22.5000	14.8478
22.7500	5.7516	22.7500	8.4350	22.7500	14.4272
23.0000	5.5864	23.0000	8.1909	23.0000	14.0030
23.2500	5.4206	23.2500	7.9460	23.2500	13.5808
23.5000	5.2544	23.5000	7.7010	23.5000	13.1581
23.7500	5.0882	23.7500	7.4540	23.7500	12.7344
24.0000	4.9209	24.0000	7.2080	24.0000	12.3097



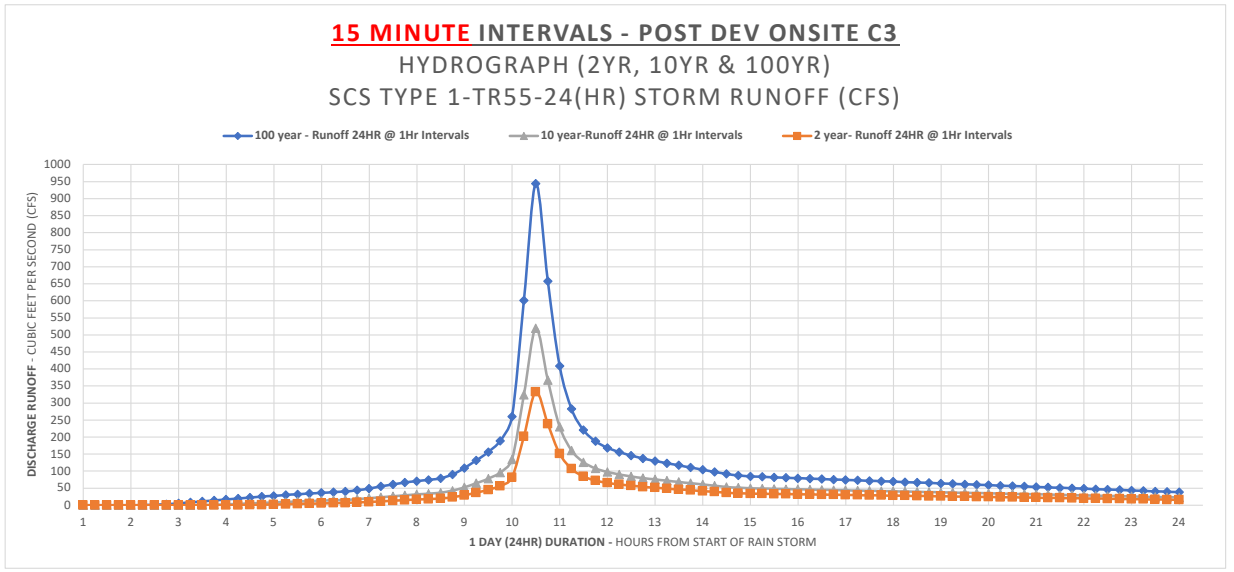
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - C2"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0474
2.2500	0.0000	2.2500	0.0000	2.2500	0.2079
2.5000	0.0000	2.5000	0.0000	2.5000	0.4213
2.7500	0.0000	2.7500	0.0044	2.7500	0.6492
3.0000	0.0000	3.0000	0.0489	3.0000	0.8891
3.2500	0.0000	3.2500	0.1413	3.2500	1.1350
3.5000	0.0000	3.5000	0.2538	3.5000	1.3830
3.7500	0.0219	3.7500	0.3765	3.7500	1.6340
4.0000	0.0765	4.0000	0.5043	4.0000	1.8840
4.2500	0.1482	4.2500	0.6353	4.2500	2.1370
4.5000	0.2270	4.5000	0.7695	4.5000	2.3840
4.7500	0.3071	4.7500	0.8965	4.7500	2.6098
5.0000	0.3853	5.0000	1.0173	5.0000	2.8114
5.2500	0.4617	5.2500	1.1313	5.2500	2.9954
5.5000	0.5361	5.5000	1.2418	5.5000	3.1708
5.7500	0.6090	5.7500	1.3484	5.7500	3.3359
6.0000	0.6804	6.0000	1.4518	6.0000	3.4952
6.2500	0.7506	6.2500	1.5518	6.2500	3.6462
6.5000	0.8242	6.5000	1.6599	6.5000	3.8146
6.7500	0.9322	6.7500	1.8323	6.7500	4.1245
7.0000	1.0793	7.0000	2.0739	7.0000	4.5803
7.2500	1.2505	7.2500	2.3538	7.2500	5.1051
7.5000	1.4341	7.5000	2.6459	7.5000	5.6382
7.7500	1.5969	7.7500	2.8960	7.7500	6.0705
8.0000	1.7357	8.0000	3.0967	8.0000	6.3912
8.2500	1.8629	8.2500	3.2752	8.2500	6.6652
8.5000	2.0203	8.5000	3.5032	8.5000	7.0320
8.7500	2.3810	8.7500	4.0702	8.7500	8.0637
9.0000	2.9635	9.0000	4.9966	9.0000	9.7575
9.2500	3.6509	9.2500	6.0622	9.2500	11.6835
9.5000	4.4314	9.5000	7.2623	9.5000	13.7950
9.7500	5.4980	9.7500	8.8789	9.7500	16.6213
10.0000	7.8630	10.0000	12.5088	10.0000	22.9978
10.2500	19.8986	10.2500	30.6200	10.2500	54.6533
10.5000	30.5370	10.5000	46.1170	10.5000	81.1802
10.7500	20.0197	10.7500	30.0545	10.7500	52.5292
11.0000	12.5201	11.0000	18.6217	11.0000	32.2126
11.2500	8.8129	11.2500	13.0138	11.2500	22.3890
11.5000	7.0203	11.5000	10.3203	11.5000	17.6667
11.7500	6.0702	11.7500	8.8862	11.7500	15.1698
12.0000	5.5291	12.0000	8.0738	12.0000	13.7541
12.2500	5.1601	12.2500	7.5224	12.2500	12.7945
12.5000	4.8298	12.5000	7.0306	12.5000	11.9445
12.7500	4.5552	12.7500	6.6231	12.7500	11.2375
13.0000	4.3270	13.0000	6.2828	13.0000	10.6512
13.2500	4.1133	13.2500	5.9683	13.2500	10.1076
13.5000	3.9043	13.5000	5.6581	13.5000	9.5755
13.7500	3.6935	13.7500	5.3489	13.7500	9.0470
14.0000	3.4835	14.0000	5.0409	14.0000	8.5183
14.2500	3.2707	14.2500	4.7297	14.2500	7.9887
14.5000	3.0691	14.5000	4.4342	14.5000	7.4845
14.7500	2.9317	14.7500	4.2342	14.7500	7.1433
15.0000	2.8583	15.0000	4.1257	15.0000	6.9563
15.2500	2.8077	15.2500	4.0503	15.2500	6.8260
15.5000	2.7638	15.5000	3.9852	15.5000	6.7134
15.7500	2.7228	15.7500	3.9230	15.7500	6.6071
16.0000	2.6811	16.0000	3.8618	16.0000	6.5017
16.2500	2.6407	16.2500	3.8017	16.2500	6.3966
16.5000	2.5985	16.5000	3.7405	16.5000	6.2913
16.7500	2.5575	16.7500	3.6785	16.7500	6.1858
17.0000	2.5153	17.0000	3.6172	17.0000	6.0808
17.2500	2.4732	17.2500	3.5553	17.2500	5.9744
17.5000	2.4312	17.5000	3.4940	17.5000	5.8693
17.7500	2.3890	17.7500	3.4318	17.7500	5.7630
18.0000	2.3470	18.0000	3.3698	18.0000	5.6579
18.2500	2.3043	18.2500	3.3075	18.2500	5.5515
18.5000	2.2618	18.5000	3.2455	18.5000	5.4450
18.7500	2.2187	18.7500	3.1823	18.7500	5.3390
19.0000	2.1755	19.0000	3.1202	19.0000	5.2326
19.2500	2.1325	19.2500	3.0580	19.2500	5.1266
19.5000	2.0893	19.5000	2.9948	19.5000	5.0202
19.7500	2.0463	19.7500	2.9318	19.7500	4.9142
20.0000	2.0025	20.0000	2.8685	20.0000	4.8067
20.2500	1.9592	20.2500	2.8055	20.2500	4.7007
20.5000	1.9153	20.5000	2.7432	20.5000	4.5933
20.7500	1.8720	20.7500	2.6793	20.7500	4.4869
21.0000	1.8278	21.0000	2.6160	21.0000	4.3799
21.2500	1.7839	21.2500	2.5530	21.2500	4.2733
21.5000	1.7399	21.5000	2.4897	21.5000	4.1665
21.7500	1.6965	21.7500	2.4255	21.7500	4.0591
22.0000	1.6517	22.0000	2.3625	22.0000	3.9529
22.2500	1.6076	22.2500	2.2982	22.2500	3.8454
22.5000	1.5633	22.5000	2.2352	22.5000	3.7383
22.7500	1.5192	22.7500	2.1710	22.7500	3.6312
23.0000	1.4750	23.0000	2.1076	23.0000	3.5238
23.2500	1.4302	23.2500	2.0438	23.2500	3.4168
23.5000	1.3858	23.5000	1.9795	23.5000	3.3094
23.7500	1.3410	23.7500	1.9155	23.7500	3.2024
24.0000	1.2967	24.0000	1.8517	24.0000	3.0950



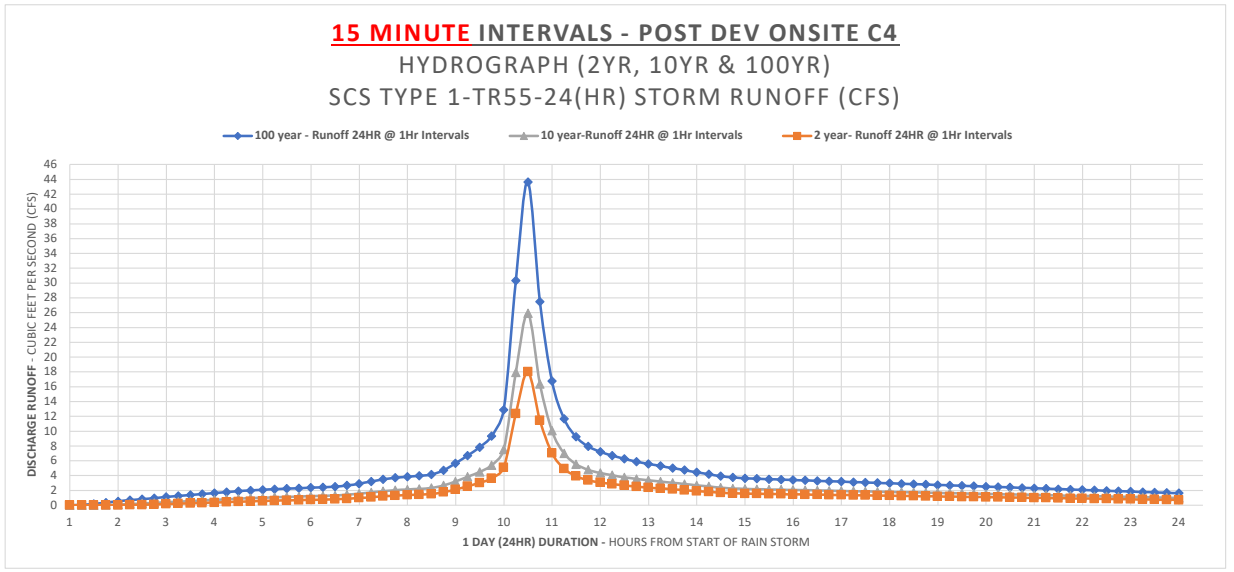
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - C3"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0689
2.5000	0.0000	2.5000	0.0000	2.5000	0.8950
2.7500	0.0000	2.7500	0.0000	2.7500	2.7719
3.0000	0.0000	3.0000	0.0000	3.0000	5.1654
3.2500	0.0000	3.2500	0.0076	3.2500	7.7782
3.5000	0.0000	3.5000	0.2521	3.5000	10.5187
3.7500	0.0000	3.7500	1.0772	3.7500	13.3290
4.0000	0.0000	4.0000	2.2679	4.0000	16.1866
4.2500	0.0145	4.2500	3.6136	4.2500	19.1006
4.5000	0.2552	4.5000	5.0391	4.5000	22.0020
4.7500	0.8590	4.7500	6.4656	4.7500	24.7335
5.0000	1.6276	5.0000	7.8446	5.0000	27.2349
5.2500	2.4480	5.2500	9.1815	5.2500	29.5812
5.5000	3.2752	5.5000	10.4909	5.5000	31.8167
5.7500	4.0968	5.7500	11.7612	5.7500	33.9544
6.0000	4.9113	6.0000	13.0095	6.0000	36.0093
6.2500	5.7182	6.2500	14.2211	6.2500	37.9781
6.5000	6.5509	6.5000	15.4920	6.5000	40.1112
6.7500	7.6566	6.7500	17.3462	6.7500	43.6074
7.0000	9.1202	7.0000	19.9034	7.0000	48.7442
7.2500	10.8544	7.2500	22.9133	7.2500	54.7260
7.5000	12.7654	7.5000	26.1498	7.5000	60.9679
7.7500	14.5674	7.7500	29.0557	7.7500	66.2909
8.0000	16.1694	8.0000	31.5003	8.0000	70.4080
8.2500	17.6852	8.2500	33.7139	8.2500	73.9677
8.5000	19.4531	8.5000	36.3699	8.5000	78.4258
8.7500	23.1026	8.7500	42.3369	8.7500	89.7032
9.0000	29.0520	9.0000	52.2784	9.0000	108.7781
9.2500	36.3288	9.2500	64.1491	9.2500	131.1679
9.5000	44.8338	9.5000	77.6258	9.5000	155.9189
9.7500	56.3102	9.7500	95.7549	9.7500	188.5884
10.0000	80.9301	10.0000	134.4033	10.0000	259.6482
10.2500	201.8609	10.2500	323.8763	10.2500	600.4141
10.5000	332.5465	10.5000	519.3798	10.5000	943.7092
10.7500	238.1343	10.7500	366.8480	10.7500	657.2103
11.0000	150.8460	11.0000	230.0018	11.0000	407.9913
11.2500	106.2489	11.2500	160.5423	11.2500	282.1581
11.5000	83.9493	11.5000	125.9543	11.5000	220.1471
11.7500	72.0518	11.7500	107.6759	11.7500	187.3140
12.0000	65.1633	12.0000	97.0451	12.0000	168.2210
12.2500	60.6368	12.2500	90.0911	12.2500	155.8680
12.5000	56.7986	12.5000	84.2235	12.5000	145.4217
12.7500	53.5871	12.7500	79.3270	12.7500	136.7568
13.0000	50.9202	13.0000	75.2686	13.0000	129.5902
13.2500	48.4630	13.2500	71.5258	13.2500	122.9996
13.5000	46.0485	13.5000	67.8761	13.5000	116.5701
13.7500	43.6208	13.7500	64.2243	13.7500	110.2065
14.0000	41.1849	14.0000	60.5752	14.0000	103.8443
14.2500	38.7249	14.2500	56.9064	14.2500	97.4458
14.5000	36.3514	14.5000	53.3655	14.5000	91.3369
14.7500	34.6846	14.7500	50.8726	14.7500	86.9886
15.0000	33.7668	15.0000	49.4858	15.0000	84.5736
15.2500	33.1540	15.2500	48.5567	15.2500	82.9243
15.5000	32.6436	15.5000	47.7772	15.5000	81.5368
15.7500	32.1655	15.7500	47.0412	15.7500	80.2453
16.0000	31.6949	16.0000	46.3262	16.0000	78.9743
16.2500	31.2263	16.2500	45.6127	16.2500	77.7107
16.5000	30.7516	16.5000	44.8932	16.5000	76.4480
16.7500	30.2767	16.7500	44.1705	16.7500	75.1818
17.0000	29.7964	17.0000	43.4457	17.0000	73.9155
17.2500	29.3128	17.2500	42.7203	17.2500	72.6427
17.5000	28.8270	17.5000	41.9926	17.5000	71.3692
17.7500	28.3382	17.7500	41.2584	17.7500	70.0962
18.0000	27.8472	18.0000	40.5232	18.0000	68.8199
18.2500	27.3548	18.2500	39.7880	18.2500	67.5373
18.5000	26.8576	18.5000	39.0475	18.5000	66.2582
18.7500	26.3600	18.7500	38.3048	18.7500	64.9816
19.0000	25.8590	19.0000	37.5634	19.0000	63.6945
19.2500	25.3559	19.2500	36.8180	19.2500	62.4072
19.5000	24.8513	19.5000	36.0726	19.5000	61.1176
19.7500	24.3464	19.7500	35.3230	19.7500	59.8347
20.0000	23.8352	20.0000	34.5710	20.0000	58.5476
20.2500	23.3271	20.2500	33.8216	20.2500	57.2509
20.5000	22.8149	20.5000	33.0670	20.5000	55.9609
20.7500	22.3007	20.7500	32.3104	20.7500	54.6730
21.0000	21.7855	21.0000	31.5569	21.0000	53.3754
21.2500	21.2685	21.2500	30.7991	21.2500	52.0825
21.5000	20.7507	21.5000	30.0414	21.5000	50.7836
21.7500	20.2330	21.7500	29.2801	21.7500	49.4904
22.0000	19.7102	22.0000	28.5180	22.0000	48.1943
22.2500	19.1903	22.2500	27.7578	22.2500	46.8968
22.5000	18.6653	22.5000	26.9967	22.5000	45.5932
22.7500	18.1425	22.7500	26.2285	22.7500	44.2980
23.0000	17.6172	23.0000	25.4653	23.0000	42.9938
23.2500	17.0929	23.2500	24.7012	23.2500	41.6938
23.5000	16.5635	23.5000	23.9329	23.5000	40.3927
23.7500	16.0372	23.7500	23.1642	23.7500	39.0894
24.0000	15.5078	24.0000	22.3944	24.0000	37.7877



Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - C4"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0236
1.5000	0.0000	1.5000	0.0000	1.5000	0.1508
1.7500	0.0000	1.7500	0.0143	1.7500	0.3342
2.0000	0.0000	2.0000	0.0697	2.0000	0.5140
2.2500	0.0104	2.2500	0.1467	2.2500	0.6720
2.5000	0.0427	2.5000	0.2233	2.5000	0.8116
2.7500	0.0876	2.7500	0.3015	2.7500	0.9486
3.0000	0.1360	3.0000	0.3816	3.0000	1.0894
3.2500	0.1880	3.2500	0.4633	3.2500	1.2303
3.5000	0.2408	3.5000	0.5437	3.5000	1.3673
3.7500	0.2939	3.7500	0.6254	3.7500	1.5021
4.0000	0.3486	4.0000	0.7067	4.0000	1.6327
4.2500	0.4030	4.2500	0.7865	4.2500	1.7613
4.5000	0.4576	4.5000	0.8655	4.5000	1.8836
4.7500	0.5078	4.7500	0.9350	4.7500	1.9875
5.0000	0.5536	5.0000	0.9955	5.0000	2.0730
5.2500	0.5953	5.2500	1.0514	5.2500	2.1484
5.5000	0.6361	5.5000	1.1034	5.5000	2.2186
5.7500	0.6739	5.7500	1.1529	5.7500	2.2845
6.0000	0.7114	6.0000	1.2001	6.0000	2.3466
6.2500	0.7470	6.2500	1.2444	6.2500	2.4059
6.5000	0.7857	6.5000	1.2961	6.5000	2.4779
6.7500	0.8555	6.7500	1.3960	6.7500	2.6424
7.0000	0.9550	7.0000	1.5443	7.0000	2.8941
7.2500	1.0696	7.2500	1.7121	7.2500	3.1820
7.5000	1.1869	7.5000	1.8830	7.5000	3.4673
7.7500	1.2821	7.7500	2.0175	7.7500	3.6843
8.0000	1.3548	8.0000	2.1148	8.0000	3.8323
8.2500	1.4179	8.2500	2.1972	8.2500	3.9537
8.5000	1.5029	8.5000	2.3131	8.5000	4.1336
8.7500	1.7332	8.7500	2.6487	8.7500	4.7047
9.0000	2.1082	9.0000	3.1990	9.0000	5.6433
9.2500	2.5325	9.2500	3.8151	9.2500	6.6868
9.5000	3.0014	9.5000	4.4888	9.5000	7.8164
9.7500	3.6314	9.7500	5.3980	9.7500	9.3297
10.0000	5.0769	10.0000	7.4817	10.0000	12.8550
10.2500	12.3386	10.2500	17.9075	10.2500	30.3030
10.5000	17.9950	10.5000	25.9302	10.5000	43.6517
10.7500	11.4248	10.7500	16.3637	10.7500	27.4555
11.0000	7.0299	11.0000	10.0353	11.0000	16.7626
11.2500	4.9050	11.2500	6.9852	11.2500	11.6546
11.5000	3.8938	11.5000	5.5331	11.5000	9.2085
11.7500	3.3549	11.7500	4.7601	11.7500	7.9131
12.0000	3.0541	12.0000	4.3300	12.0000	7.1926
12.2500	2.8436	12.2500	4.0286	12.2500	6.6891
12.5000	2.6563	12.5000	3.7600	12.5000	6.2426
12.7500	2.5006	12.7500	3.5386	12.7500	5.8707
13.0000	2.3705	13.0000	3.3539	13.0000	5.5641
13.2500	2.2505	13.2500	3.1822	13.2500	5.2766
13.5000	2.1323	13.5000	3.0141	13.5000	4.9964
13.7500	2.0151	13.7500	2.8470	13.7500	4.7178
14.0000	1.8971	14.0000	2.6796	14.0000	4.4404
14.2500	1.7793	14.2500	2.5129	14.2500	4.1628
14.5000	1.6674	14.5000	2.3539	14.5000	3.8979
14.7500	1.5926	14.7500	2.2483	14.7500	3.7221
15.0000	1.5522	15.0000	2.1903	15.0000	3.6260
15.2500	1.5238	15.2500	2.1497	15.2500	3.5582
15.5000	1.4984	15.5000	2.1141	15.5000	3.4993
15.7500	1.4750	15.7500	2.0804	15.7500	3.4424
16.0000	1.4516	16.0000	2.0469	16.0000	3.3873
16.2500	1.4282	16.2500	2.0139	16.2500	3.3314
16.5000	1.4049	16.5000	1.9806	16.5000	3.2762
16.7500	1.3814	16.7500	1.9469	16.7500	3.2204
17.0000	1.3581	17.0000	1.9134	17.0000	3.1652
17.2500	1.3347	17.2500	1.8806	17.2500	3.1093
17.5000	1.3113	17.5000	1.8470	17.5000	3.0541
17.7500	1.2875	17.7500	1.8133	17.7500	2.9986
18.0000	1.2641	18.0000	1.7804	18.0000	2.9431
18.2500	1.2401	18.2500	1.7468	18.2500	2.8869
18.5000	1.2168	18.5000	1.7133	18.5000	2.8320
18.7500	1.1933	18.7500	1.6797	18.7500	2.7759
19.0000	1.1689	19.0000	1.6460	19.0000	2.7209
19.2500	1.1456	19.2500	1.6124	19.2500	2.6649
19.5000	1.1219	19.5000	1.5788	19.5000	2.6089
19.7500	1.0984	19.7500	1.5451	19.7500	2.5535
20.0000	1.0744	20.0000	1.5115	20.0000	2.4978
20.2500	1.0504	20.2500	1.4779	20.2500	2.4417
20.5000	1.0267	20.5000	1.4443	20.5000	2.3858
20.7500	1.0033	20.7500	1.4107	20.7500	2.3306
21.0000	0.9789	21.0000	1.3771	21.0000	2.2747
21.2500	0.9553	21.2500	1.3436	21.2500	2.2186
21.5000	0.9311	21.5000	1.3096	21.5000	2.1637
21.7500	0.9077	21.7500	1.2760	21.7500	2.1075
22.0000	0.8833	22.0000	1.2423	22.0000	2.0516
22.2500	0.8599	22.2500	1.2087	22.2500	1.9955
22.5000	0.8355	22.5000	1.1750	22.5000	1.9405
22.7500	0.8122	22.7500	1.1414	22.7500	1.8844
23.0000	0.7877	23.0000	1.1077	23.0000	1.8283
23.2500	0.7642	23.2500	1.0741	23.2500	1.7728
23.5000	0.7400	23.5000	1.0404	23.5000	1.7172
23.7500	0.7162	23.7500	1.0064	23.7500	1.6613
24.0000	0.6922	24.0000	0.9721	24.0000	1.6051

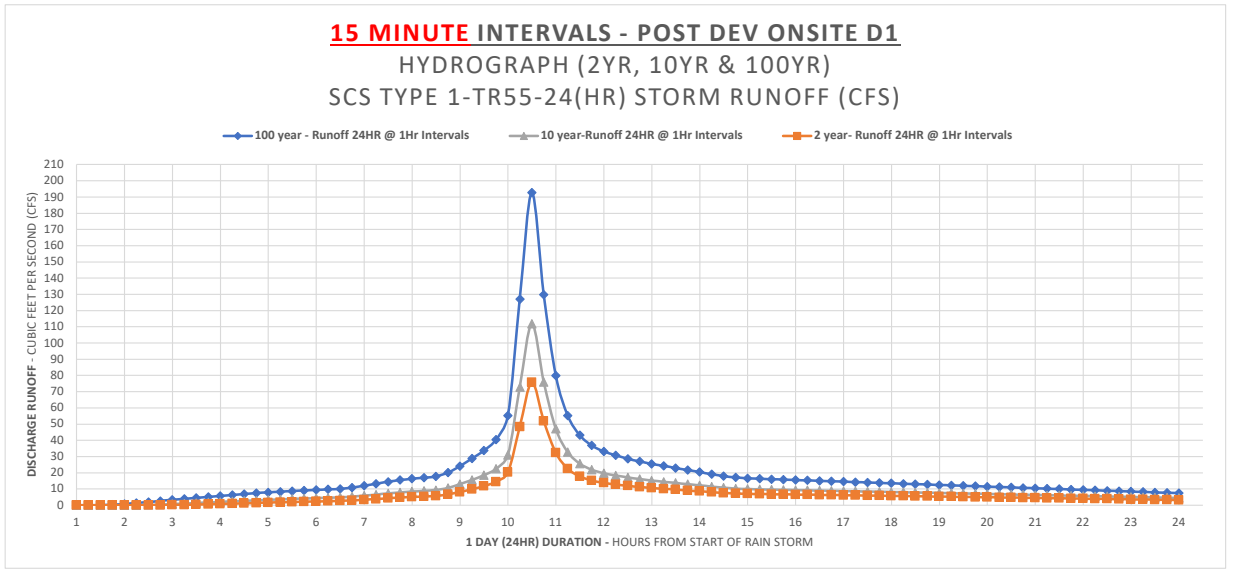


DRAFT

EXHIBIT K.2.1
ONSITE SHED "D"

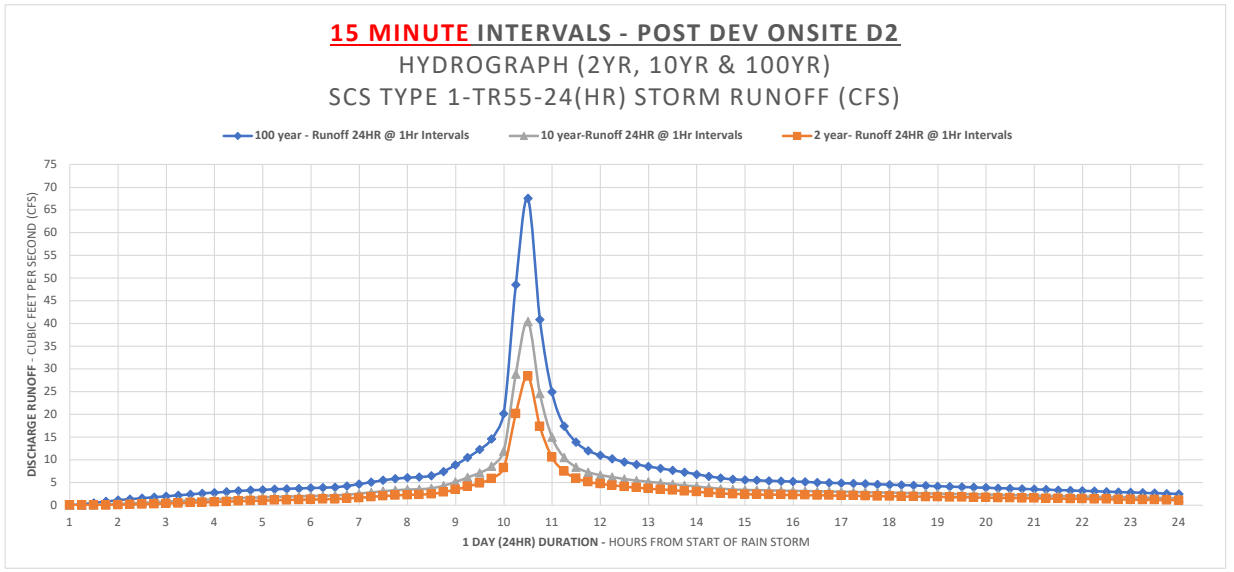
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - D1"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0122
1.7500	0.0000	1.7500	0.0000	1.7500	0.2297
2.0000	0.0000	2.0000	0.0000	2.0000	0.7547
2.2500	0.0000	2.2500	0.0135	2.2500	1.3721
2.5000	0.0000	2.5000	0.1306	2.5000	1.9765
2.7500	0.0000	2.7500	0.3666	2.7500	2.5756
3.0000	0.0199	3.0000	0.6551	3.0000	3.1920
3.2500	0.1202	3.2500	0.9664	3.2500	3.8168
3.5000	0.2852	3.5000	1.2907	3.5000	4.4396
3.7500	0.4769	3.7500	1.6234	3.7500	5.0594
4.0000	0.6825	4.0000	1.9607	4.0000	5.6721
4.2500	0.8961	4.2500	2.3029	4.2500	6.2798
4.5000	1.1136	4.5000	2.6462	4.5000	6.8688
4.7500	1.3262	4.7500	2.9668	4.7500	7.3968
5.0000	1.5269	5.0000	3.2596	5.0000	7.8526
5.2500	1.7192	5.2500	3.5321	5.2500	8.2645
5.5000	1.9051	5.5000	3.7940	5.5000	8.6506
5.7500	2.0847	5.7500	4.0445	5.7500	9.0110
6.0000	2.2597	6.0000	4.2853	6.0000	9.3565
6.2500	2.4289	6.2500	4.5161	6.2500	9.6831
6.5000	2.6101	6.5000	4.7666	6.5000	10.0532
6.7500	2.8870	6.7500	5.1872	6.7500	10.7710
7.0000	3.2767	7.0000	5.7946	7.0000	11.8635
7.2500	3.7323	7.2500	6.5051	7.2500	13.1255
7.5000	4.2132	7.5000	7.2414	7.5000	14.4174
7.7500	4.6342	7.7500	7.8616	7.7500	15.4542
8.0000	4.9765	8.0000	8.3405	8.0000	16.2025
8.2500	5.2828	8.2500	8.7550	8.2500	16.8233
8.5000	5.6606	8.5000	9.2819	8.5000	17.6460
8.7500	6.5634	8.7500	10.6439	8.7500	20.0289
9.0000	8.0484	9.0000	12.9219	9.0000	24.0597
9.2500	9.8033	9.2500	15.5703	9.2500	28.6865
9.5000	11.7762	9.5000	18.5022	9.5000	33.7257
9.7500	14.4157	9.7500	22.3779	9.7500	40.4057
10.0000	20.2237	10.0000	30.9075	10.0000	55.1762
10.2500	48.3316	10.2500	72.6785	10.2500	126.9902
10.5000	75.7108	10.5000	111.7633	10.5000	192.7544
10.7500	51.7802	10.7500	75.8632	10.7500	129.6653
11.0000	32.2543	11.0000	46.9874	11.0000	79.8419
11.2500	22.4663	11.2500	32.6215	11.2500	55.1110
11.5000	17.6638	11.5000	25.5495	11.5000	43.0889
11.7500	15.1337	11.7500	21.8120	11.7500	36.7438
12.0000	13.6603	12.0000	19.6528	12.0000	33.0527
12.2500	12.6944	12.2500	18.2416	12.2500	30.6525
12.5000	11.8614	12.5000	17.0268	12.5000	28.5872
12.7500	11.1677	12.7500	16.0189	12.7500	26.8702
13.0000	10.5949	13.0000	15.1810	13.0000	25.4543
13.2500	10.0637	13.2500	14.4094	13.2500	24.1445
13.5000	9.5432	13.5000	13.6560	13.5000	22.8695
13.7500	9.0249	13.7500	12.9070	13.7500	21.6053
14.0000	8.5057	14.0000	12.1590	14.0000	20.3431
14.2500	7.9840	14.2500	11.4118	14.2500	19.0799
14.5000	7.4863	14.5000	10.6939	14.5000	17.8795
14.7500	7.1410	14.7500	10.1943	14.7500	17.0361
15.0000	6.9498	15.0000	9.9169	15.0000	16.5676
15.2500	6.8194	15.2500	9.7273	15.2500	16.2444
15.5000	6.7086	15.5000	9.5659	15.5000	15.9704
15.7500	6.6043	15.7500	9.4146	15.7500	15.7140
16.0000	6.5027	16.0000	9.2661	16.0000	15.4618
16.2500	6.4008	16.2500	9.1180	16.2500	15.2090
16.5000	6.2979	16.5000	8.9689	16.5000	14.9572
16.7500	6.1949	16.7500	8.8199	16.7500	14.7060
17.0000	6.0920	17.0000	8.6714	17.0000	14.4543
17.2500	5.9891	17.2500	8.5224	17.2500	14.2016
17.5000	5.8855	17.5000	8.3727	17.5000	13.9500
17.7500	5.7816	17.7500	8.2223	17.7500	13.6981
18.0000	5.6776	18.0000	8.0731	18.0000	13.4454
18.2500	5.5731	18.2500	7.9222	18.2500	13.1927
18.5000	5.4687	18.5000	7.7722	18.5000	12.9390
18.7500	5.3638	18.7500	7.6212	18.7500	12.6880
19.0000	5.2592	19.0000	7.4700	19.0000	12.4350
19.2500	5.1538	19.2500	7.3199	19.2500	12.1808
19.5000	5.0484	19.5000	7.1684	19.5000	11.9271
19.7500	4.9434	19.7500	7.0168	19.7500	11.6743
20.0000	4.8366	20.0000	6.8664	20.0000	11.4210
20.2500	4.7310	20.2500	6.7147	20.2500	11.1679
20.5000	4.6246	20.5000	6.5633	20.5000	10.9142
20.7500	4.5187	20.7500	6.4111	20.7500	10.6604
21.0000	4.4121	21.0000	6.2592	21.0000	10.4067
21.2500	4.3054	21.2500	6.1071	21.2500	10.1520
21.5000	4.1987	21.5000	5.9556	21.5000	9.8982
21.7500	4.0920	21.7500	5.8026	21.7500	9.6455
22.0000	3.9858	22.0000	5.6508	22.0000	9.3908
22.2500	3.8791	22.2500	5.4981	22.2500	9.1360
22.5000	3.7714	22.5000	5.3463	22.5000	8.8817
22.7500	3.6638	22.7500	5.1931	22.7500	8.6270
23.0000	3.5571	23.0000	5.0409	23.0000	8.3723
23.2500	3.4498	23.2500	4.8879	23.2500	8.1182
23.5000	3.3422	23.5000	4.7358	23.5000	7.8634
23.7500	3.2345	23.7500	4.5820	23.7500	7.6097
24.0000	3.1268	24.0000	4.4292	24.0000	7.3550



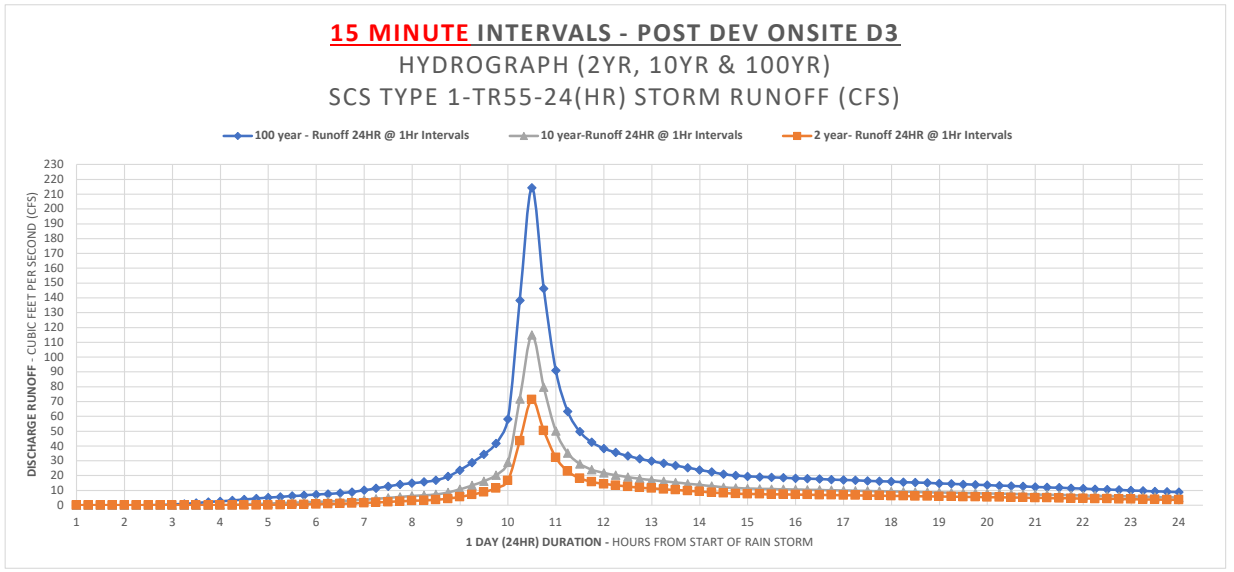
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - D2"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0074
1.2500	0.0000	1.2500	0.0000	1.2500	0.1512
1.5000	0.0000	1.5000	0.0195	1.5000	0.4628
1.7500	0.0000	1.7500	0.1165	1.7500	0.7890
2.0000	0.0302	2.0000	0.2546	2.0000	1.0758
2.2500	0.0976	2.2500	0.3902	2.2500	1.3159
2.5000	0.1754	2.5000	0.5170	2.5000	1.5222
2.7500	0.2566	2.7500	0.6422	2.7500	1.7270
3.0000	0.3405	3.0000	0.7713	3.0000	1.9396
3.2500	0.4257	3.2500	0.9000	3.2500	2.1504
3.5000	0.5123	3.5000	1.0275	3.5000	2.3545
3.7500	0.5989	3.7500	1.1540	3.7500	2.5538
4.0000	0.6863	4.0000	1.2780	4.0000	2.7470
4.2500	0.7731	4.2500	1.4008	4.2500	2.9355
4.5000	0.8577	4.5000	1.5198	4.5000	3.1145
4.7500	0.9345	4.7500	1.6220	4.7500	3.2605
5.0000	1.0026	5.0000	1.7097	5.0000	3.3791
5.2500	1.0649	5.2500	1.7886	5.2500	3.4825
5.5000	1.1240	5.5000	1.8625	5.5000	3.5792
5.7500	1.1798	5.7500	1.9323	5.7500	3.6691
6.0000	1.2337	6.0000	1.9983	6.0000	3.7552
6.2500	1.2845	6.2500	2.0611	6.2500	3.8364
6.5000	1.3433	6.5000	2.1352	6.5000	3.9414
6.7500	1.4548	6.7500	2.2938	6.7500	4.2000
7.0000	1.6161	7.0000	2.5279	7.0000	4.5913
7.2500	1.7994	7.2500	2.7929	7.2500	5.0345
7.5000	1.9839	7.5000	3.0570	7.5000	5.4724
7.7500	2.1280	7.7500	3.2579	7.7500	5.7930
8.0000	2.2348	8.0000	3.3990	8.0000	6.0085
8.2500	2.3261	8.2500	3.5176	8.2500	6.1843
8.5000	2.4569	8.5000	3.6954	8.5000	6.4616
8.7500	2.8343	8.7500	4.2386	8.7500	7.3787
9.0000	3.4356	9.0000	5.1093	9.0000	8.8506
9.2500	4.1071	9.2500	6.0726	9.2500	10.4590
9.5000	4.8425	9.5000	7.1192	9.5000	12.1989
9.7500	5.8395	9.7500	8.5362	9.7500	14.5542
10.0000	8.1878	10.0000	11.8870	10.0000	20.1570
10.2500	20.0960	10.2500	28.8585	10.2500	48.5082
10.5000	28.3550	10.5000	40.4223	10.5000	67.5114
10.7500	17.2867	10.7500	24.5378	10.7500	40.8477
11.0000	10.5651	11.0000	14.9714	11.0000	24.8809
11.2500	7.4130	11.2500	10.5011	11.2500	17.4034
11.5000	5.9169	11.5000	8.3666	11.5000	13.8559
11.7500	5.1188	11.7500	7.2296	11.7500	11.9747
12.0000	4.6876	12.0000	6.6150	12.0000	10.9521
12.2500	4.3674	12.2500	6.1595	12.2500	10.1949
12.5000	4.0796	12.5000	5.7505	12.5000	9.5160
12.7500	3.8422	12.7500	5.4131	12.7500	8.9540
13.0000	3.6433	13.0000	5.1308	13.0000	8.4857
13.2500	3.4576	13.2500	4.8681	13.2500	8.0481
13.5000	3.2751	13.5000	4.6110	13.5000	7.6183
13.7500	3.0935	13.7500	4.3538	13.7500	7.1929
14.0000	2.9114	14.0000	4.0974	14.0000	6.7691
14.2500	2.7294	14.2500	3.8400	14.2500	6.3433
14.5000	2.5569	14.5000	3.5978	14.5000	5.9416
14.7500	2.4455	14.7500	3.4390	14.7500	5.6794
15.0000	2.3842	15.0000	3.3538	15.0000	5.5382
15.2500	2.3413	15.2500	3.2925	15.2500	5.4357
15.5000	2.3034	15.5000	3.2388	15.5000	5.3466
15.7500	2.2674	15.7500	3.1861	15.7500	5.2604
16.0000	2.2305	16.0000	3.1357	16.0000	5.1755
16.2500	2.1946	16.2500	3.0840	16.2500	5.0900
16.5000	2.1587	16.5000	3.0332	16.5000	5.0057
16.7500	2.1218	16.7500	2.9815	16.7500	4.9209
17.0000	2.0859	17.0000	2.9308	17.0000	4.8355
17.2500	2.0499	17.2500	2.8791	17.2500	4.7499
17.5000	2.0132	17.5000	2.8274	17.5000	4.6653
17.7500	1.9773	17.7500	2.7757	17.7500	4.5800
18.0000	1.9404	18.0000	2.7253	18.0000	4.4949
18.2500	1.9044	18.2500	2.6736	18.2500	4.4094
18.5000	1.8675	18.5000	2.6219	18.5000	4.3246
18.7500	1.8306	18.7500	2.5702	18.7500	4.2394
19.0000	1.7947	19.0000	2.5196	19.0000	4.1548
19.2500	1.7578	19.2500	2.4679	19.2500	4.0692
19.5000	1.7209	19.5000	2.4162	19.5000	3.9837
19.7500	1.6850	19.7500	2.3645	19.7500	3.8991
20.0000	1.6481	20.0000	2.3129	20.0000	3.8135
20.2500	1.6112	20.2500	2.2612	20.2500	3.7281
20.5000	1.5752	20.5000	2.2097	20.5000	3.6433
20.7500	1.5383	20.7500	2.1580	20.7500	3.5577
21.0000	1.5014	21.0000	2.1063	21.0000	3.4724
21.2500	1.4645	21.2500	2.0545	21.2500	3.3876
21.5000	1.4276	21.5000	2.0028	21.5000	3.3023
21.7500	1.3917	21.7500	1.9511	21.7500	3.2171
22.0000	1.3549	22.0000	1.8994	22.0000	3.1319
22.2500	1.3180	22.2500	1.8478	22.2500	3.0465
22.5000	1.2811	22.5000	1.7961	22.5000	2.9607
22.7500	1.2442	22.7500	1.7446	22.7500	2.8760
23.0000	1.2073	23.0000	1.6929	23.0000	2.7904
23.2500	1.1704	23.2500	1.6413	23.2500	2.7048
23.5000	1.1334	23.5000	1.5896	23.5000	2.6196
23.7500	1.0965	23.7500	1.5379	23.7500	2.5345
24.0000	1.0596	24.0000	1.4862	24.0000	2.4493



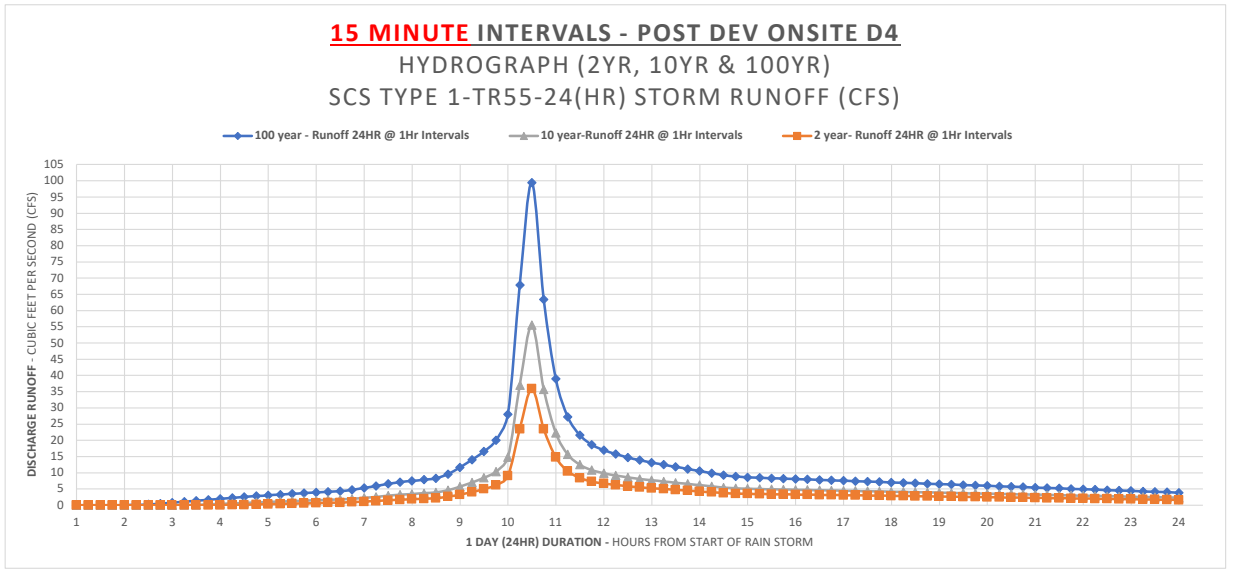
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - D3"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0682
3.0000	0.0000	3.0000	0.0000	3.0000	0.3715
3.2500	0.0000	3.2500	0.0000	3.2500	0.8498
3.5000	0.0000	3.5000	0.0000	3.5000	1.4021
3.7500	0.0000	3.7500	0.0000	3.7500	1.9917
4.0000	0.0000	4.0000	0.0445	4.0000	2.6003
4.2500	0.0000	4.2500	0.2150	4.2500	3.2296
4.5000	0.0000	4.5000	0.4739	4.5000	3.8652
4.7500	0.0000	4.7500	0.7618	4.7500	4.4712
5.0000	0.0119	5.0000	1.0530	5.0000	5.0407
5.2500	0.0930	5.2500	1.3434	5.2500	5.5799
5.5000	0.2354	5.5000	1.6291	5.5000	6.0987
5.7500	0.3996	5.7500	1.9096	5.7500	6.5990
6.0000	0.5706	6.0000	2.1862	6.0000	7.0845
6.2500	0.7419	6.2500	2.4584	6.2500	7.5508
6.5000	0.9202	6.5000	2.7414	6.5000	8.0525
6.7500	1.1424	6.7500	3.1354	6.7500	8.8463
7.0000	1.4278	7.0000	3.6674	7.0000	9.9720
7.2500	1.7688	7.2500	4.2949	7.2500	11.2929
7.5000	2.1494	7.5000	4.9708	7.5000	12.6770
7.7500	2.5203	7.7500	5.5952	7.7500	13.8701
8.0000	2.8627	8.0000	6.1365	8.0000	14.8195
8.2500	3.1938	8.2500	6.6380	8.2500	15.6617
8.5000	3.5804	8.5000	7.2396	8.5000	16.7137
8.7500	4.3378	8.7500	8.5400	8.7500	19.2956
9.0000	5.5541	9.0000	10.6598	9.0000	23.5668
9.2500	7.0592	9.2500	13.2173	9.2500	28.5825
9.5000	8.8432	9.5000	16.1627	9.5000	34.1874
9.7500	11.2802	9.7500	20.1344	9.7500	41.6278
10.0000	16.6119	10.0000	28.8311	10.0000	58.0677
10.2500	43.2730	10.2500	71.6395	10.2500	138.1441
10.5000	71.2721	10.5000	114.7689	10.5000	214.2740
10.7500	50.2789	10.7500	79.5613	10.7500	146.1181
11.0000	32.0635	11.0000	50.0631	11.0000	90.7918
11.2500	22.7867	11.2500	35.1571	11.2500	63.1852
11.5000	18.1575	11.5000	27.8120	11.5000	49.5838
11.7500	15.6973	11.7500	23.9335	11.7500	42.4059
12.0000	14.2729	12.0000	21.6708	12.0000	38.2464
12.2500	13.3334	12.2500	20.1818	12.2500	35.5354
12.5000	12.5100	12.5000	18.8962	12.5000	33.1875
12.7500	11.8219	12.7500	17.8188	12.7500	31.2337
13.0000	11.2534	13.0000	16.9248	13.0000	29.6202
13.2500	10.7214	13.2500	16.1000	13.2500	28.1252
13.5000	10.1954	13.5000	15.2864	13.5000	26.6631
13.7500	9.6690	13.7500	14.4724	13.7500	25.2161
14.0000	9.1341	14.0000	13.6572	14.0000	23.7612
14.2500	8.5926	14.2500	12.8323	14.2500	22.3007
14.5000	8.0732	14.5000	12.0411	14.5000	20.9068
14.7500	7.7125	14.7500	11.4922	14.7500	19.9332
15.0000	7.5178	15.0000	11.1922	15.0000	19.3944
15.2500	7.3885	15.2500	10.9888	15.2500	19.0254
15.5000	7.2795	15.5000	10.8182	15.5000	18.7146
15.7500	7.1775	15.7500	10.6568	15.7500	18.4231
16.0000	7.0760	16.0000	10.4982	16.0000	18.1357
16.2500	6.9742	16.2500	10.3393	16.2500	17.8473
16.5000	6.8719	16.5000	10.1796	16.5000	17.5601
16.7500	6.7685	16.7500	10.0188	16.7500	17.2727
17.0000	6.6636	17.0000	9.8572	17.0000	16.9833
17.2500	6.5593	17.2500	9.6947	17.2500	16.6931
17.5000	6.4526	17.5000	9.5326	17.5000	16.4027
17.7500	6.3460	17.7500	9.3674	17.7500	16.1122
18.0000	6.2387	18.0000	9.2031	18.0000	15.8211
18.2500	6.1301	18.2500	9.0385	18.2500	15.5282
18.5000	6.0204	18.5000	8.8725	18.5000	15.2351
18.7500	5.9111	18.7500	8.7050	18.7500	14.9432
19.0000	5.8007	19.0000	8.5388	19.0000	14.6491
19.2500	5.6898	19.2500	8.3712	19.2500	14.3540
19.5000	5.5779	19.5000	8.2030	19.5000	14.0589
19.7500	5.4659	19.7500	8.0337	19.7500	13.7649
20.0000	5.3535	20.0000	7.8652	20.0000	13.4698
20.2500	5.2401	20.2500	7.6949	20.2500	13.1727
20.5000	5.1262	20.5000	7.5247	20.5000	12.8768
20.7500	5.0127	20.7500	7.3544	20.7500	12.5804
21.0000	4.8972	21.0000	7.1835	21.0000	12.2830
21.2500	4.7825	21.2500	7.0116	21.2500	11.9848
21.5000	4.6666	21.5000	6.8411	21.5000	11.6874
21.7500	4.5511	21.7500	6.6678	21.7500	11.3903
22.0000	4.4342	22.0000	6.4953	22.0000	11.0918
22.2500	4.3186	22.2500	6.3230	22.2500	10.7941
22.5000	4.2014	22.5000	6.1498	22.5000	10.4943
22.7500	4.0840	22.7500	5.9757	22.7500	10.1960
23.0000	3.9660	23.0000	5.8015	23.0000	9.8978
23.2500	3.8485	23.2500	5.6274	23.2500	9.5980
23.5000	3.7302	23.5000	5.4531	23.5000	9.2979
23.7500	3.6113	23.7500	5.2782	23.7500	8.9983
24.0000	3.4929	24.0000	5.1032	24.0000	8.6989



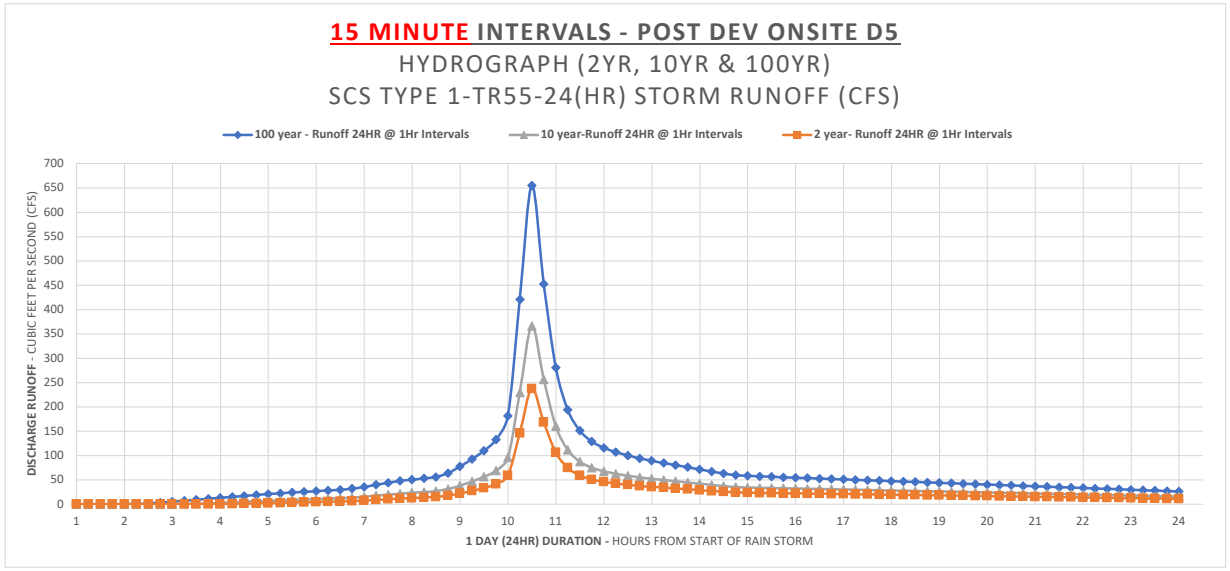
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - D4"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0474
2.5000	0.0000	2.5000	0.0000	2.5000	0.2179
2.7500	0.0000	2.7500	0.0000	2.7500	0.4579
3.0000	0.0000	3.0000	0.0000	3.0000	0.7271
3.2500	0.0000	3.2500	0.0192	3.2500	1.0084
3.5000	0.0000	3.5000	0.0996	3.5000	1.2982
3.7500	0.0000	3.7500	0.2221	3.7500	1.5945
4.0000	0.0000	4.0000	0.3622	4.0000	1.8933
4.2500	0.0288	4.2500	0.5100	4.2500	2.1954
4.5000	0.0959	4.5000	0.6635	4.5000	2.4948
4.7500	0.1791	4.7500	0.8132	4.7500	2.7727
5.0000	0.2674	5.0000	0.9561	5.0000	3.0237
5.2500	0.3555	5.2500	1.0945	5.2500	3.2586
5.5000	0.4429	5.5000	1.2280	5.5000	3.4823
5.7500	0.5289	5.7500	1.3585	5.7500	3.6949
6.0000	0.6139	6.0000	1.4861	6.0000	3.9010
6.2500	0.6983	6.2500	1.6097	6.2500	4.0964
6.5000	0.7860	6.5000	1.7425	6.5000	4.3144
6.7500	0.9079	6.7500	1.9450	6.7500	4.6966
7.0000	1.0714	7.0000	2.2253	7.0000	5.2452
7.2500	1.2620	7.2500	2.5497	7.2500	5.8778
7.5000	1.4676	7.5000	2.8908	7.5000	6.5244
7.7500	1.6566	7.7500	3.1879	7.7500	7.0540
8.0000	1.8214	8.0000	3.4331	8.0000	7.4565
8.2500	1.9764	8.2500	3.6557	8.2500	7.8060
8.5000	2.1663	8.5000	3.9366	8.5000	8.2750
8.7500	2.5817	8.7500	4.6142	8.7500	9.5456
9.0000	3.2482	9.0000	5.7048	9.0000	11.6083
9.2500	4.0360	9.2500	6.9695	9.2500	13.9520
9.5000	4.9513	9.5000	8.4053	9.5000	16.5336
9.7500	6.2026	9.7500	10.3463	9.7500	20.0260
10.0000	9.0160	10.0000	14.7481	10.0000	28.0001
10.2500	23.4173	10.2500	36.9536	10.2500	67.8694
10.5000	35.8768	10.5000	55.4835	10.5000	99.4135
10.7500	23.4560	10.7500	35.7044	10.7500	63.3410
11.0000	14.7258	11.0000	22.2140	11.0000	38.9538
11.2500	10.4429	11.2500	15.6296	11.2500	27.2121
11.5000	8.3600	11.5000	12.4477	11.5000	21.5798
11.7500	7.2566	11.7500	10.7620	11.7500	18.5782
12.0000	6.6340	12.0000	9.8102	12.0000	16.8996
12.2500	6.2001	12.2500	9.1507	12.2500	15.7314
12.5000	5.8113	12.5000	8.5613	12.5000	14.6946
12.7500	5.4856	12.7500	8.0696	12.7500	13.8350
13.0000	5.2163	13.0000	7.6617	13.0000	13.1177
13.2500	4.9620	13.2500	7.2795	13.2500	12.4513
13.5000	4.7120	13.5000	6.9059	13.5000	11.7967
13.7500	4.4620	13.7500	6.5314	13.7500	11.1470
14.0000	4.2082	14.0000	6.1553	14.0000	10.4980
14.2500	3.9541	14.2500	5.7774	14.2500	9.8445
14.5000	3.7099	14.5000	5.4174	14.5000	9.2264
14.7500	3.5491	14.7500	5.1776	14.7500	8.8112
15.0000	3.4627	15.0000	5.0484	15.0000	8.5863
15.2500	3.4029	15.2500	4.9574	15.2500	8.4277
15.5000	3.3516	15.5000	4.8801	15.5000	8.2901
15.7500	3.3024	15.7500	4.8053	15.7500	8.1595
16.0000	3.2532	16.0000	4.7311	16.0000	8.0305
16.2500	3.2046	16.2500	4.6581	16.2500	7.9009
16.5000	3.1558	16.5000	4.5839	16.5000	7.7714
16.7500	3.1062	16.7500	4.5093	16.7500	7.6423
17.0000	3.0566	17.0000	4.4350	17.0000	7.5128
17.2500	3.0058	17.2500	4.3597	17.2500	7.3822
17.5000	2.9552	17.5000	4.2848	17.5000	7.2522
17.7500	2.9052	17.7500	4.2093	17.7500	7.1227
18.0000	2.8538	18.0000	4.1336	18.0000	6.9916
18.2500	2.8032	18.2500	4.0586	18.2500	6.8612
18.5000	2.7514	18.5000	3.9824	18.5000	6.7300
18.7500	2.7002	18.7500	3.9064	18.7500	6.5995
19.0000	2.6480	19.0000	3.8302	19.0000	6.4689
19.2500	2.5964	19.2500	3.7532	19.2500	6.3369
19.5000	2.5439	19.5000	3.6773	19.5000	6.2063
19.7500	2.4920	19.7500	3.6000	19.7500	6.0753
20.0000	2.4394	20.0000	3.5231	20.0000	5.9437
20.2500	2.3867	20.2500	3.4458	20.2500	5.8115
20.5000	2.3341	20.5000	3.3689	20.5000	5.6801
20.7500	2.2815	20.7500	3.2909	20.7500	5.5487
21.0000	2.2283	21.0000	3.2137	21.0000	5.4170
21.2500	2.1751	21.2500	3.1367	21.2500	5.2840
21.5000	2.1215	21.5000	3.0585	21.5000	5.1525
21.7500	2.0682	21.7500	2.9805	21.7500	5.0204
22.0000	2.0143	22.0000	2.9026	22.0000	4.8888
22.2500	1.9616	22.2500	2.8243	22.2500	4.7561
22.5000	1.9070	22.5000	2.7464	22.5000	4.6238
22.7500	1.8532	22.7500	2.6681	22.7500	4.4914
23.0000	1.7994	23.0000	2.5902	23.0000	4.3586
23.2500	1.7455	23.2500	2.5123	23.2500	4.2269
23.5000	1.6912	23.5000	2.4330	23.5000	4.0940
23.7500	1.6371	23.7500	2.3551	23.7500	3.9615
24.0000	1.5822	24.0000	2.2762	24.0000	3.8284



Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - D5"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0131
2.2500	0.0000	2.2500	0.0000	2.2500	0.4019
2.5000	0.0000	2.5000	0.0000	2.5000	1.5933
2.7500	0.0000	2.7500	0.0000	2.7500	3.2282
3.0000	0.0000	3.0000	0.0060	3.0000	5.0425
3.2500	0.0000	3.2500	0.1931	3.2500	6.9558
3.5000	0.0000	3.5000	0.7883	3.5000	8.9172
3.7500	0.0000	3.7500	1.6287	3.7500	10.9170
4.0000	0.0301	4.0000	2.5751	4.0000	12.9454
4.2500	0.2762	4.2500	3.5850	4.2500	14.9865
4.5000	0.7581	4.5000	4.6236	4.5000	17.0236
4.7500	1.3366	4.7500	5.6471	4.7500	18.9136
5.0000	1.9362	5.0000	6.6215	5.0000	20.6309
5.2500	2.5389	5.2500	7.5623	5.2500	22.2179
5.5000	3.1341	5.5000	8.4722	5.5000	23.7349
5.7500	3.7214	5.7500	9.3586	5.7500	25.1736
6.0000	4.2981	6.0000	10.2196	6.0000	26.5539
6.2500	4.8667	6.2500	11.0587	6.2500	27.8764
6.5000	5.4558	6.5000	11.9413	6.5000	29.3090
6.7500	6.2608	6.7500	13.2631	6.7500	31.7541
7.0000	7.3460	7.0000	15.1174	7.0000	35.3454
7.2500	8.6287	7.2500	17.2852	7.2500	39.5584
7.5000	10.0295	7.5000	19.6000	7.5000	43.9117
7.7500	11.3328	7.7500	21.6465	7.7500	47.5725
8.0000	12.4637	8.0000	23.3397	8.0000	50.3622
8.2500	13.5217	8.2500	24.8547	8.2500	52.7515
8.5000	14.7673	8.5000	26.6843	8.5000	55.7808
8.7500	17.4169	8.7500	30.9415	8.7500	63.6227
9.0000	21.7564	9.0000	38.0189	9.0000	76.9957
9.2500	27.0431	9.2500	46.4690	9.2500	92.5465
9.5000	33.1185	9.5000	55.9793	9.5000	109.7485
9.7500	41.3521	9.7500	68.7108	9.7500	132.5263
10.0000	58.9891	10.0000	95.8697	10.0000	181.5465
10.2500	145.5612	10.2500	229.2815	10.2500	420.4737
10.5000	237.2253	10.5000	365.8283	10.5000	654.5612
10.7500	168.0018	10.7500	256.0626	10.7500	452.4161
11.0000	106.1165	11.0000	159.9460	11.0000	280.5688
11.2500	74.5475	11.2500	111.4063	11.2500	193.8734
11.5000	58.7996	11.5000	87.3684	11.5000	151.2560
11.7500	50.4422	11.7500	74.6411	11.7500	128.7035
12.0000	45.5704	12.0000	67.2353	12.0000	115.6487
12.2500	42.3815	12.2500	62.4278	12.2500	107.1571
12.5000	39.6758	12.5000	58.3243	12.5000	99.9952
12.7500	37.4042	12.7500	54.9220	12.7500	94.0277
13.0000	35.5317	13.0000	52.1005	13.0000	89.0733
13.2500	33.7946	13.2500	49.4969	13.2500	84.5376
13.5000	32.0965	13.5000	46.9576	13.5000	80.1005
13.7500	30.3925	13.7500	44.4196	13.7500	75.7010
14.0000	28.6840	14.0000	41.8852	14.0000	71.3215
14.2500	26.9566	14.2500	39.3296	14.2500	66.9180
14.5000	25.3021	14.5000	36.8829	14.5000	62.7178
14.7500	24.1314	14.7500	35.1498	14.7500	59.7327
15.0000	23.4910	15.0000	34.1896	15.0000	58.0763
15.2500	23.0611	15.2500	33.5440	15.2500	56.9390
15.5000	22.7010	15.5000	32.9991	15.5000	55.9872
15.7500	22.3638	15.7500	32.4880	15.7500	55.0935
16.0000	22.0319	16.0000	31.9877	16.0000	54.2202
16.2500	21.7009	16.2500	31.4903	16.2500	53.3457
16.5000	21.3672	16.5000	30.9890	16.5000	52.4758
16.7500	21.0310	16.7500	30.4865	16.7500	51.6036
17.0000	20.6941	17.0000	29.9820	17.0000	50.7325
17.2500	20.3546	17.2500	29.4785	17.2500	49.8568
17.5000	20.0131	17.5000	28.9726	17.5000	48.9790
17.7500	19.6703	17.7500	28.4630	17.7500	48.1010
18.0000	19.3258	18.0000	27.9544	18.0000	47.2235
18.2500	18.9802	18.2500	27.4426	18.2500	46.3408
18.5000	18.6331	18.5000	26.9312	18.5000	45.4610
18.7500	18.2846	18.7500	26.4141	18.7500	44.5790
19.0000	17.9345	19.0000	25.8988	19.0000	43.6980
19.2500	17.5831	19.2500	25.3836	19.2500	42.8094
19.5000	17.2301	19.5000	24.8664	19.5000	41.9263
19.7500	16.8770	19.7500	24.3472	19.7500	41.0420
20.0000	16.5200	20.0000	23.8273	20.0000	40.1576
20.2500	16.1666	20.2500	23.3085	20.2500	39.2663
20.5000	15.8100	20.5000	22.7866	20.5000	38.3808
20.7500	15.4528	20.7500	22.2648	20.7500	37.4922
21.0000	15.0942	21.0000	21.7409	21.0000	36.6051
21.2500	14.7349	21.2500	21.2191	21.2500	35.7134
21.5000	14.3744	21.5000	20.6942	21.5000	34.8258
21.7500	14.0128	21.7500	20.1688	21.7500	33.9395
22.0000	13.6506	22.0000	19.6447	22.0000	33.0481
22.2500	13.2882	22.2500	19.1196	22.2500	32.1539
22.5000	12.9248	22.5000	18.5943	22.5000	31.2634
22.7500	12.5608	22.7500	18.0647	22.7500	30.3710
23.0000	12.1965	23.0000	17.5362	23.0000	29.4793
23.2500	11.8308	23.2500	17.0088	23.2500	28.5840
23.5000	11.4647	23.5000	16.4793	23.5000	27.6923
23.7500	11.0984	23.7500	15.9488	23.7500	26.7980
24.0000	10.7300	24.0000	15.4189	24.0000	25.9052

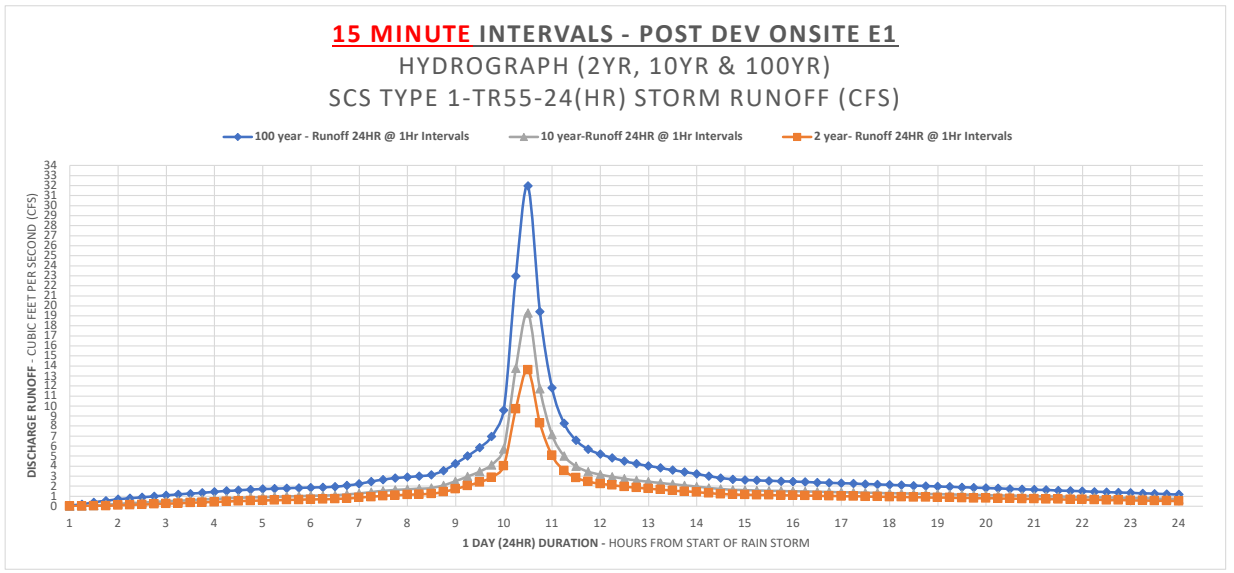


DRAFT

EXHIBIT K.2.1
ONSITE SHED "E"

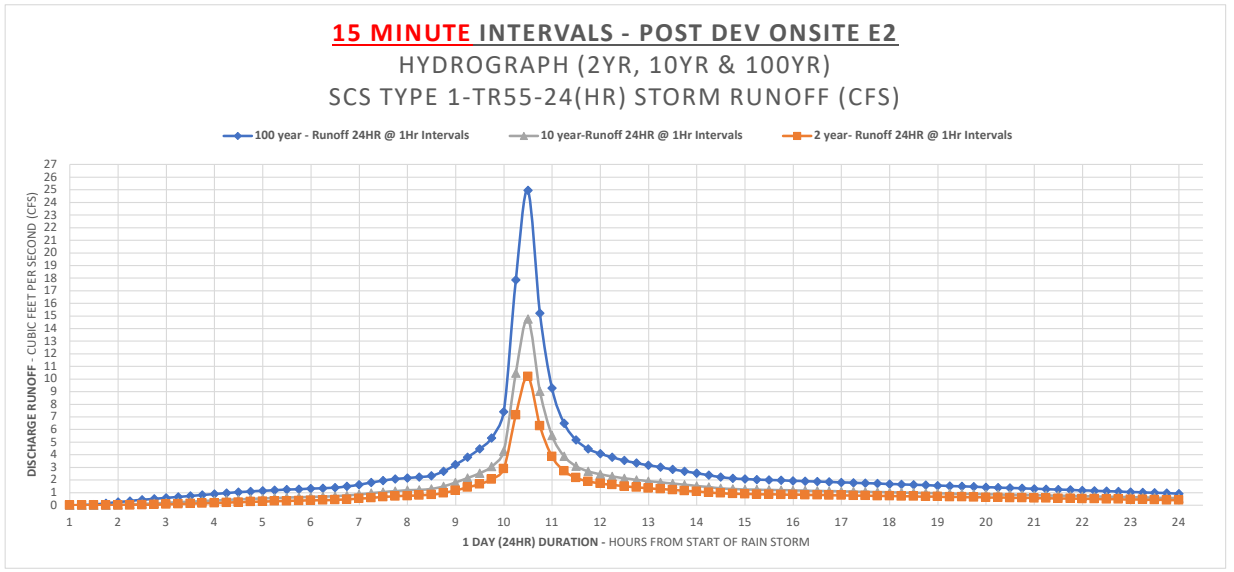
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - E1"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0354
1.2500	0.0000	1.2500	0.0095	1.2500	0.1866
1.5000	0.0028	1.5000	0.0634	1.5000	0.3755
1.7500	0.0277	1.7500	0.1435	1.7500	0.5420
2.0000	0.0710	2.0000	0.2214	2.0000	0.6776
2.2500	0.1151	2.2500	0.2906	2.2500	0.7859
2.5000	0.1572	2.5000	0.3514	2.5000	0.8757
2.7500	0.1994	2.7500	0.4122	2.7500	0.9664
3.0000	0.2425	3.0000	0.4734	3.0000	1.0623
3.2500	0.2856	3.2500	0.5349	3.2500	1.1568
3.5000	0.3287	3.5000	0.5957	3.5000	1.2480
3.7500	0.3709	3.7500	0.6545	3.7500	1.3362
4.0000	0.4129	4.0000	0.7124	4.0000	1.4215
4.2500	0.4551	4.2500	0.7682	4.2500	1.5051
4.5000	0.4951	4.5000	0.8225	4.5000	1.5831
4.7500	0.5299	4.7500	0.8673	4.7500	1.6461
5.0000	0.5599	5.0000	0.9050	5.0000	1.6957
5.2500	0.5874	5.2500	0.9382	5.2500	1.7379
5.5000	0.6133	5.5000	0.9686	5.5000	1.7776
5.7500	0.6375	5.7500	0.9981	5.7500	1.8144
6.0000	0.6605	6.0000	1.0255	6.0000	1.8501
6.2500	0.6816	6.2500	1.0519	6.2500	1.8839
6.5000	0.7075	6.5000	1.0841	6.5000	1.9294
6.7500	0.7614	6.7500	1.1589	6.7500	2.0490
7.0000	0.8401	7.0000	1.2710	7.0000	2.2347
7.2500	0.9283	7.2500	1.3974	7.2500	2.4449
7.5000	1.0182	7.5000	1.5232	7.5000	2.6514
7.7500	1.0855	7.7500	1.6162	7.7500	2.8005
8.0000	1.1340	8.0000	1.6803	8.0000	2.8986
8.2500	1.1748	8.2500	1.7328	8.2500	2.9776
8.5000	1.2349	8.5000	1.8137	8.5000	3.1058
8.7500	1.4171	8.7500	2.0739	8.7500	3.5373
9.0000	1.7097	9.0000	2.4908	9.0000	4.2350
9.2500	2.0344	9.2500	2.9511	9.2500	4.9999
9.5000	2.3866	9.5000	3.4487	9.5000	5.8220
9.7500	2.8658	9.7500	4.1209	9.7500	6.9358
10.0000	3.9979	10.0000	5.7119	10.0000	9.5836
10.2500	9.7061	10.2500	13.7598	10.2500	22.9399
10.5000	13.5857	10.5000	19.2650	10.5000	31.9571
10.7500	8.2868	10.7500	11.7139	10.7500	19.4118
11.0000	5.0667	11.0000	7.1429	11.0000	11.8207
11.2500	3.5474	11.2500	4.9919	11.2500	8.2475
11.5000	2.8261	11.5000	3.9748	11.5000	6.5609
11.7500	2.4427	11.7500	3.4323	11.7500	5.6643
12.0000	2.2344	12.0000	3.1383	12.0000	5.1784
12.2500	2.0804	12.2500	2.9215	12.2500	4.8191
12.5000	1.9425	12.5000	2.7275	12.5000	4.4981
12.7500	1.8287	12.7500	2.5669	12.7500	4.2322
13.0000	1.7339	13.0000	2.4325	13.0000	4.0109
13.2500	1.6447	13.2500	2.3075	13.2500	3.8039
13.5000	1.5575	13.5000	2.1848	13.5000	3.6011
13.7500	1.4712	13.7500	2.0631	13.7500	3.4002
14.0000	1.3836	14.0000	1.9415	14.0000	3.1993
14.2500	1.2974	14.2500	1.8195	14.2500	2.9974
14.5000	1.2149	14.5000	1.7041	14.5000	2.8081
14.7500	1.1621	14.7500	1.6286	14.7500	2.6837
15.0000	1.1332	15.0000	1.5879	15.0000	2.6164
15.2500	1.1121	15.2500	1.5589	15.2500	2.5679
15.5000	1.0937	15.5000	1.5335	15.5000	2.5254
15.7500	1.0760	15.7500	1.5086	15.7500	2.4847
16.0000	1.0593	16.0000	1.4845	16.0000	2.4446
16.2500	1.0419	16.2500	1.4603	16.2500	2.4041
16.5000	1.0248	16.5000	1.4354	16.5000	2.3643
16.7500	1.0072	16.7500	1.4114	16.7500	2.3242
17.0000	0.9897	17.0000	1.3871	17.0000	2.2838
17.2500	0.9728	17.2500	1.3626	17.2500	2.2440
17.5000	0.9551	17.5000	1.3382	17.5000	2.2032
17.7500	0.9384	17.7500	1.3138	17.7500	2.1635
18.0000	0.9206	18.0000	1.2894	18.0000	2.1227
18.2500	0.9033	18.2500	1.2650	18.2500	2.0825
18.5000	0.8862	18.5000	1.2409	18.5000	2.0424
18.7500	0.8685	18.7500	1.2161	18.7500	2.0024
19.0000	0.8511	19.0000	1.1917	19.0000	1.9622
19.2500	0.8341	19.2500	1.1677	19.2500	1.9217
19.5000	0.8164	19.5000	1.1428	19.5000	1.8810
19.7500	0.7990	19.7500	1.1186	19.7500	1.8412
20.0000	0.7819	20.0000	1.0945	20.0000	1.8005
20.2500	0.7642	20.2500	1.0696	20.2500	1.7604
20.5000	0.7465	20.5000	1.0454	20.5000	1.7203
20.7500	0.7297	20.7500	1.0208	20.7500	1.6801
21.0000	0.7121	21.0000	0.9963	21.0000	1.6401
21.2500	0.6944	21.2500	0.9722	21.2500	1.5996
21.5000	0.6767	21.5000	0.9475	21.5000	1.5589
21.7500	0.6595	21.7500	0.9231	21.7500	1.5191
22.0000	0.6422	22.0000	0.8987	22.0000	1.4786
22.2500	0.6245	22.2500	0.8740	22.2500	1.4385
22.5000	0.6068	22.5000	0.8499	22.5000	1.3984
22.7500	0.5901	22.7500	0.8248	22.7500	1.3580
23.0000	0.5721	23.0000	0.8007	23.0000	1.3173
23.2500	0.5547	23.2500	0.7765	23.2500	1.2774
23.5000	0.5370	23.5000	0.7516	23.5000	1.2367
23.7500	0.5199	23.7500	0.7275	23.7500	1.1966
24.0000	0.5026	24.0000	0.7025	24.0000	1.1565



Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - E2"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0035
1.5000	0.0000	1.5000	0.0000	1.5000	0.0513
1.7500	0.0000	1.7500	0.0000	1.7500	0.1441
2.0000	0.0000	2.0000	0.0178	2.0000	0.2409
2.2500	0.0000	2.2500	0.0543	2.2500	0.3291
2.5000	0.0084	2.5000	0.0955	2.5000	0.4083
2.7500	0.0286	2.7500	0.1376	2.7500	0.4867
3.0000	0.0535	3.0000	0.1817	3.0000	0.5666
3.2500	0.0809	3.2500	0.2268	3.2500	0.6469
3.5000	0.1094	3.5000	0.2719	3.5000	0.7254
3.7500	0.1389	3.7500	0.3171	3.7500	0.8029
4.0000	0.1686	4.0000	0.3627	4.0000	0.8785
4.2500	0.1987	4.2500	0.4083	4.2500	0.9530
4.5000	0.2291	4.5000	0.4524	4.5000	1.0238
4.7500	0.2575	4.7500	0.4919	4.7500	1.0841
5.0000	0.2832	5.0000	0.5279	5.0000	1.1346
5.2500	0.3073	5.2500	0.5603	5.2500	1.1796
5.5000	0.3303	5.5000	0.5907	5.5000	1.2220
5.7500	0.3524	5.7500	0.6201	5.7500	1.2617
6.0000	0.3743	6.0000	0.6475	6.0000	1.2990
6.2500	0.3945	6.2500	0.6742	6.2500	1.3343
6.5000	0.4174	6.5000	0.7045	6.5000	1.3779
6.7500	0.4574	6.7500	0.7624	6.7500	1.4745
7.0000	0.5130	7.0000	0.8465	7.0000	1.6201
7.2500	0.5772	7.2500	0.9419	7.2500	1.7838
7.5000	0.6424	7.5000	1.0380	7.5000	1.9464
7.7500	0.6959	7.7500	1.1137	7.7500	2.0686
8.0000	0.7370	8.0000	1.1694	8.0000	2.1532
8.2500	0.7738	8.2500	1.2169	8.2500	2.2231
8.5000	0.8231	8.5000	1.2848	8.5000	2.3296
8.7500	0.9565	8.7500	1.4811	8.7500	2.6674
9.0000	1.1678	9.0000	1.7958	9.0000	3.2064
9.2500	1.4072	9.2500	2.1460	9.2500	3.8026
9.5000	1.6719	9.5000	2.5292	9.5000	4.4476
9.7500	2.0323	9.7500	3.0499	9.7500	5.3218
10.0000	2.8755	10.0000	4.2722	10.0000	7.3909
10.2500	7.1426	10.2500	10.4622	10.2500	17.8405
10.5000	10.1841	10.5000	14.7409	10.5000	24.9487
10.7500	6.2694	10.7500	9.0250	10.7500	15.2026
11.0000	3.8565	11.0000	5.5291	11.0000	9.2755
11.2500	2.7124	11.2500	3.8748	11.2500	6.4812
11.5000	2.1672	11.5000	3.0899	11.5000	5.1599
11.7500	1.8769	11.7500	2.6728	11.7500	4.4561
12.0000	1.7195	12.0000	2.4459	12.0000	4.0740
12.2500	1.6026	12.2500	2.2781	12.2500	3.7922
12.5000	1.4980	12.5000	2.1278	12.5000	3.5405
12.7500	1.4116	12.7500	2.0039	12.7500	3.3318
13.0000	1.3392	13.0000	1.8998	13.0000	3.1583
13.2500	1.2710	13.2500	1.8022	13.2500	2.9955
13.5000	1.2049	13.5000	1.7076	13.5000	2.8368
13.7500	1.1387	13.7500	1.6130	13.7500	2.6785
14.0000	1.0720	14.0000	1.5184	14.0000	2.5202
14.2500	1.0053	14.2500	1.4229	14.2500	2.3625
14.5000	0.9424	14.5000	1.3336	14.5000	2.2129
14.7500	0.9008	14.7500	1.2750	14.7500	2.1149
15.0000	0.8792	15.0000	1.2434	15.0000	2.0624
15.2500	0.8635	15.2500	1.2205	15.2500	2.0245
15.5000	0.8494	15.5000	1.2004	15.5000	1.9911
15.7500	0.8360	15.7500	1.1816	15.7500	1.9597
16.0000	0.8226	16.0000	1.1629	16.0000	1.9276
16.2500	0.8096	16.2500	1.1442	16.2500	1.8958
16.5000	0.7969	16.5000	1.1252	16.5000	1.8644
16.7500	0.7832	16.7500	1.1061	16.7500	1.8329
17.0000	0.7702	17.0000	1.0870	17.0000	1.8015
17.2500	0.7568	17.2500	1.0683	17.2500	1.7696
17.5000	0.7431	17.5000	1.0496	17.5000	1.7379
17.7500	0.7304	17.7500	1.0308	17.7500	1.7063
18.0000	0.7166	18.0000	1.0118	18.0000	1.6749
18.2500	0.7035	18.2500	0.9925	18.2500	1.6435
18.5000	0.6902	18.5000	0.9736	18.5000	1.6118
18.7500	0.6765	18.7500	0.9546	18.7500	1.5801
19.0000	0.6628	19.0000	0.9355	19.0000	1.5482
19.2500	0.6501	19.2500	0.9165	19.2500	1.5165
19.5000	0.6364	19.5000	0.8974	19.5000	1.4848
19.7500	0.6226	19.7500	0.8782	19.7500	1.4530
20.0000	0.6090	20.0000	0.8593	20.0000	1.4216
20.2500	0.5962	20.2500	0.8402	20.2500	1.3893
20.5000	0.5825	20.5000	0.8211	20.5000	1.3576
20.7500	0.5688	20.7500	0.8021	20.7500	1.3262
21.0000	0.5551	21.0000	0.7827	21.0000	1.2948
21.2500	0.5414	21.2500	0.7639	21.2500	1.2624
21.5000	0.5287	21.5000	0.7442	21.5000	1.2310
21.7500	0.5150	21.7500	0.7248	21.7500	1.1996
22.0000	0.5013	22.0000	0.7058	22.0000	1.1672
22.2500	0.4876	22.2500	0.6867	22.2500	1.1358
22.5000	0.4739	22.5000	0.6676	22.5000	1.1034
22.7500	0.4602	22.7500	0.6486	22.7500	1.0719
23.0000	0.4465	23.0000	0.6295	23.0000	1.0405
23.2500	0.4334	23.2500	0.6103	23.2500	1.0081
23.5000	0.4200	23.5000	0.5906	23.5000	0.9767
23.7500	0.4063	23.7500	0.5713	23.7500	0.9453
24.0000	0.3926	24.0000	0.5523	24.0000	0.9129

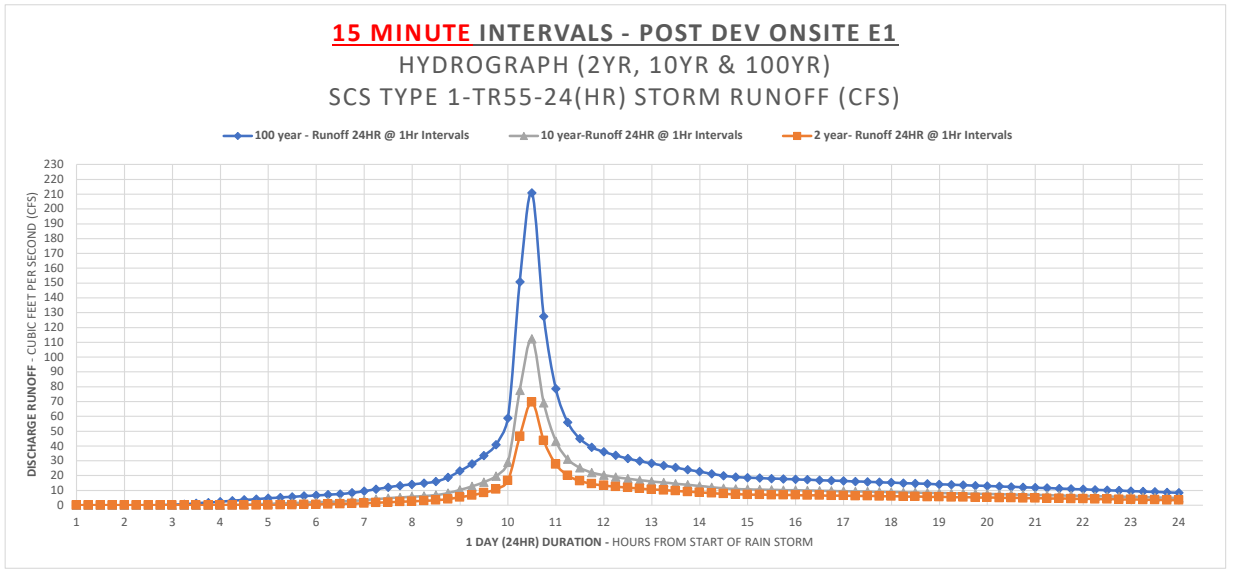


DRAFT

EXHIBIT K.2.1
ONSITE SHED "F"

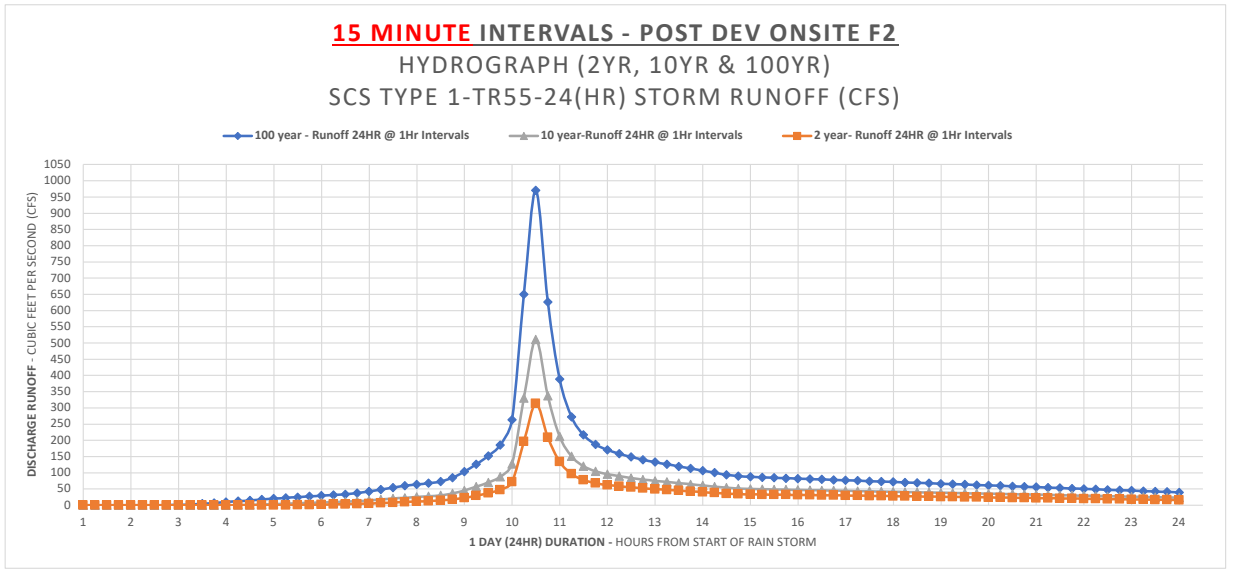
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - F1"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0170
3.0000	0.0000	3.0000	0.0000	3.0000	0.2233
3.2500	0.0000	3.2500	0.0000	3.2500	0.6479
3.5000	0.0000	3.5000	0.0000	3.5000	1.1628
3.7500	0.0000	3.7500	0.0000	3.7500	1.7188
4.0000	0.0000	4.0000	0.0060	4.0000	2.2954
4.2500	0.0000	4.2500	0.1017	4.2500	2.8880
4.5000	0.0000	4.5000	0.3200	4.5000	3.4862
4.7500	0.0000	4.7500	0.5836	4.7500	4.0565
5.0000	0.0000	5.0000	0.8562	5.0000	4.5938
5.2500	0.0227	5.2500	1.1287	5.2500	5.1082
5.5000	0.1234	5.5000	1.3989	5.5000	5.6045
5.7500	0.2679	5.7500	1.6639	5.7500	6.0829
6.0000	0.4254	6.0000	1.9260	6.0000	6.5481
6.2500	0.5860	6.2500	2.1830	6.2500	6.9969
6.5000	0.7534	6.5000	2.4544	6.5000	7.4906
6.7500	0.9666	6.7500	2.8413	6.7500	8.3043
7.0000	1.2365	7.0000	3.3576	7.0000	9.4285
7.2500	1.5561	7.2500	3.9545	7.2500	10.7073
7.5000	1.9102	7.5000	4.5948	7.5000	12.0277
7.7500	2.2515	7.7500	5.1692	7.7500	13.1192
8.0000	2.5698	8.0000	5.6714	8.0000	13.9965
8.2500	2.8814	8.2500	6.1458	8.2500	14.7938
8.5000	3.2602	8.5000	6.7457	8.5000	15.8663
8.7500	4.0346	8.7500	8.1143	8.7500	18.6348
9.0000	5.2272	9.0000	10.2290	9.0000	22.9442
9.2500	6.6607	9.2500	12.7009	9.2500	27.8328
9.5000	8.3702	9.5000	15.5639	9.5000	33.3080
9.7500	10.7858	9.7500	19.5344	9.7500	40.8388
10.0000	16.4616	10.0000	28.8531	10.0000	58.6651
10.2500	46.3425	10.2500	77.3849	10.2500	150.6680
10.5000	69.4174	10.5000	112.2885	10.5000	210.7349
10.7500	43.4852	10.7500	69.0930	10.7500	127.3082
11.0000	27.5719	11.0000	43.2294	11.0000	78.5859
11.2500	19.9593	11.2500	30.9636	11.2500	55.8138
11.5000	16.2960	11.5000	25.1013	11.5000	44.9397
11.7500	14.3258	11.7500	21.9605	11.7500	39.0953
12.0000	13.2731	12.0000	20.2682	12.0000	35.9726
12.2500	12.4592	12.2500	18.9724	12.2500	33.5840
12.5000	11.7123	12.5000	17.7889	12.5000	31.4148
12.7500	11.0950	12.7500	16.8107	12.7500	29.6258
13.0000	10.5760	13.0000	15.9905	13.0000	28.1295
13.2500	10.0790	13.2500	15.2178	13.2500	26.7187
13.5000	9.5850	13.5000	14.4490	13.5000	25.3225
13.7500	9.0862	13.7500	13.6753	13.7500	23.9332
14.0000	8.5803	14.0000	12.8963	14.0000	22.5396
14.2500	8.0665	14.2500	12.1097	14.2500	21.1398
14.5000	7.5810	14.5000	11.3667	14.5000	19.8249
14.7500	7.2734	14.7500	10.8932	14.7500	18.9840
15.0000	7.1142	15.0000	10.6450	15.0000	18.5330
15.2500	7.0038	15.2500	10.4685	15.2500	18.2091
15.5000	6.9055	15.5000	10.3128	15.5000	17.9235
15.7500	6.8114	15.7500	10.1615	15.7500	17.6484
16.0000	6.7165	16.0000	10.0122	16.0000	17.3744
16.2500	6.6217	16.2500	9.8619	16.2500	17.0984
16.5000	6.5242	16.5000	9.7097	16.5000	16.8233
16.7500	6.4270	16.7500	9.5566	16.7500	16.5461
17.0000	6.3278	17.0000	9.4036	17.0000	16.2691
17.2500	6.2286	17.2500	9.2493	17.2500	15.9900
17.5000	6.1279	17.5000	9.0938	17.5000	15.7119
17.7500	6.0272	17.7500	8.9370	17.7500	15.4339
18.0000	5.9249	18.0000	8.7812	18.0000	15.1550
18.2500	5.8214	18.2500	8.6234	18.2500	14.8739
18.5000	5.7181	18.5000	8.4647	18.5000	14.5928
18.7500	5.6139	18.7500	8.3051	18.7500	14.3127
19.0000	5.5097	19.0000	8.1460	19.0000	14.0301
19.2500	5.4046	19.2500	7.9857	19.2500	13.7466
19.5000	5.2988	19.5000	7.8253	19.5000	13.4640
19.7500	5.1923	19.7500	7.6630	19.7500	13.1814
20.0000	5.0845	20.0000	7.5019	20.0000	12.8967
20.2500	4.9770	20.2500	7.3406	20.2500	12.6111
20.5000	4.8691	20.5000	7.1777	20.5000	12.3272
20.7500	4.7606	20.7500	7.0143	20.7500	12.0429
21.0000	4.6514	21.0000	6.8510	21.0000	11.7574
21.2500	4.5422	21.2500	6.6867	21.2500	11.4713
21.5000	4.4317	21.5000	6.5233	21.5000	11.1861
21.7500	4.3213	21.7500	6.3563	21.7500	10.9008
22.0000	4.2103	22.0000	6.1920	22.0000	10.6142
22.2500	4.0995	22.2500	6.0267	22.2500	10.3266
22.5000	3.9878	22.5000	5.8613	22.5000	10.0401
22.7500	3.8764	22.7500	5.6940	22.7500	9.7532
23.0000	3.7648	23.0000	5.5287	23.0000	9.4649
23.2500	3.6521	23.2500	5.3614	23.2500	9.1762
23.5000	3.5394	23.5000	5.1951	23.5000	8.8877
23.7500	3.4266	23.7500	5.0273	23.7500	8.6000
24.0000	3.3129	24.0000	4.8610	24.0000	8.3115



Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - F2"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0065
3.0000	0.0000	3.0000	0.0000	3.0000	0.4126
3.2500	0.0000	3.2500	0.0000	3.2500	1.9348
3.5000	0.0000	3.5000	0.0000	3.5000	4.1319
3.7500	0.0000	3.7500	0.0000	3.7500	6.6080
4.0000	0.0000	4.0000	0.0000	4.0000	9.2366
4.2500	0.0000	4.2500	0.1163	4.2500	11.9537
4.5000	0.0000	4.5000	0.7850	4.5000	14.7176
4.7500	0.0000	4.7500	1.8728	4.7500	17.3943
5.0000	0.0000	5.0000	3.0921	5.0000	19.9096
5.2500	0.0045	5.2500	4.3346	5.2500	22.3158
5.5000	0.1668	5.5000	5.5772	5.5000	24.6574
5.7500	0.6688	5.7500	6.8064	5.7500	26.9075
6.0000	1.3394	6.0000	8.0180	6.0000	29.0990
6.2500	2.0642	6.2500	9.2139	6.2500	31.2270
6.5000	2.8227	6.5000	10.4671	6.5000	33.5148
6.7500	3.7533	6.7500	12.1830	6.7500	37.1228
7.0000	4.9340	7.0000	14.4656	7.0000	42.1755
7.2500	6.3353	7.2500	17.1367	7.2500	48.0001
7.5000	7.9119	7.5000	20.0333	7.5000	54.0910
7.7500	9.4746	7.7500	22.7149	7.7500	59.3262
8.0000	10.9427	8.0000	25.0680	8.0000	63.5433
8.2500	12.3807	8.2500	27.2931	8.2500	67.3450
8.5000	14.0794	8.5000	30.0026	8.5000	72.2146
8.7500	17.3758	8.7500	35.8654	8.7500	84.2389
9.0000	22.5739	9.0000	45.1949	9.0000	103.5600
9.2500	28.9960	9.2500	56.3946	9.2500	126.0354
9.5000	36.6732	9.5000	69.3326	9.5000	151.1779
9.7500	47.3569	9.7500	87.1054	9.7500	185.2002
10.0000	71.5156	10.0000	127.3121	10.0000	263.0758
10.2500	195.4261	10.2500	329.6678	10.2500	649.5316
10.5000	312.8375	10.5000	511.0341	10.5000	970.1306
10.7500	209.0970	10.7500	336.5768	10.7500	625.5741
11.0000	133.5772	11.0000	211.6278	11.0000	388.0472
11.2500	95.8685	11.2500	150.0854	11.2500	272.2600
11.5000	77.4166	11.5000	120.1503	11.5000	216.3760
11.7500	67.6005	11.7500	104.2920	11.7500	186.7976
12.0000	62.0516	12.0000	95.3379	12.0000	170.1020
12.2500	58.1644	12.2500	89.0941	12.2500	158.5107
12.5000	54.6713	12.5000	83.5272	12.5000	148.2315
12.7500	51.7532	12.7500	78.8786	12.7500	139.6820
13.0000	49.3116	13.0000	74.9980	13.0000	132.5457
13.2500	47.0217	13.2500	71.3744	13.2500	125.9137
13.5000	44.7403	13.5000	67.7962	13.5000	119.3952
13.7500	42.4296	13.7500	64.1911	13.7500	112.8791
14.0000	40.0936	14.0000	60.5700	14.0000	106.3586
14.2500	37.7260	14.2500	56.9186	14.2500	99.8208
14.5000	35.4510	14.5000	53.4171	14.5000	93.5755
14.7500	33.9459	14.7500	51.0866	14.7500	89.4079
15.0000	33.1573	15.0000	49.8460	15.0000	87.1530
15.2500	32.6214	15.2500	48.9883	15.2500	85.5678
15.5000	32.1628	15.5000	48.2540	15.5000	84.2074
15.7500	31.7245	15.7500	47.5474	15.7500	82.9116
16.0000	31.2862	16.0000	46.8509	16.0000	81.6270
16.2500	30.8472	16.2500	46.1522	16.2500	80.3383
16.5000	30.4016	16.5000	45.4503	16.5000	79.0532
16.7500	29.9516	16.7500	44.7354	16.7500	77.7611
17.0000	29.4959	17.0000	44.0236	17.0000	76.4661
17.2500	29.0389	17.2500	43.3074	17.2500	75.1640
17.5000	28.5730	17.5000	42.5831	17.5000	73.8568
17.7500	28.1076	17.7500	41.8556	17.7500	72.5558
18.0000	27.6357	18.0000	41.1273	18.0000	71.2460
18.2500	27.1600	18.2500	40.3935	18.2500	69.9293
18.5000	26.6821	18.5000	39.6578	18.5000	68.6146
18.7500	26.2011	18.7500	38.9160	18.7500	67.3010
19.0000	25.7142	19.0000	38.1720	19.0000	65.9769
19.2500	25.2270	19.2500	37.4270	19.2500	64.6493
19.5000	24.7360	19.5000	36.6809	19.5000	63.3274
19.7500	24.2416	19.7500	35.9229	19.7500	61.9983
20.0000	23.7445	20.0000	35.1716	20.0000	60.6712
20.2500	23.2465	20.2500	34.4165	20.2500	59.3354
20.5000	22.7424	20.5000	33.6563	20.5000	57.9987
20.7500	22.2403	20.7500	32.8928	20.7500	56.6674
21.0000	21.7326	21.0000	32.1316	21.0000	55.3296
21.2500	21.2244	21.2500	31.3648	21.2500	53.9870
21.5000	20.7124	21.5000	30.5986	21.5000	52.6459
21.7500	20.2023	21.7500	29.8277	21.7500	51.3090
22.0000	19.6850	22.0000	29.0550	22.0000	49.9596
22.2500	19.1698	22.2500	28.2848	22.2500	48.6149
22.5000	18.6515	22.5000	27.5116	22.5000	47.2690
22.7500	18.1302	22.7500	26.7303	22.7500	45.9209
23.0000	17.6090	23.0000	25.9550	23.0000	44.5739
23.2500	17.0867	23.2500	25.1777	23.2500	43.2237
23.5000	16.5604	23.5000	24.3961	23.5000	41.8715
23.7500	16.0357	23.7500	23.6118	23.7500	40.5227
24.0000	15.5079	24.0000	22.8315	24.0000	39.1697

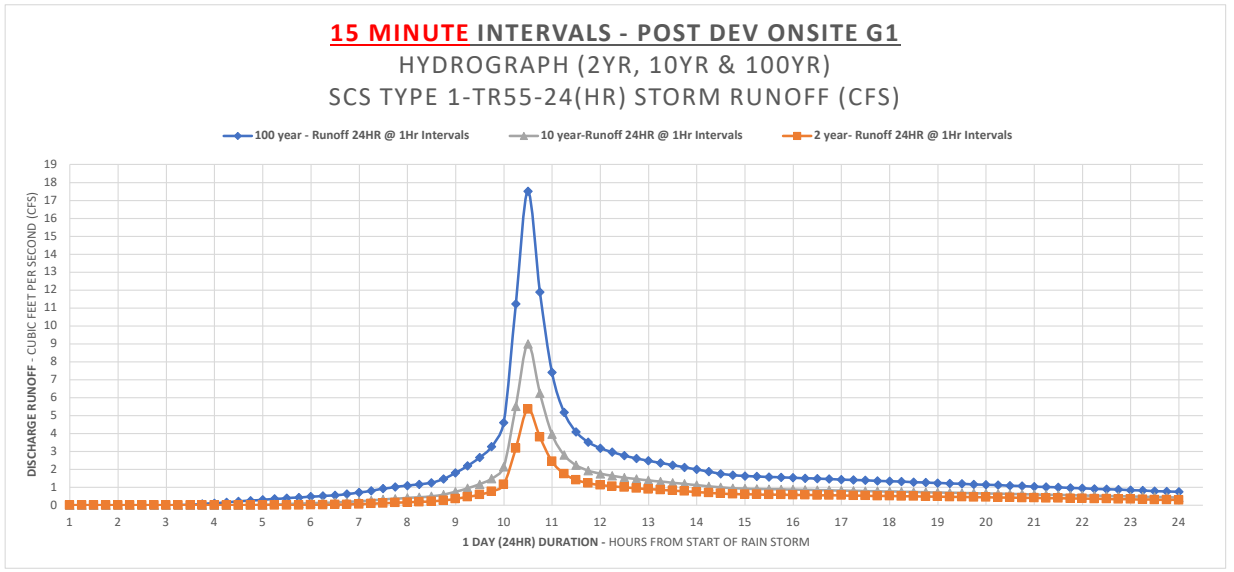


DRAFT

EXHIBIT K.2.1
ONSITE SHED "G"

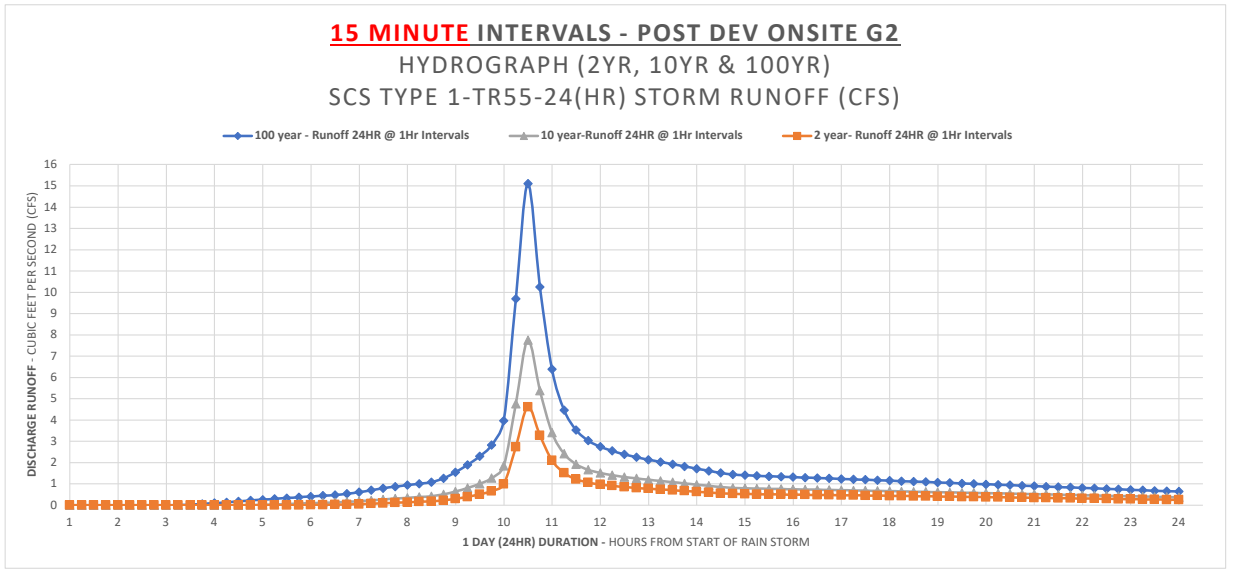
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - G1"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0000
3.0000	0.0000	3.0000	0.0000	3.0000	0.0000
3.2500	0.0000	3.2500	0.0000	3.2500	0.0039
3.5000	0.0000	3.5000	0.0000	3.5000	0.0259
3.7500	0.0000	3.7500	0.0000	3.7500	0.0636
4.0000	0.0000	4.0000	0.0000	4.0000	0.1068
4.2500	0.0000	4.2500	0.0000	4.2500	0.1547
4.5000	0.0000	4.5000	0.0000	4.5000	0.2034
4.7500	0.0000	4.7500	0.0041	4.7500	0.2511
5.0000	0.0000	5.0000	0.0186	5.0000	0.2971
5.2500	0.0000	5.2500	0.0380	5.2500	0.3414
5.5000	0.0000	5.5000	0.0595	5.5000	0.3848
5.7500	0.0000	5.7500	0.0812	5.7500	0.4266
6.0000	0.0020	6.0000	0.1034	6.0000	0.4675
6.2500	0.0098	6.2500	0.1248	6.2500	0.5073
6.5000	0.0207	6.5000	0.1470	6.5000	0.5496
6.7500	0.0355	6.7500	0.1758	6.7500	0.6128
7.0000	0.0540	7.0000	0.2143	7.0000	0.7006
7.2500	0.0755	7.2500	0.2583	7.2500	0.8028
7.5000	0.1018	7.5000	0.3080	7.5000	0.9119
7.7500	0.1280	7.7500	0.3557	7.7500	1.0085
8.0000	0.1536	8.0000	0.3977	8.0000	1.0879
8.2500	0.1794	8.2500	0.4386	8.2500	1.1606
8.5000	0.2079	8.5000	0.4872	8.5000	1.2485
8.7500	0.2615	8.7500	0.5851	8.7500	1.4551
9.0000	0.3456	9.0000	0.7433	9.0000	1.7953
9.2500	0.4516	9.2500	0.9354	9.2500	2.1961
9.5000	0.5813	9.5000	1.1614	9.5000	2.6517
9.7500	0.7611	9.7500	1.4701	9.7500	3.2619
10.0000	1.1480	10.0000	2.1347	10.0000	4.5971
10.2500	3.1634	10.2500	5.5088	10.2500	11.2278
10.5000	5.3483	10.5000	8.9925	10.5000	17.5107
10.7500	3.7856	10.7500	6.2394	10.7500	11.8799
11.0000	2.4390	11.0000	3.9516	11.0000	7.4044
11.2500	1.7487	11.2500	2.7931	11.2500	5.1757
11.5000	1.4080	11.5000	2.2264	11.5000	4.0876
11.7500	1.2256	11.7500	1.9250	11.7500	3.5105
12.0000	1.1198	12.0000	1.7506	12.0000	3.1770
12.2500	1.0498	12.2500	1.6353	12.2500	2.9571
12.5000	0.9878	12.5000	1.5334	12.5000	2.7647
12.7500	0.9354	12.7500	1.4480	12.7500	2.6045
13.0000	0.8915	13.0000	1.3779	13.0000	2.4717
13.2500	0.8516	13.2500	1.3118	13.2500	2.3487
13.5000	0.8107	13.5000	1.2471	13.5000	2.2281
13.7500	0.7699	13.7500	1.1816	13.7500	2.1075
14.0000	0.7280	14.0000	1.1155	14.0000	1.9869
14.2500	0.6853	14.2500	1.0494	14.2500	1.8653
14.5000	0.6449	14.5000	0.9856	14.5000	1.7496
14.7500	0.6167	14.7500	0.9416	14.7500	1.6693
15.0000	0.6018	15.0000	0.9174	15.0000	1.6255
15.2500	0.5919	15.2500	0.9018	15.2500	1.5953
15.5000	0.5841	15.5000	0.8882	15.5000	1.5701
15.7500	0.5763	15.7500	0.8755	15.7500	1.5459
16.0000	0.5685	16.0000	0.8629	16.0000	1.5221
16.2500	0.5607	16.2500	0.8503	16.2500	1.4987
16.5000	0.5529	16.5000	0.8376	16.5000	1.4752
16.7500	0.5451	16.7500	0.8250	16.7500	1.4511
17.0000	0.5373	17.0000	0.8114	17.0000	1.4274
17.2500	0.5289	17.2500	0.7988	17.2500	1.4029
17.5000	0.5207	17.5000	0.7861	17.5000	1.3794
17.7500	0.5127	17.7500	0.7725	17.7500	1.3551
18.0000	0.5041	18.0000	0.7589	18.0000	1.3306
18.2500	0.4955	18.2500	0.7463	18.2500	1.3062
18.5000	0.4869	18.5000	0.7327	18.5000	1.2818
18.7500	0.4786	18.7500	0.7191	18.7500	1.2574
19.0000	0.4698	19.0000	0.7055	19.0000	1.2329
19.2500	0.4610	19.2500	0.6919	19.2500	1.2085
19.5000	0.4522	19.5000	0.6783	19.5000	1.1834
19.7500	0.4434	19.7500	0.6646	19.7500	1.1592
20.0000	0.4341	20.0000	0.6510	20.0000	1.1342
20.2500	0.4255	20.2500	0.6364	20.2500	1.1096
20.5000	0.4159	20.5000	0.6228	20.5000	1.0843
20.7500	0.4071	20.7500	0.6092	20.7500	1.0601
21.0000	0.3976	21.0000	0.5945	21.0000	1.0348
21.2500	0.3885	21.2500	0.5809	21.2500	1.0099
21.5000	0.3794	21.5000	0.5663	21.5000	0.9854
21.7500	0.3699	21.7500	0.5527	21.7500	0.9601
22.0000	0.3611	22.0000	0.5380	22.0000	0.9349
22.2500	0.3512	22.2500	0.5244	22.2500	0.9096
22.5000	0.3419	22.5000	0.5098	22.5000	0.8848
22.7500	0.3326	22.7500	0.4951	22.7500	0.8601
23.0000	0.3228	23.0000	0.4815	23.0000	0.8349
23.2500	0.3130	23.2500	0.4669	23.2500	0.8096
23.5000	0.3042	23.5000	0.4523	23.5000	0.7844
23.7500	0.2944	23.7500	0.4376	23.7500	0.7592
24.0000	0.2846	24.0000	0.4240	24.0000	0.7339



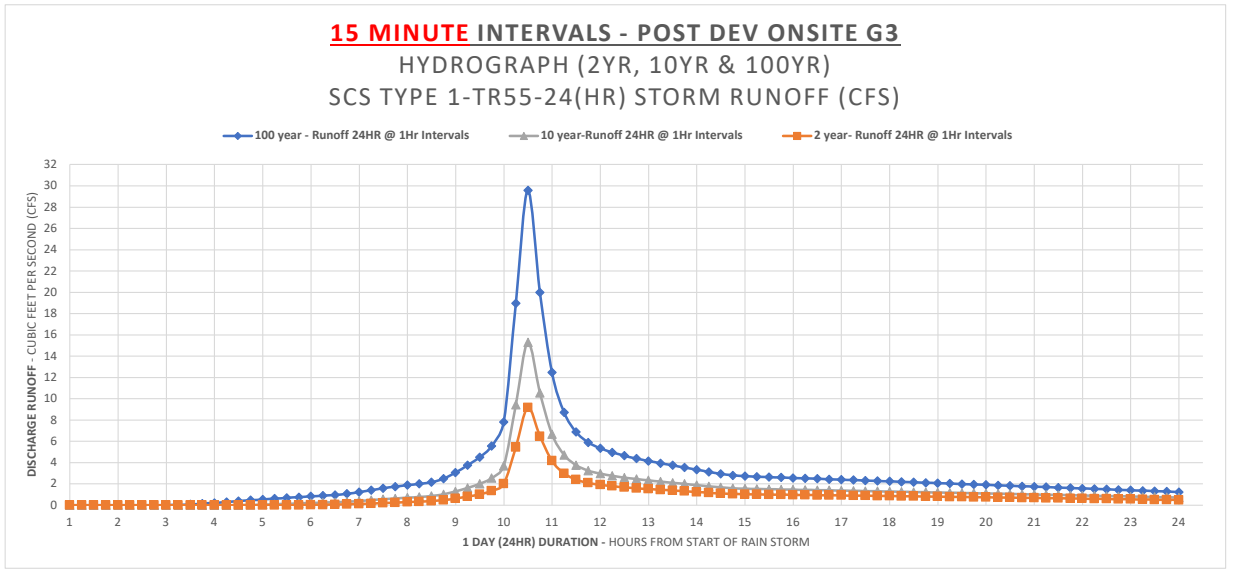
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - G2"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0000
3.0000	0.0000	3.0000	0.0000	3.0000	0.0000
3.2500	0.0000	3.2500	0.0000	3.2500	0.0030
3.5000	0.0000	3.5000	0.0000	3.5000	0.0221
3.7500	0.0000	3.7500	0.0000	3.7500	0.0550
4.0000	0.0000	4.0000	0.0000	4.0000	0.0924
4.2500	0.0000	4.2500	0.0000	4.2500	0.1335
4.5000	0.0000	4.5000	0.0000	4.5000	0.1753
4.7500	0.0000	4.7500	0.0041	4.7500	0.2162
5.0000	0.0000	5.0000	0.0157	5.0000	0.2564
5.2500	0.0000	5.2500	0.0330	5.2500	0.2949
5.5000	0.0000	5.5000	0.0515	5.5000	0.3318
5.7500	0.0000	5.7500	0.0699	5.7500	0.3685
6.0000	0.0020	6.0000	0.0893	6.0000	0.4036
6.2500	0.0079	6.2500	0.1078	6.2500	0.4376
6.5000	0.0177	6.5000	0.1273	6.5000	0.4741
6.7500	0.0305	6.7500	0.1518	6.7500	0.5288
7.0000	0.0460	7.0000	0.1843	7.0000	0.6044
7.2500	0.0654	7.2500	0.2231	7.2500	0.6929
7.5000	0.0878	7.5000	0.2660	7.5000	0.7865
7.7500	0.1102	7.7500	0.3069	7.7500	0.8699
8.0000	0.1326	8.0000	0.3431	8.0000	0.9385
8.2500	0.1544	8.2500	0.3782	8.2500	1.0015
8.5000	0.1797	8.5000	0.4199	8.5000	1.0776
8.7500	0.2255	8.7500	0.5049	8.7500	1.2554
9.0000	0.2981	9.0000	0.6409	9.0000	1.5485
9.2500	0.3895	9.2500	0.8071	9.2500	1.8945
9.5000	0.5012	9.5000	1.0016	9.5000	2.2878
9.7500	0.6563	9.7500	1.2681	9.7500	2.8141
10.0000	0.9900	10.0000	1.8419	10.0000	3.9657
10.2500	2.7282	10.2500	4.7516	10.2500	9.6855
10.5000	4.6136	10.5000	7.7563	10.5000	15.1038
10.7500	3.2656	10.7500	5.3820	10.7500	10.2473
11.0000	2.1031	11.0000	3.4088	11.0000	6.3870
11.2500	1.5085	11.2500	2.4092	11.2500	4.4641
11.5000	1.2145	11.5000	1.9209	11.5000	3.5260
11.7500	1.0571	11.7500	1.6608	11.7500	3.0278
12.0000	0.9664	12.0000	1.5104	12.0000	2.7401
12.2500	0.9054	12.2500	1.4107	12.2500	2.5508
12.5000	0.8521	12.5000	1.3227	12.5000	2.3846
12.7500	0.8063	12.7500	1.2490	12.7500	2.2469
13.0000	0.7692	13.0000	1.1885	13.0000	2.1325
13.2500	0.7342	13.2500	1.1320	13.2500	2.0259
13.5000	0.6991	13.5000	1.0755	13.5000	1.9218
13.7500	0.6641	13.7500	1.0191	13.7500	1.8176
14.0000	0.6280	14.0000	0.9626	14.0000	1.7136
14.2500	0.5911	14.2500	0.9051	14.2500	1.6093
14.5000	0.5559	14.5000	0.8503	14.5000	1.5090
14.7500	0.5321	14.7500	0.8121	14.7500	1.4399
15.0000	0.5195	15.0000	0.7914	15.0000	1.4016
15.2500	0.5109	15.2500	0.7778	15.2500	1.3763
15.5000	0.5041	15.5000	0.7662	15.5000	1.3539
15.7500	0.4973	15.7500	0.7553	15.7500	1.3335
16.0000	0.4905	16.0000	0.7445	16.0000	1.3131
16.2500	0.4837	16.2500	0.7333	16.2500	1.2927
16.5000	0.4769	16.5000	0.7226	16.5000	1.2722
16.7500	0.4701	16.7500	0.7110	16.7500	1.2518
17.0000	0.4633	17.0000	0.7004	17.0000	1.2314
17.2500	0.4565	17.2500	0.6888	17.2500	1.2099
17.5000	0.4493	17.5000	0.6781	17.5000	1.1895
17.7500	0.4419	17.7500	0.6665	17.7500	1.1691
18.0000	0.4351	18.0000	0.6549	18.0000	1.1476
18.2500	0.4272	18.2500	0.6433	18.2500	1.1266
18.5000	0.4204	18.5000	0.6317	18.5000	1.1058
18.7500	0.4126	18.7500	0.6201	18.7500	1.0844
19.0000	0.4048	19.0000	0.6085	19.0000	1.0639
19.2500	0.3980	19.2500	0.5969	19.2500	1.0425
19.5000	0.3902	19.5000	0.5853	19.5000	1.0211
19.7500	0.3824	19.7500	0.5733	19.7500	0.9996
20.0000	0.3746	20.0000	0.5610	20.0000	0.9782
20.2500	0.3668	20.2500	0.5494	20.2500	0.9567
20.5000	0.3589	20.5000	0.5378	20.5000	0.9352
20.7500	0.3511	20.7500	0.5252	20.7500	0.9141
21.0000	0.3433	21.0000	0.5133	21.0000	0.8924
21.2500	0.3355	21.2500	0.5009	21.2500	0.8709
21.5000	0.3274	21.5000	0.4893	21.5000	0.8495
21.7500	0.3189	21.7500	0.4767	21.7500	0.8281
22.0000	0.3111	22.0000	0.4640	22.0000	0.8066
22.2500	0.3032	22.2500	0.4524	22.2500	0.7852
22.5000	0.2949	22.5000	0.4398	22.5000	0.7634
22.7500	0.2866	22.7500	0.4271	22.7500	0.7414
23.0000	0.2788	23.0000	0.4155	23.0000	0.7199
23.2500	0.2700	23.2500	0.4029	23.2500	0.6985
23.5000	0.2622	23.5000	0.3903	23.5000	0.6761
23.7500	0.2538	23.7500	0.3776	23.7500	0.6546
24.0000	0.2456	24.0000	0.3650	24.0000	0.6332



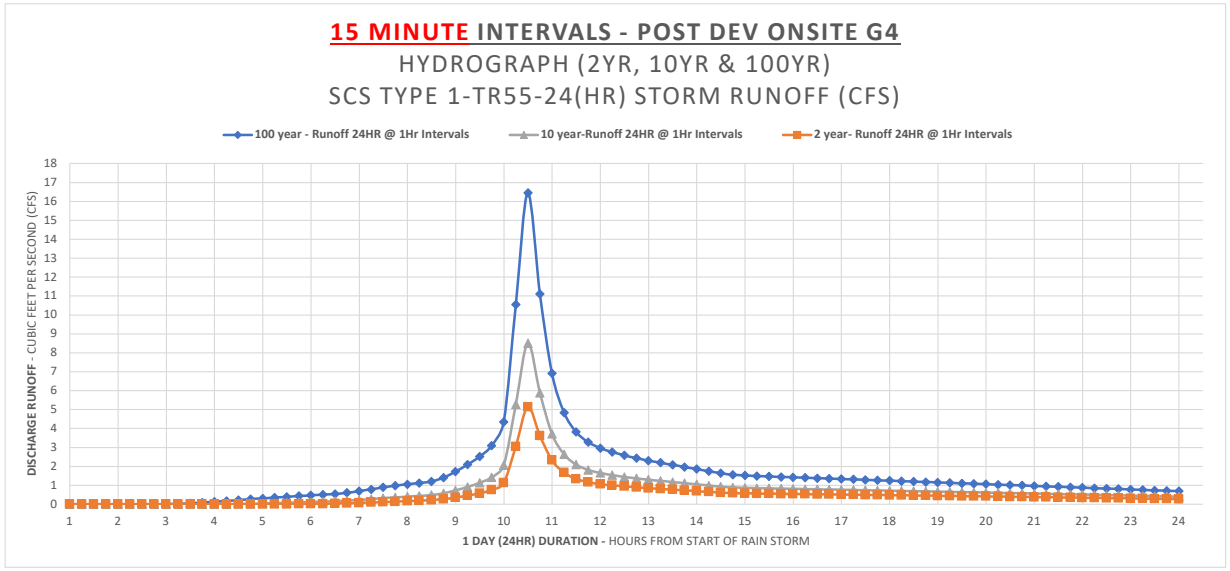
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - G3"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0000
3.0000	0.0000	3.0000	0.0000	3.0000	0.0000
3.2500	0.0000	3.2500	0.0000	3.2500	0.0162
3.5000	0.0000	3.5000	0.0000	3.5000	0.0652
3.7500	0.0000	3.7500	0.0000	3.7500	0.1326
4.0000	0.0000	4.0000	0.0000	4.0000	0.2085
4.2500	0.0000	4.2500	0.0000	4.2500	0.2891
4.5000	0.0000	4.5000	0.0016	4.5000	0.3728
4.7500	0.0000	4.7500	0.0178	4.7500	0.4543
5.0000	0.0000	5.0000	0.0484	5.0000	0.5322
5.2500	0.0000	5.2500	0.0835	5.2500	0.6062
5.5000	0.0000	5.5000	0.1204	5.5000	0.6793
5.7500	0.0000	5.7500	0.1574	5.7500	0.7494
6.0000	0.0105	6.0000	0.1944	6.0000	0.8185
6.2500	0.0279	6.2500	0.2307	6.2500	0.8846
6.5000	0.0493	6.5000	0.2685	6.5000	0.9557
6.7500	0.0747	6.7500	0.3181	6.7500	1.0629
7.0000	0.1076	7.0000	0.3837	7.0000	1.2129
7.2500	0.1462	7.2500	0.4612	7.2500	1.3877
7.5000	0.1915	7.5000	0.5459	7.5000	1.5723
7.7500	0.2370	7.7500	0.6265	7.7500	1.7351
8.0000	0.2808	8.0000	0.6985	8.0000	1.8684
8.2500	0.3245	8.2500	0.7676	8.2500	1.9892
8.5000	0.3744	8.5000	0.8491	8.5000	2.1376
8.7500	0.4663	8.7500	1.0155	8.7500	2.4887
9.0000	0.6122	9.0000	1.2877	9.0000	3.0643
9.2500	0.7958	9.2500	1.6164	9.2500	3.7436
9.5000	1.0180	9.5000	2.0016	9.5000	4.5092
9.7500	1.3280	9.7500	2.5280	9.7500	5.5392
10.0000	2.0024	10.0000	3.6791	10.0000	7.8019
10.2500	5.4230	10.2500	9.4192	10.2500	18.9632
10.5000	9.1635	10.5000	15.2768	10.5000	29.5709
10.7500	6.4655	10.7500	10.5478	10.7500	19.9895
11.0000	4.1562	11.0000	6.6747	11.0000	12.4617
11.2500	2.9754	11.2500	4.7204	11.2500	8.7047
11.5000	2.3886	11.5000	3.7586	11.5000	6.8678
11.7500	2.0776	11.7500	3.2468	11.7500	5.8939
12.0000	1.8976	12.0000	2.9518	12.0000	5.3318
12.2500	1.7785	12.2500	2.7563	12.2500	4.9617
12.5000	1.6721	12.5000	2.5839	12.5000	4.6370
12.7500	1.5831	12.7500	2.4398	12.7500	4.3675
13.0000	1.5088	13.0000	2.3200	13.0000	4.1443
13.2500	1.4397	13.2500	2.2090	13.2500	3.9381
13.5000	1.3706	13.5000	2.0990	13.5000	3.7347
13.7500	1.3015	13.7500	1.9891	13.7500	3.5334
14.0000	1.2304	14.0000	1.8781	14.0000	3.3304
14.2500	1.1583	14.2500	1.7654	14.2500	3.1268
14.5000	1.0893	14.5000	1.6579	14.5000	2.9321
14.7500	1.0417	14.7500	1.5830	14.7500	2.7978
15.0000	1.0169	15.0000	1.5436	15.0000	2.7237
15.2500	1.0000	15.2500	1.5165	15.2500	2.6735
15.5000	0.9864	15.5000	1.4941	15.5000	2.6300
15.7500	0.9729	15.7500	1.4727	15.7500	2.5902
16.0000	0.9602	16.0000	1.4513	16.0000	2.5503
16.2500	0.9466	16.2500	1.4299	16.2500	2.5104
16.5000	0.9340	16.5000	1.4085	16.5000	2.4706
16.7500	0.9203	16.7500	1.3867	16.7500	2.4307
17.0000	0.9067	17.0000	1.3646	17.0000	2.3898
17.2500	0.8921	17.2500	1.3432	17.2500	2.3500
17.5000	0.8784	17.5000	1.3207	17.5000	2.3089
17.7500	0.8648	17.7500	1.2983	17.7500	2.2686
18.0000	0.8502	18.0000	1.2759	18.0000	2.2282
18.2500	0.8356	18.2500	1.2534	18.2500	2.1874
18.5000	0.8209	18.5000	1.2310	18.5000	2.1465
18.7500	0.8063	18.7500	1.2078	18.7500	2.1056
19.0000	0.7917	19.0000	1.1851	19.0000	2.0638
19.2500	0.7771	19.2500	1.1623	19.2500	2.0229
19.5000	0.7622	19.5000	1.1393	19.5000	1.9810
19.7500	0.7468	19.7500	1.1158	19.7500	1.9402
20.0000	0.7322	20.0000	1.0924	20.0000	1.8994
20.2500	0.7166	20.2500	1.0692	20.2500	1.8576
20.5000	0.7010	20.5000	1.0459	20.5000	1.8158
20.7500	0.6860	20.7500	1.0227	20.7500	1.7740
21.0000	0.6706	21.0000	0.9986	21.0000	1.7332
21.2500	0.6551	21.2500	0.9752	21.2500	1.6913
21.5000	0.6395	21.5000	0.9517	21.5000	1.6494
21.7500	0.6239	21.7500	0.9277	21.7500	1.6076
22.0000	0.6078	22.0000	0.9039	22.0000	1.5655
22.2500	0.5916	22.2500	0.8802	22.2500	1.5228
22.5000	0.5759	22.5000	0.8560	22.5000	1.4810
22.7500	0.5603	22.7500	0.8318	22.7500	1.4391
23.0000	0.5437	23.0000	0.8075	23.0000	1.3971
23.2500	0.5281	23.2500	0.7837	23.2500	1.3549
23.5000	0.5115	23.5000	0.7593	23.5000	1.3124
23.7500	0.4958	23.7500	0.7348	23.7500	1.2705
24.0000	0.4793	24.0000	0.7114	24.0000	1.2279



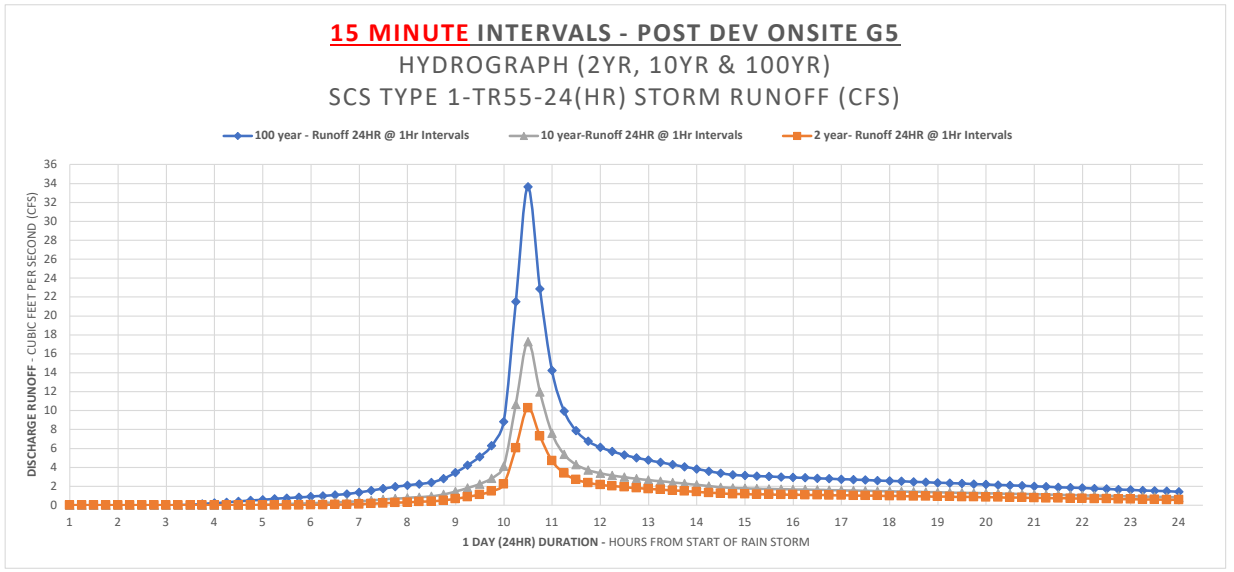
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - G4"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0000
3.0000	0.0000	3.0000	0.0000	3.0000	0.0000
3.2500	0.0000	3.2500	0.0000	3.2500	0.0116
3.5000	0.0000	3.5000	0.0000	3.5000	0.0411
3.7500	0.0000	3.7500	0.0000	3.7500	0.0802
4.0000	0.0000	4.0000	0.0000	4.0000	0.1229
4.2500	0.0000	4.2500	0.0000	4.2500	0.1675
4.5000	0.0000	4.5000	0.0020	4.5000	0.2142
4.7500	0.0000	4.7500	0.0126	4.7500	0.2596
5.0000	0.0000	5.0000	0.0308	5.0000	0.3025
5.2500	0.0000	5.2500	0.0512	5.2500	0.3444
5.5000	0.0000	5.5000	0.0716	5.5000	0.3845
5.7500	0.0015	5.7500	0.0921	5.7500	0.4242
6.0000	0.0083	6.0000	0.1125	6.0000	0.4621
6.2500	0.0182	6.2500	0.1329	6.2500	0.4990
6.5000	0.0308	6.5000	0.1543	6.5000	0.5378
6.7500	0.0454	6.7500	0.1821	6.7500	0.5978
7.0000	0.0635	7.0000	0.2182	7.0000	0.6817
7.2500	0.0859	7.2500	0.2619	7.2500	0.7791
7.5000	0.1103	7.5000	0.3095	7.5000	0.8820
7.7500	0.1366	7.7500	0.3548	7.7500	0.9723
8.0000	0.1608	8.0000	0.3948	8.0000	1.0464
8.2500	0.1852	8.2500	0.4335	8.2500	1.1135
8.5000	0.2131	8.5000	0.4784	8.5000	1.1963
8.7500	0.2646	8.7500	0.5721	8.7500	1.3911
9.0000	0.3466	9.0000	0.7235	9.0000	1.7123
9.2500	0.4505	9.2500	0.9082	9.2500	2.0898
9.5000	0.5755	9.5000	1.1228	9.5000	2.5162
9.7500	0.7486	9.7500	1.4157	9.7500	3.0888
10.0000	1.1249	10.0000	2.0559	10.0000	4.3451
10.2500	3.0452	10.2500	5.2622	10.2500	10.5456
10.5000	5.1258	10.5000	8.5065	10.5000	16.4437
10.7500	3.6102	10.7500	5.8819	10.7500	11.0989
11.0000	2.3189	11.0000	3.7172	11.0000	6.9159
11.2500	1.6597	11.2500	2.6282	11.2500	4.8312
11.5000	1.3332	11.5000	2.0920	11.5000	3.8122
11.7500	1.1591	11.7500	1.8072	11.7500	3.2716
12.0000	1.0583	12.0000	1.6421	12.0000	2.9598
12.2500	0.9914	12.2500	1.5329	12.2500	2.7544
12.5000	0.9324	12.5000	1.4374	12.5000	2.5749
12.7500	0.8822	12.7500	1.3570	12.7500	2.4249
13.0000	0.8413	13.0000	1.2901	13.0000	2.3005
13.2500	0.8022	13.2500	1.2278	13.2500	2.1858
13.5000	0.7634	13.5000	1.1675	13.5000	2.0736
13.7500	0.7246	13.7500	1.1053	13.7500	1.9612
14.0000	0.6849	14.0000	1.0439	14.0000	1.8487
14.2500	0.6448	14.2500	0.9816	14.2500	1.7356
14.5000	0.6068	14.5000	0.9218	14.5000	1.6275
14.7500	0.5801	14.7500	0.8801	14.7500	1.5524
15.0000	0.5661	15.0000	0.8579	15.0000	1.5114
15.2500	0.5567	15.2500	0.8433	15.2500	1.4837
15.5000	0.5489	15.5000	0.8304	15.5000	1.4596
15.7500	0.5421	15.7500	0.8181	15.7500	1.4372
16.0000	0.5343	16.0000	0.8065	16.0000	1.4150
16.2500	0.5270	16.2500	0.7949	16.2500	1.3932
16.5000	0.5197	16.5000	0.7823	16.5000	1.3708
16.7500	0.5119	16.7500	0.7707	16.7500	1.3484
17.0000	0.5041	17.0000	0.7581	17.0000	1.3259
17.2500	0.4963	17.2500	0.7465	17.2500	1.3035
17.5000	0.4885	17.5000	0.7338	17.5000	1.2811
17.7500	0.4807	17.7500	0.7212	17.7500	1.2586
18.0000	0.4729	18.0000	0.7086	18.0000	1.2362
18.2500	0.4651	18.2500	0.6965	18.2500	1.2137
18.5000	0.4572	18.5000	0.6836	18.5000	1.1904
18.7500	0.4484	18.7500	0.6708	18.7500	1.1679
19.0000	0.4406	19.0000	0.6581	19.0000	1.1455
19.2500	0.4326	19.2500	0.6454	19.2500	1.1220
19.5000	0.4240	19.5000	0.6328	19.5000	1.0995
19.7500	0.4153	19.7500	0.6202	19.7500	1.0762
20.0000	0.4074	20.0000	0.6068	20.0000	1.0538
20.2500	0.3985	20.2500	0.5939	20.2500	1.0304
20.5000	0.3897	20.5000	0.5813	20.5000	1.0076
20.7500	0.3818	20.7500	0.5677	20.7500	0.9844
21.0000	0.3731	21.0000	0.5551	21.0000	0.9612
21.2500	0.3643	21.2500	0.5415	21.2500	0.9380
21.5000	0.3555	21.5000	0.5288	21.5000	0.9147
21.7500	0.3467	21.7500	0.5152	21.7500	0.8918
22.0000	0.3379	22.0000	0.5016	22.0000	0.8684
22.2500	0.3291	22.2500	0.4890	22.2500	0.8449
22.5000	0.3202	22.5000	0.4754	22.5000	0.8215
22.7500	0.3114	22.7500	0.4617	22.7500	0.7984
23.0000	0.3026	23.0000	0.4491	23.0000	0.7746
23.2500	0.2938	23.2500	0.4355	23.2500	0.7512
23.5000	0.2850	23.5000	0.4219	23.5000	0.7278
23.7500	0.2754	23.7500	0.4082	23.7500	0.7044
24.0000	0.2664	24.0000	0.3946	24.0000	0.6812



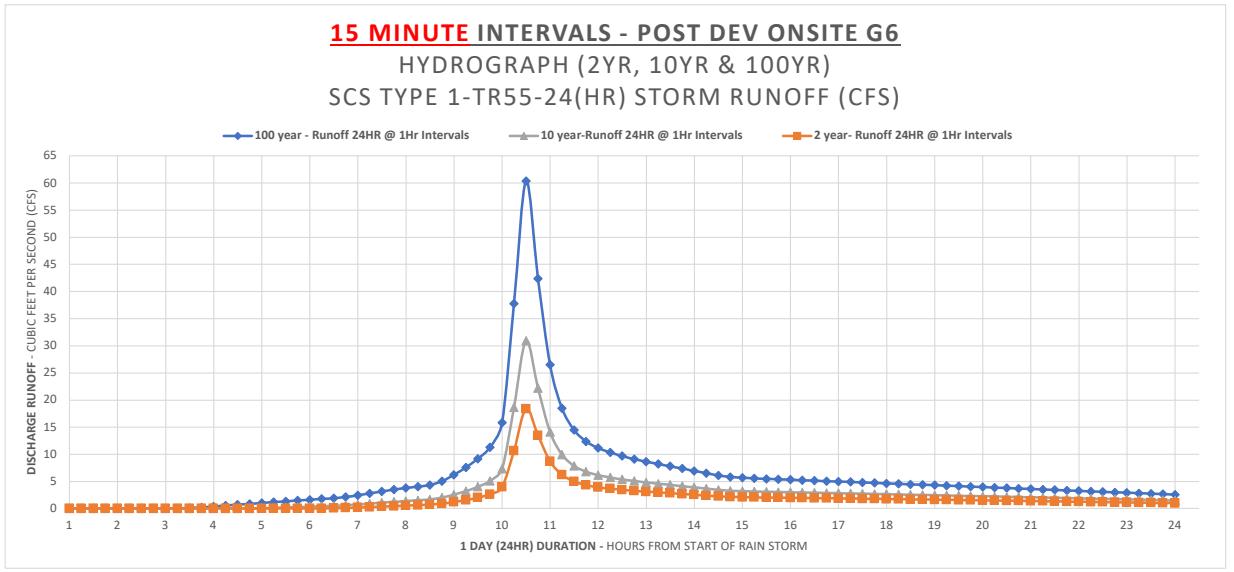
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - G5"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0000
3.0000	0.0000	3.0000	0.0000	3.0000	0.0000
3.2500	0.0000	3.2500	0.0000	3.2500	0.0079
3.5000	0.0000	3.5000	0.0000	3.5000	0.0501
3.7500	0.0000	3.7500	0.0000	3.7500	0.1215
4.0000	0.0000	4.0000	0.0000	4.0000	0.2063
4.2500	0.0000	4.2500	0.0000	4.2500	0.2960
4.5000	0.0000	4.5000	0.0000	4.5000	0.3894
4.7500	0.0000	4.7500	0.0082	4.7500	0.4819
5.0000	0.0000	5.0000	0.0363	5.0000	0.5704
5.2500	0.0000	5.2500	0.0741	5.2500	0.6555
5.5000	0.0000	5.5000	0.1149	5.5000	0.7392
5.7500	0.0000	5.7500	0.1561	5.7500	0.8193
6.0000	0.0031	6.0000	0.1976	6.0000	0.8981
6.2500	0.0178	6.2500	0.2395	6.2500	0.9750
6.5000	0.0401	6.5000	0.2821	6.5000	1.0566
6.7500	0.0681	6.7500	0.3379	6.7500	1.1777
7.0000	0.1029	7.0000	0.4102	7.0000	1.3465
7.2500	0.1459	7.2500	0.4963	7.2500	1.5441
7.5000	0.1946	7.5000	0.5920	7.5000	1.7531
7.7500	0.2461	7.7500	0.6825	7.7500	1.9377
8.0000	0.2950	8.0000	0.7645	8.0000	2.0908
8.2500	0.3440	8.2500	0.8428	8.2500	2.2294
8.5000	0.4001	8.5000	0.9354	8.5000	2.3981
8.7500	0.5020	8.7500	1.1231	8.7500	2.7959
9.0000	0.6646	9.0000	1.4272	9.0000	3.4480
9.2500	0.8682	9.2500	1.7972	9.2500	4.2188
9.5000	1.1168	9.5000	2.2320	9.5000	5.0896
9.7500	1.4624	9.7500	2.8272	9.7500	6.2597
10.0000	2.2050	10.0000	4.1221	10.0000	8.8111
10.2500	6.0507	10.2500	10.6563	10.2500	21.4845
10.5000	10.2734	10.5000	17.2677	10.5000	33.6451
10.7500	7.2862	10.7500	11.9586	10.7500	22.8650
11.0000	4.6910	11.0000	7.5828	11.0000	14.2216
11.2500	3.3631	11.2500	5.3698	11.2500	9.9409
11.5000	2.7057	11.5000	4.2796	11.5000	7.8515
11.7500	2.3533	11.7500	3.6990	11.7500	6.7417
12.0000	2.1517	12.0000	3.3645	12.0000	6.1021
12.2500	2.0168	12.2500	3.1415	12.2500	5.6788
12.5000	1.8968	12.5000	2.9458	12.5000	5.3104
12.7500	1.7967	12.7500	2.7826	12.7500	5.0026
13.0000	1.7129	13.0000	2.6466	13.0000	4.7476
13.2500	1.6348	13.2500	2.5198	13.2500	4.5112
13.5000	1.5568	13.5000	2.3952	13.5000	4.2789
13.7500	1.4787	13.7500	2.2696	13.7500	4.0481
14.0000	1.3980	14.0000	2.1430	14.0000	3.8165
14.2500	1.3173	14.2500	2.0156	14.2500	3.5833
14.5000	1.2388	14.5000	1.8925	14.5000	3.3607
14.7500	1.1848	14.7500	1.8076	14.7500	3.2067
15.0000	1.1563	15.0000	1.7625	15.0000	3.1222
15.2500	1.1378	15.2500	1.7316	15.2500	3.0648
15.5000	1.1223	15.5000	1.7063	15.5000	3.0151
15.7500	1.1070	15.7500	1.6818	15.7500	2.9694
16.0000	1.0920	16.0000	1.6574	16.0000	2.9237
16.2500	1.0774	16.2500	1.6336	16.2500	2.8779
16.5000	1.0627	16.5000	1.6094	16.5000	2.8322
16.7500	1.0471	16.7500	1.5841	16.7500	2.7866
17.0000	1.0315	17.0000	1.5596	17.0000	2.7410
17.2500	1.0159	17.2500	1.5346	17.2500	2.6944
17.5000	1.0002	17.5000	1.5094	17.5000	2.6488
17.7500	0.9844	17.7500	1.4841	17.7500	2.6022
18.0000	0.9680	18.0000	1.4588	18.0000	2.5555
18.2500	0.9516	18.2500	1.4325	18.2500	2.5088
18.5000	0.9352	18.5000	1.4073	18.5000	2.4622
18.7500	0.9188	18.7500	1.3811	18.7500	2.4155
19.0000	0.9024	19.0000	1.3548	19.0000	2.3678
19.2500	0.8850	19.2500	1.3286	19.2500	2.3211
19.5000	0.8684	19.5000	1.3023	19.5000	2.2735
19.7500	0.8511	19.7500	1.2761	19.7500	2.2262
20.0000	0.8341	20.0000	1.2499	20.0000	2.1791
20.2500	0.8165	20.2500	1.2227	20.2500	2.1314
20.5000	0.7989	20.5000	1.1965	20.5000	2.0838
20.7500	0.7814	20.7500	1.1693	20.7500	2.0361
21.0000	0.7640	21.0000	1.1431	21.0000	1.9884
21.2500	0.7465	21.2500	1.1158	21.2500	1.9397
21.5000	0.7291	21.5000	1.0886	21.5000	1.8921
21.7500	0.7108	21.7500	1.0614	21.7500	1.8442
22.0000	0.6932	22.0000	1.0341	22.0000	1.7955
22.2500	0.6747	22.2500	1.0069	22.2500	1.7478
22.5000	0.6569	22.5000	0.9796	22.5000	1.6992
22.7500	0.6389	22.7500	0.9524	22.7500	1.6515
23.0000	0.6204	23.0000	0.9241	23.0000	1.6028
23.2500	0.6020	23.2500	0.8969	23.2500	1.5543
23.5000	0.5836	23.5000	0.8695	23.5000	1.5065
23.7500	0.5651	23.7500	0.8413	23.7500	1.4578
24.0000	0.5467	24.0000	0.8141	24.0000	1.4091



Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OnSite - Basin - G6"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0000
3.0000	0.0000	3.0000	0.0000	3.0000	0.0000
3.2500	0.0000	3.2500	0.0000	3.2500	0.0139
3.5000	0.0000	3.5000	0.0000	3.5000	0.0903
3.7500	0.0000	3.7500	0.0000	3.7500	0.2191
4.0000	0.0000	4.0000	0.0000	4.0000	0.3716
4.2500	0.0000	4.2500	0.0000	4.2500	0.5349
4.5000	0.0000	4.5000	0.0000	4.5000	0.7047
4.7500	0.0000	4.7500	0.0155	4.7500	0.8718
5.0000	0.0000	5.0000	0.0652	5.0000	1.0333
5.2500	0.0000	5.2500	0.1332	5.2500	1.1880
5.5000	0.0000	5.5000	0.2081	5.5000	1.3389
5.7500	0.0000	5.7500	0.2838	5.7500	1.4863
6.0000	0.0066	6.0000	0.3594	6.0000	1.6288
6.2500	0.0331	6.2500	0.4341	6.2500	1.7672
6.5000	0.0729	6.5000	0.5124	6.5000	1.9134
6.7500	0.1235	6.7500	0.6116	6.7500	2.1300
7.0000	0.1872	7.0000	0.7427	7.0000	2.4327
7.2500	0.2642	7.2500	0.8983	7.2500	2.7883
7.5000	0.3535	7.5000	1.0702	7.5000	3.1672
7.7500	0.4450	7.7500	1.2351	7.7500	3.5055
8.0000	0.5354	8.0000	1.3846	8.0000	3.7862
8.2500	0.6238	8.2500	1.5274	8.2500	4.0390
8.5000	0.7251	8.5000	1.6933	8.5000	4.3445
8.7500	0.9062	8.7500	2.0244	8.7500	5.0434
9.0000	1.1953	9.0000	2.5656	9.0000	6.2103
9.2500	1.5620	9.2500	3.2297	9.2500	7.5983
9.5000	2.0090	9.5000	4.0150	9.5000	9.1679
9.7500	2.6320	9.7500	5.0774	9.7500	11.2730
10.0000	3.9478	10.0000	7.3385	10.0000	15.8106
10.2500	10.6314	10.2500	18.6481	10.2500	37.7702
10.5000	18.3883	10.5000	30.9271	10.5000	60.3154
10.7500	13.4579	10.7500	22.1665	10.7500	42.3682
11.0000	8.7081	11.0000	14.1052	11.0000	26.4858
11.2500	6.2286	11.2500	9.9439	11.2500	18.4680
11.5000	4.9819	11.5000	7.8837	11.5000	14.4844
11.7500	4.3171	11.7500	6.7824	11.7500	12.3753
12.0000	3.9312	12.0000	6.1442	12.0000	11.1464
12.2500	3.6764	12.2500	5.7236	12.2500	10.3488
12.5000	3.4557	12.5000	5.3647	12.5000	9.6719
12.7500	3.2714	12.7500	5.0655	12.7500	9.1070
13.0000	3.1195	13.0000	4.8172	13.0000	8.6381
13.2500	2.9763	13.2500	4.5864	13.2500	8.2077
13.5000	2.8355	13.5000	4.3593	13.5000	7.7870
13.7500	2.6921	13.7500	4.1322	13.7500	7.3656
14.0000	2.5468	14.0000	3.9030	14.0000	6.9458
14.2500	2.3991	14.2500	3.6699	14.2500	6.5231
14.5000	2.2561	14.5000	3.4463	14.5000	6.1184
14.7500	2.1556	14.7500	3.2895	14.7500	5.8306
15.0000	2.1019	15.0000	3.2039	15.0000	5.6732
15.2500	2.0671	15.2500	3.1461	15.2500	5.5659
15.5000	2.0383	15.5000	3.0986	15.5000	5.4757
15.7500	2.0109	15.7500	3.0543	15.7500	5.3918
16.0000	1.9845	16.0000	3.0101	16.0000	5.3086
16.2500	1.9571	16.2500	2.9667	16.2500	5.2258
16.5000	1.9297	16.5000	2.9223	16.5000	5.1432
16.7500	1.9021	16.7500	2.8772	16.7500	5.0600
17.0000	1.8737	17.0000	2.8320	17.0000	4.9768
17.2500	1.8456	17.2500	2.7867	17.2500	4.8929
17.5000	1.8169	17.5000	2.7415	17.5000	4.8091
17.7500	1.7884	17.7500	2.6953	17.7500	4.7249
18.0000	1.7590	18.0000	2.6491	18.0000	4.6400
18.2500	1.7295	18.2500	2.6026	18.2500	4.5551
18.5000	1.6994	18.5000	2.5554	18.5000	4.4703
18.7500	1.6693	18.7500	2.5089	18.7500	4.3851
19.0000	1.6392	19.0000	2.4619	19.0000	4.3002
19.2500	1.6082	19.2500	2.4135	19.2500	4.2143
19.5000	1.5773	19.5000	2.3663	19.5000	4.1286
19.7500	1.5468	19.7500	2.3180	19.7500	4.0427
20.0000	1.5154	20.0000	2.2698	20.0000	3.9567
20.2500	1.4840	20.2500	2.2214	20.2500	3.8704
20.5000	1.4525	20.5000	2.1731	20.5000	3.7840
20.7500	1.4208	20.7500	2.1247	20.7500	3.6981
21.0000	1.3888	21.0000	2.0757	21.0000	3.6109
21.2500	1.3568	21.2500	2.0268	21.2500	3.5240
21.5000	1.3246	21.5000	1.9780	21.5000	3.4372
21.7500	1.2916	21.7500	1.9282	21.7500	3.3499
22.0000	1.2596	22.0000	1.8786	22.0000	3.2623
22.2500	1.2267	22.2500	1.8293	22.2500	3.1752
22.5000	1.1936	22.5000	1.7796	22.5000	3.0874
22.7500	1.1615	22.7500	1.7298	22.7500	3.0001
23.0000	1.1274	23.0000	1.6799	23.0000	2.9123
23.2500	1.0944	23.2500	1.6299	23.2500	2.8246
23.5000	1.0613	23.5000	1.5799	23.5000	2.7371
23.7500	1.0282	23.7500	1.5292	23.7500	2.6493
24.0000	0.9942	24.0000	1.4794	24.0000	2.5609

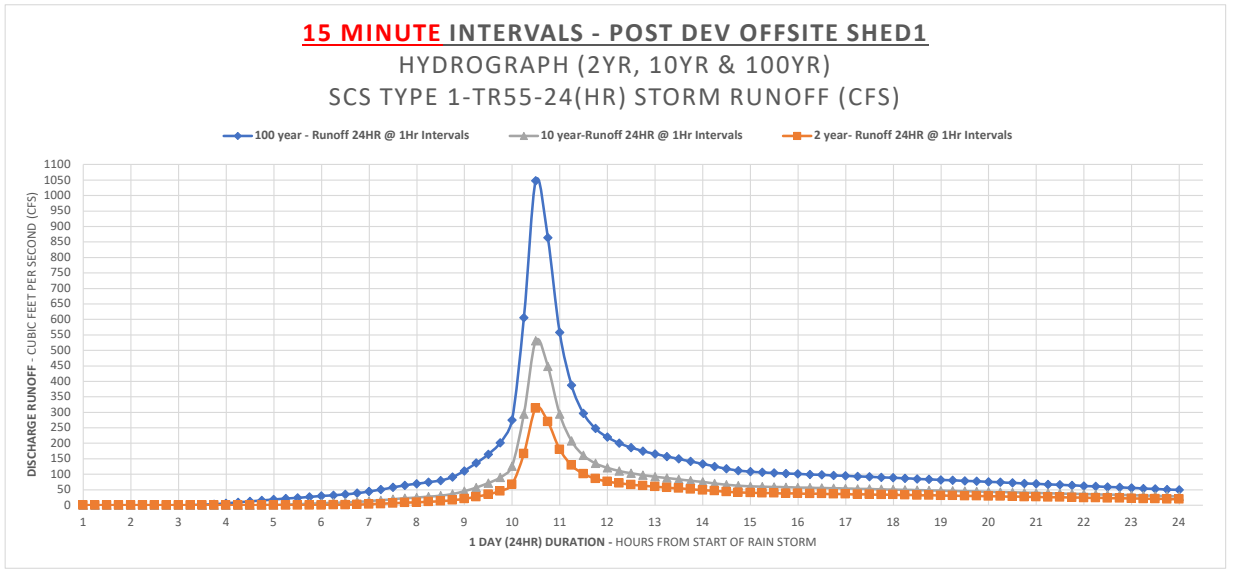


DRAFT

EXHIBIT K.2.1
Offsite Sheds

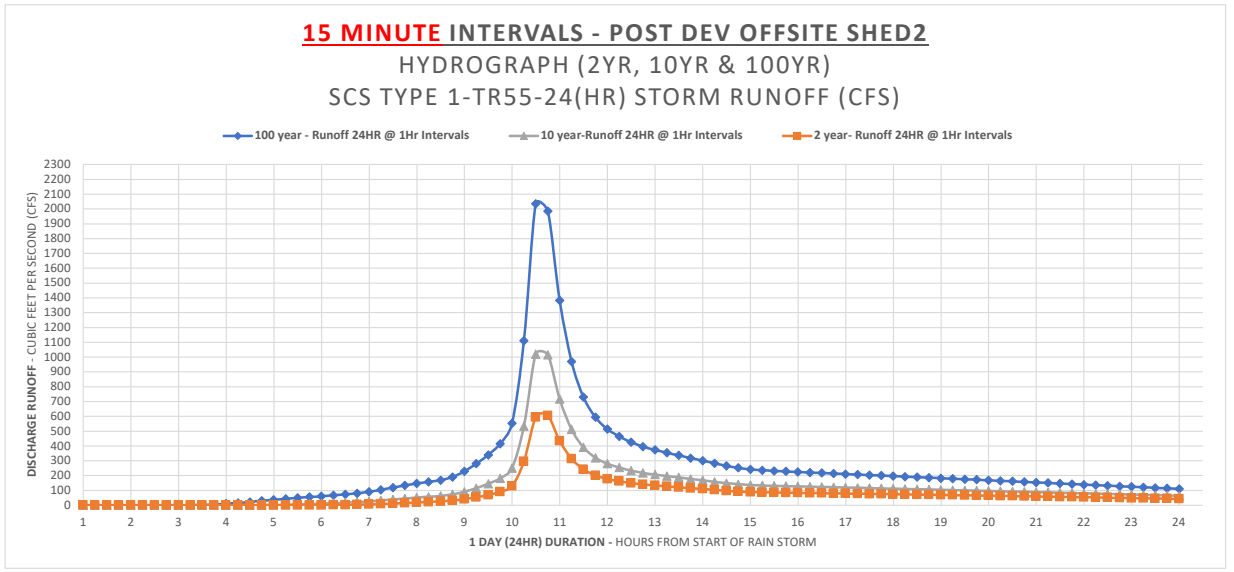
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OFFSITE - Basin - SHED1"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0000
3.0000	0.0000	3.0000	0.0000	3.0000	0.0000
3.2500	0.0000	3.2500	0.0000	3.2500	0.1019
3.5000	0.0000	3.5000	0.0000	3.5000	1.0086
3.7500	0.0000	3.7500	0.0000	3.7500	3.0152
4.0000	0.0000	4.0000	0.0000	4.0000	5.6567
4.2500	0.0000	4.2500	0.0000	4.2500	8.6226
4.5000	0.0000	4.5000	0.0000	4.5000	11.7433
4.7500	0.0000	4.7500	0.1108	4.7500	14.8792
5.0000	0.0000	5.0000	0.7171	5.0000	17.9090
5.2500	0.0000	5.2500	1.8195	5.2500	20.8505
5.5000	0.0000	5.5000	3.1332	5.5000	23.7135
5.7500	0.0000	5.7500	4.5198	5.7500	26.5037
6.0000	0.0321	6.0000	5.9314	6.0000	29.2176
6.2500	0.3071	6.2500	7.3335	6.2500	31.8494
6.5000	0.9087	6.5000	8.7745	6.5000	34.5760
6.7500	1.7521	6.7500	10.5340	6.7500	38.3248
7.0000	2.8457	7.0000	12.8153	7.0000	43.6119
7.2500	4.1911	7.2500	15.5780	7.2500	50.0078
7.5000	5.7625	7.5000	18.6991	7.5000	56.9675
7.7500	7.4474	7.7500	21.7973	7.7500	63.4760
8.0000	9.1226	8.0000	24.6513	8.0000	68.9769
8.2500	10.7894	8.2500	27.3471	8.2500	73.8726
8.5000	12.6312	8.5000	30.3410	8.5000	79.4095
8.7500	15.6157	8.7500	35.7916	8.7500	90.7904
9.0000	20.4965	9.0000	45.0158	9.0000	110.6380
9.2500	26.9253	9.2500	56.8177	9.2500	135.5339
9.5000	34.8241	9.5000	70.7411	9.5000	163.8667
9.7500	45.5422	9.7500	89.2717	9.7500	200.7957
10.0000	66.9825	10.0000	126.1108	10.0000	274.0585
10.2500	166.3517	10.2500	294.5105	10.2500	604.6992
10.5000	312.7985	10.5000	530.5692	10.5000	1047.1702
10.7500	269.3776	10.7500	447.8137	10.7500	863.7567
11.0000	179.8698	11.0000	293.8488	11.0000	557.7049
11.2500	128.4409	11.2500	207.1143	11.2500	387.4172
11.5000	100.4087	11.5000	160.3230	11.5000	296.1631
11.7500	85.0963	11.7500	134.6350	11.7500	247.1219
12.0000	76.4990	12.0000	120.1746	12.0000	219.2417
12.2500	70.4670	12.2500	110.1635	12.2500	199.9907
12.5000	65.9535	12.5000	102.7616	12.5000	185.9180
12.7500	62.2645	12.7500	96.7736	12.7500	174.5828
13.0000	59.2530	13.0000	91.8507	13.0000	165.2767
13.2500	56.5364	13.2500	87.3981	13.2500	156.9386
13.5000	53.8737	13.5000	83.1057	13.5000	148.9202
13.7500	51.1985	13.7500	78.8252	13.7500	140.9877
14.0000	48.4870	14.0000	74.5357	14.0000	133.0882
14.2500	45.7213	14.2500	70.1856	14.2500	125.1138
14.5000	43.0332	14.5000	65.9406	14.5000	117.3685
14.7500	40.9693	14.7500	62.6775	14.7500	111.4332
15.0000	39.7684	15.0000	60.7731	15.0000	107.9021
15.2500	39.0173	15.2500	59.5464	15.2500	105.6080
15.5000	38.4290	15.5000	58.5810	15.5000	103.7773
15.7500	37.9000	15.7500	57.7097	15.7500	102.1267
16.0000	37.3905	16.0000	56.8755	16.0000	100.5441
16.2500	36.8855	16.2500	56.0466	16.2500	98.9858
16.5000	36.3769	16.5000	55.2178	16.5000	97.4265
16.7500	35.8616	16.7500	54.3789	16.7500	95.8654
17.0000	35.3372	17.0000	53.5355	17.0000	94.2979
17.2500	34.8065	17.2500	52.6903	17.2500	92.7119
17.5000	34.2705	17.5000	51.8327	17.5000	91.1361
17.7500	33.7322	17.7500	50.9674	17.7500	89.5527
18.0000	33.1841	18.0000	50.1005	18.0000	87.9613
18.2500	32.6324	18.2500	49.2281	18.2500	86.3641
18.5000	32.0727	18.5000	48.3546	18.5000	84.7695
18.7500	31.5102	18.7500	47.4701	18.7500	83.1619
19.0000	30.9449	19.0000	46.5800	19.0000	81.5548
19.2500	30.3743	19.2500	45.6886	19.2500	79.9385
19.5000	29.7978	19.5000	44.7966	19.5000	78.3280
19.7500	29.2201	19.7500	43.8946	19.7500	76.7114
20.0000	28.6328	20.0000	42.9909	20.0000	75.0884
20.2500	28.0459	20.2500	42.0837	20.2500	73.4538
20.5000	27.4535	20.5000	41.1690	20.5000	71.8236
20.7500	26.8591	20.7500	40.2561	20.7500	70.2009
21.0000	26.2620	21.0000	39.3383	21.0000	68.5661
21.2500	25.6616	21.2500	38.4179	21.2500	66.9283
21.5000	25.0539	21.5000	37.4948	21.5000	65.2834
21.7500	24.4467	21.7500	36.5680	21.7500	63.6392
22.0000	23.8350	22.0000	35.6362	22.0000	62.0010
22.2500	23.2253	22.2500	34.7043	22.2500	60.3537
22.5000	22.6085	22.5000	33.7703	22.5000	58.7037
22.7500	21.9903	22.7500	32.8312	22.7500	57.0543
23.0000	21.3668	23.0000	31.8961	23.0000	55.3972
23.2500	20.7467	23.2500	30.9533	23.2500	53.7453
23.5000	20.1209	23.5000	30.0076	23.5000	52.0884
23.7500	19.4945	23.7500	29.0597	23.7500	50.4326
24.0000	18.8644	24.0000	28.1166	24.0000	48.7782



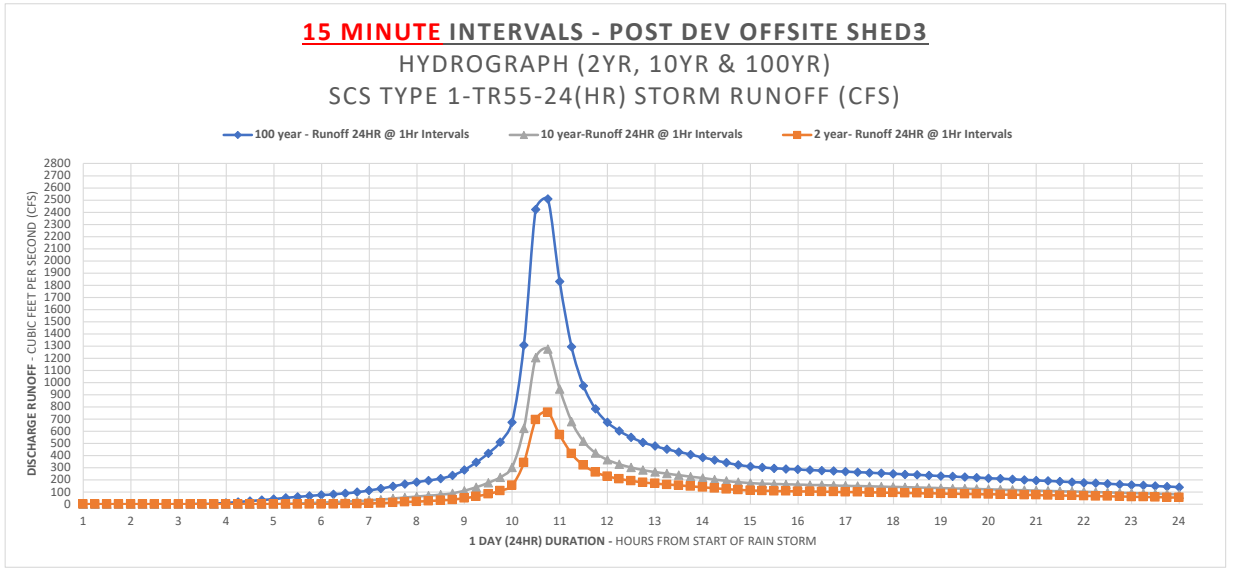
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OFFSITE - Basin - SHED2"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0000
3.0000	0.0000	3.0000	0.0000	3.0000	0.0000
3.2500	0.0000	3.2500	0.0000	3.2500	0.0536
3.5000	0.0000	3.5000	0.0000	3.5000	0.9911
3.7500	0.0000	3.7500	0.0000	3.7500	4.0718
4.0000	0.0000	4.0000	0.0000	4.0000	9.0724
4.2500	0.0000	4.2500	0.0000	4.2500	15.1073
4.5000	0.0000	4.5000	0.0000	4.5000	21.6873
4.7500	0.0000	4.7500	0.0462	4.7500	28.4469
5.0000	0.0000	5.0000	0.6451	5.0000	35.1581
5.2500	0.0000	5.2500	2.3318	5.2500	41.6892
5.5000	0.0000	5.5000	4.8482	5.5000	48.0130
5.7500	0.0000	5.7500	7.7188	5.7500	54.2198
6.0000	0.0058	6.0000	10.7167	6.0000	60.2556
6.2500	0.1846	6.2500	13.7679	6.2500	66.1560
6.5000	0.9585	6.5000	16.8966	6.5000	72.1031
6.7500	2.4281	6.7500	20.5167	6.7500	79.7122
7.0000	4.4958	7.0000	25.1140	7.0000	90.3546
7.2500	7.1380	7.2500	30.7808	7.2500	103.4936
7.5000	10.3331	7.5000	37.2660	7.5000	118.2980
7.7500	13.8679	7.7500	43.9527	7.7500	132.7981
8.0000	17.4569	8.0000	50.2909	8.0000	145.4571
8.2500	21.0733	8.2500	56.3247	8.2500	156.6379
8.5000	24.9702	8.5000	62.7611	8.5000	168.5068
8.7500	30.7138	8.7500	73.0623	8.7500	189.8942
9.0000	40.0034	9.0000	90.7329	9.0000	227.9734
9.2500	52.8320	9.2500	114.5391	9.2500	279.0429
9.5000	68.8856	9.5000	143.3530	9.5000	338.7809
9.7500	90.1067	9.7500	180.6400	9.7500	414.4607
10.0000	129.3924	10.0000	249.3580	10.0000	551.4930
10.2500	294.7673	10.2500	532.8074	10.2500	1109.0616
10.5000	593.2072	10.5000	1018.3672	10.5000	2034.7872
10.7500	604.1636	10.7500	1015.5593	10.7500	1984.1627
11.0000	433.6000	11.0000	717.2170	11.0000	1381.7993
11.2500	313.3044	11.2500	511.5226	11.2500	969.7410
11.5000	241.9133	11.5000	390.1095	11.5000	729.1378
11.7500	200.3349	11.7500	319.7887	11.7500	592.8311
12.0000	176.2187	12.0000	279.1183	12.0000	513.3803
12.2500	160.8389	12.2500	253.4544	12.2500	463.0371
12.5000	148.8350	12.5000	233.2662	12.5000	424.3732
12.7500	139.4977	12.7500	217.8095	12.7500	395.0447
13.0000	132.3222	13.0000	206.0162	13.0000	372.6143
13.2500	126.1305	13.2500	195.8987	13.2500	353.2908
13.5000	120.2074	13.5000	186.2958	13.5000	335.2951
13.7500	114.3256	13.7500	176.8127	13.7500	317.5846
14.0000	108.3888	14.0000	167.3792	14.0000	299.9762
14.2500	102.4157	14.2500	157.8234	14.2500	282.3867
14.5000	96.4544	14.5000	148.3944	14.5000	265.2121
14.7500	91.5460	14.7500	140.6034	14.7500	250.9794
15.0000	88.3852	15.0000	135.5838	15.0000	241.6242
15.2500	86.4101	15.2500	132.3740	15.2500	235.6484
15.5000	84.9499	15.5000	129.9809	15.5000	231.1016
15.7500	83.7120	15.7500	127.9455	15.7500	227.2127
16.0000	82.5690	16.0000	126.0514	16.0000	223.5979
16.2500	81.4477	16.2500	124.2031	16.2500	220.1114
16.5000	80.3287	16.5000	122.3710	16.5000	216.6395
16.7500	79.2071	16.7500	120.5462	16.7500	213.2017
17.0000	78.0716	17.0000	118.6930	17.0000	209.7638
17.2500	76.9218	17.2500	116.8277	17.2500	206.2761
17.5000	75.7519	17.5000	114.9551	17.5000	202.7744
17.7500	74.5795	17.7500	113.0668	17.7500	199.2713
18.0000	73.3836	18.0000	111.1666	18.0000	195.7802
18.2500	72.1766	18.2500	109.2472	18.2500	192.2506
18.5000	70.9576	18.5000	107.3326	18.5000	188.7076
18.7500	69.7350	18.7500	105.3872	18.7500	185.1838
19.0000	68.4925	19.0000	103.4326	19.0000	181.6335
19.2500	67.2459	19.2500	101.4733	19.2500	178.0741
19.5000	65.9921	19.5000	99.5123	19.5000	174.4915
19.7500	64.7212	19.7500	97.5260	19.7500	170.9399
20.0000	63.4383	20.0000	95.5403	20.0000	167.3505
20.2500	62.1493	20.2500	93.5553	20.2500	163.7439
20.5000	60.8592	20.5000	91.5470	20.5000	160.1495
20.7500	59.5538	20.7500	89.5271	20.7500	156.5498
21.0000	58.2363	21.0000	87.5012	21.0000	152.9286
21.2500	56.9258	21.2500	85.4851	21.2500	149.3143
21.5000	55.6008	21.5000	83.4461	21.5000	145.7073
21.7500	54.2651	21.7500	81.3978	21.7500	142.0700
22.0000	52.9213	22.0000	79.3595	22.0000	138.4260
22.2500	51.5840	22.2500	77.3005	22.2500	134.7876
22.5000	50.2280	22.5000	75.2452	22.5000	131.1465
22.7500	48.8680	22.7500	73.1724	22.7500	127.4889
23.0000	47.5083	23.0000	71.1116	23.0000	123.8245
23.2500	46.1398	23.2500	69.0319	23.2500	120.1849
23.5000	44.7623	23.5000	66.9472	23.5000	116.5243
23.7500	43.3865	23.7500	64.8681	23.7500	112.8501
24.0000	42.0105	24.0000	62.7762	24.0000	109.1770



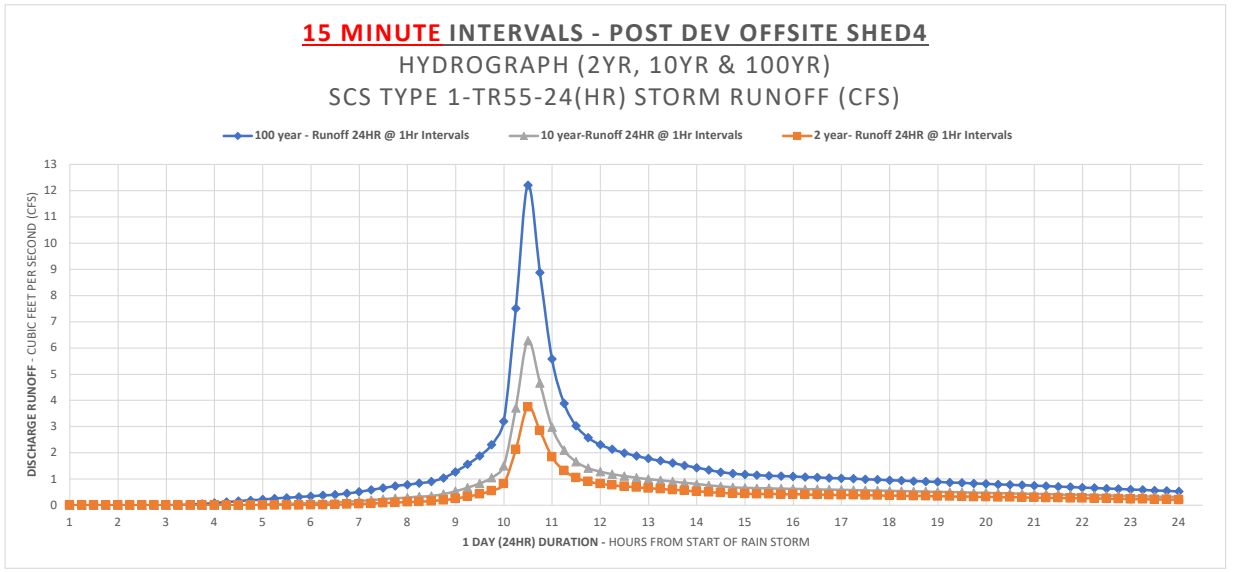
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OFFSITE - Basin - SHED3"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0000
3.0000	0.0000	3.0000	0.0000	3.0000	0.0000
3.2500	0.0000	3.2500	0.0000	3.2500	0.0315
3.5000	0.0000	3.5000	0.0000	3.5000	0.8205
3.7500	0.0000	3.7500	0.0000	3.7500	3.9850
4.0000	0.0000	4.0000	0.0000	4.0000	9.7058
4.2500	0.0000	4.2500	0.0000	4.2500	16.9674
4.5000	0.0000	4.5000	0.0000	4.5000	25.0598
4.7500	0.0000	4.7500	0.0223	4.7500	33.5355
5.0000	0.0000	5.0000	0.4897	5.0000	41.9770
5.2500	0.0000	5.2500	2.1901	5.2500	50.2123
5.5000	0.0000	5.5000	5.0558	5.5000	58.3243
5.7500	0.0000	5.7500	8.5056	5.7500	66.2059
6.0000	0.0000	6.0000	12.2279	6.0000	73.8695
6.2500	0.1080	6.2500	16.0497	6.2500	81.3796
6.5000	0.7889	6.5000	19.9549	6.5000	88.9650
6.7500	2.3463	6.7500	24.4205	6.7500	98.2670
7.0000	4.7371	7.0000	30.0617	7.0000	111.1779
7.2500	7.8937	7.2500	36.9693	7.2500	127.4202
7.5000	11.7469	7.5000	44.9306	7.5000	145.6716
7.7500	16.0763	7.7500	53.3005	7.7500	163.9517
8.0000	20.5810	8.0000	61.3338	8.0000	180.2685
8.2500	25.1241	8.2500	68.9710	8.2500	194.7202
8.5000	29.9672	8.5000	76.9944	8.5000	209.6887
8.7500	36.8497	8.7500	89.3538	8.7500	235.1209
9.0000	47.9083	9.0000	110.2763	9.0000	280.5006
9.2500	63.2994	9.2500	139.2075	9.2500	342.7693
9.5000	82.8131	9.5000	174.6335	9.5000	416.3010
9.7500	108.6412	9.7500	220.1420	9.7500	508.4615
10.0000	154.6894	10.0000	302.2650	10.0000	673.1828
10.2500	340.3235	10.2500	622.4520	10.2500	1307.3850
10.5000	693.1907	10.5000	1204.7542	10.5000	2422.1548
10.7500	754.2172	10.7500	1274.7063	10.7500	2507.2017
11.0000	569.6852	11.0000	946.4948	11.0000	1830.5723
11.2500	414.1190	11.2500	678.8845	11.2500	1294.1259
11.5000	318.9500	11.5000	516.4182	11.5000	972.0203
11.7500	262.0730	11.7500	420.1602	11.7500	782.4295
12.0000	228.5848	12.0000	363.5150	12.0000	671.1705
12.2500	207.2761	12.2500	327.4358	12.2500	600.7353
12.5000	191.4112	12.5000	300.9417	12.5000	549.3413
12.7500	178.3297	12.7500	279.2852	12.7500	507.6502
13.0000	168.7521	13.0000	263.3805	13.0000	477.3723
13.2500	160.6548	13.2500	250.1090	13.2500	452.0608
13.5000	153.0950	13.5000	237.8323	13.5000	428.8289
13.7500	145.6912	13.7500	225.7729	13.7500	406.2942
14.0000	138.2065	14.0000	213.7641	14.0000	383.9497
14.2500	130.6178	14.2500	201.7406	14.2500	361.6562
14.5000	123.1194	14.5000	189.8025	14.5000	339.7957
14.7500	116.7338	14.7500	179.6545	14.7500	321.1756
15.0000	112.4377	15.0000	172.8100	15.0000	308.4931
15.2500	109.7362	15.2500	168.4373	15.2500	300.3330
15.5000	107.7803	15.5000	165.2227	15.5000	294.2359
15.7500	106.1583	15.7500	162.5385	15.7500	289.1172
16.0000	104.6771	16.0000	160.0852	16.0000	284.4636
16.2500	103.2505	16.2500	157.7281	16.2500	279.9722
16.5000	101.8382	16.5000	155.4058	16.5000	275.5500
16.7500	100.4229	16.7500	153.0833	16.7500	271.1842
17.0000	98.9904	17.0000	150.7504	17.0000	266.8074
17.2500	97.5410	17.2500	148.4007	17.2500	262.3991
17.5000	96.0730	17.5000	146.0338	17.5000	257.9845
17.7500	94.5899	17.7500	143.6333	17.7500	253.5510
18.0000	93.0846	18.0000	141.2297	18.0000	249.1073
18.2500	91.5668	18.2500	138.8137	18.2500	244.6561
18.5000	90.0369	18.5000	136.3752	18.5000	240.1692
18.7500	88.4796	18.7500	133.9220	18.7500	235.6809
19.0000	86.9142	19.0000	131.4656	19.0000	231.2044
19.2500	85.3454	19.2500	128.9826	19.2500	226.6777
19.5000	83.7543	19.5000	126.4903	19.5000	222.1393
19.7500	82.1499	19.7500	123.9951	19.7500	217.6272
20.0000	80.5401	20.0000	121.4771	20.0000	213.0864
20.2500	78.9169	20.2500	118.9456	20.2500	208.5167
20.5000	77.2772	20.5000	116.4184	20.5000	203.9588
20.7500	75.6350	20.7500	113.8689	20.7500	199.3911
21.0000	73.9772	21.0000	111.3069	21.0000	194.8062
21.2500	72.3116	21.2500	108.7456	21.2500	190.2144
21.5000	70.6382	21.5000	106.1710	21.5000	185.6037
21.7500	68.9521	21.7500	103.5838	21.7500	181.0014
22.0000	67.2585	22.0000	100.9949	22.0000	176.3928
22.2500	65.5646	22.2500	98.3894	22.2500	171.7732
22.5000	63.8517	22.5000	95.7837	22.5000	167.1443
22.7500	62.1336	22.7500	93.1760	22.7500	162.5197
23.0000	60.4168	23.0000	90.5462	23.0000	157.8865
23.2500	58.6851	23.2500	87.9132	23.2500	153.2363
23.5000	56.9438	23.5000	85.2916	23.5000	148.5891
23.7500	55.2070	23.7500	82.6450	23.7500	143.9500
24.0000	53.4577	24.0000	79.9906	24.0000	139.2834



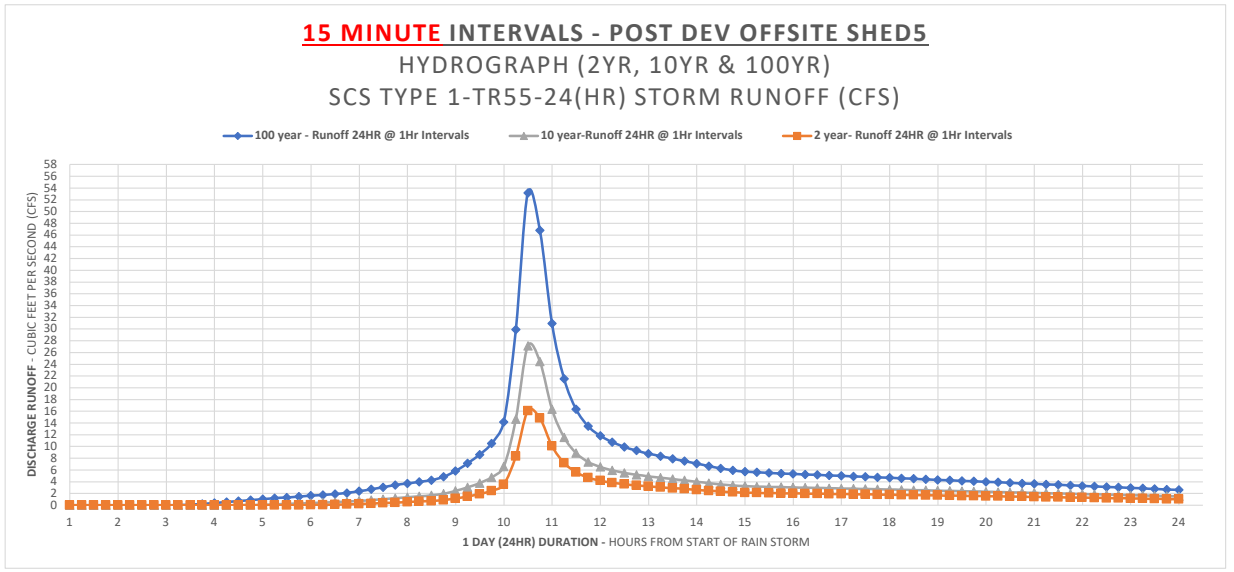
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OFFSITE - Basin - SHED4"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0000
3.0000	0.0000	3.0000	0.0000	3.0000	0.0000
3.2500	0.0000	3.2500	0.0000	3.2500	0.0039
3.5000	0.0000	3.5000	0.0000	3.5000	0.0221
3.7500	0.0000	3.7500	0.0000	3.7500	0.0491
4.0000	0.0000	4.0000	0.0000	4.0000	0.0809
4.2500	0.0000	4.2500	0.0000	4.2500	0.1145
4.5000	0.0000	4.5000	0.0000	4.5000	0.1500
4.7500	0.0000	4.7500	0.0048	4.7500	0.1841
5.0000	0.0000	5.0000	0.0166	5.0000	0.2171
5.2500	0.0000	5.2500	0.0307	5.2500	0.2492
5.5000	0.0000	5.5000	0.0463	5.5000	0.2802
5.7500	0.0000	5.7500	0.0622	5.7500	0.3103
6.0000	0.0030	6.0000	0.0775	6.0000	0.3398
6.2500	0.0090	6.2500	0.0928	6.2500	0.3685
6.5000	0.0178	6.5000	0.1089	6.5000	0.3985
6.7500	0.0283	6.7500	0.1292	6.7500	0.4417
7.0000	0.0414	7.0000	0.1565	7.0000	0.5034
7.2500	0.0574	7.2500	0.1882	7.2500	0.5765
7.5000	0.0756	7.5000	0.2237	7.5000	0.6544
7.7500	0.0949	7.7500	0.2578	7.7500	0.7246
8.0000	0.1138	8.0000	0.2888	8.0000	0.7822
8.2500	0.1324	8.2500	0.3187	8.2500	0.8344
8.5000	0.1528	8.5000	0.3521	8.5000	0.8963
8.7500	0.1899	8.7500	0.4194	8.7500	1.0350
9.0000	0.2493	9.0000	0.5297	9.0000	1.2708
9.2500	0.3247	9.2500	0.6656	9.2500	1.5537
9.5000	0.4165	9.5000	0.8262	9.5000	1.8756
9.7500	0.5432	9.7500	1.0427	9.7500	2.3003
10.0000	0.8100	10.0000	1.4960	10.0000	3.1948
10.2500	2.1158	10.2500	3.7116	10.2500	7.5079
10.5000	3.7417	10.5000	6.2781	10.5000	12.2139
10.7500	2.8351	10.7500	4.6588	10.7500	8.8748
11.0000	1.8407	11.0000	2.9766	11.0000	5.5814
11.2500	1.3141	11.2500	2.0962	11.2500	3.8794
11.5000	1.0445	11.5000	1.6501	11.5000	3.0243
11.7500	0.9000	11.7500	1.4107	11.7500	2.5687
12.0000	0.8163	12.0000	1.2735	12.0000	2.3055
12.2500	0.7609	12.2500	1.1817	12.2500	2.1325
12.5000	0.7152	12.5000	1.1069	12.5000	1.9909
12.7500	0.6760	12.7500	1.0445	12.7500	1.8735
13.0000	0.6445	13.0000	0.9928	13.0000	1.7766
13.2500	0.6149	13.2500	0.9449	13.2500	1.6879
13.5000	0.5858	13.5000	0.8981	13.5000	1.6010
13.7500	0.5556	13.7500	0.8512	13.7500	1.5147
14.0000	0.5259	14.0000	0.8043	14.0000	1.4287
14.2500	0.4955	14.2500	0.7565	14.2500	1.3420
14.5000	0.4656	14.5000	0.7106	14.5000	1.2586
14.7500	0.4450	14.7500	0.6774	14.7500	1.1987
15.0000	0.4332	15.0000	0.6593	15.0000	1.1648
15.2500	0.4257	15.2500	0.6465	15.2500	1.1418
15.5000	0.4203	15.5000	0.6368	15.5000	1.1235
15.7500	0.4138	15.7500	0.6274	15.7500	1.1059
16.0000	0.4084	16.0000	0.6190	16.0000	1.0891
16.2500	0.4030	16.2500	0.6096	16.2500	1.0718
16.5000	0.3976	16.5000	0.6004	16.5000	1.0546
16.7500	0.3912	16.7500	0.5916	16.7500	1.0376
17.0000	0.3858	17.0000	0.5818	17.0000	1.0208
17.2500	0.3804	17.2500	0.5729	17.2500	1.0039
17.5000	0.3739	17.5000	0.5631	17.5000	0.9861
17.7500	0.3685	17.7500	0.5542	17.7500	0.9693
18.0000	0.3621	18.0000	0.5444	18.0000	0.9515
18.2500	0.3557	18.2500	0.5346	18.2500	0.9340
18.5000	0.3493	18.5000	0.5249	18.5000	0.9167
18.7500	0.3439	18.7500	0.5155	18.7500	0.8995
19.0000	0.3375	19.0000	0.5061	19.0000	0.8822
19.2500	0.3311	19.2500	0.4957	19.2500	0.8643
19.5000	0.3247	19.5000	0.4863	19.5000	0.8468
19.7500	0.3183	19.7500	0.4767	19.7500	0.8295
20.0000	0.3118	20.0000	0.4664	20.0000	0.8113
20.2500	0.3054	20.2500	0.4561	20.2500	0.7941
20.5000	0.2990	20.5000	0.4466	20.5000	0.7758
20.7500	0.2926	20.7500	0.4364	20.7500	0.7586
21.0000	0.2862	21.0000	0.4265	21.0000	0.7404
21.2500	0.2788	21.2500	0.4164	21.2500	0.7232
21.5000	0.2724	21.5000	0.4059	21.5000	0.7049
21.7500	0.2659	21.7500	0.3961	21.7500	0.6871
22.0000	0.2595	22.0000	0.3861	22.0000	0.6694
22.2500	0.2521	22.2500	0.3757	22.2500	0.6512
22.5000	0.2457	22.5000	0.3656	22.5000	0.6336
22.7500	0.2393	22.7500	0.3558	22.7500	0.6157
23.0000	0.2319	23.0000	0.3450	23.0000	0.5975
23.2500	0.2255	23.2500	0.3351	23.2500	0.5792
23.5000	0.2181	23.5000	0.3247	23.5000	0.5620
23.7500	0.2116	23.7500	0.3145	23.7500	0.5438
24.0000	0.2045	24.0000	0.3038	24.0000	0.5255



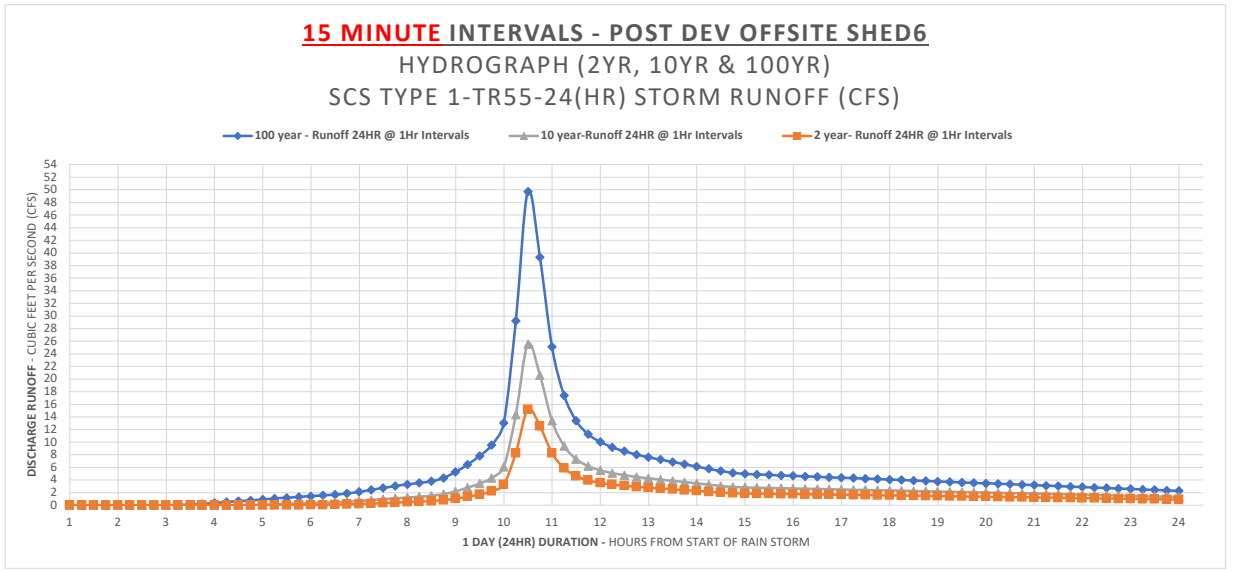
Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OFFSITE - Basin - SHED5"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0000
3.0000	0.0000	3.0000	0.0000	3.0000	0.0000
3.2500	0.0000	3.2500	0.0000	3.2500	0.0147
3.5000	0.0000	3.5000	0.0000	3.5000	0.0810
3.7500	0.0000	3.7500	0.0000	3.7500	0.1992
4.0000	0.0000	4.0000	0.0000	4.0000	0.3423
4.2500	0.0000	4.2500	0.0000	4.2500	0.5018
4.5000	0.0000	4.5000	0.0000	4.5000	0.6693
4.7500	0.0000	4.7500	0.0173	4.7500	0.8373
5.0000	0.0000	5.0000	0.0632	5.0000	1.0003
5.2500	0.0000	5.2500	0.1283	5.2500	1.1554
5.5000	0.0000	5.5000	0.2000	5.5000	1.3074
5.7500	0.0000	5.7500	0.2745	5.7500	1.4549
6.0000	0.0093	6.0000	0.3501	6.0000	1.5994
6.2500	0.0346	6.2500	0.4255	6.2500	1.7380
6.5000	0.0730	6.5000	0.5023	6.5000	1.8806
6.7500	0.1204	6.7500	0.5949	6.7500	2.0738
7.0000	0.1798	7.0000	0.7152	7.0000	2.3481
7.2500	0.2532	7.2500	0.8630	7.2500	2.6838
7.5000	0.3393	7.5000	1.0297	7.5000	3.0477
7.7500	0.4308	7.7500	1.1970	7.7500	3.3972
8.0000	0.5205	8.0000	1.3496	8.0000	3.6955
8.2500	0.6099	8.2500	1.4951	8.2500	3.9580
8.5000	0.7074	8.5000	1.6526	8.5000	4.2451
8.7500	0.8630	8.7500	1.9310	8.7500	4.8070
9.0000	1.1190	9.0000	2.4065	9.0000	5.8163
9.2500	1.4573	9.2500	3.0198	9.2500	7.1127
9.5000	1.8758	9.5000	3.7558	9.5000	8.6005
9.7500	2.4387	9.7500	4.7225	9.7500	10.4899
10.0000	3.5178	10.0000	6.5645	10.0000	14.1186
10.2500	8.3260	10.2500	14.6357	10.2500	29.8893
10.5000	16.0403	10.5000	27.1177	10.5000	53.1515
10.7500	14.7869	10.7500	24.4393	10.7500	46.7823
11.0000	10.0541	11.0000	16.3450	11.0000	30.9505
11.2500	7.1881	11.2500	11.5308	11.2500	21.5193
11.5000	5.5777	11.5000	8.8539	11.5000	16.3009
11.7500	4.6741	11.7500	7.3551	11.7500	13.4285
12.0000	4.1584	12.0000	6.5036	12.0000	11.8092
12.2500	3.8137	12.2500	5.9363	12.2500	10.7333
12.5000	3.5467	12.5000	5.5001	12.5000	9.9057
12.7500	3.3443	12.7500	5.1707	12.7500	9.2811
13.0000	3.1772	13.0000	4.9000	13.0000	8.7753
13.2500	3.0287	13.2500	4.6601	13.2500	8.3313
13.5000	2.8853	13.5000	4.4299	13.5000	7.9042
13.7500	2.7421	13.7500	4.2035	13.7500	7.4827
14.0000	2.5980	14.0000	3.9749	14.0000	7.0632
14.2500	2.4505	14.2500	3.7439	14.2500	6.6417
14.5000	2.3060	14.5000	3.5170	14.5000	6.2365
14.7500	2.1915	14.7500	3.3376	14.7500	5.9101
15.0000	2.1227	15.0000	3.2296	15.0000	5.7096
15.2500	2.0794	15.2500	3.1595	15.2500	5.5795
15.5000	2.0464	15.5000	3.1061	15.5000	5.4795
15.7500	2.0174	15.7500	3.0586	15.7500	5.3904
16.0000	1.9893	16.0000	3.0130	16.0000	5.3058
16.2500	1.9622	16.2500	2.9693	16.2500	5.2224
16.5000	1.9357	16.5000	2.9253	16.5000	5.1398
16.7500	1.9072	16.7500	2.8803	16.7500	5.0583
17.0000	1.8797	17.0000	2.8353	17.0000	4.9758
17.2500	1.8514	17.2500	2.7908	17.2500	4.8923
17.5000	1.8230	17.5000	2.7453	17.5000	4.8084
17.7500	1.7935	17.7500	2.6998	17.7500	4.7244
18.0000	1.7642	18.0000	2.6533	18.0000	4.6415
18.2500	1.7352	18.2500	2.6068	18.2500	4.5573
18.5000	1.7053	18.5000	2.5609	18.5000	4.4725
18.7500	1.6756	18.7500	2.5134	18.7500	4.3875
19.0000	1.6453	19.0000	2.4669	19.0000	4.3035
19.2500	1.6146	19.2500	2.4194	19.2500	4.2185
19.5000	1.5837	19.5000	2.3722	19.5000	4.1327
19.7500	1.5531	19.7500	2.3249	19.7500	4.0475
20.0000	1.5220	20.0000	2.2765	20.0000	3.9617
20.2500	1.4910	20.2500	2.2289	20.2500	3.8766
20.5000	1.4590	20.5000	2.1805	20.5000	3.7907
20.7500	1.4283	20.7500	2.1324	20.7500	3.7046
21.0000	1.3963	21.0000	2.0834	21.0000	3.6186
21.2500	1.3643	21.2500	2.0346	21.2500	3.5326
21.5000	1.3320	21.5000	1.9861	21.5000	3.4466
21.7500	1.2993	21.7500	1.9367	21.7500	3.3596
22.0000	1.2677	22.0000	1.8877	22.0000	3.2727
22.2500	1.2347	22.2500	1.8382	22.2500	3.1862
22.5000	1.2017	22.5000	1.7887	22.5000	3.0997
22.7500	1.1687	22.7500	1.7392	22.7500	3.0127
23.0000	1.1359	23.0000	1.6901	23.0000	2.9253
23.2500	1.1031	23.2500	1.6400	23.2500	2.8383
23.5000	1.0701	23.5000	1.5900	23.5000	2.7503
23.7500	1.0371	23.7500	1.5398	23.7500	2.6643
24.0000	1.0031	24.0000	1.4900	24.0000	2.5763



Valleys Edge - Time Series Plot - Per Indivisual Basin Hydrograph "OFFSITE - Basin - SHED6"

24hr / 2 Yr		24hr / 10 Yr		24hr / 100 Yr	
2 year- Runoff 24HR @ 1Hr Intervals		**10 year-**Runoff 24HR @ 1Hr Intervals		**100 year -** Runoff 24HR @ 1Hr Intervals	
Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)	Time (hrs)	Runoff (cfs)
0.2500	0.0000	0.2500	0.0000	0.2500	0.0000
0.5000	0.0000	0.5000	0.0000	0.5000	0.0000
0.7500	0.0000	0.7500	0.0000	0.7500	0.0000
1.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.2500	0.0000	1.2500	0.0000	1.2500	0.0000
1.5000	0.0000	1.5000	0.0000	1.5000	0.0000
1.7500	0.0000	1.7500	0.0000	1.7500	0.0000
2.0000	0.0000	2.0000	0.0000	2.0000	0.0000
2.2500	0.0000	2.2500	0.0000	2.2500	0.0000
2.5000	0.0000	2.5000	0.0000	2.5000	0.0000
2.7500	0.0000	2.7500	0.0000	2.7500	0.0000
3.0000	0.0000	3.0000	0.0000	3.0000	0.0000
3.2500	0.0000	3.2500	0.0000	3.2500	0.0160
3.5000	0.0000	3.5000	0.0000	3.5000	0.0833
3.7500	0.0000	3.7500	0.0000	3.7500	0.1937
4.0000	0.0000	4.0000	0.0000	4.0000	0.3252
4.2500	0.0000	4.2500	0.0000	4.2500	0.4666
4.5000	0.0000	4.5000	0.0000	4.5000	0.6138
4.7500	0.0000	4.7500	0.0182	4.7500	0.7604
5.0000	0.0000	5.0000	0.0628	5.0000	0.9027
5.2500	0.0000	5.2500	0.1224	5.2500	1.0383
5.5000	0.0000	5.5000	0.1873	5.5000	1.1703
5.7500	0.0000	5.7500	0.2533	5.7500	1.2990
6.0000	0.0100	6.0000	0.3193	6.0000	1.4241
6.2500	0.0347	6.2500	0.3853	6.2500	1.5455
6.5000	0.0701	6.5000	0.4527	6.5000	1.6704
6.7500	0.1139	6.7500	0.5363	6.7500	1.8485
7.0000	0.1686	7.0000	0.6475	7.0000	2.1017
7.2500	0.2339	7.2500	0.7804	7.2500	2.4040
7.5000	0.3110	7.5000	0.9297	7.5000	2.7310
7.7500	0.3923	7.7500	1.0753	7.7500	3.0334
8.0000	0.4713	8.0000	1.2076	8.0000	3.2837
8.2500	0.5493	8.2500	1.3330	8.2500	3.5075
8.5000	0.6364	8.5000	1.4736	8.5000	3.7636
8.7500	0.7838	8.7500	1.7386	8.7500	4.3102
9.0000	1.0223	9.0000	2.1836	9.0000	5.2640
9.2500	1.3326	9.2500	2.7497	9.2500	6.4380
9.5000	1.7126	9.5000	3.4147	9.5000	7.7730
9.7500	2.2320	9.7500	4.2978	9.7500	9.5075
10.0000	3.2787	10.0000	6.0679	10.0000	13.0137
10.2500	8.2323	10.2500	14.3295	10.2500	29.1887
10.5000	15.1538	10.5000	25.4746	10.5000	49.7203
10.7500	12.5015	10.7500	20.5924	10.7500	39.2860
11.0000	8.2459	11.0000	13.3492	11.0000	25.0807
11.2500	5.8716	11.2500	9.3707	11.2500	17.4000
11.5000	4.6043	11.5000	7.2859	11.5000	13.3954
11.7500	3.9200	11.7500	6.1600	11.7500	11.2323
12.0000	3.5337	12.0000	5.5191	12.0000	10.0012
12.2500	3.2637	12.2500	5.0731	12.2500	9.1574
12.5000	3.0615	12.5000	4.7422	12.5000	8.5336
12.7500	2.8913	12.7500	4.4676	12.7500	8.0157
13.0000	2.7522	13.0000	4.2415	13.0000	7.5930
13.2500	2.6255	13.2500	4.0368	13.2500	7.2124
13.5000	2.5000	13.5000	3.8386	13.5000	6.8446
13.7500	2.3750	13.7500	3.6396	13.7500	6.4771
14.0000	2.2480	14.0000	3.4396	14.0000	6.1108
14.2500	2.1202	14.2500	3.2361	14.2500	5.7431
14.5000	1.9941	14.5000	3.0397	14.5000	5.3873
14.7500	1.8996	14.7500	2.8918	14.7500	5.1180
15.0000	1.8458	15.0000	2.8069	15.0000	4.9620
15.2500	1.8115	15.2500	2.7520	15.2500	4.8597
15.5000	1.7847	15.5000	2.7087	15.5000	4.7773
15.7500	1.7607	15.7500	2.6683	15.7500	4.7013
16.0000	1.7368	16.0000	2.6293	16.0000	4.6283
16.2500	1.7129	16.2500	2.5905	16.2500	4.5563
16.5000	1.6888	16.5000	2.5521	16.5000	4.4840
16.7500	1.6648	16.7500	2.5133	16.7500	4.4124
17.0000	1.6398	17.0000	2.4738	17.0000	4.3396
17.2500	1.6153	17.2500	2.4347	17.2500	4.2666
17.5000	1.5897	17.5000	2.3947	17.5000	4.1936
17.7500	1.5648	17.7500	2.3547	17.7500	4.1203
18.0000	1.5396	18.0000	2.3141	18.0000	4.0470
18.2500	1.5136	18.2500	2.2735	18.2500	3.9733
18.5000	1.4875	18.5000	2.2326	18.5000	3.8996
18.7500	1.4608	18.7500	2.1918	18.7500	3.8256
19.0000	1.4345	19.0000	2.1508	19.0000	3.7516
19.2500	1.4077	19.2500	2.1097	19.2500	3.6766
19.5000	1.3808	19.5000	2.0677	19.5000	3.6020
19.7500	1.3539	19.7500	2.0257	19.7500	3.5273
20.0000	1.3269	20.0000	1.9835	20.0000	3.4530
20.2500	1.2995	20.2500	1.9416	20.2500	3.3777
20.5000	1.2718	20.5000	1.8998	20.5000	3.3029
20.7500	1.2438	20.7500	1.8578	20.7500	3.2273
21.0000	1.2165	21.0000	1.8148	21.0000	3.1523
21.2500	1.1886	21.2500	1.7720	21.2500	3.0766
21.5000	1.1599	21.5000	1.7297	21.5000	3.0010
21.7500	1.1319	21.7500	1.6867	21.7500	2.9250
22.0000	1.1036	22.0000	1.6437	22.0000	2.8494
22.2500	1.0748	22.2500	1.6008	22.2500	2.7736
22.5000	1.0465	22.5000	1.5572	22.5000	2.6973
22.7500	1.0175	22.7500	1.5138	22.7500	2.6216
23.0000	0.9886	23.0000	1.4700	23.0000	2.5453
23.2500	0.9596	23.2500	1.4267	23.2500	2.4693
23.5000	0.9306	23.5000	1.3830	23.5000	2.3923
23.7500	0.9016	23.7500	1.3392	23.7500	2.3164
24.0000	0.8726	24.0000	1.2960	24.0000	2.2406



Flow Hydrographs for Major Connections (2yr)

DRAFT

Exhibit L.1.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RDC1A

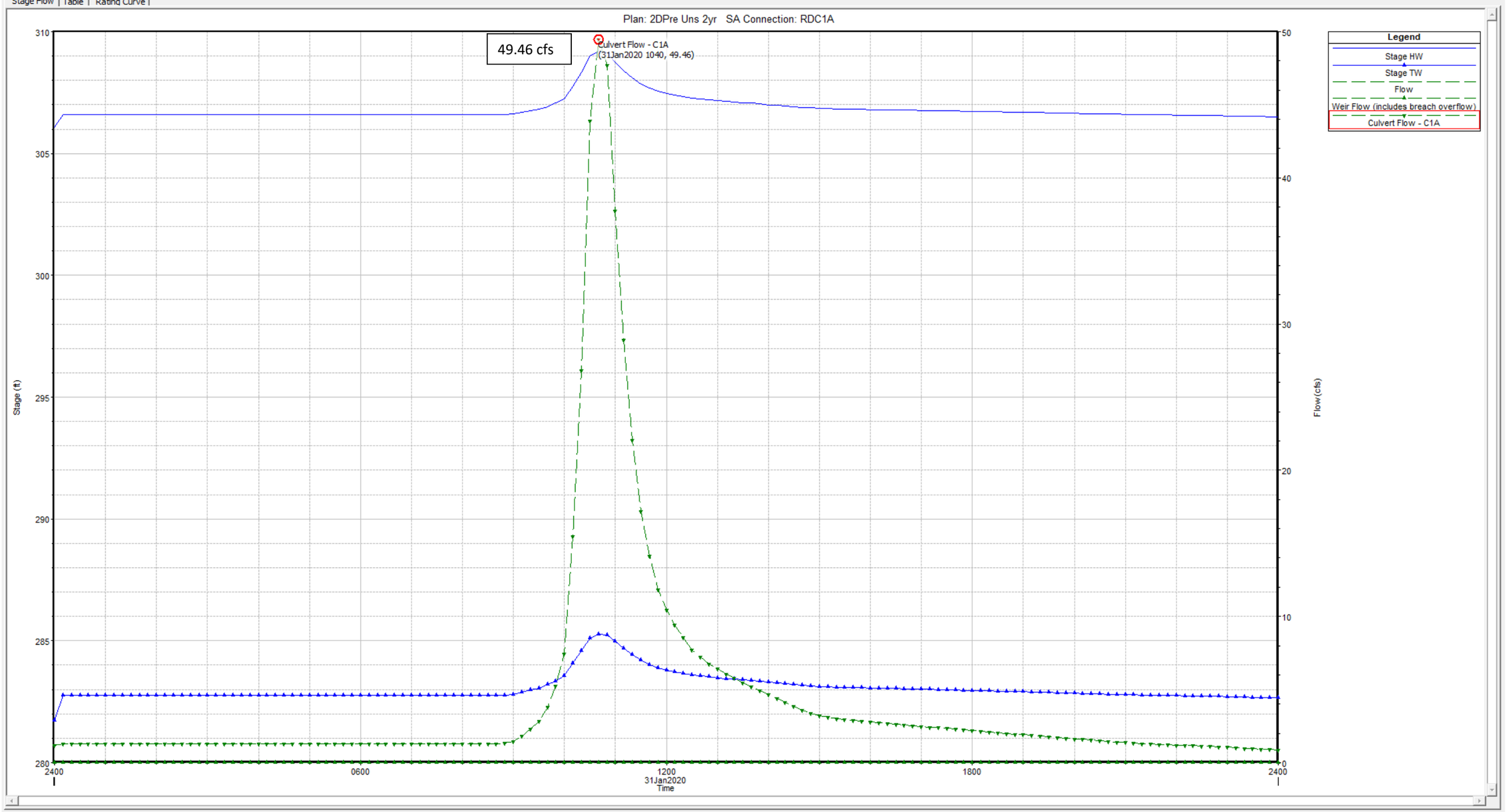
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	309.19	31Jan2020 1040	
2	TW Stage	285.27	31Jan2020 1040	
3	Flow	49.46	31Jan2020 1040	8.51

Reload Data

RDC1A



Flow Hydrographs for Major Connections (2yr)

DRAFT

Exhibit L.1.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Dawncrest)C1B

Plot Stage | Plot Flow | Obs Stage | Obs Flow | Use Ref Stage

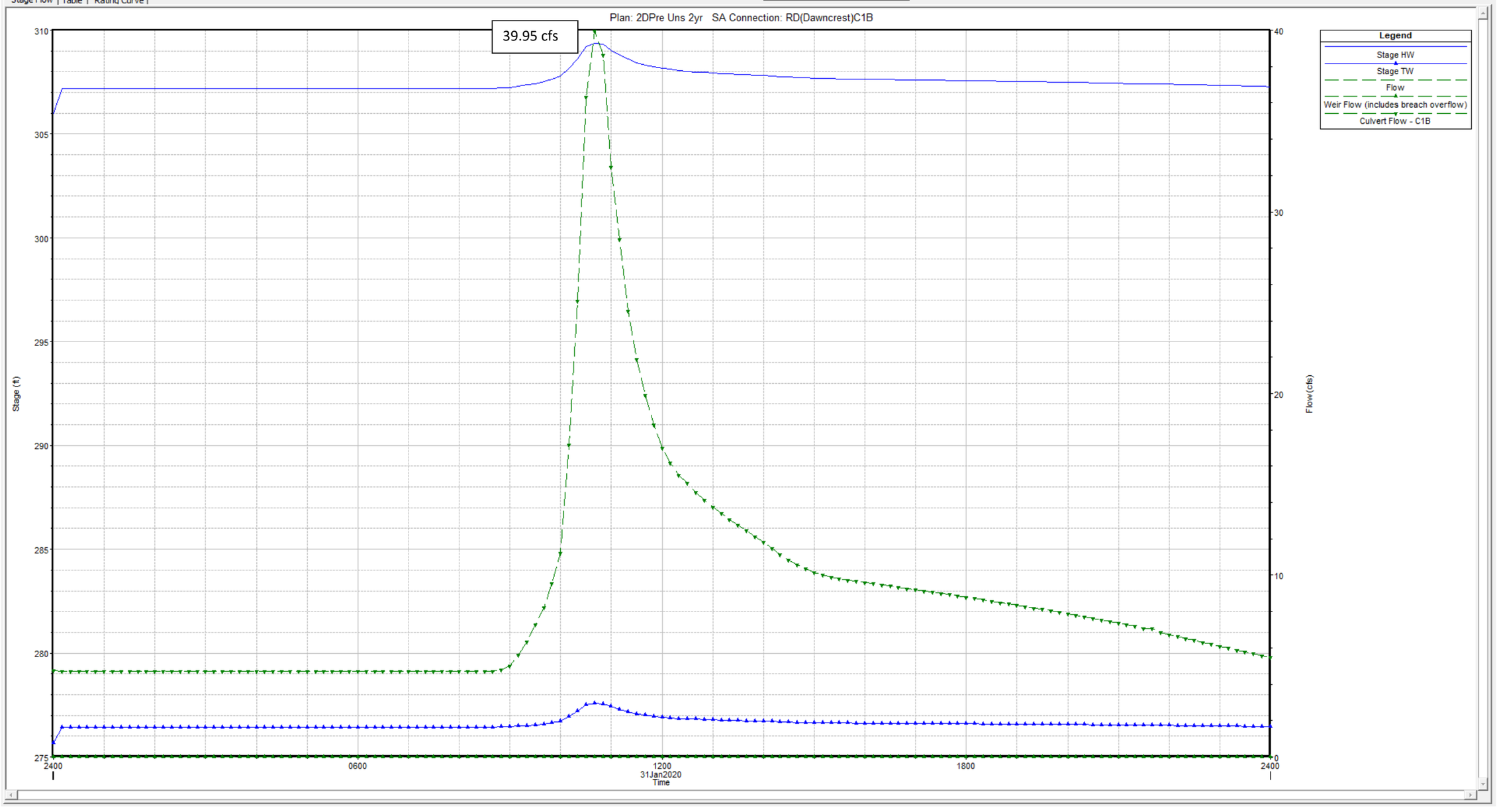
Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	309.37	31Jan2020 1040	
2	TW Stage	277.58	31Jan2020 1040	
3	Flow	39.95	31Jan2020 1040	17.64

Reload Data

RD(Dawncrest)C1B

39.95 cfs



Flow Hydrographs for Major Connections (2yr)

DRAFT

Exhibit L.1.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(PotterN)C1-C3

Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	270.70	31Jan2020 1100	
2	TW Stage	268.32	31Jan2020 1100	
3	Flow	593.31	31Jan2020 1100	179.56

Reload Data

RD(PotterN)C1-C3

Plan: 2DPre Uns 2yr SA Connection: RD(PotterN)C1-C3

593.31 cfs

323.42 cfs

196.96 cfs

69.11 cfs

Legend

- Stage HW
- Stage TW
- Flow
- Weir Flow (includes breach overflow)
- Culvert Flow - C2AB
- Culvert Flow - C1E
- Culvert Flow - C3A

Stage (ft)

271
270
269
268
267
266

Flow (cfs)

600
500
400
300
200
100
0

2400 0600 1200 1800 2400

31Jan2020

Time

Flow Hydrographs for Major Connections (2yr)

DRAFT

Exhibit L.1.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(PotterS)C4

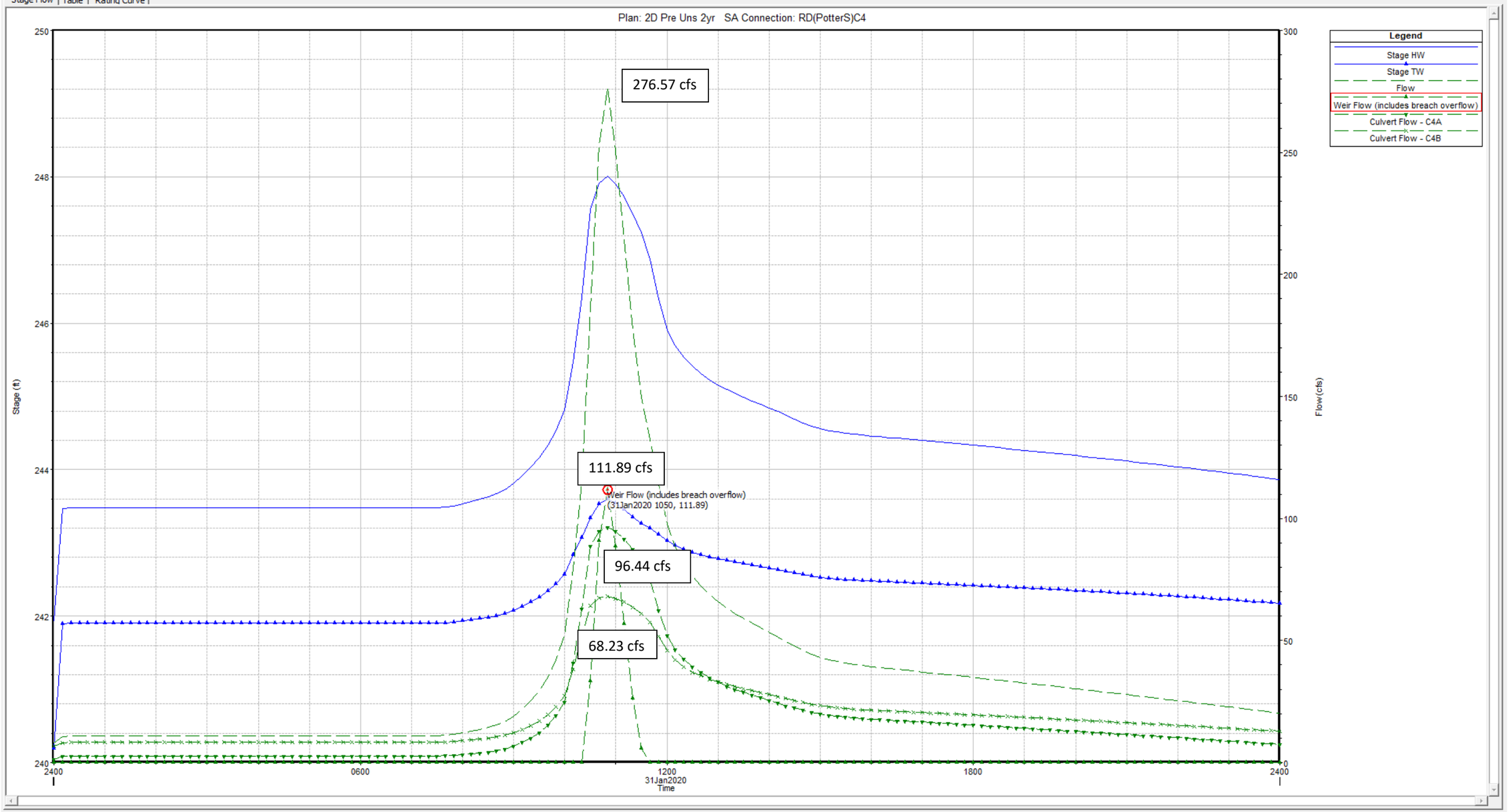
☑ Plot Stage ☑ Plot Flow ☑ Obs Stage ☑ Obs Flow ☐ Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	248.01	31Jan2020 1050	
2	TW Stage	243.59	31Jan2020 1050	
3	Flow	276.57	31Jan2020 1050	77.52

RD(PotterS)C4

Reload Data



Flow Hydrographs for Major Connections (2yr)

DRAFT

Exhibit L.1.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Humbug)C5C6CE

Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	259.34	31Jan2020 1100	
2	TW Stage	257.06	31Jan2020 1100	
3	Flow	1437.64	31Jan2020 1100	442.76

RD(Humbug)C5C6CE

Reload Data

Plan: 2DPre Uns 2yr SA Connection: RD(Humbug)C5C6CE

1437.64 cfs

817.68 cfs

294.02 cfs

168.28 cfs

157.65 cfs

Legend

- Stage HW
- Stage TW
- Flow
- Weir Flow (includes breach overflow)
- Culvert Flow - C5AB
- Culvert Flow - C6ABC
- Culvert Flow - C6D

Stage (ft): 252, 253, 254, 255, 256, 257, 258, 259, 260

Flow (cfs): -200, 0, 200, 400, 600, 800, 1000, 1200, 1400, 1600

Time: 2400, 0600, 1200 31Jan2020, 1800, 2400

Unsteady State Flow Hydrographs (10yr)

DRAFT

Exhibit L.1.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Dawncrest)C1B

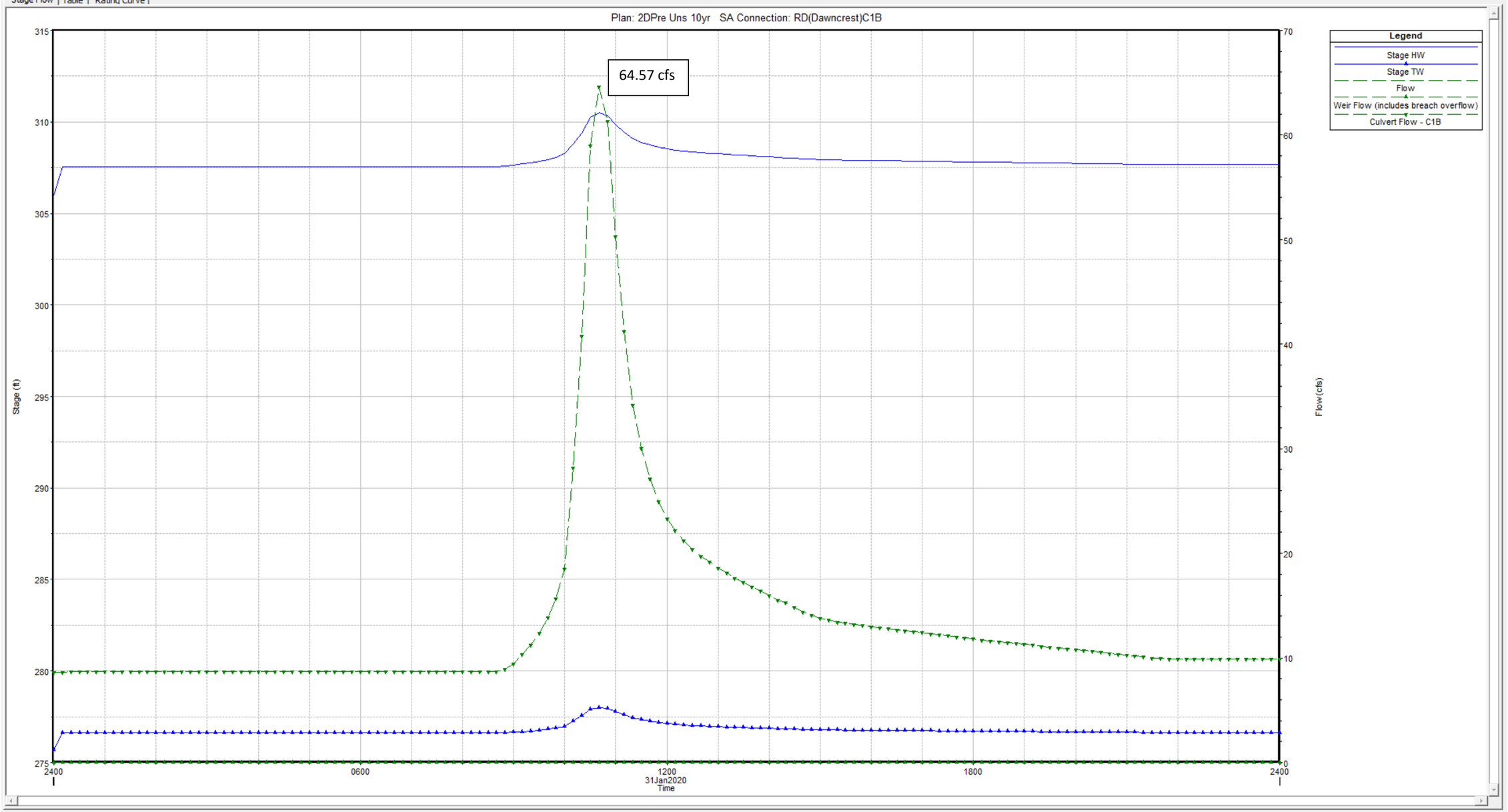
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	310.50	31Jan2020 1040	
2	TW Stage	278.01	31Jan2020 1040	
3	Flow	64.57	31Jan2020 1040	26.88

Reload Data

RD(Dawncrest)C1B



Unsteady State Flow Hydrographs (10yr)

DRAFT

Exhibit L.1.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RDC1A

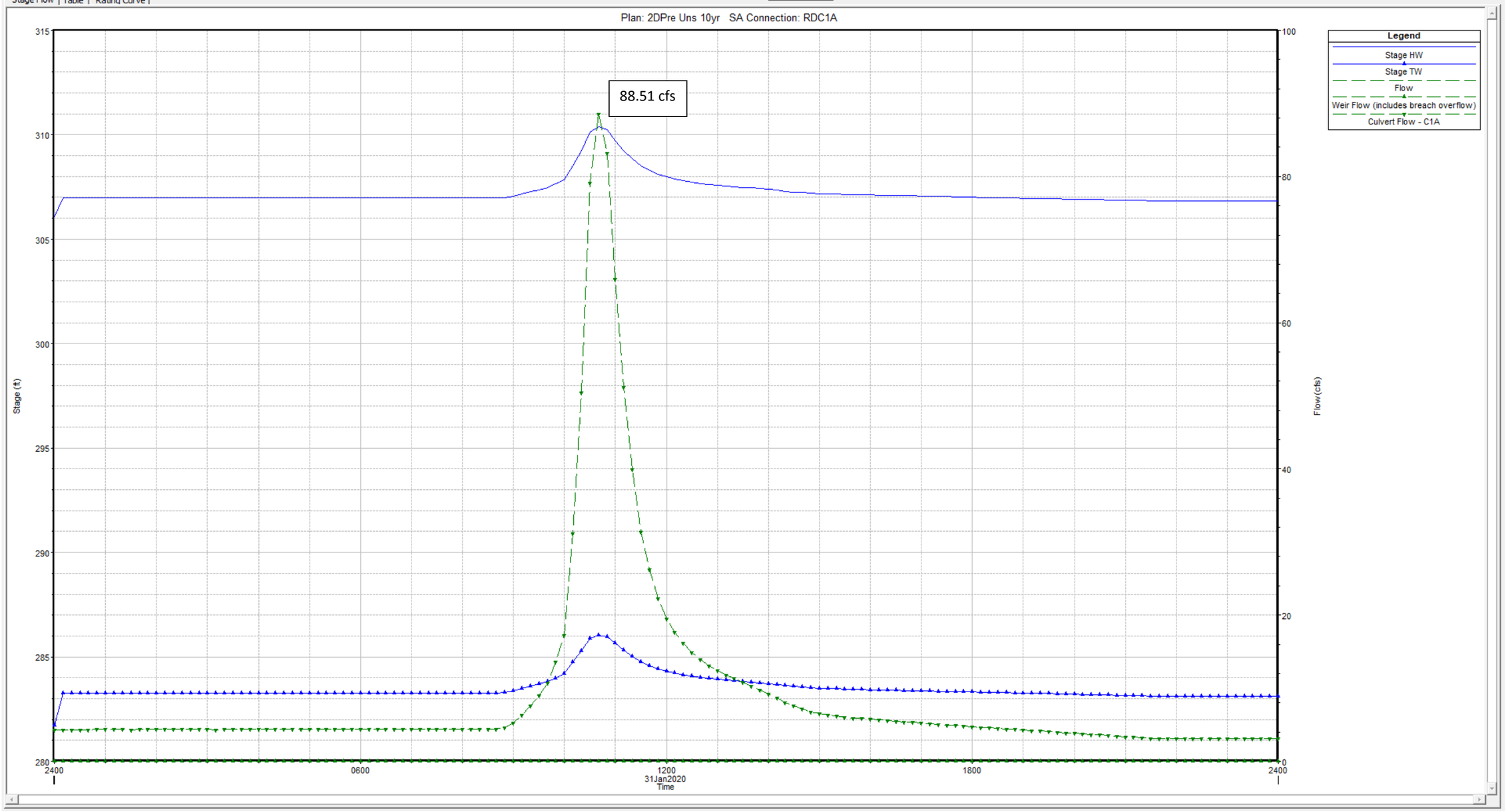
Plot Stage | Plot Flow | Obs Stage | Obs Flow | Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	310.41	31Jan2020 1040	
2	TW Stage	286.05	31Jan2020 1040	
3	Flow	88.51	31Jan2020 1040	18.07

Reload Data

RDC1A



Unsteady State Flow Hydrographs (10yr)

DRAFT

Exhibit L.1.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(PotterN)C1-C3

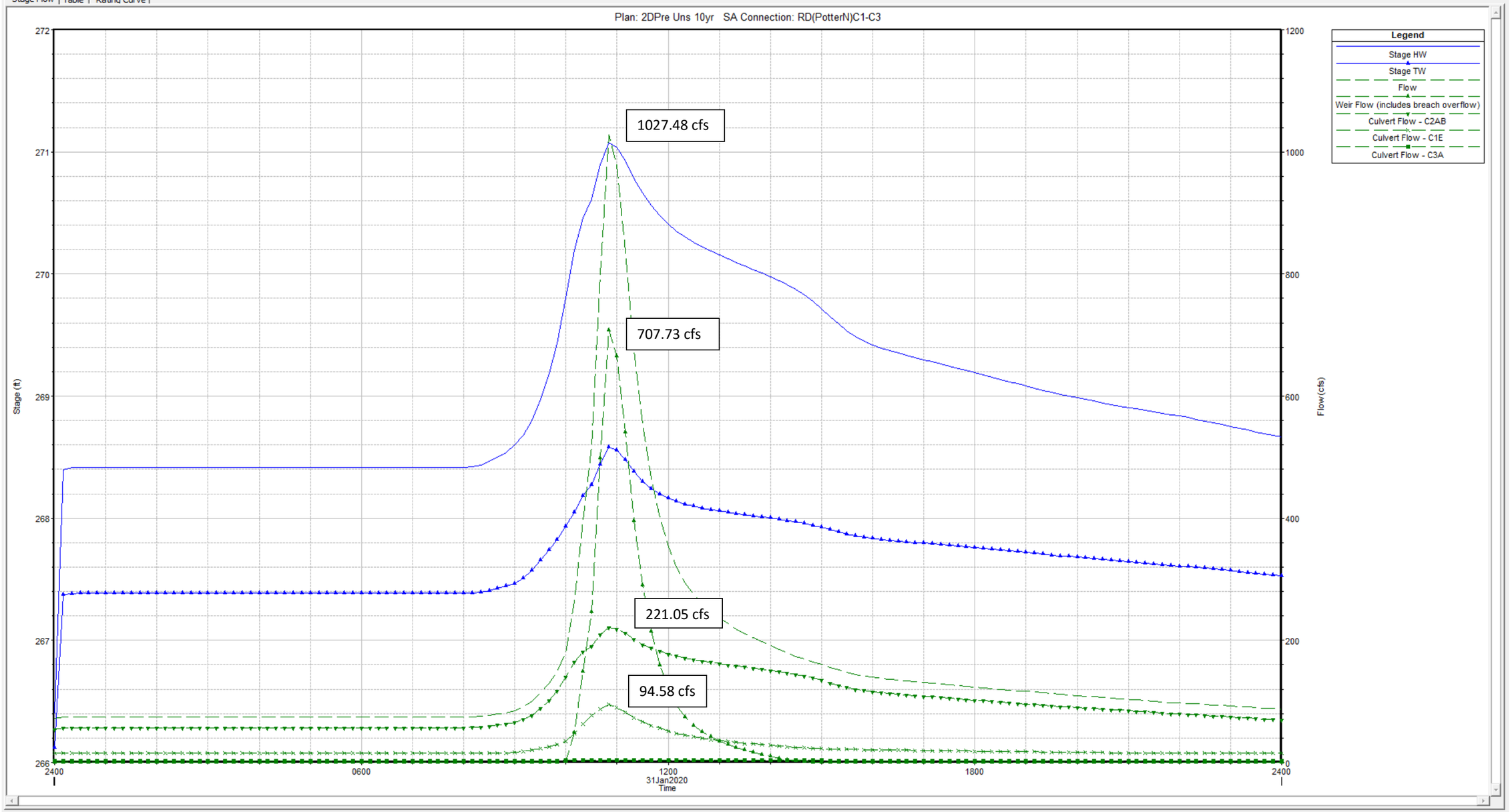
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	271.08	31Jan2020 1050	
2	TW Stage	268.58	31Jan2020 1050	
3	Flow	1027.48	31Jan2020 1050	305.65

Reload Data

RD(PotterN)C1-C3



Unsteady State Flow Hydrographs (10yr)

DRAFT

Exhibit L.1.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(PotterS)C4

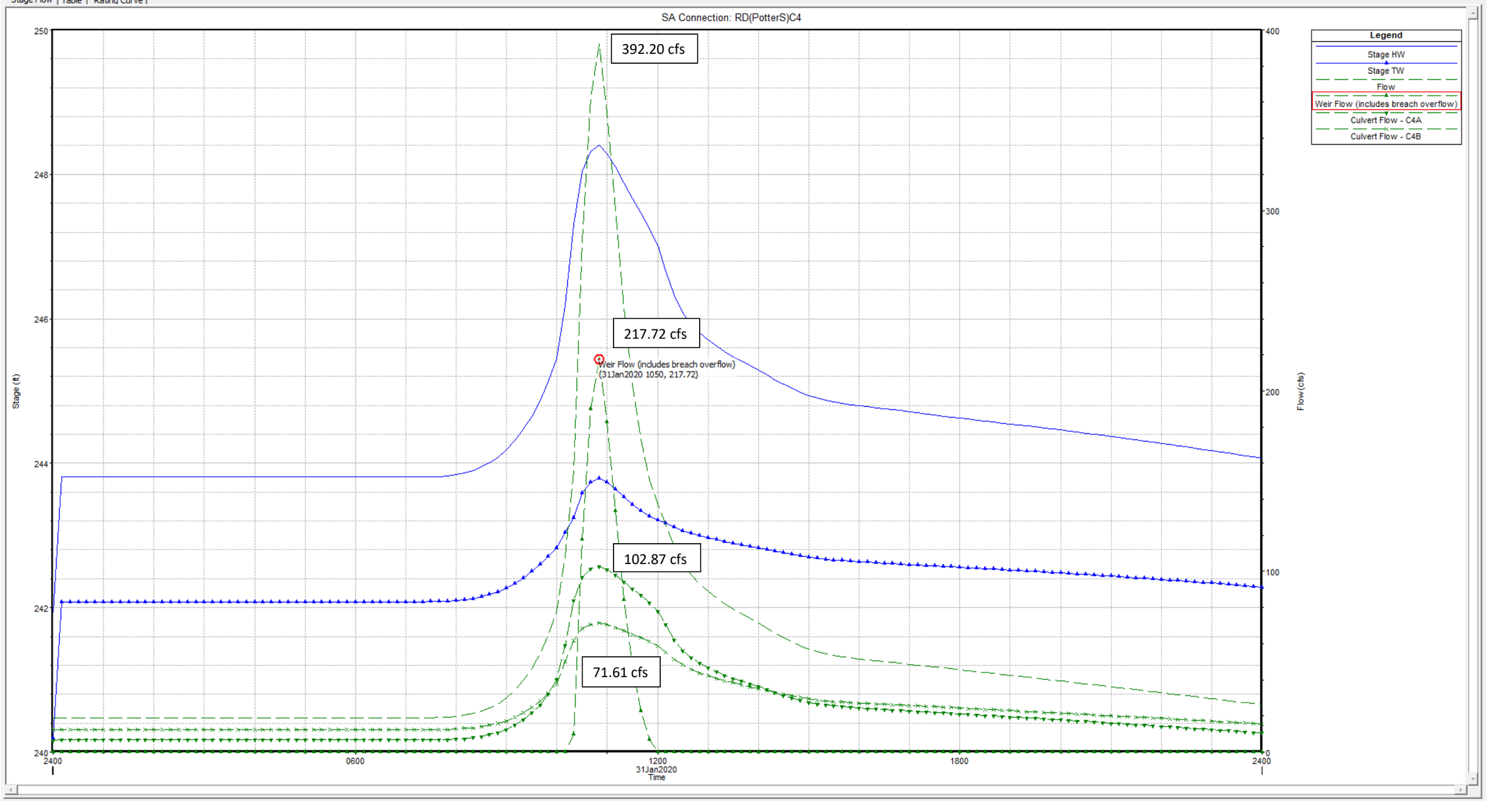
☑ Plot Stage ☑ Plot Flow ☑ Obs Stage ☑ Obs Flow ☐ Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	248.41	31Jan2020 1050	
2	TW Stage	243.79	31Jan2020 1050	
3	Flow	392.20	31Jan2020 1050	108.78

Reload Data

RD(PotterS)C4



Unsteady State Flow Hydrographs (10yr)

DRAFT

Exhibit L.1.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Humbug)C5C6CE

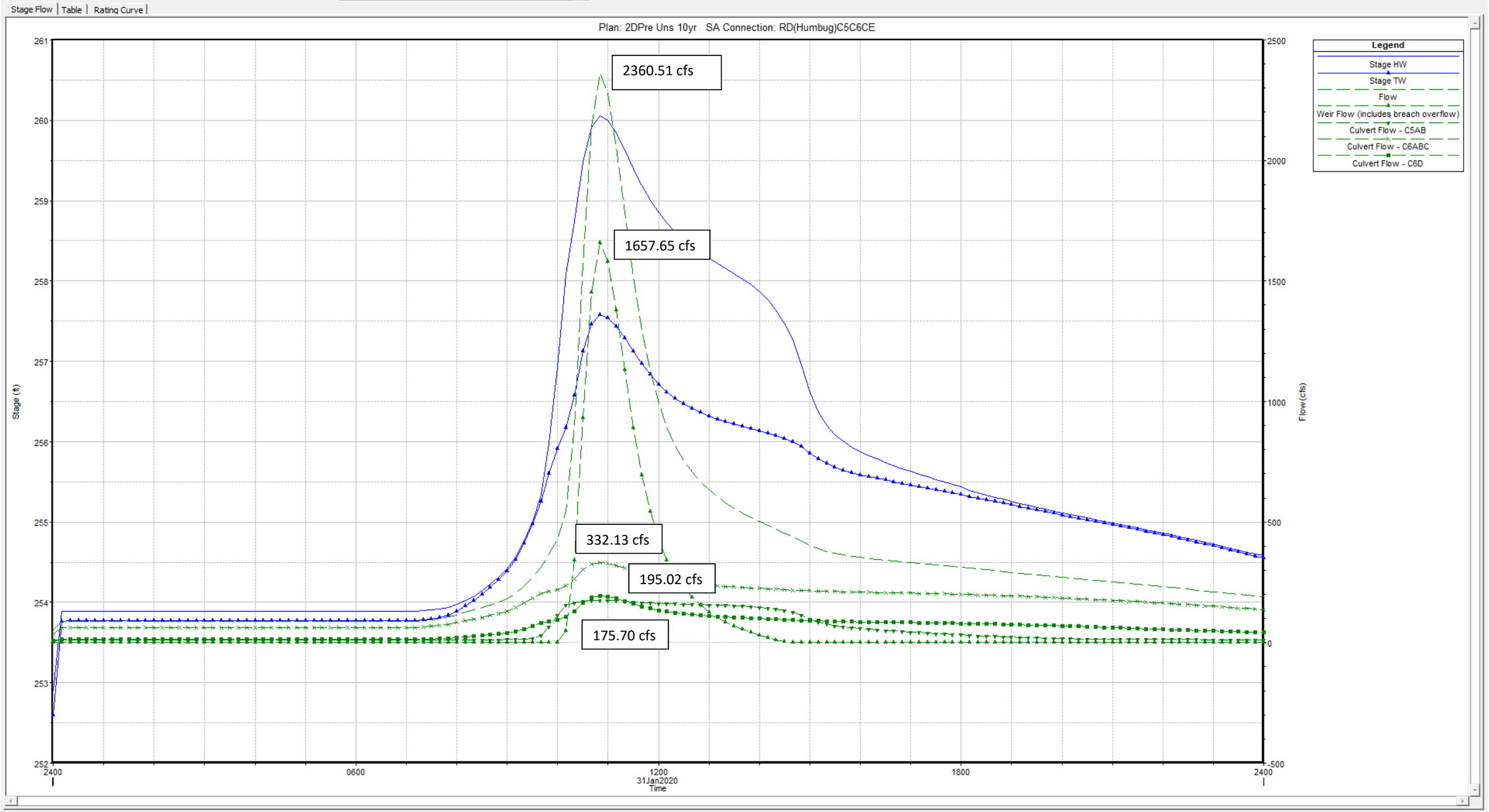
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	260.06	31Jan2020 1050	
2	TW Stage	257.58	31Jan2020 1050	
3	Flow	2360.51	31Jan2020 1050	703.97

RD(Humbug)C5C6CE

Reload Data



Unsteady State Flow Hydrographs (100yr)

DRAFT

Exhibit L.1.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Dawncrest)C1B

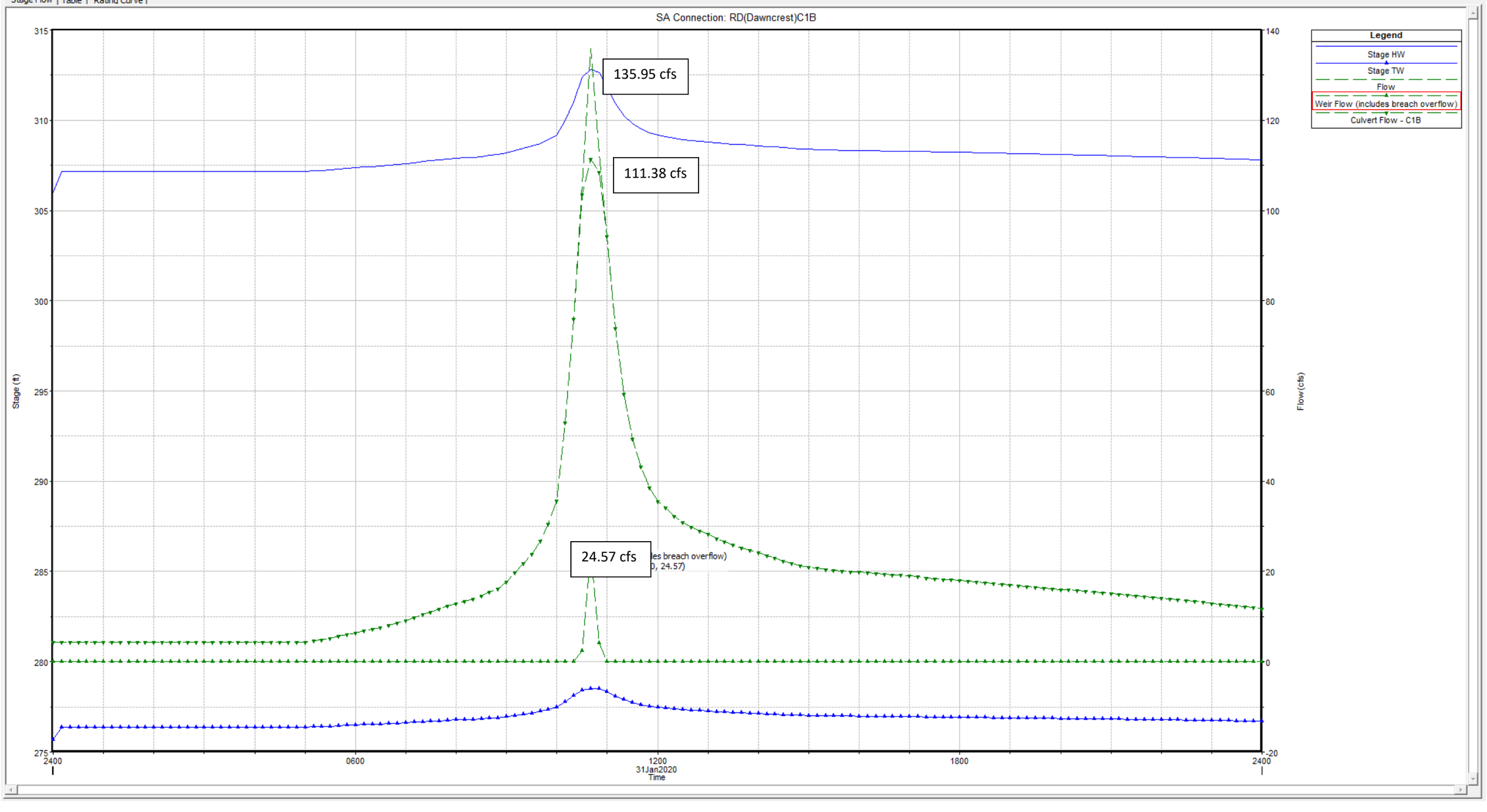
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	312.82	31Jan2020 1040	
2	TW Stage	278.53	31Jan2020 1040	
3	Flow	135.96	31Jan2020 1040	38.02

Reload Data

RD(Dawncrest)C1B



Unsteady State Flow Hydrographs (100yr)

DRAFT

Exhibit L.1.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RDC1A

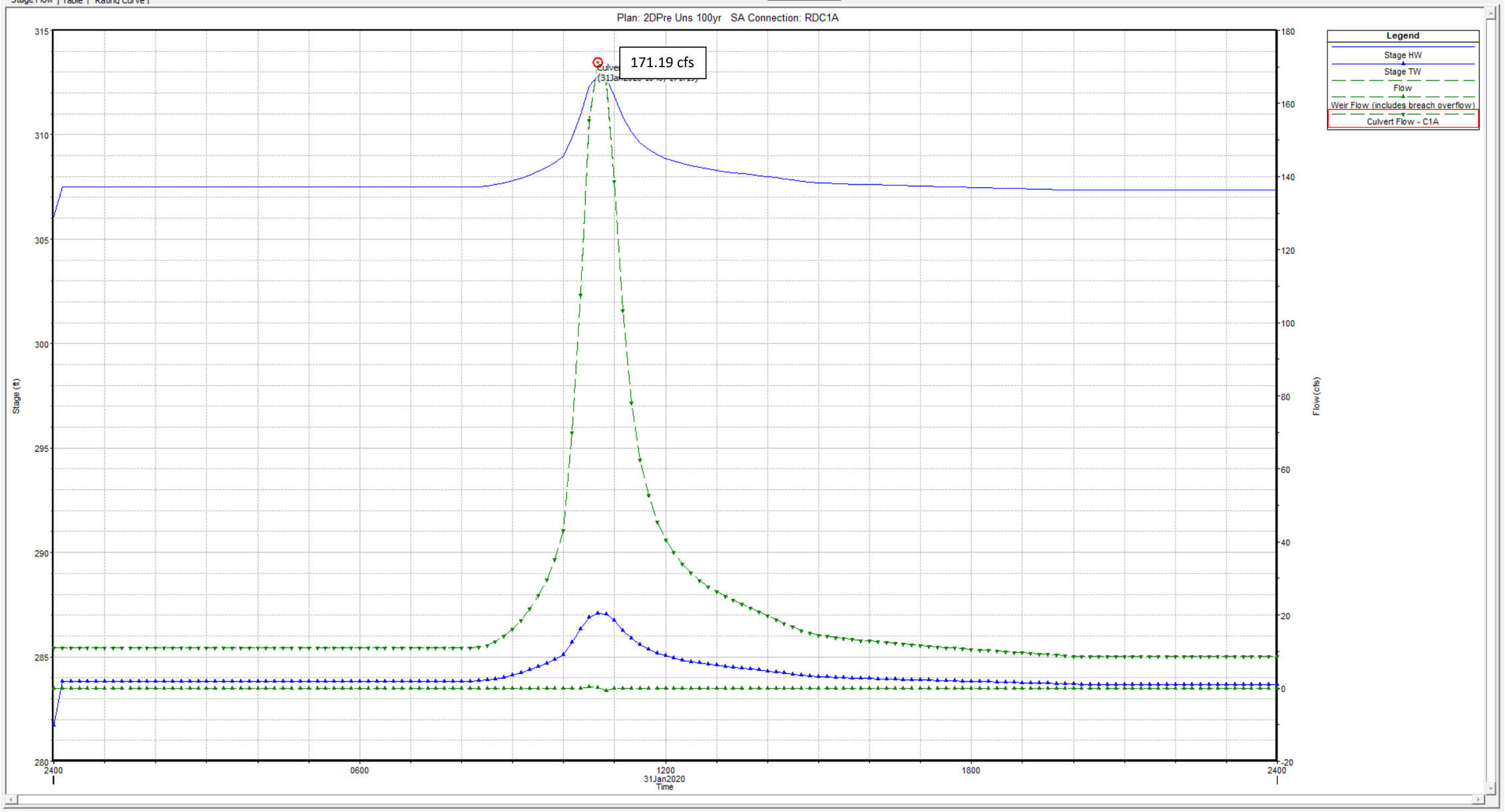
Plot Stage | Plot Flow | Obs Stage | Obs Flow | Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	312.83	31Jan2020 1040	
2	TW Stage	287.09	31Jan2020 1040	
3	Flow	171.28	31Jan2020 1040	40.42

Reload Data

RDC1A



Unsteady State Flow Hydrographs (100yr)

DRAFT

Exhibit L.1.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(PotterN)C1-C3

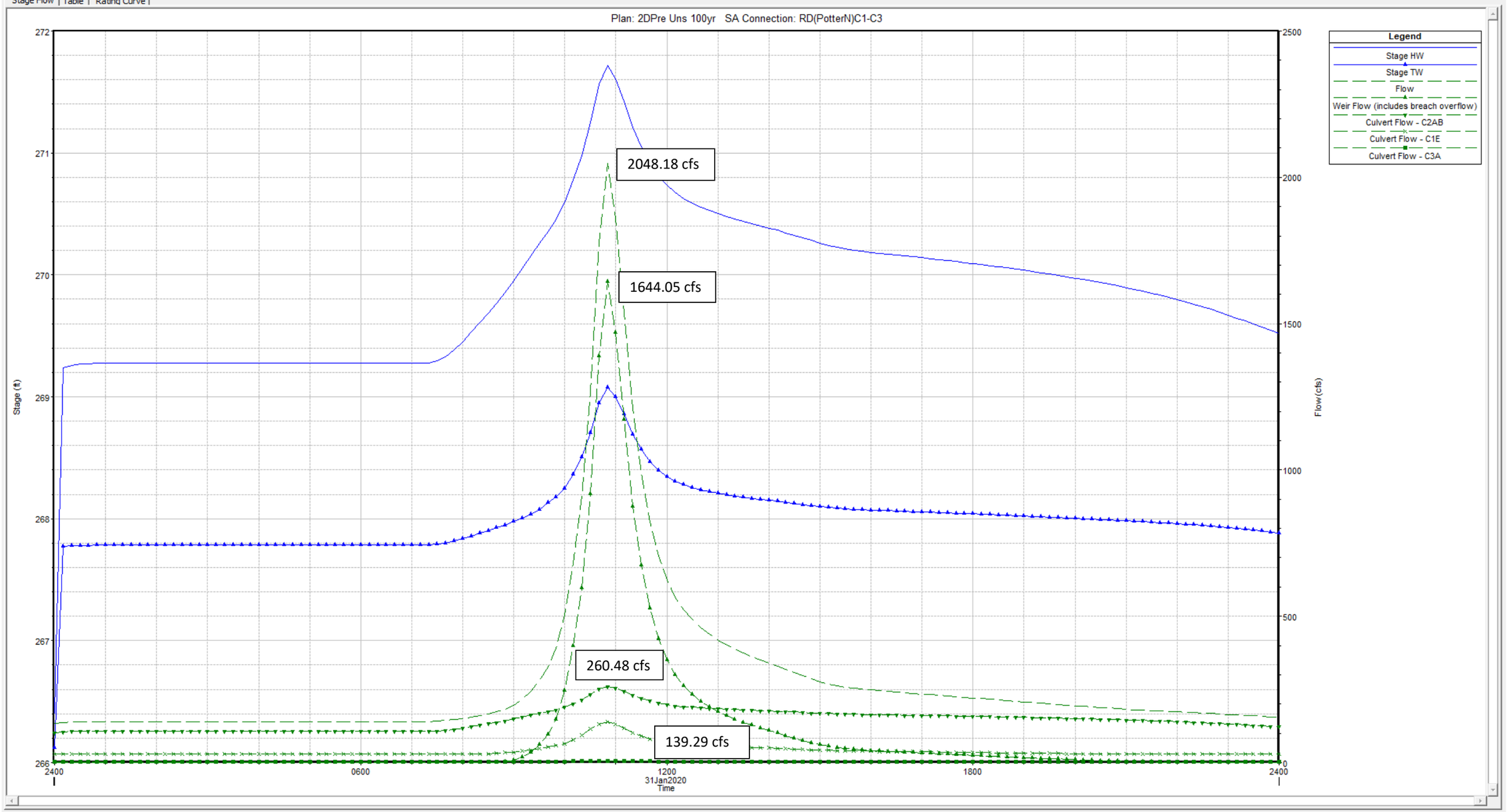
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	271.72	31Jan2020 1050	
2	TW Stage	269.08	31Jan2020 1050	
3	Flow	2048.18	31Jan2020 1050	578.82

Reload Data

RD(PotterN)C1-C3



Unsteady State Flow Hydrographs (100yr)

DRAFT

Exhibit L.1.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(PotterS)C4

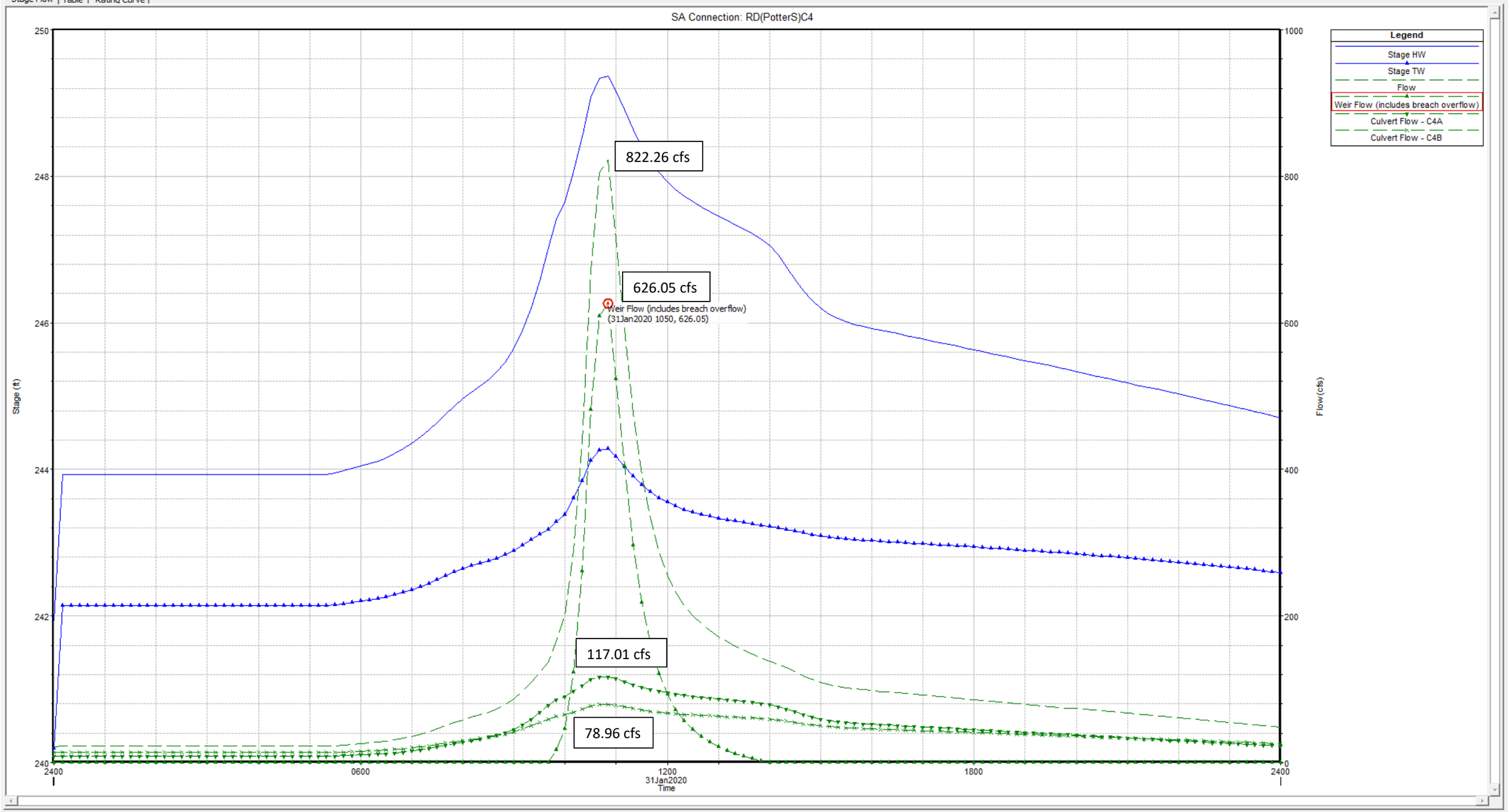
☑ Plot Stage ☑ Plot Flow ☑ Obs Stage ☑ Obs Flow ☐ Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	249.37	31Jan2020 1050	
2	TW Stage	244.28	31Jan2020 1050	
3	Flow	822.26	31Jan2020 1050	213.84

Reload Data

RD(PotterS)C4



Unsteady State Flow Hydrographs (100yr)

DRAFT

Exhibit L.1.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Humbug)C5C6CE

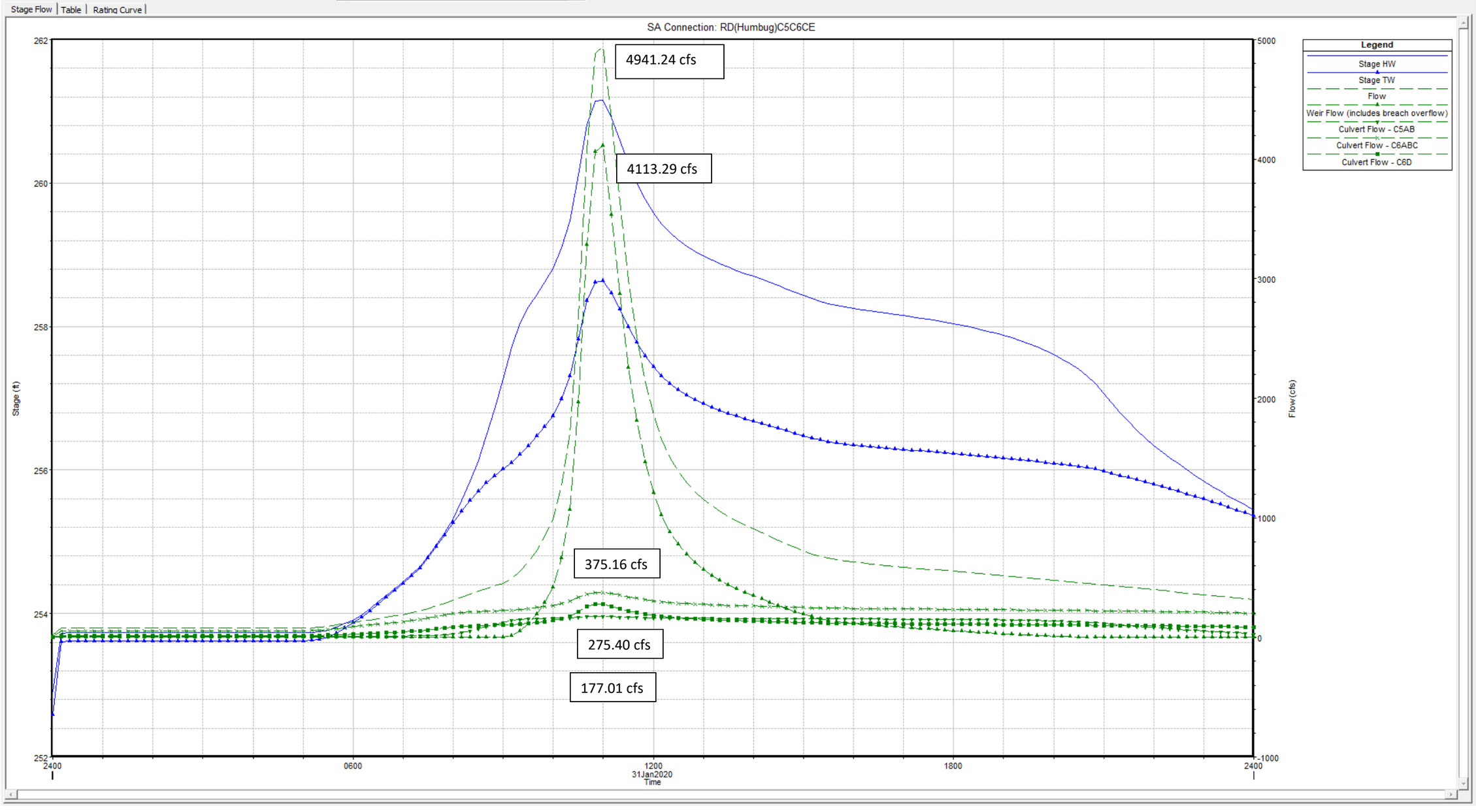
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	261.15	31Jan2020 1100	
2	TW Stage	258.64	31Jan2020 1100	
3	Flow	4941.24	31Jan2020 1100	1303.78

RD(Humbug)C5C6CE

Reload Data



Post Hydrographs at Existing Connections (2yr)

DRAFT

Exhibit L.1.2

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Dawncrest)C1B

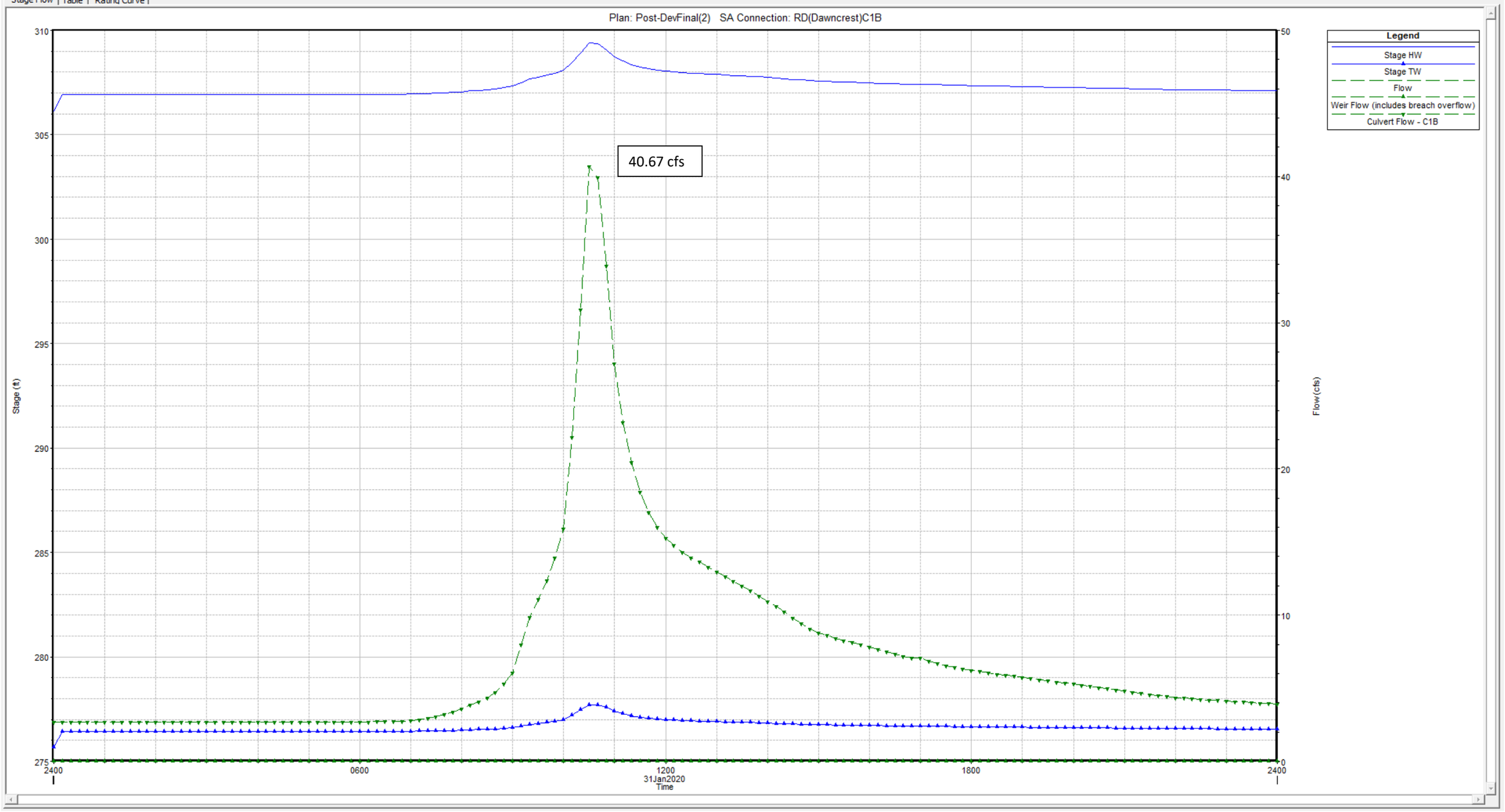
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	309.40	31Jan2020 1030	
2	TW Stage	277.71	31Jan2020 1030	
3	Flow	40.67	31Jan2020 1030	14.53

RD(Dawncrest)C1B

Reload Data



Post Hydrographs at Existing Connections (2yr)

DRAFT

Exhibit L.1.2

Stage and Flow Hydrographs

File Type Options Help

Conn: RDC1A

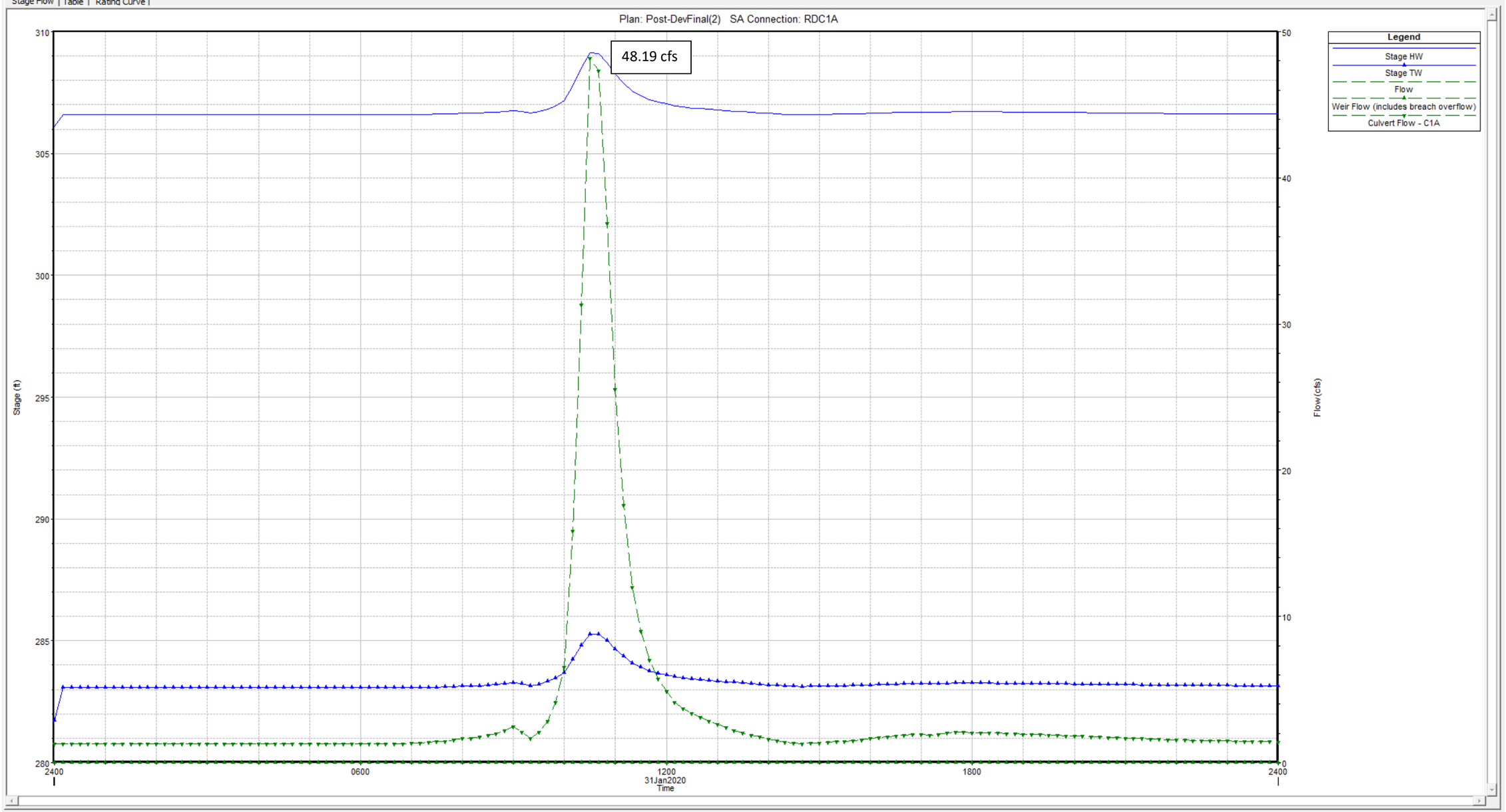
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	309.14	31Jan2020 1030	
2	TW Stage	285.26	31Jan2020 1030	
3	Flow	48.19	31Jan2020 1030	6.73

Reload Data

RDC1A



Post Hydrographs at Existing Connections (2yr)

DRAFT

Exhibit L.1.2

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(PotterN)C1-C3

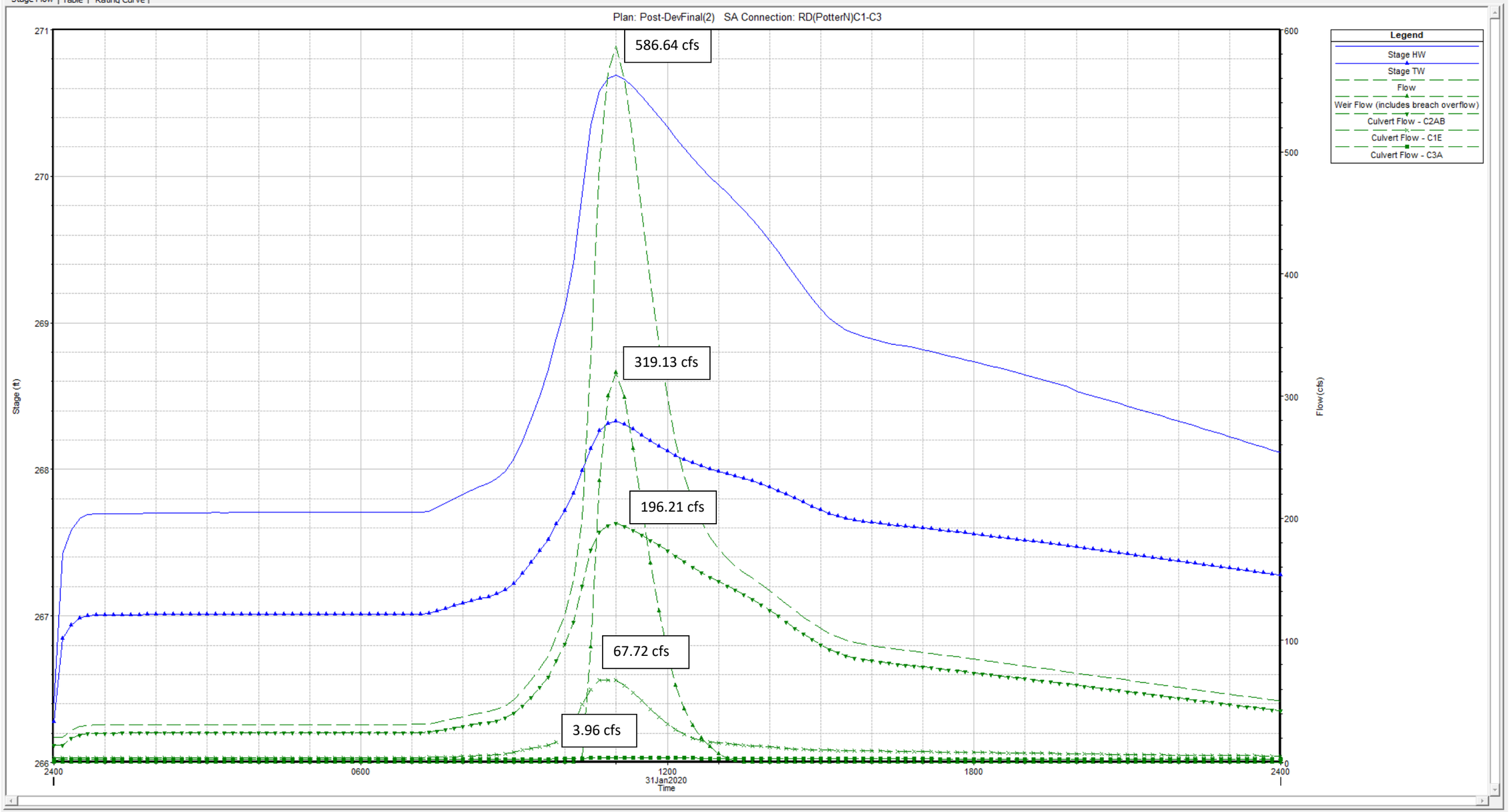
Plot Stage | Plot Flow | Obs Stage | Obs Flow | Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	270.69	31Jan2020 1100	
2	TW Stage	268.33	31Jan2020 1100	
3	Flow	586.64	31Jan2020 1100	194.56

Reload Data

RD(PotterN)C1-C3



Post Hydrographs at Existing Connections (2yr)

DRAFT

Exhibit L.1.2

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(PotterS)C4

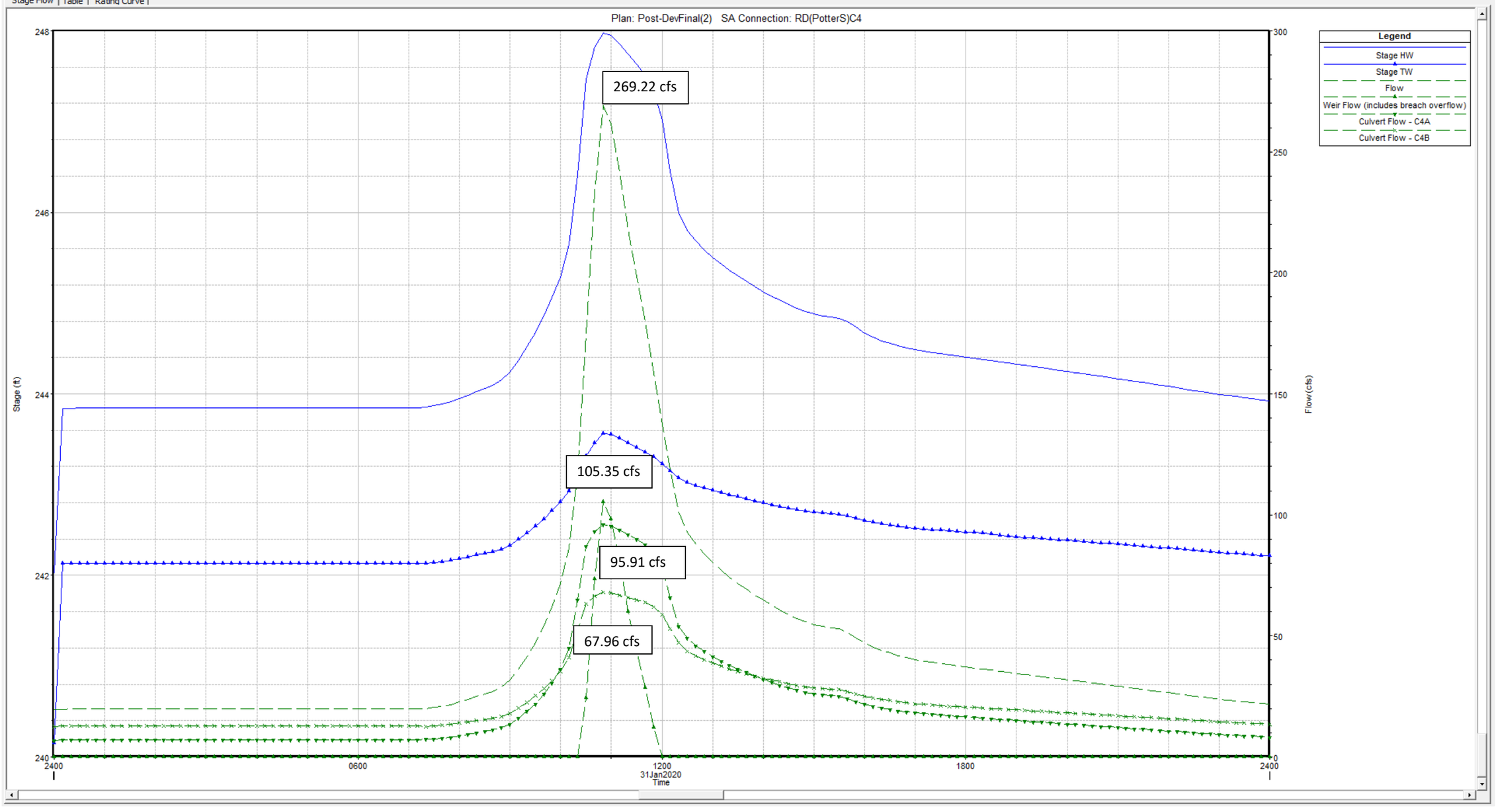
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	247.98	31Jan2020 1050	
2	TW Stage	243.56	31Jan2020 1050	
3	Flow	269.22	31Jan2020 1050	94.94

RD(PotterS)C4

Reload Data



Post Hydrographs at Existing Connections (2yr)

DRAFT

Exhibit L.1.2

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Humbug)C5C6CE

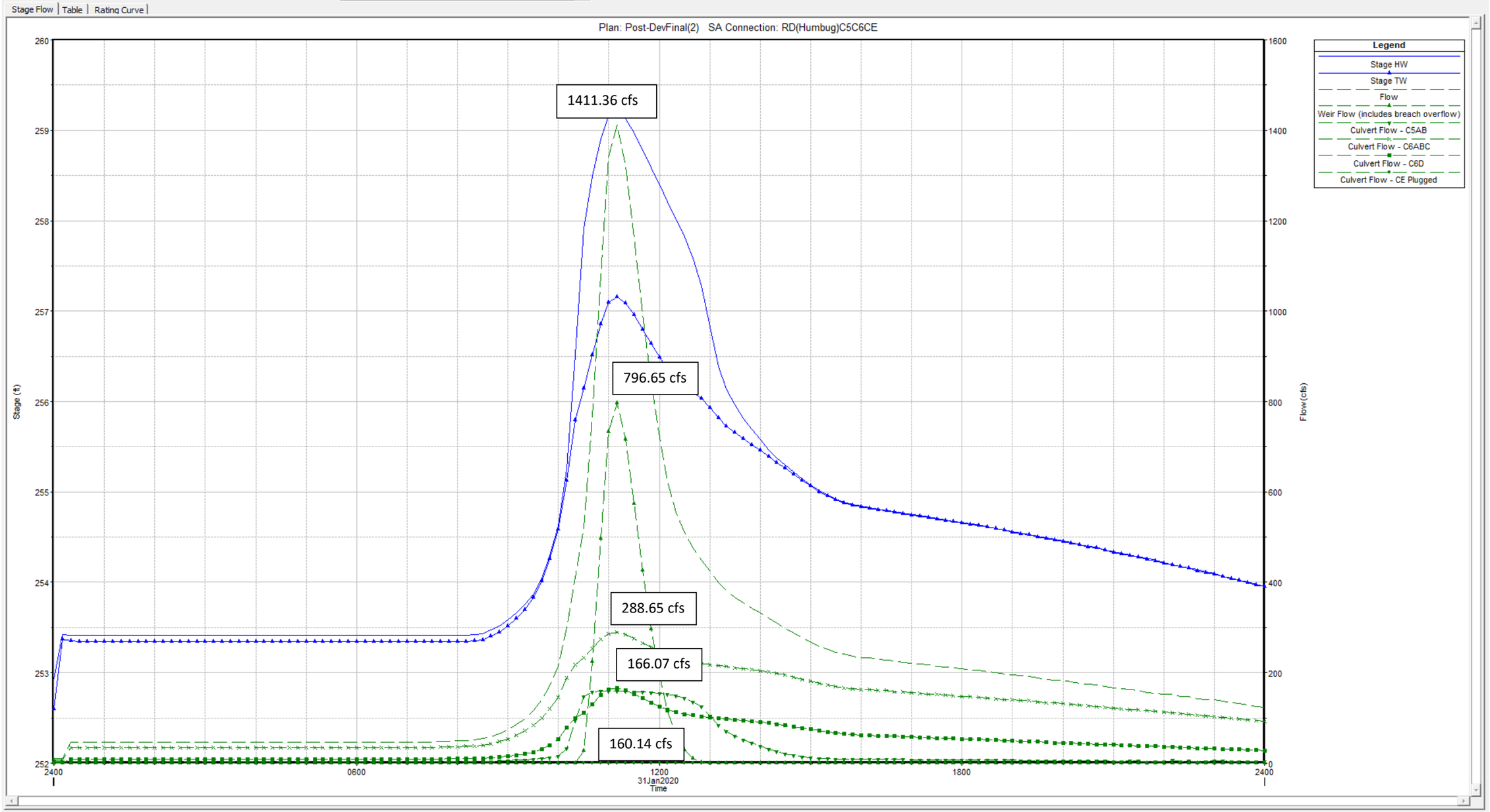
Plot Stage | Plot Flow | Obs Stage | Obs Flow | Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	259.22	31Jan2020 1110	
2	TW Stage	257.16	31Jan2020 1110	
3	Flow	1411.36	31Jan2020 1110	430.73

RD(Humbug)C5C6CE

Reload Data



Post Hydrographs at Existing Connections (2yr) **Exhibit L.1.2**

Post Hydrographs at Existing Connections (10yr)

DRAFT

Exhibit L.1.2

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Dawncrest)C1B

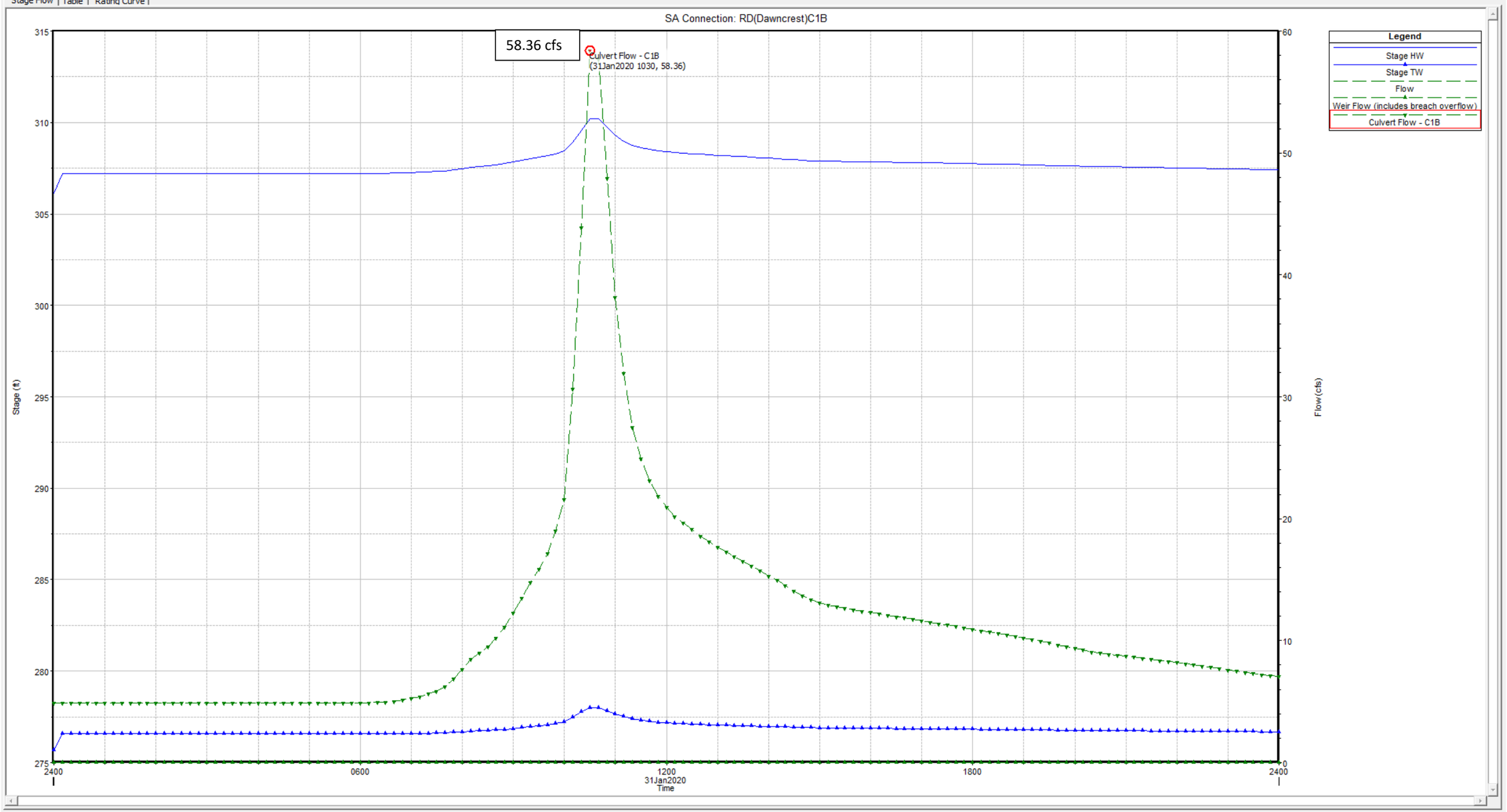
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	310.22	31Jan2020 1030	
2	TW Stage	278.00	31Jan2020 1030	
3	Flow	58.36	31Jan2020 1030	22.85

RD(Dawncrest)C1B

Reload Data



Post Hydrographs at Existing Connections (10yr)

DRAFT

Exhibit L.1.2

Stage and Flow Hydrographs

File Type Options Help

Conn: RDC1A

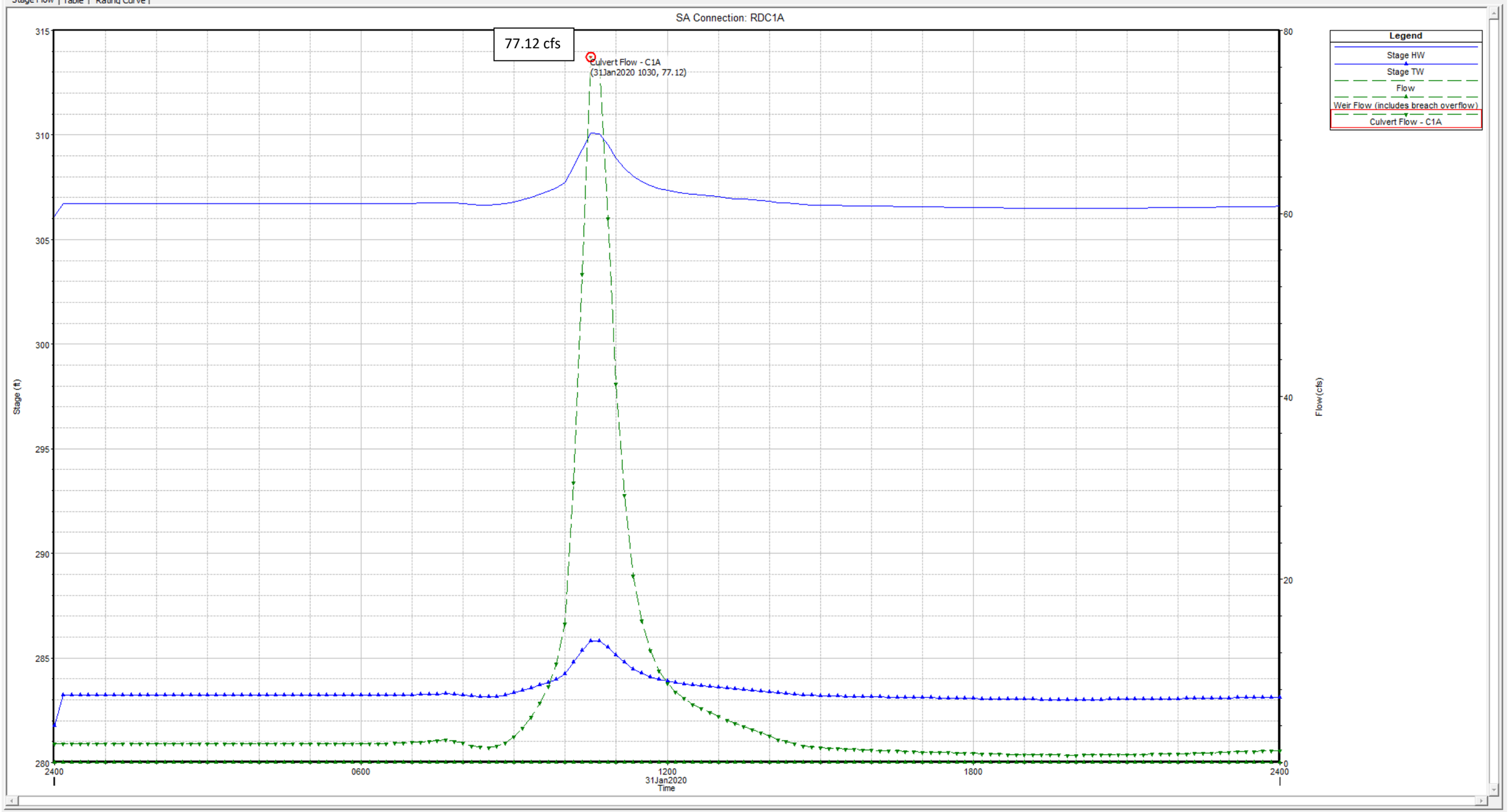
Plot Stage | Plot Flow | Obs Stage | Obs Flow | Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	310.08	31Jan2020 1030	
2	TW Stage	285.83	31Jan2020 1030	
3	Flow	77.12	31Jan2020 1030	10.01

Reload Data

RDC1A



Post Hydrographs at Existing Connections (10yr)

DRAFT

Exhibit L.1.2

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(PotterN)C1-C3

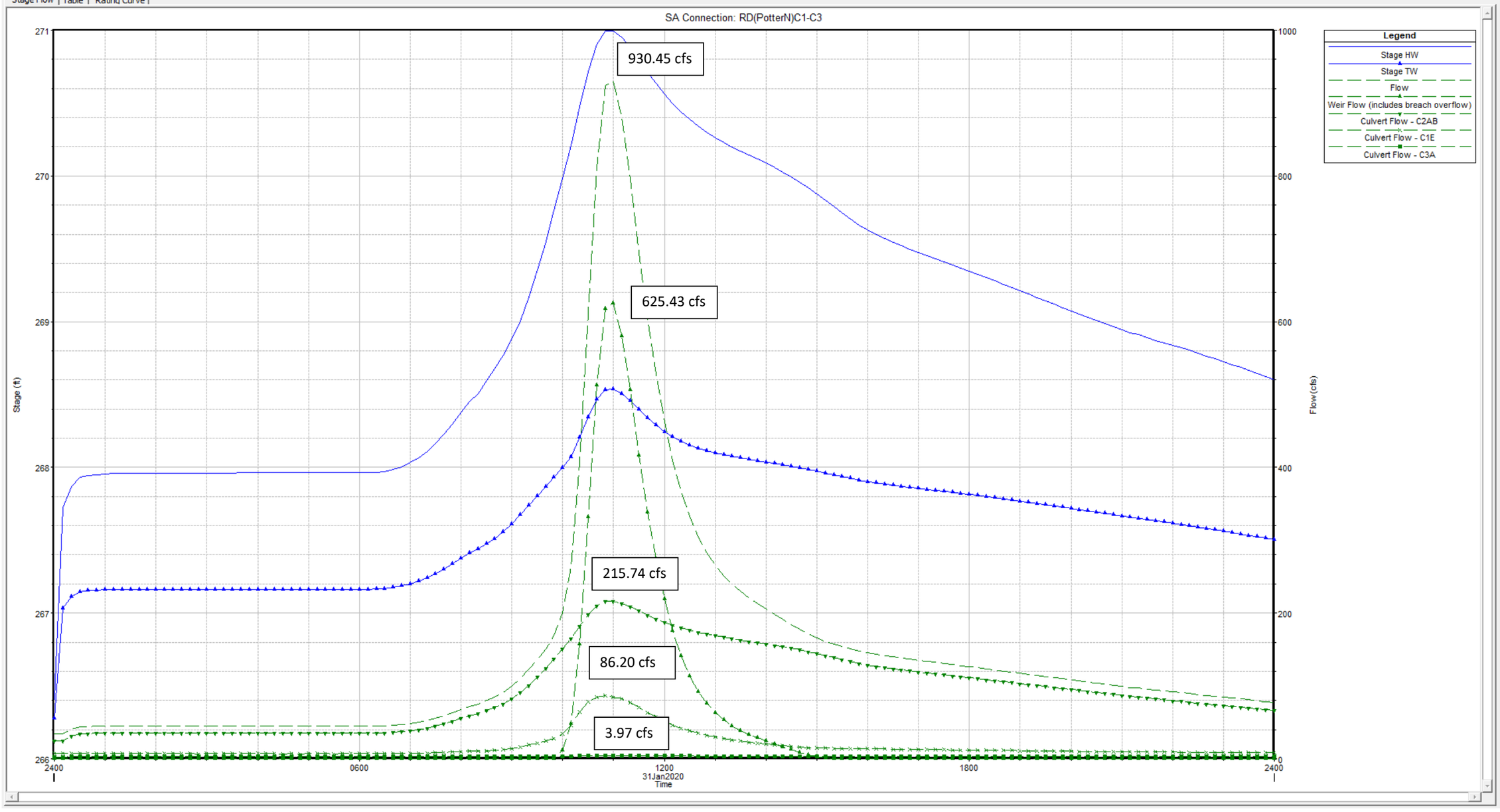
Plot Stage | Plot Flow | Obs Stage | Obs Flow | Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	271.00	31Jan2020 1100	
2	TW Stage	268.54	31Jan2020 1100	
3	Flow	930.45	31Jan2020 1100	303.70

Reload Data

RD(PotterN)C1-C3



Post Hydrographs at Existing Connections (10yr)

DRAFT

Exhibit L.1.2

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(PotterS)C4

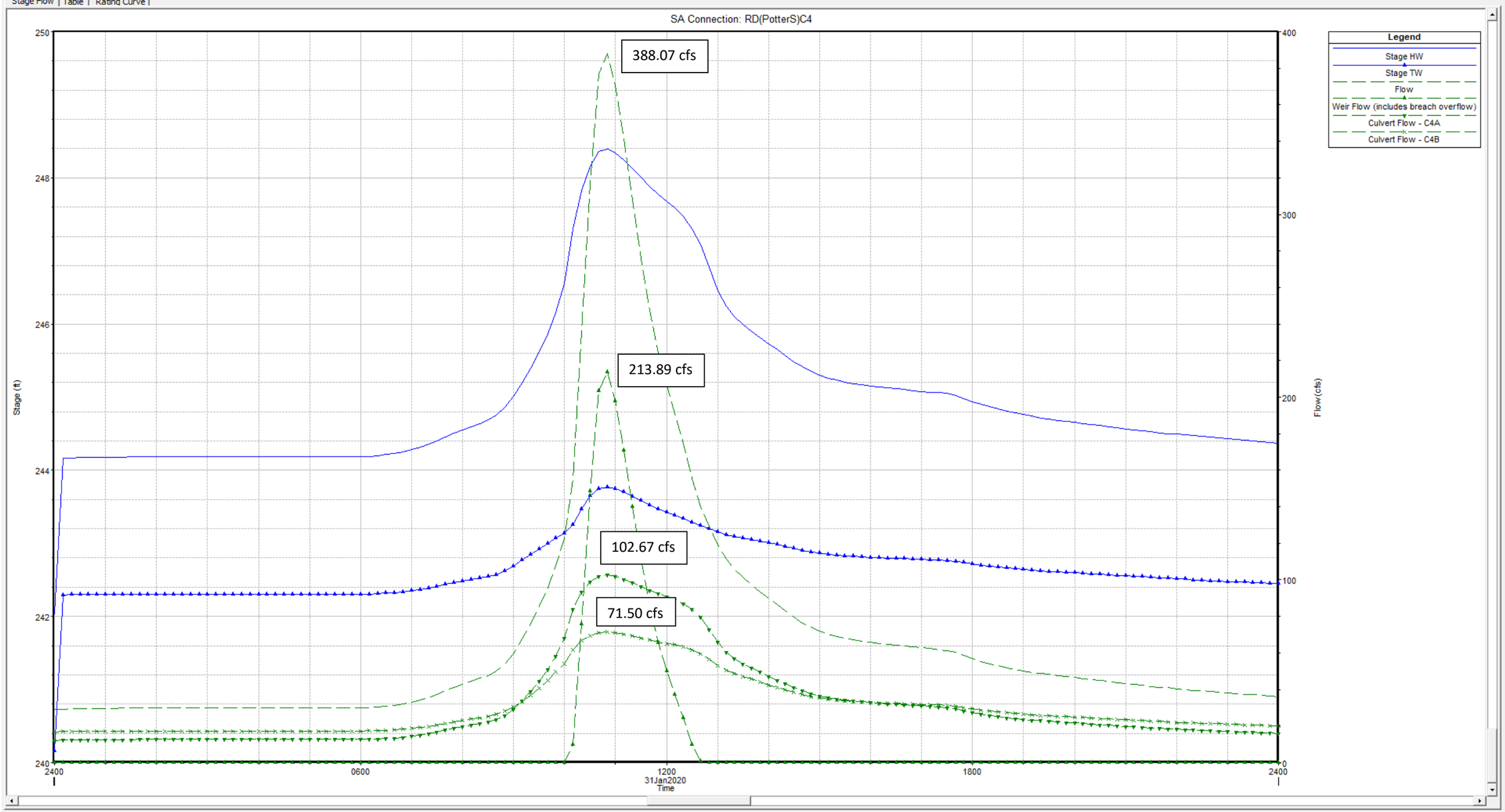
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	248.39	31Jan2020 1050	
2	TW Stage	243.77	31Jan2020 1050	
3	Flow	388.07	31Jan2020 1050	144.68

RD(PotterS)C4

Reload Data



Post Hydrographs at Existing Connections (10yr)

DRAFT

Exhibit L.1.2

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Humbug)C5C6CE

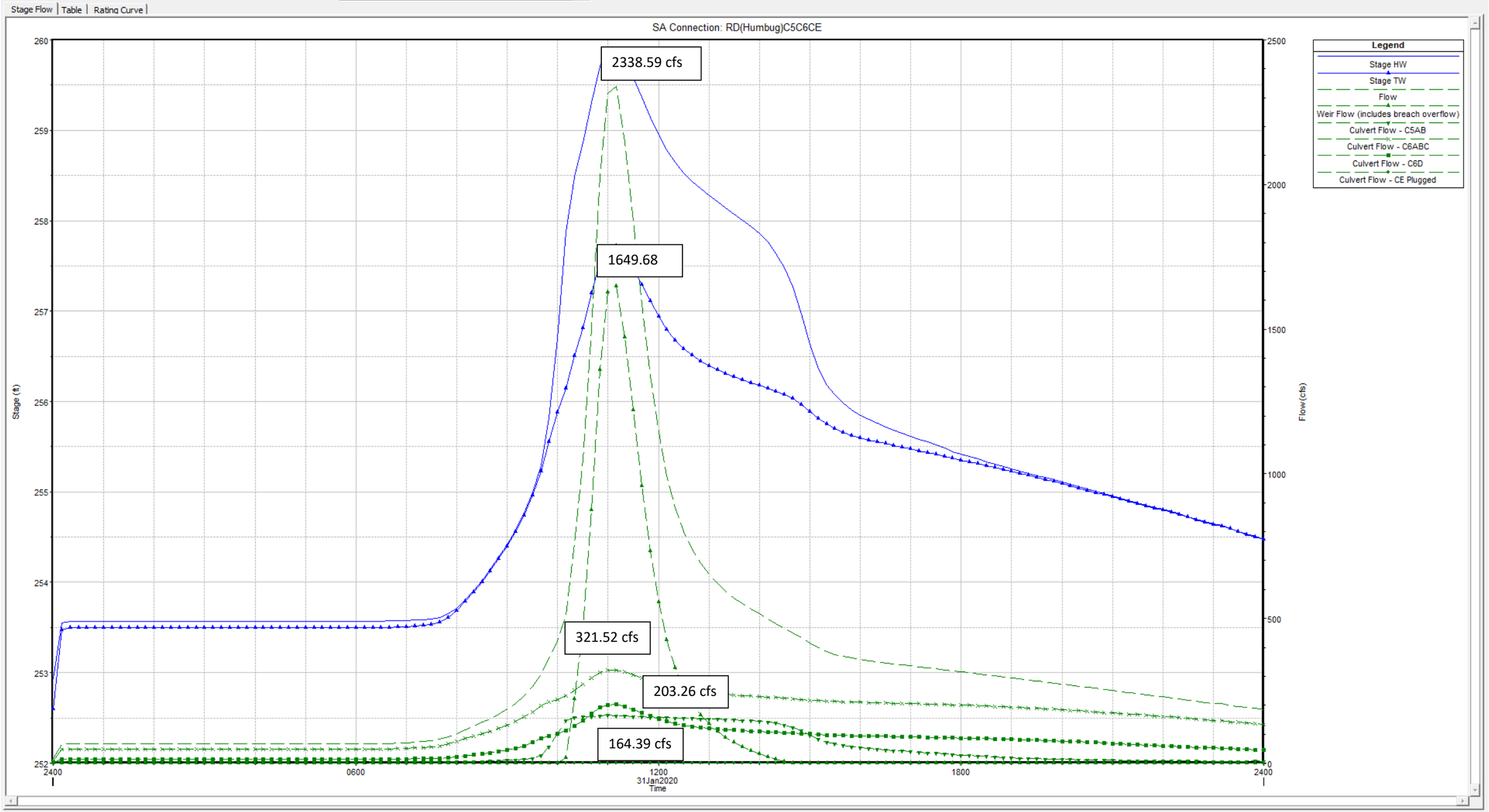
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	259.90	31Jan2020 1110	
2	TW Stage	257.72	31Jan2020 1110	
3	Flow	2338.59	31Jan2020 1110	697.49

RD(Humbug)C5C6CE

Reload Data



Post Hydrographs at Existing Connections (10yr) **Exhibit L.1.2**

Post Hydrographs at Existing Connections (100yr)

DRAFT

Exhibit L.1.2

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Dawncrest)C1B

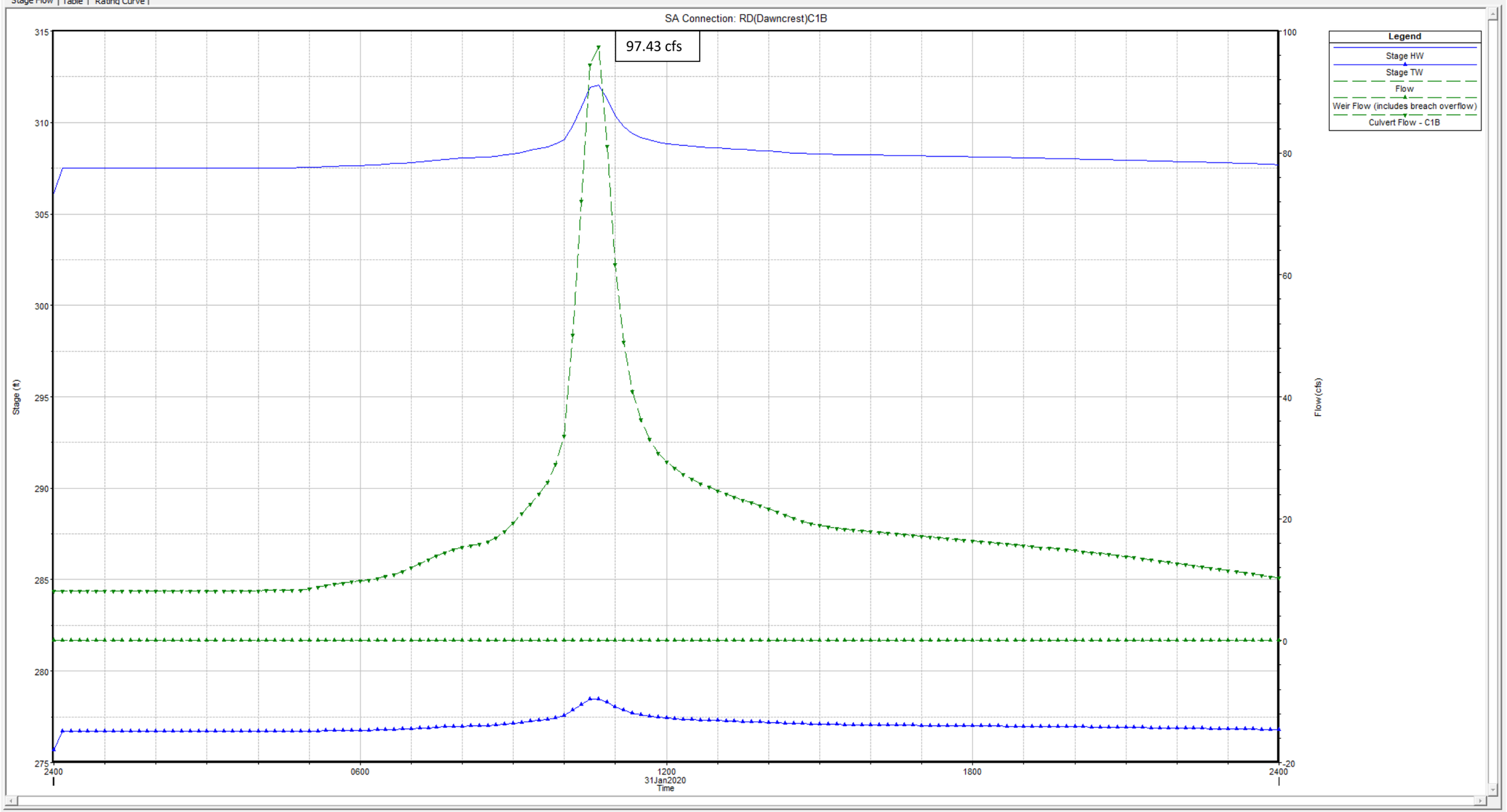
Plot Stage | Plot Flow | Obs Stage | Obs Flow | Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	312.06	31Jan2020 1040	
2	TW Stage	278.49	31Jan2020 1040	
3	Flow	97.42	31Jan2020 1040	35.79

RD(Dawncrest)C1B

Reload Data



Post Hydrographs at Existing Connections (100yr)

DRAFT

Exhibit L.1.2

Stage and Flow Hydrographs

File Type Options Help

Conn: RDC1A

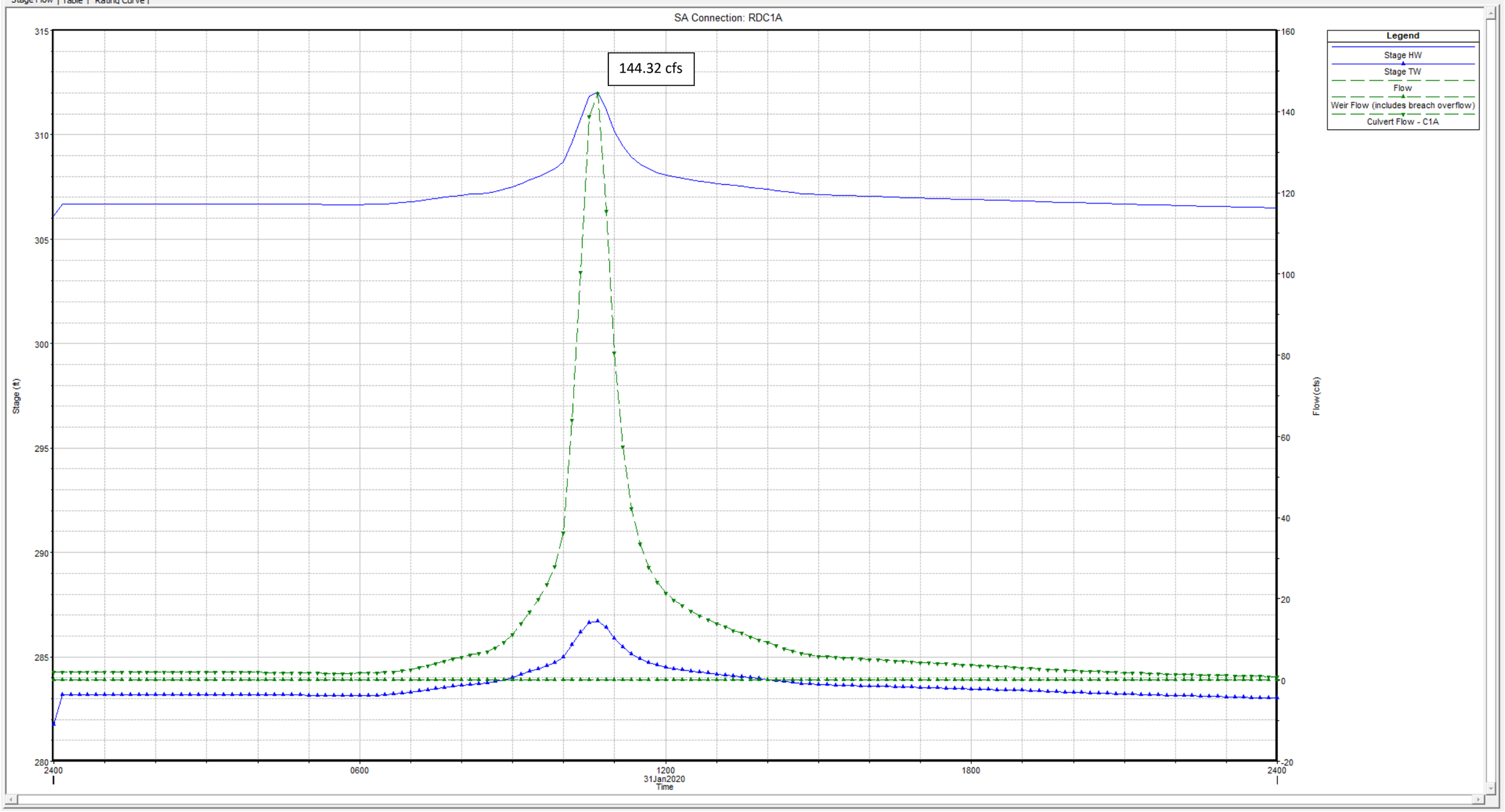
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	312.02	31Jan2020 1040	
2	TW Stage	286.71	31Jan2020 1040	
3	Flow	144.32	31Jan2020 1040	20.76

Reload Data

RDC1A



Post Hydrographs at Existing Connections (100yr)

DRAFT

Exhibit L.1.2

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(PotterN)C1-C3

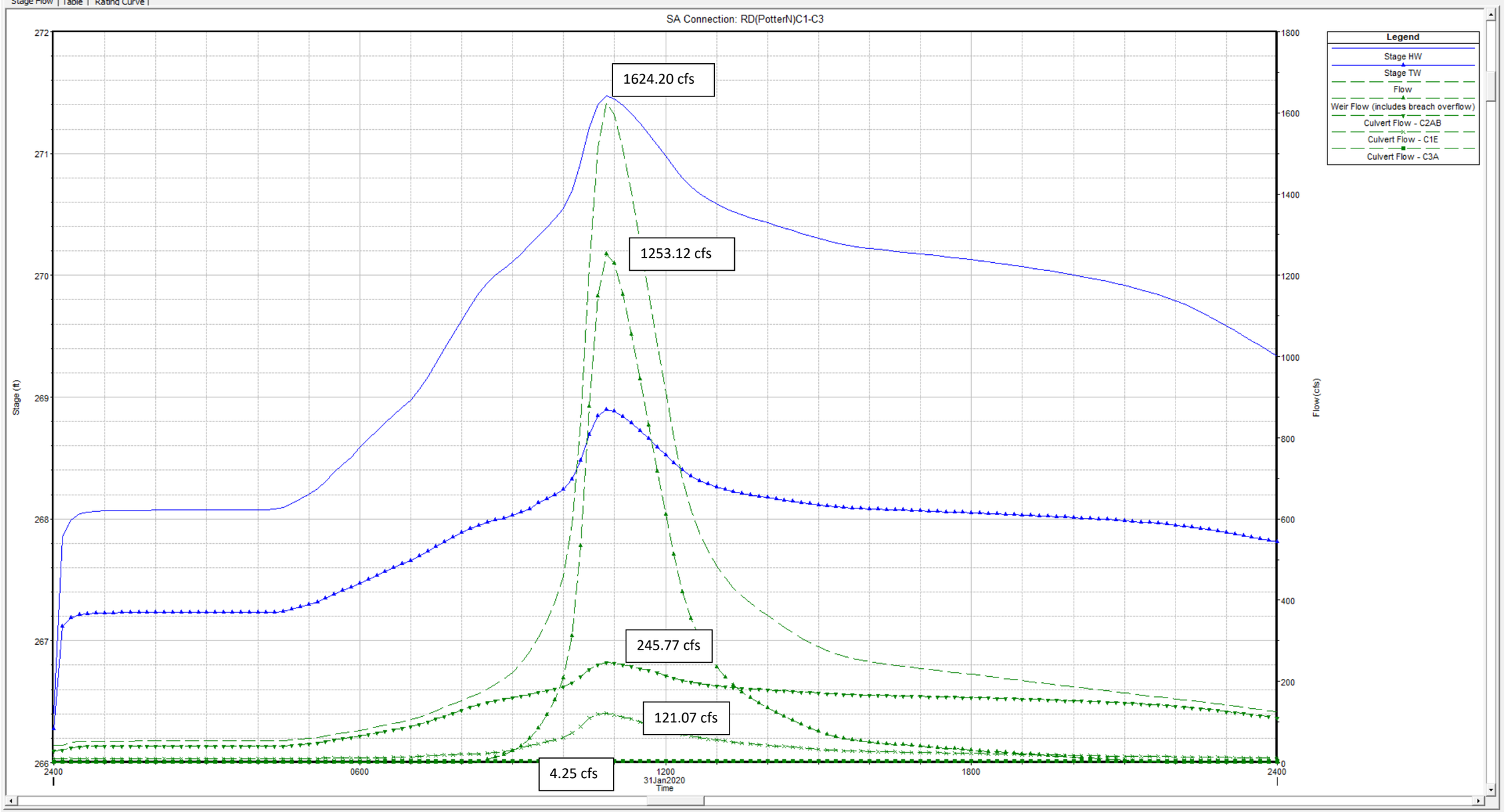
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	271.47	31Jan2020 1050	
2	TW Stage	268.90	31Jan2020 1050	
3	Flow	1624.20	31Jan2020 1050	545.95

RD(PotterN)C1-C3

Reload Data



Post Hydrographs at Existing Connections (100yr)

DRAFT

Exhibit L.1.2

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(PotterS)C4

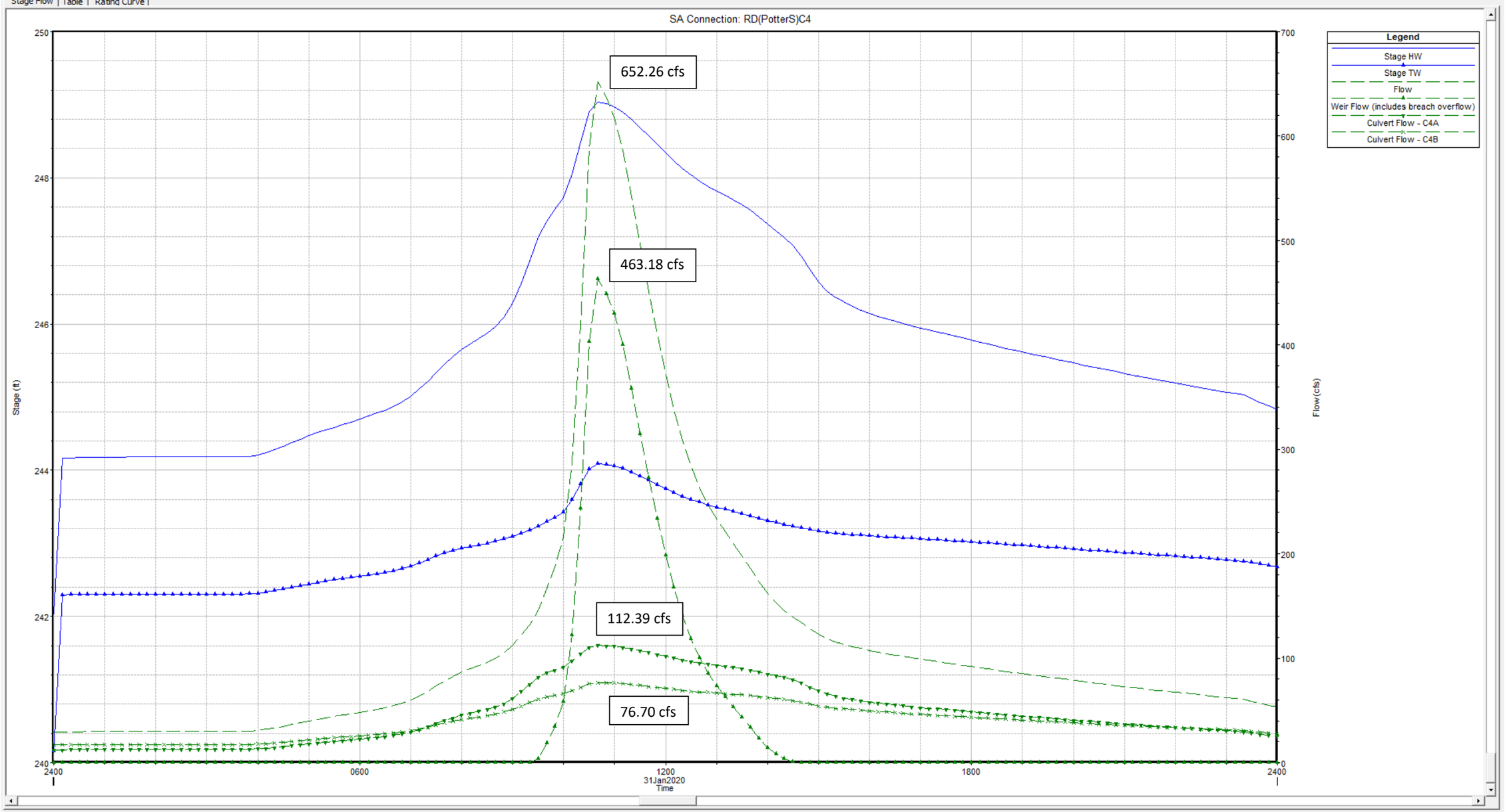
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	249.04	31Jan2020 1040	
2	TW Stage	244.09	31Jan2020 1040	
3	Flow	652.26	31Jan2020 1040	244.03

RD(PotterS)C4

Reload Data



Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Humbug)C5C6CE

Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	260.92	31Jan2020 1100	
2	TW Stage	258.50	31Jan2020 1100	
3	Flow	4354.89	31Jan2020 1100	1320.82

RD(Humbug)C5C6CE

Reload Data

SA Connection: RD(Humbug)C5C6CE

Legend
- Stage HW
- Stage TW
- Flow
- Weir Flow (includes breach overflow)
- Culvert Flow - C5AB
- Culvert Flow - C6ABC
- Culvert Flow - C6D
- Culvert Flow - CE Plugged

4354.88 cfs

3555.42 cfs

363.62 cfs

262.52 cfs

173.33 cfs

Stage (ft): 262, 260, 258, 256, 254, 252

Flow (cfs): 5000, 4000, 3000, 2000, 1000, 0

Time: 2400, 0600, 1200 31Jan2020, 1800, 2400

Post Hydrographs at Existing Connections (100yr) **Exhibit L.1.2**

Post Hydrographs at Proposed Connections (2yr)

DRAFT

Exhibit L.2.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Collector)CP2

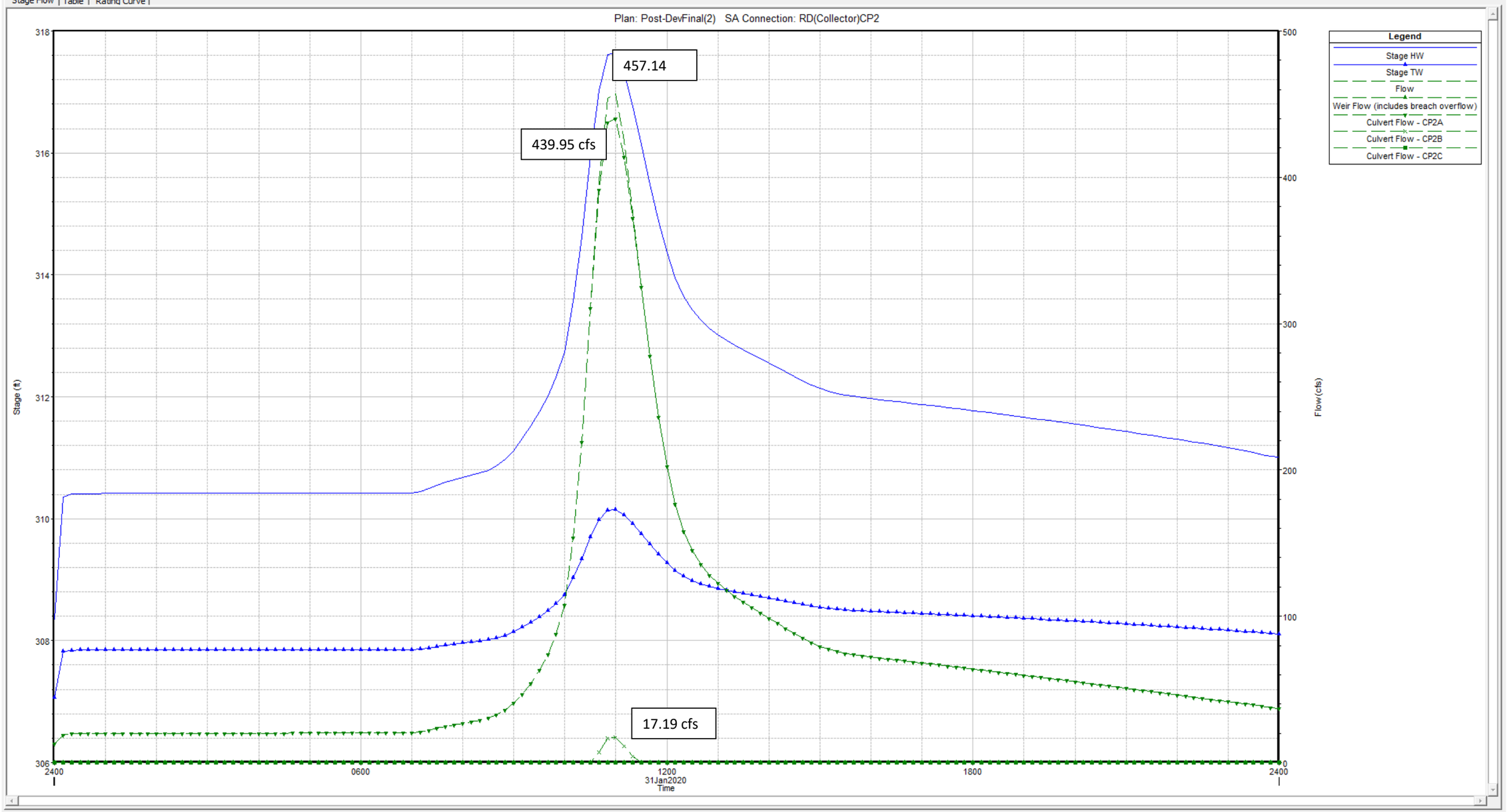
Plot Stage | Plot Flow | Obs Stage | Obs Flow | Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	317.65	31Jan2020 1100	
2	TW Stage	310.15	31Jan2020 1100	
3	Flow	457.14	31Jan2020 1100	145.14

RD(Collector)CP2

Reload Data



Post Hydrographs at Proposed Connections (2yr)

DRAFT

Exhibit L.2.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Collector)CP3

Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

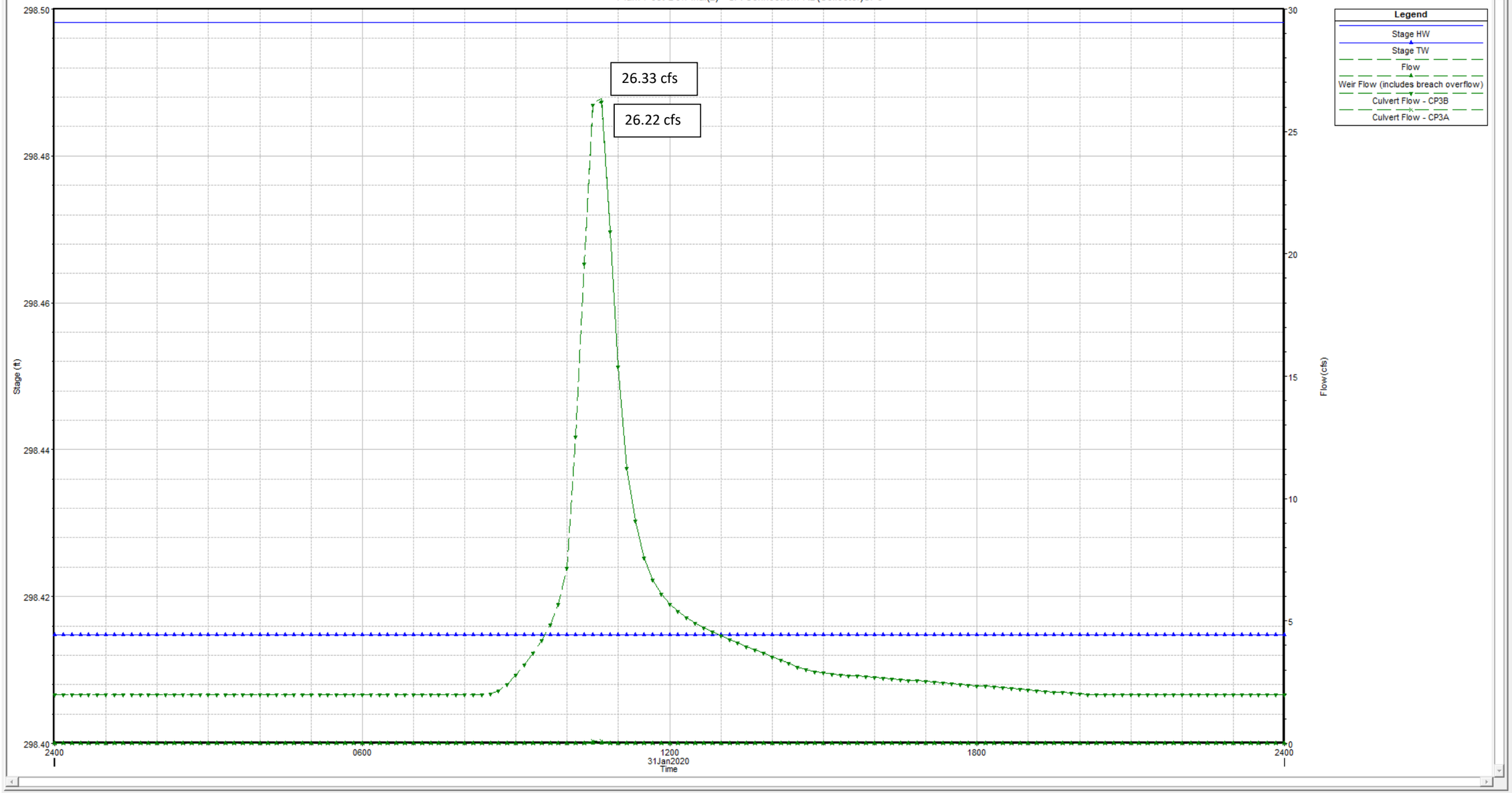
Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	298.50	31Jan2020 0000	
2	TW Stage	298.41	31Jan2020 0000	
3	Flow	26.33	31Jan2020 1040	6.85

Reload Data

RD(Collector)CP3

Plan: Post-DevFinal(2) SA Connection: RD(Collector)CP3



Post Hydrographs at Proposed Connections (2yr)

DRAFT

Exhibit L.2.1

Stage and Flow Hydrographs

File Type Options Help

31Jan2020 20:41:55, 275.99 , 159.83

Conn: RD(Collector)CP4

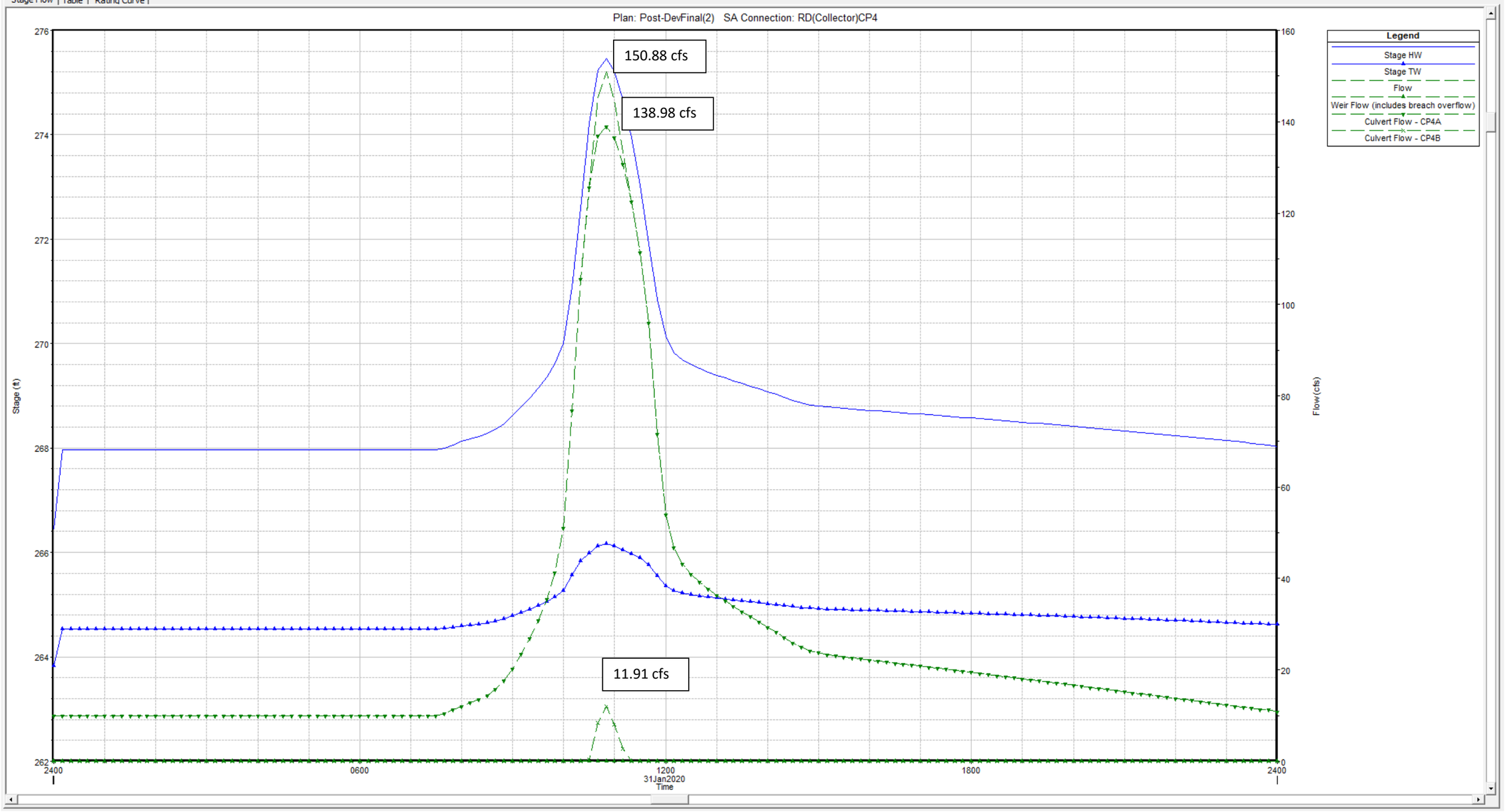
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	275.47	31Jan2020 1050	
2	TW Stage	266.16	31Jan2020 1050	
3	Flow	150.88	31Jan2020 1050	50.19

Reload Data

RD(Collector)CP4



Post Hydrographs at Proposed Connections (2yr)

DRAFT

Exhibit L.2.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RDCollectorCP4T

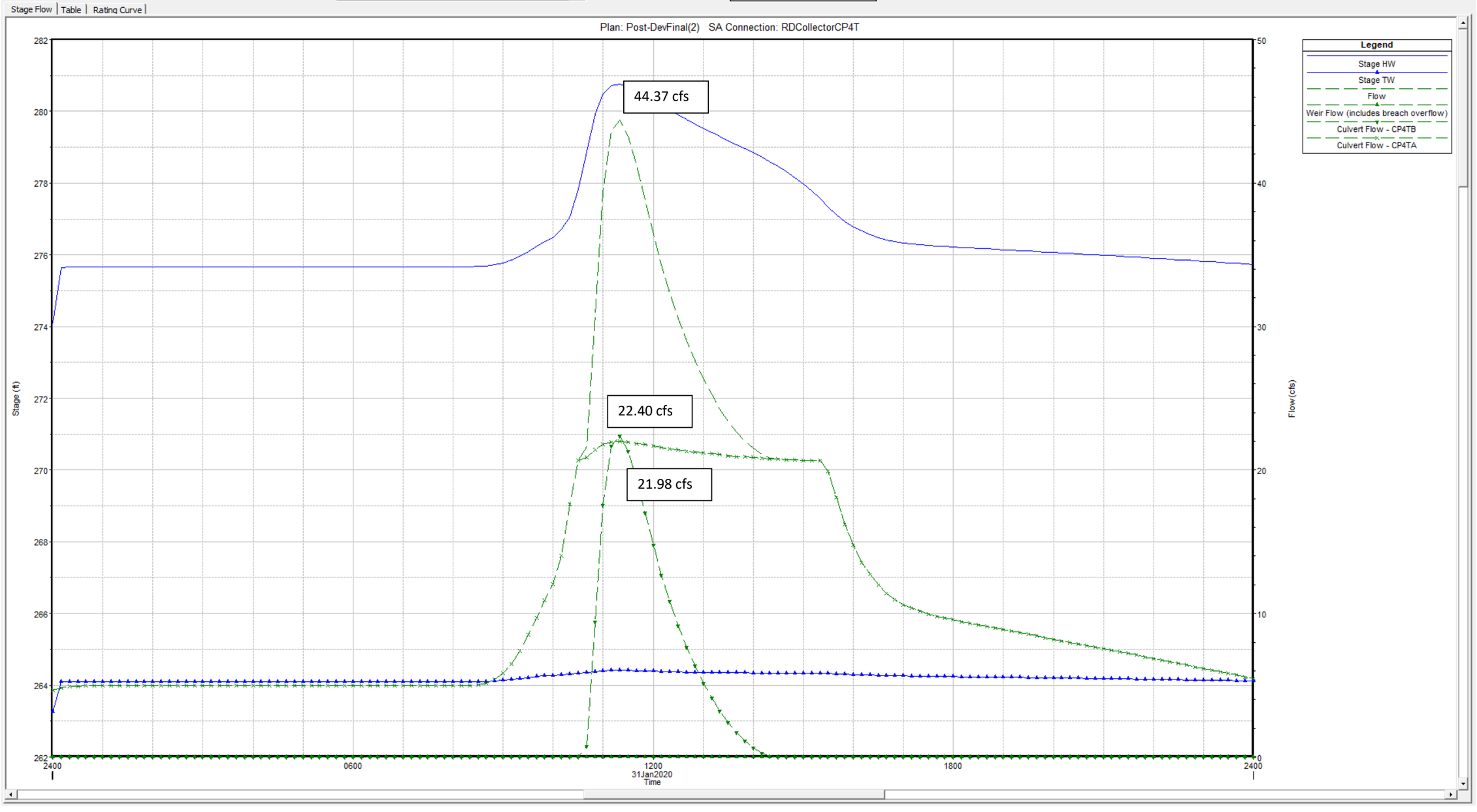
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	280.75	31Jan2020 1120	
2	TW Stage	264.42	31Jan2020 1120	
3	Flow	44.37	31Jan2020 1120	23.03

RD(Collector)CP4T

Reload Data



Post Hydrographs at Proposed Connections (2yr)

DRAFT

Exhibit L.2.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Minor)CP6

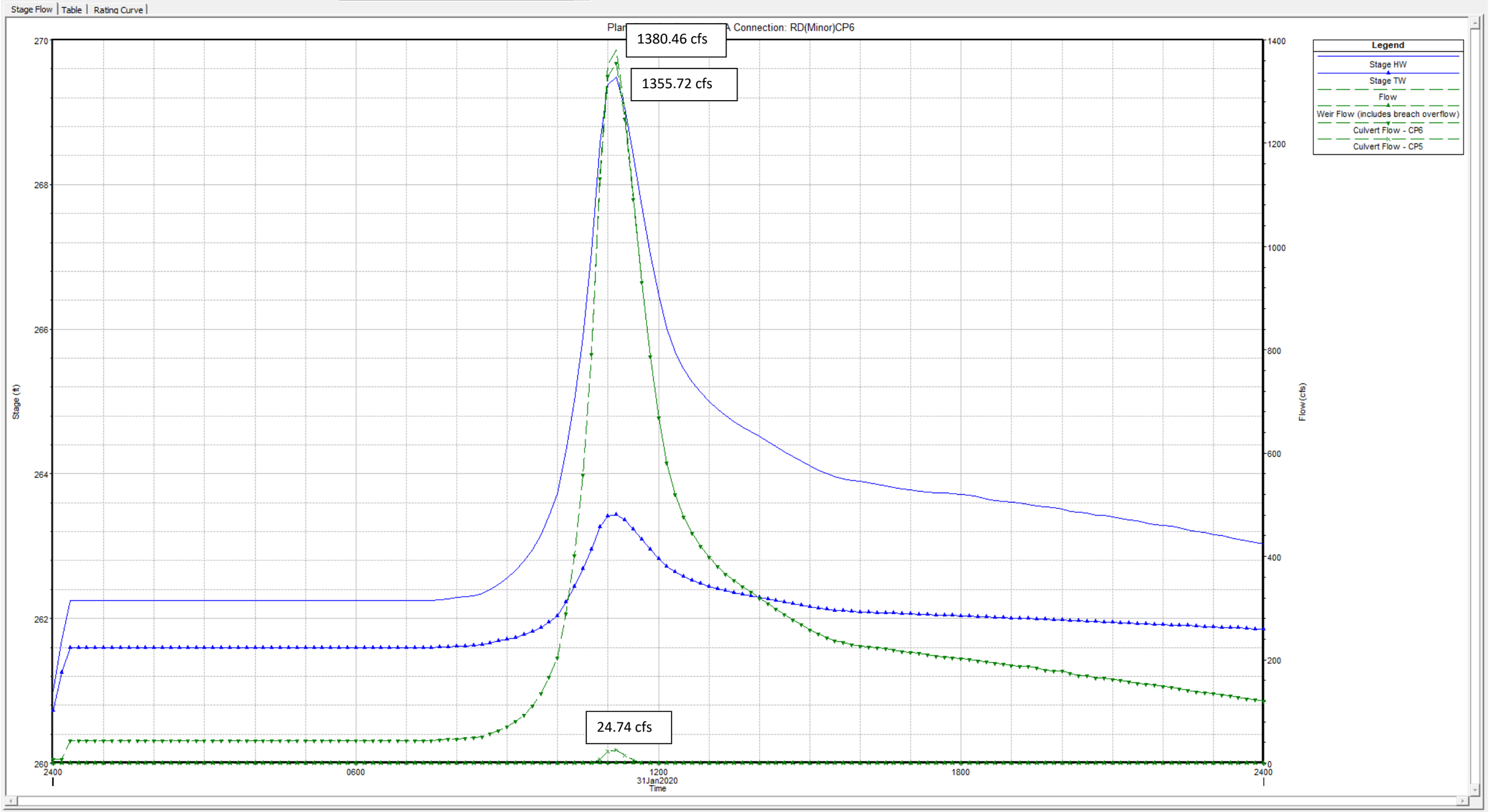
Plot Stage | Plot Flow | Obs Stage | Obs Flow | Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	269.49	31Jan2020 1110	
2	TW Stage	263.44	31Jan2020 1110	
3	Flow	1380.46	31Jan2020 1110	416.21

RD(Minor)CP6

Reload Data



Post Hydrographs at Proposed Connections (2yr) **Exhibit L.2.1**

Post Hydrographs at Proposed Connections (10yr)

DRAFT

Exhibit L.2.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Collector)CP2

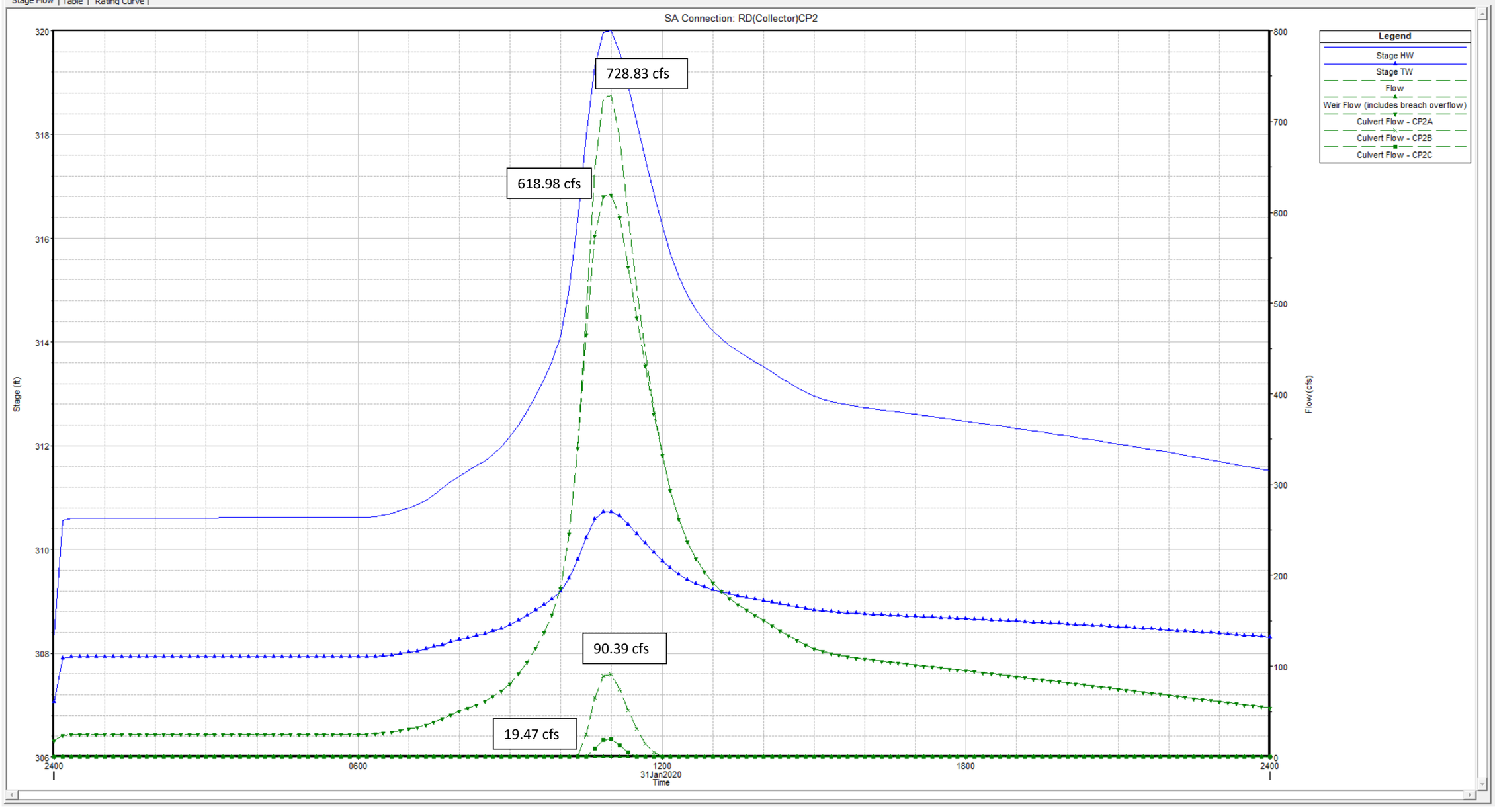
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	320.00	31Jan2020 1100	
2	TW Stage	310.72	31Jan2020 1100	
3	Flow	728.83	31Jan2020 1100	225.23

RD(Collector)CP2

Reload Data



Post Hydrographs at Proposed Connections (10yr)

DRAFT

Exhibit L.2.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Collector)CP3

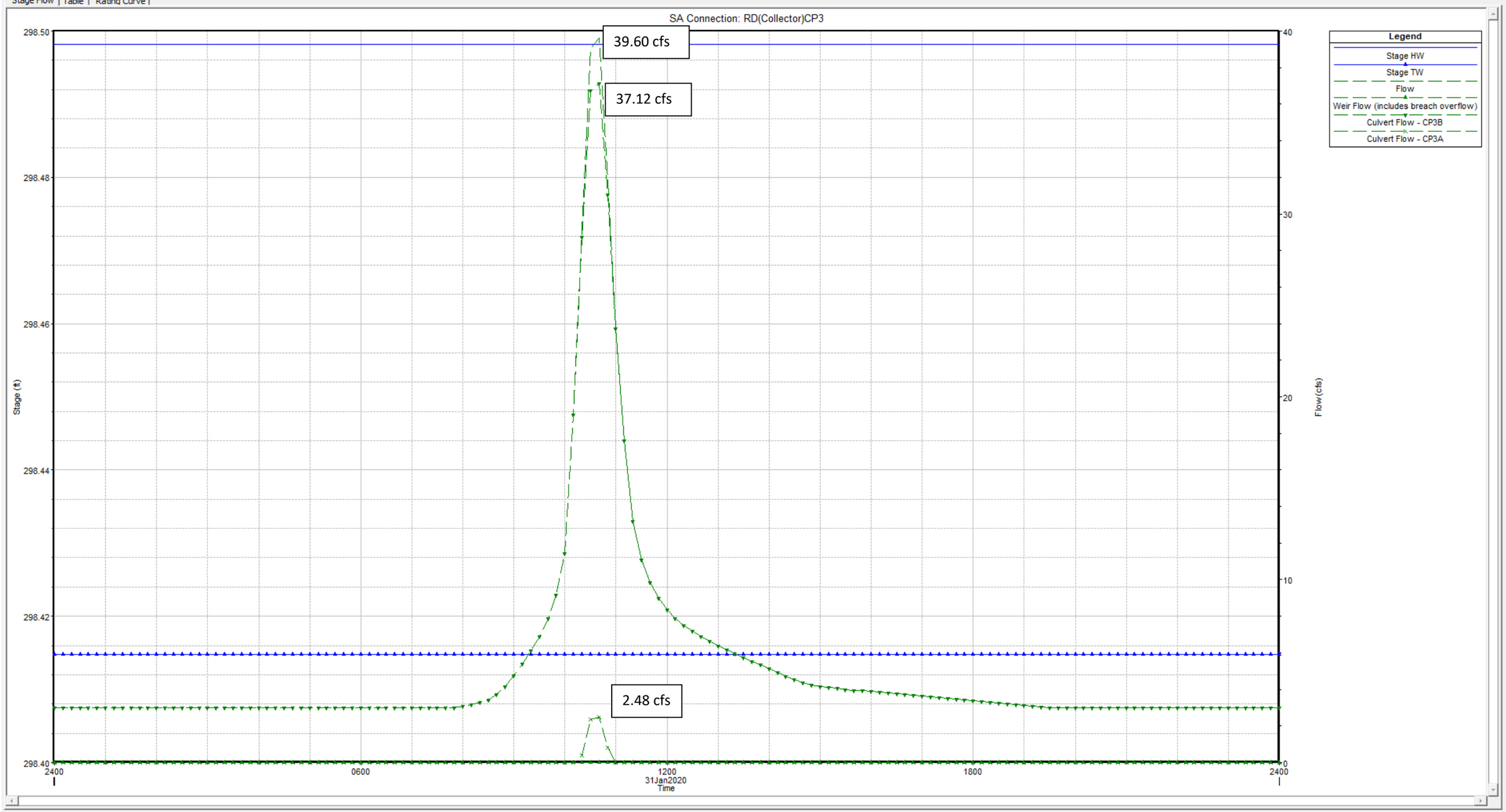
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	298.50	31Jan2020 0000	
2	TW Stage	298.41	31Jan2020 0000	
3	Flow	39.60	31Jan2020 1040	10.26

Reload Data

RD(Collector)CP3



Post Hydrographs at Proposed Connections (10yr)

DRAFT

Exhibit L.2.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Collector)CP4

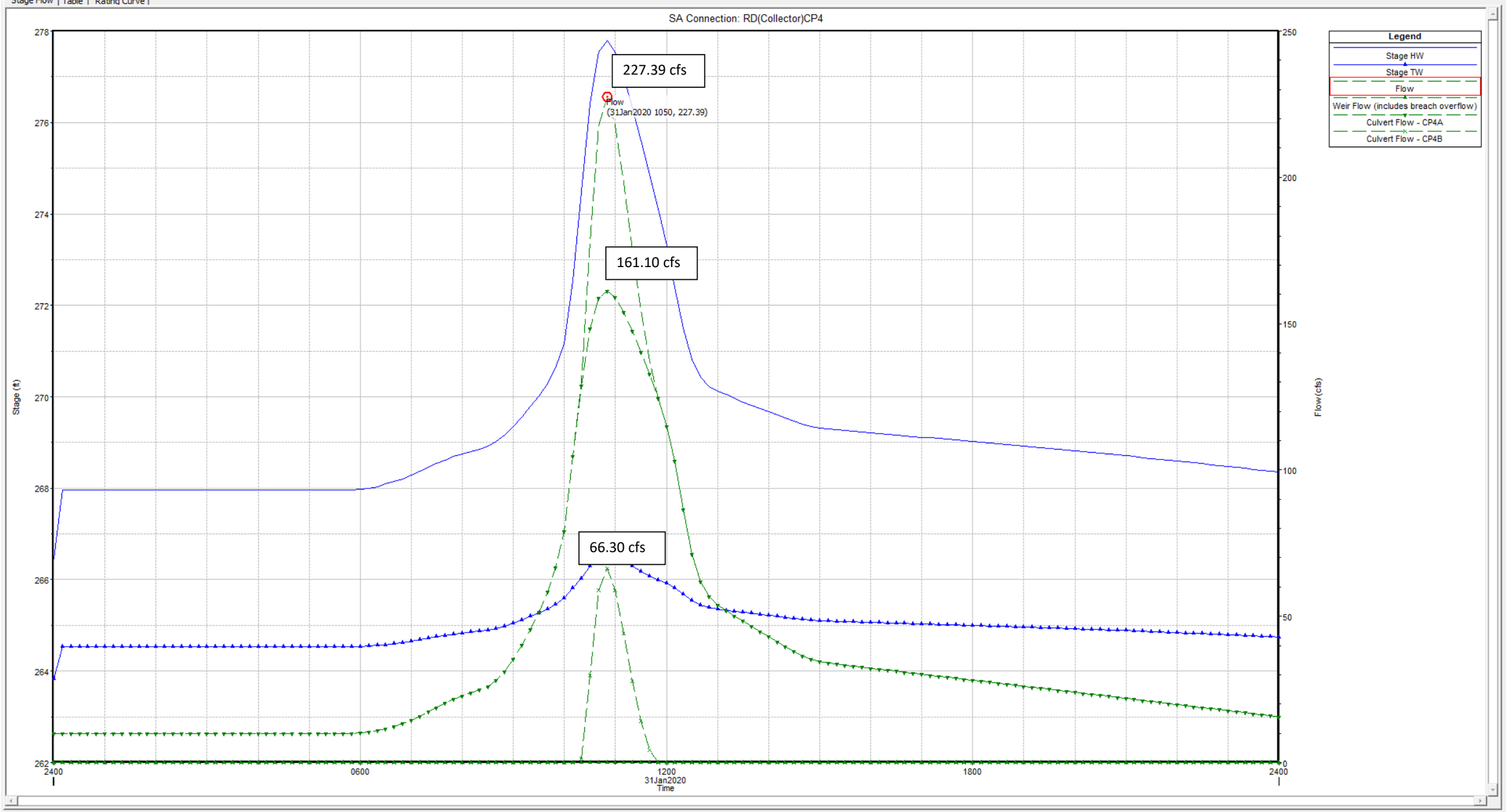
Plot Stage | Plot Flow | Obs Stage | Obs Flow | Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	277.79	31Jan2020 1050	
2	TW Stage	266.56	31Jan2020 1050	
3	Flow	227.39	31Jan2020 1050	73.30

Reload Data

RD(Collector)CP4



Post Hydrographs at Proposed Connections (10yr)

DRAFT

Exhibit L.2.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RDCollectorCP4T

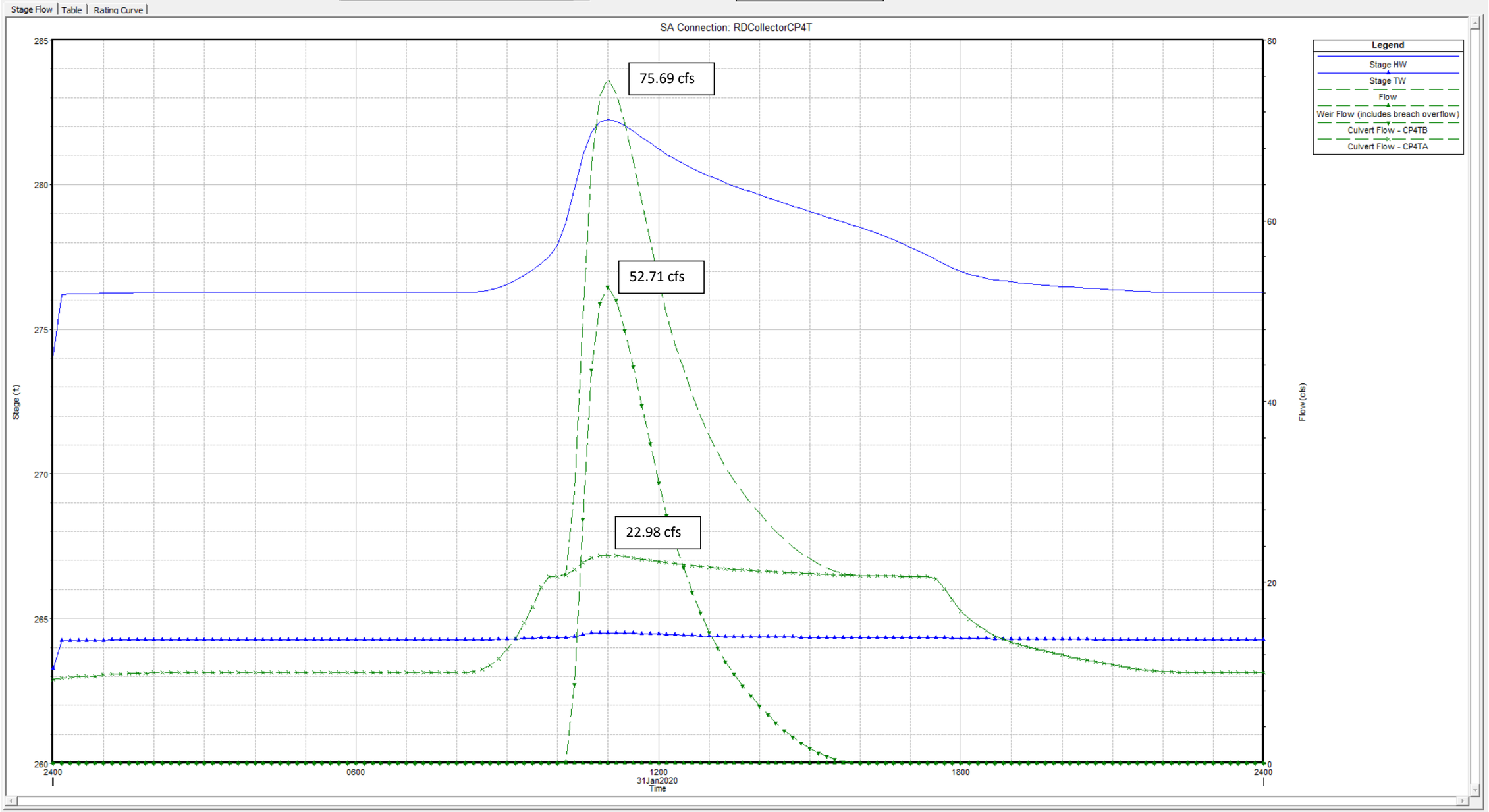
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	282.25	31Jan2020 1100	
2	TW Stage	264.51	31Jan2020 1100	
3	Flow	75.69	31Jan2020 1100	37.41

Reload Data

RD(Collector)CP4T



Post Hydrographs at Proposed Connections (10yr)

DRAFT

Exhibit L.2.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Minor)CP6

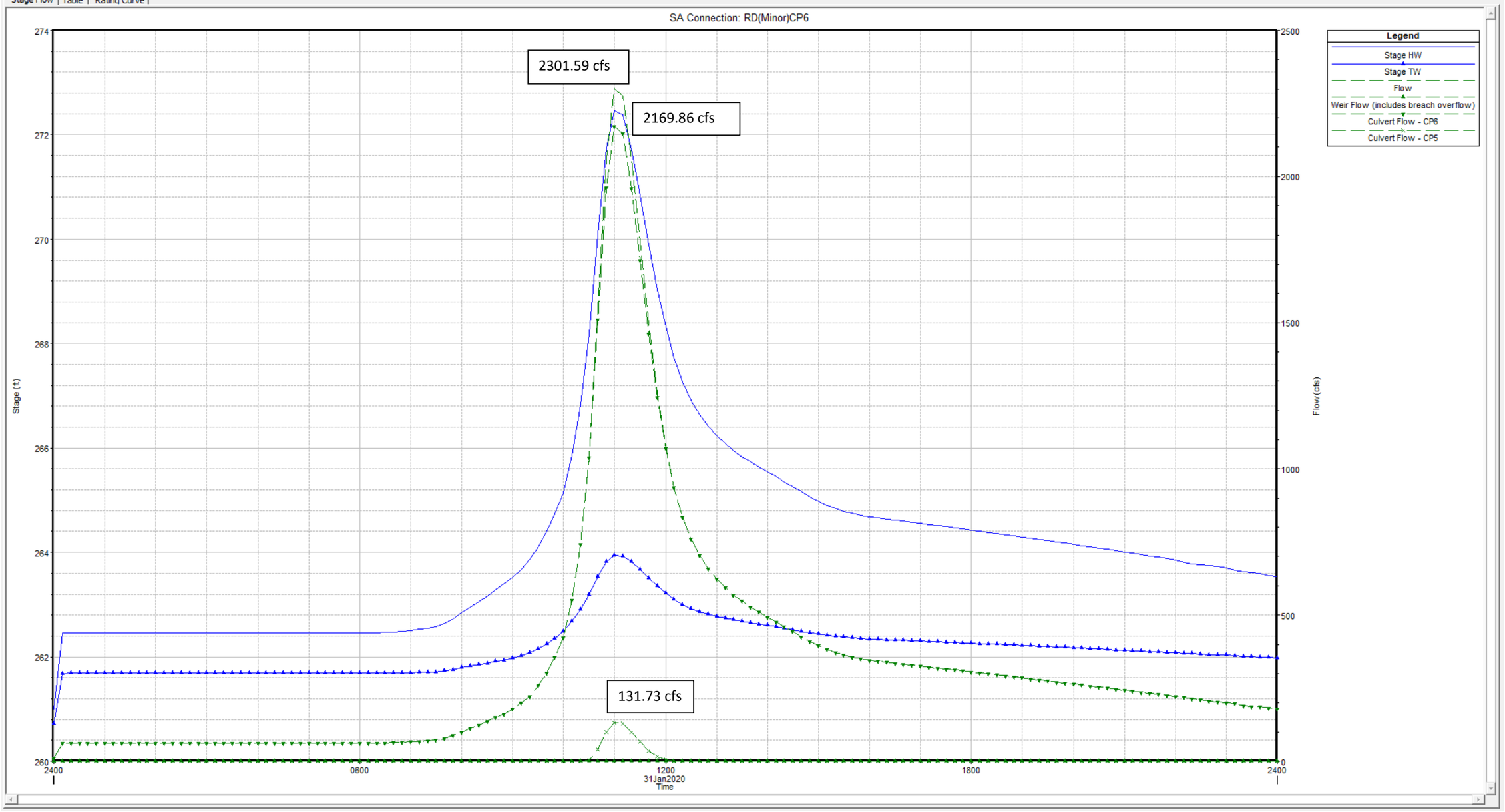
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	272.45	31Jan2020 1100	
2	TW Stage	263.94	31Jan2020 1100	
3	Flow	2301.59	31Jan2020 1100	674.14

Reload Data

RD(Minor)CP6



Post Hydrographs at Proposed Connections (10yr) **Exhibit L.2.1**

Post Hydrographs at Proposed Connections (100yr)

DRAFT

Exhibit L.2.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Collector)CP2

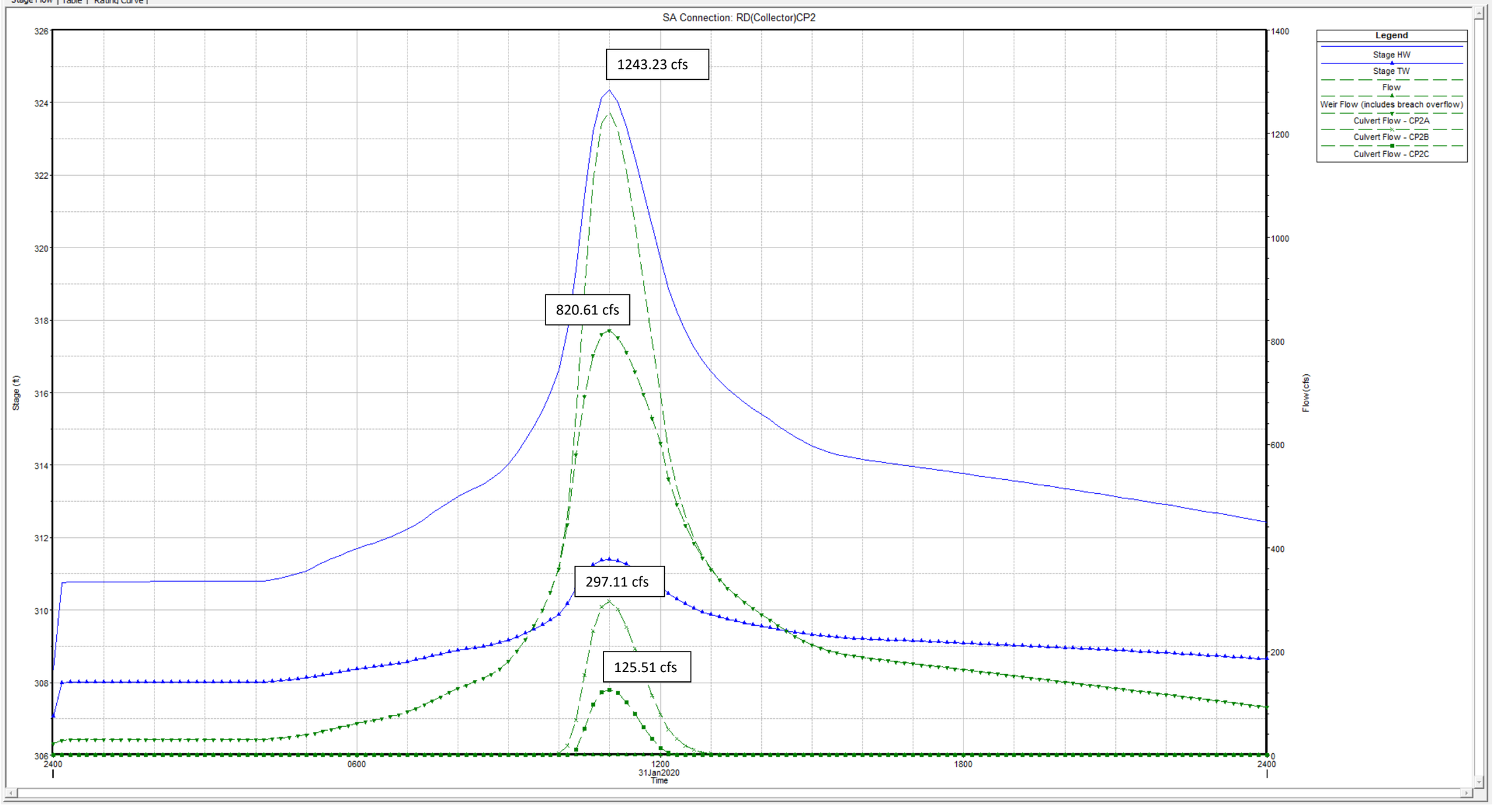
☑ Plot Stage ☑ Plot Flow ☑ Obs Stage ☑ Obs Flow ☑ Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	324.35	31Jan2020 1100	
2	TW Stage	311.40	31Jan2020 1100	
3	Flow	1243.24	31Jan2020 1100	414.10

RD(Collector)CP2

Reload Data



Post Hydrographs at Proposed Connections (100yr)

DRAFT

Exhibit L.2.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Collector)CP3

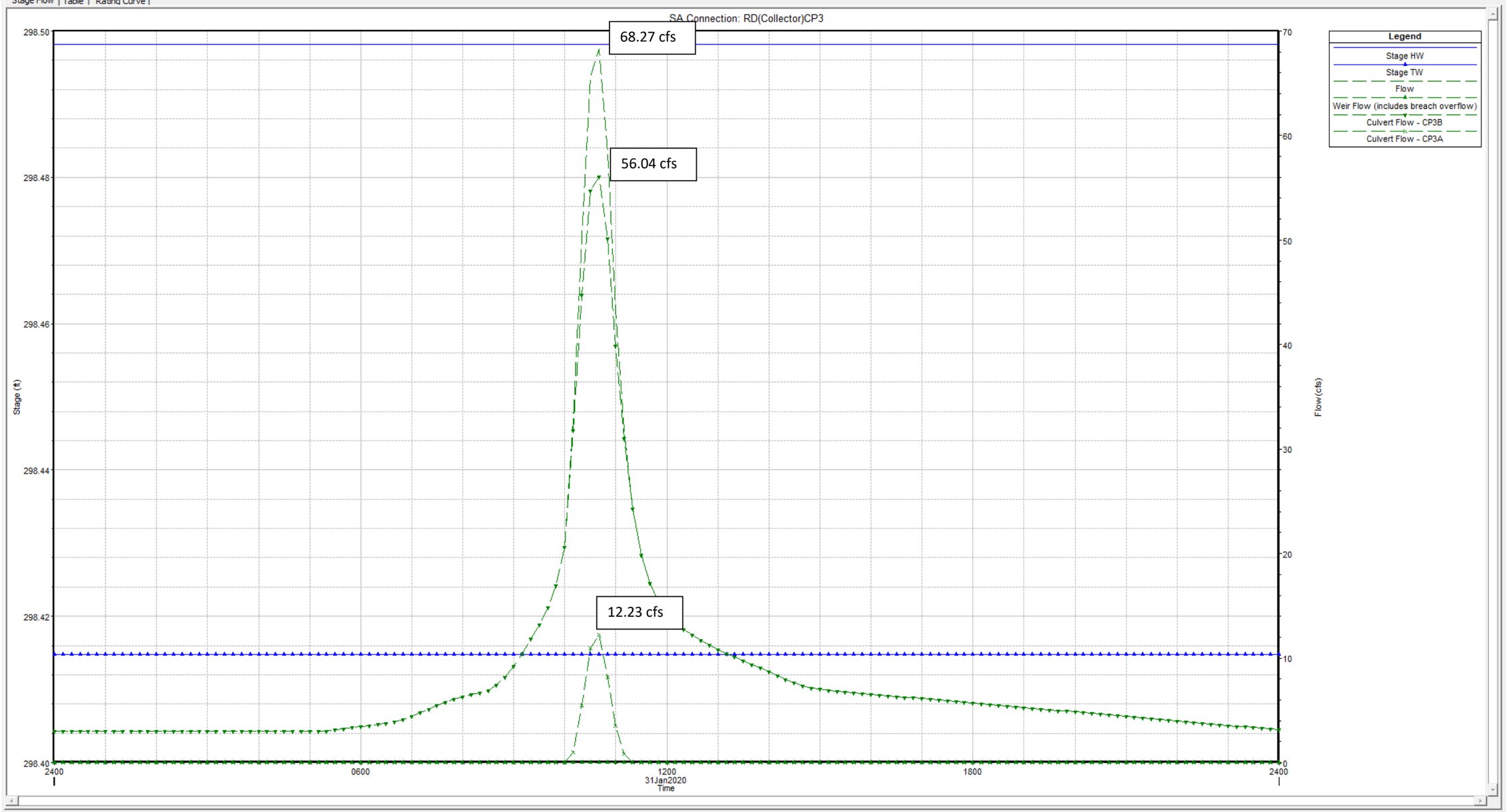
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	298.50	31Jan2020 0000	
2	TW Stage	298.41	31Jan2020 0000	
3	Flow	68.27	31Jan2020 1040	16.33

Reload Data

RD(Collector)CP3



Post Hydrographs at Proposed Connections (100yr)

DRAFT

Exhibit L.2.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Collector)CP4

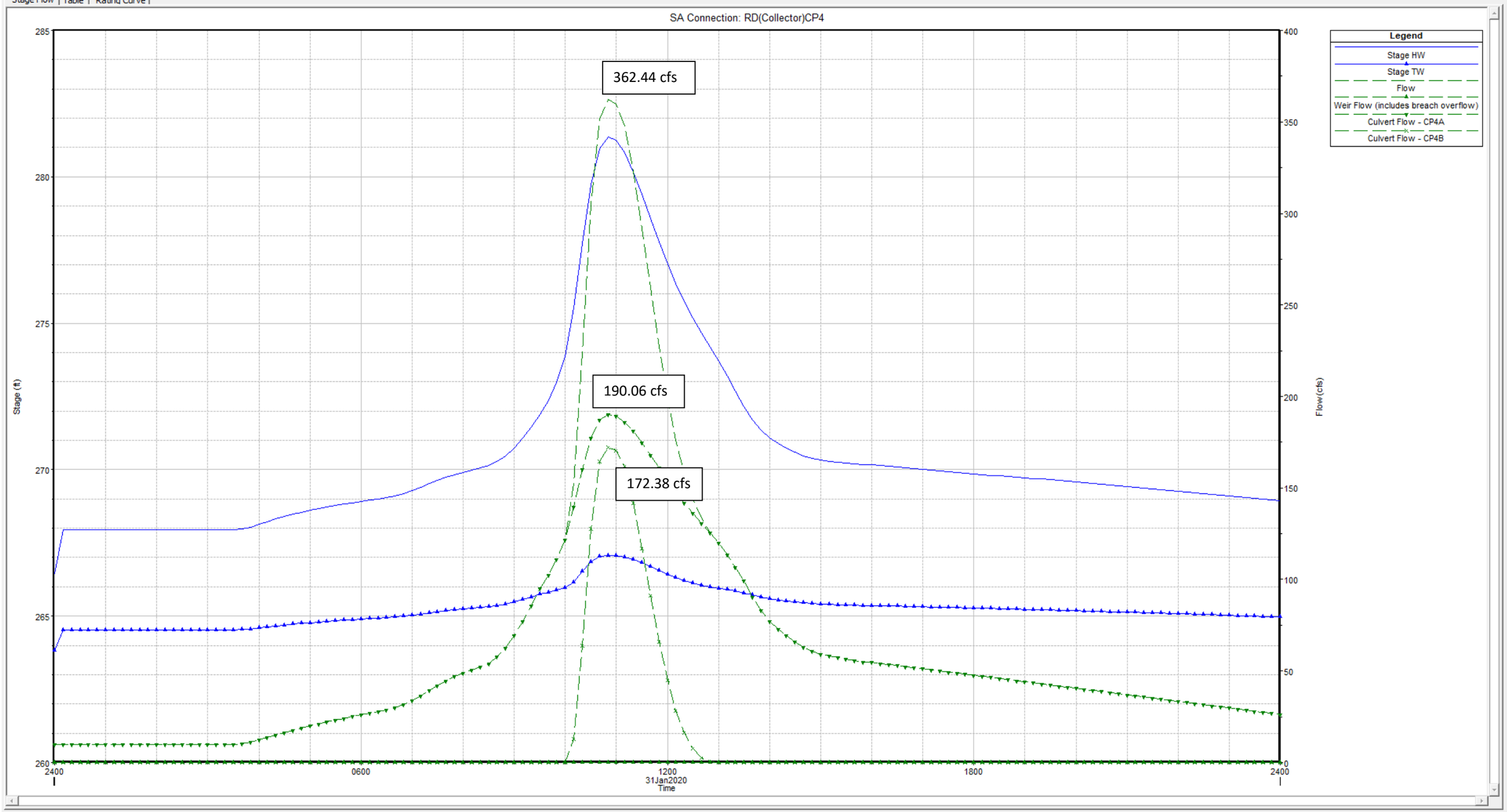
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	281.35	31Jan2020 1050	
2	TW Stage	267.06	31Jan2020 1050	
3	Flow	362.44	31Jan2020 1050	128.71

Reload Data

RD(Collector)CP4



Post Hydrographs at Proposed Connections (100yr)

DRAFT

Exhibit L.2.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RDCollectorCP4T

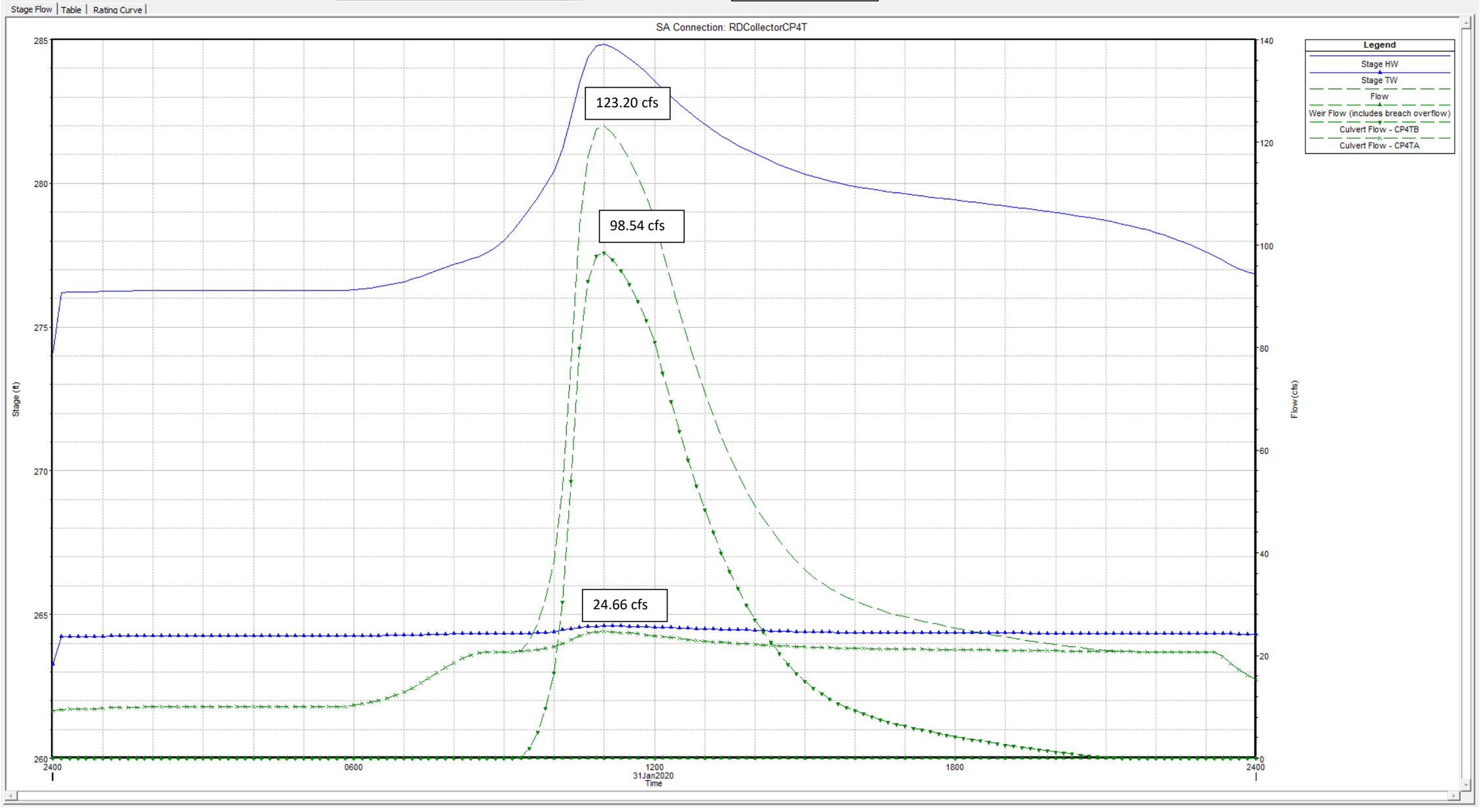
Plot Stage | Plot Flow | Obs Stage | Obs Flow | Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	284.83	31Jan2020 1100	
2	TW Stage	264.61	31Jan2020 1100	
3	Flow	123.20	31Jan2020 1100	61.72

RD(Collector)CP4T

Reload Data



Post Hydrographs at Proposed Connections (100yr)

DRAFT

Exhibit L.2.1

Stage and Flow Hydrographs

File Type Options Help

Conn: RD(Minor)CP6

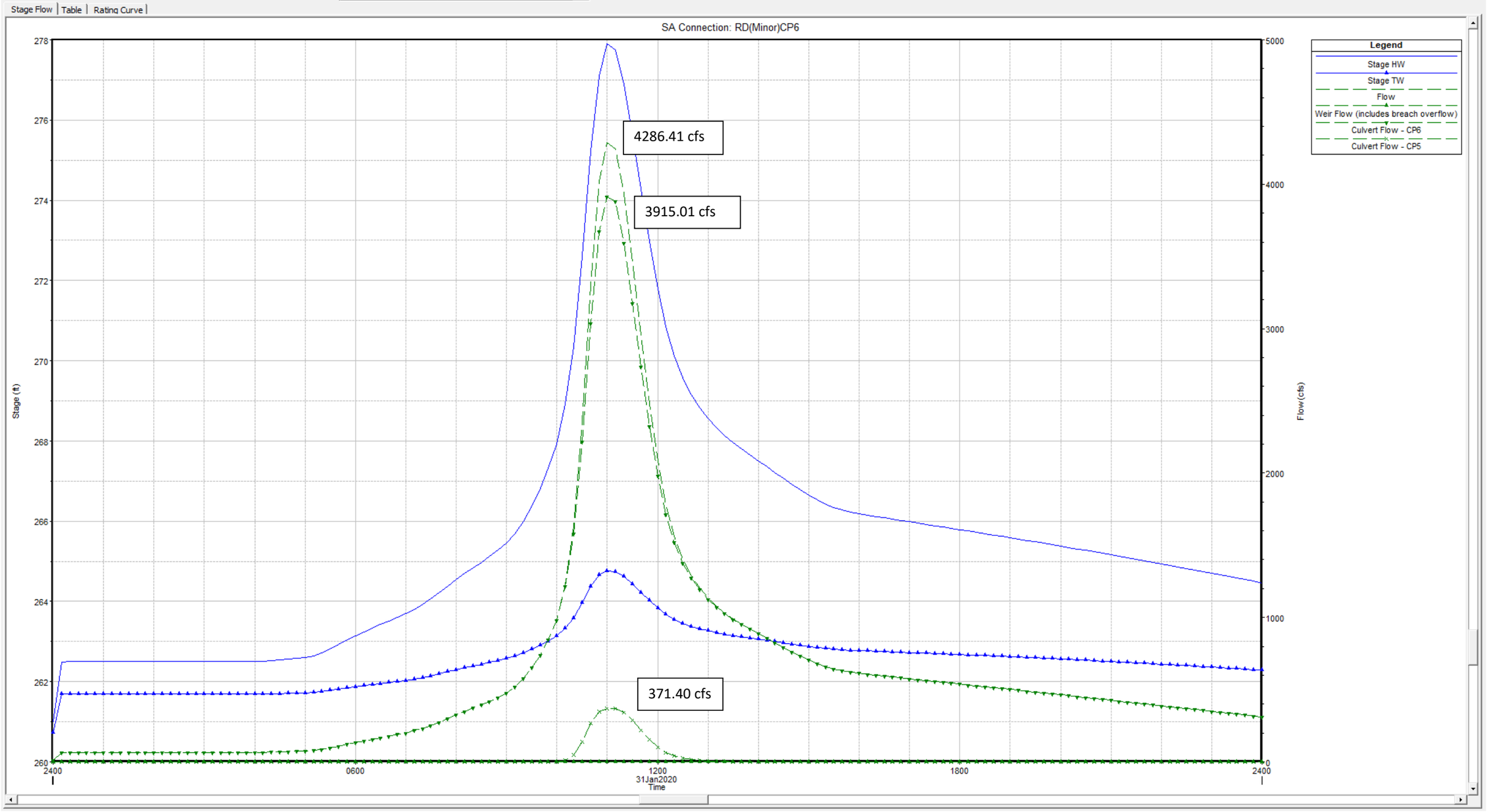
Plot Stage Plot Flow Obs Stage Obs Flow Use Ref Stage

Stage Flow | Table | Rating Curve |

	Time Series	Maximum	Time at Max	Volume(acre-ft)
1	HW Stage	277.91	31Jan2020 1100	
2	TW Stage	264.76	31Jan2020 1100	
3	Flow	4286.41	31Jan2020 1100	1276.70

RD(Minor)CP6

Reload Data

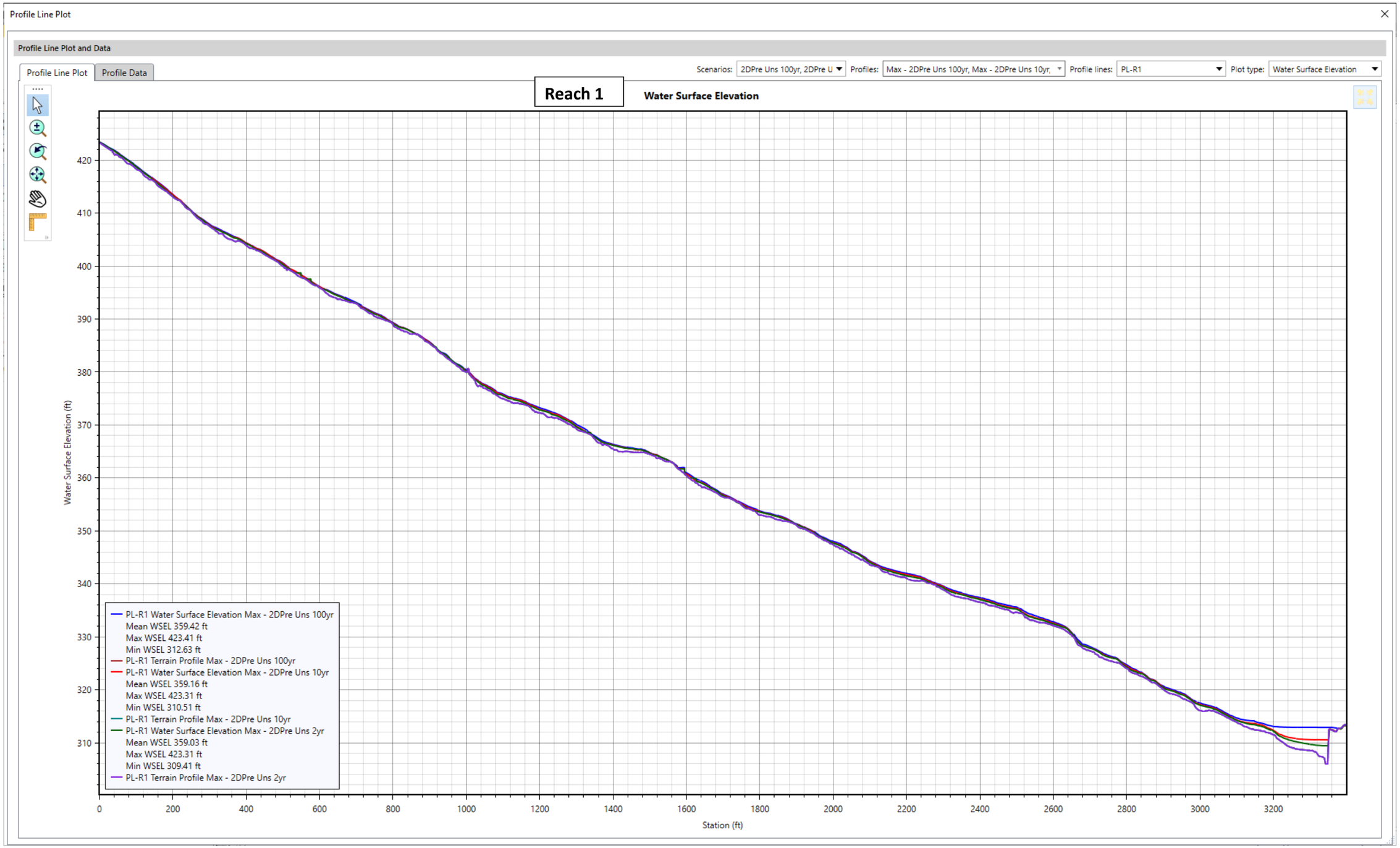


Post Hydrographs at Proposed Connections (100yr) **Exhibit L.2.1**

WATER SURFACE PROFILE PLOT PER REACH

DRAFT

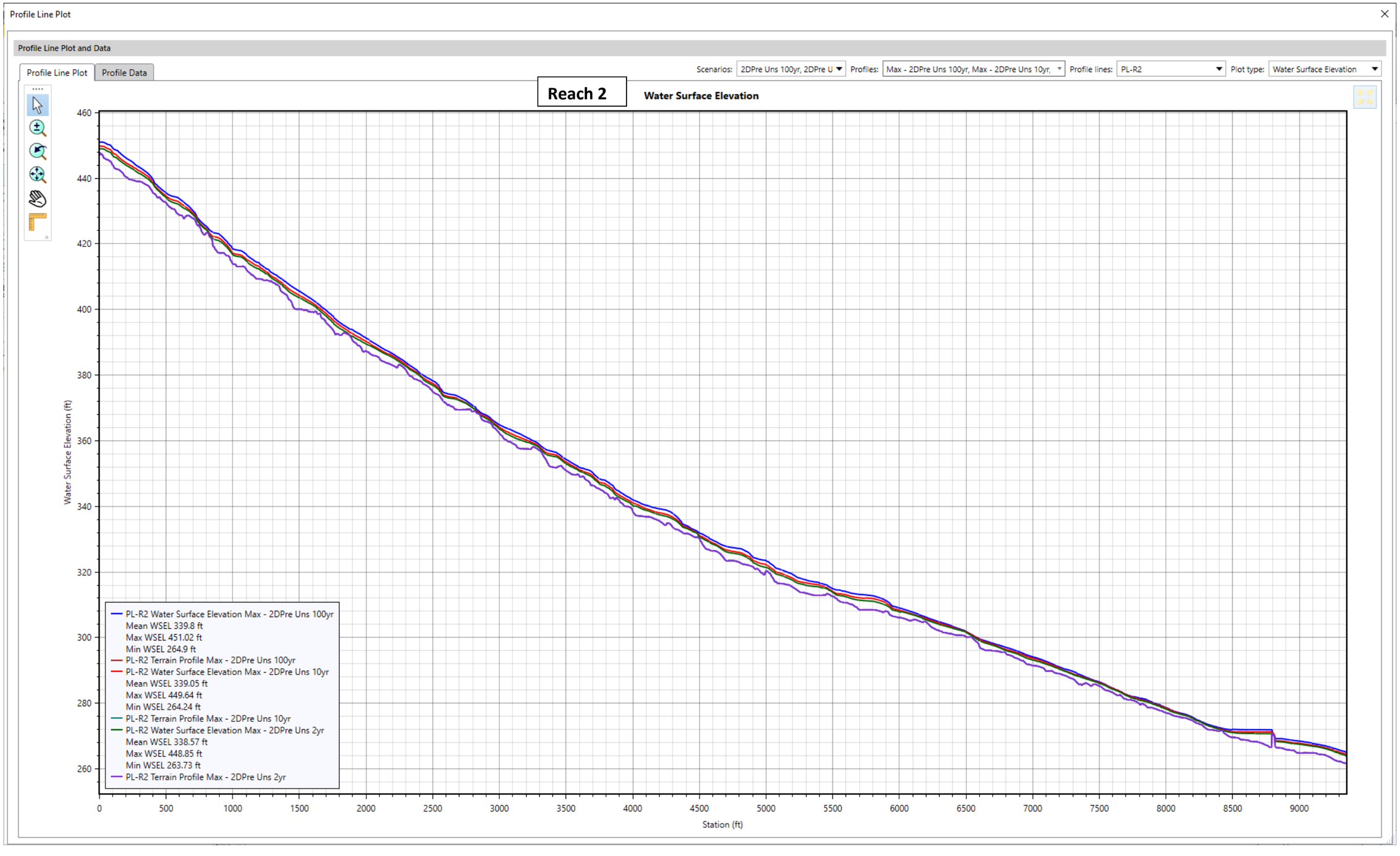
Exhibit M.1.1



WATER SURFACE PROFILE PLOT PER REACH

DRAFT

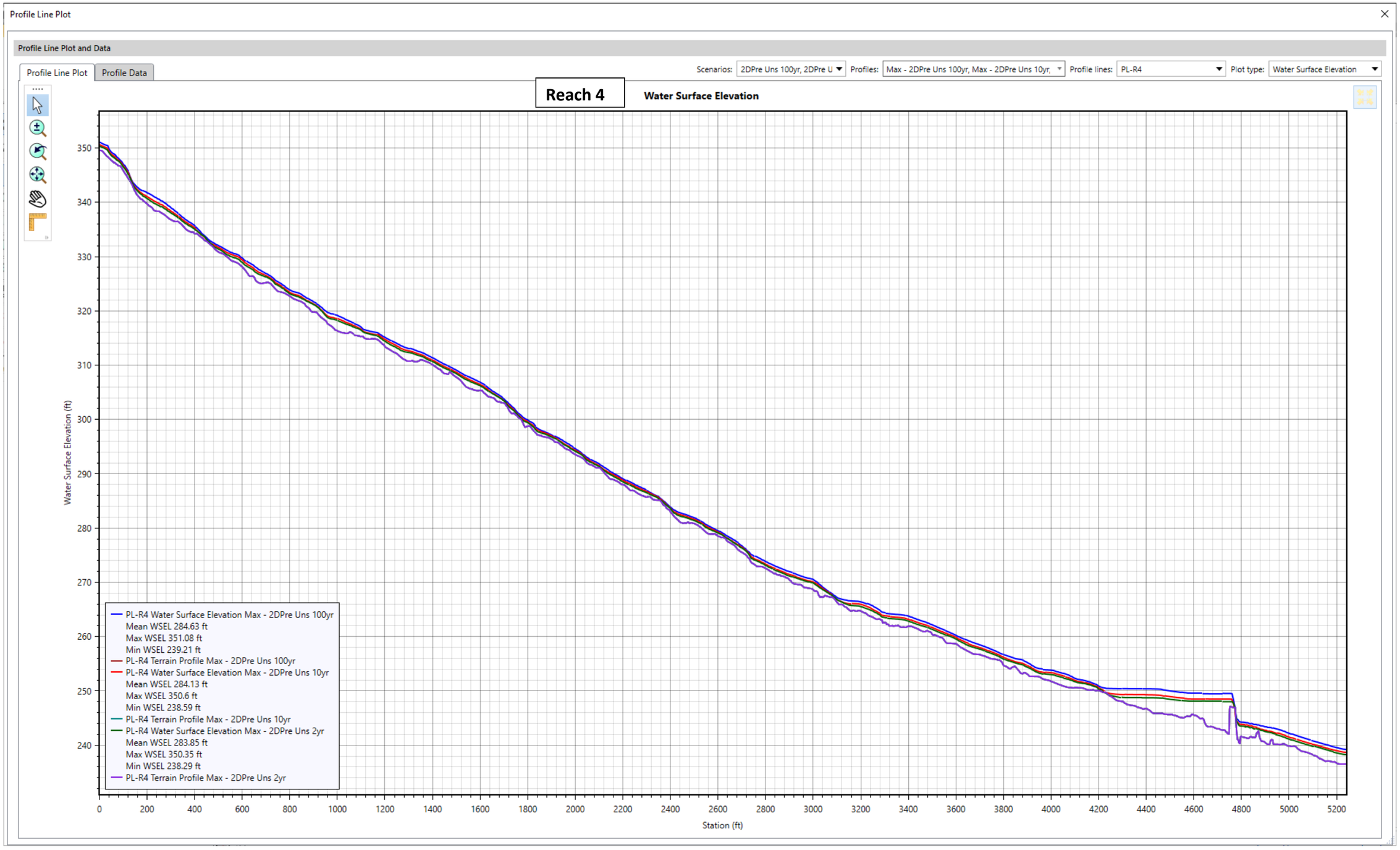
Exhibit M.1.1



WATER SURFACE PROFILE PLOT PER REACH

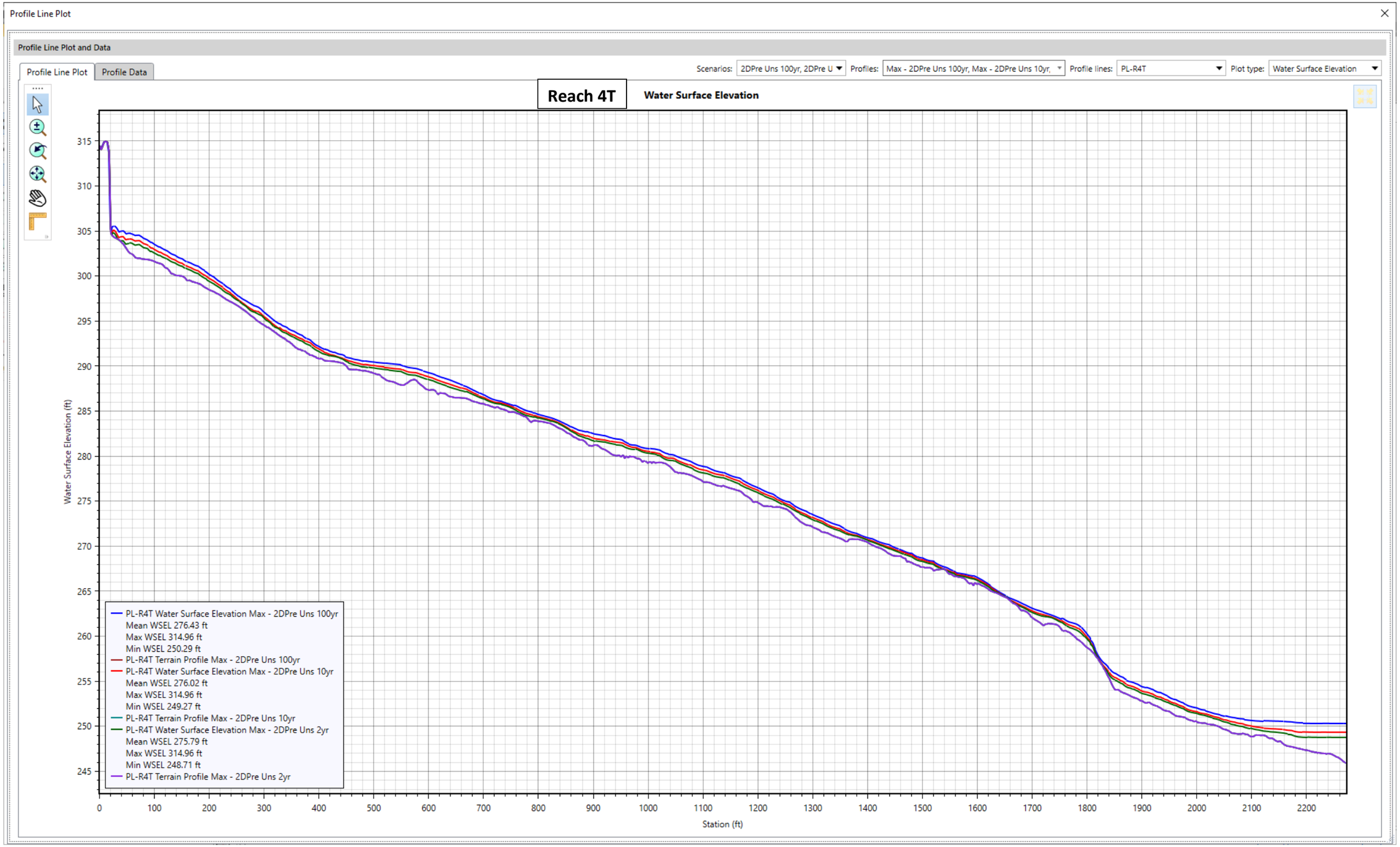
DRAFT

Exhibit M.1.1



WATER SURFACE PROFILE PLOT PER REACH

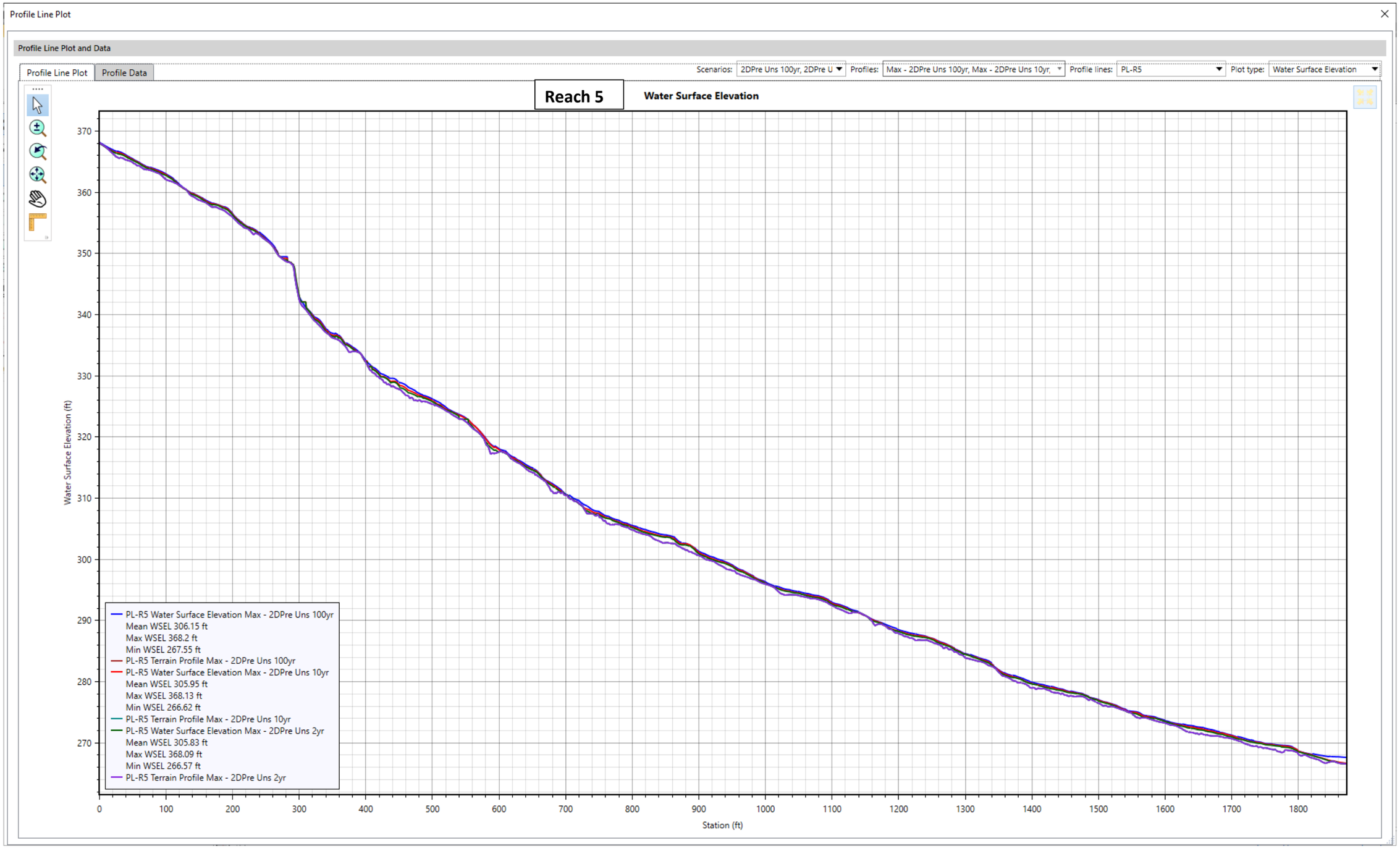
DRAFT Exhibit M.1.1



WATER SURFACE PROFILE PLOT PER REACH

DRAFT

Exhibit M.1.1



WATER SURFACE PROFILE PLOT PER REACH

DRAFT Exhibit M.1.1

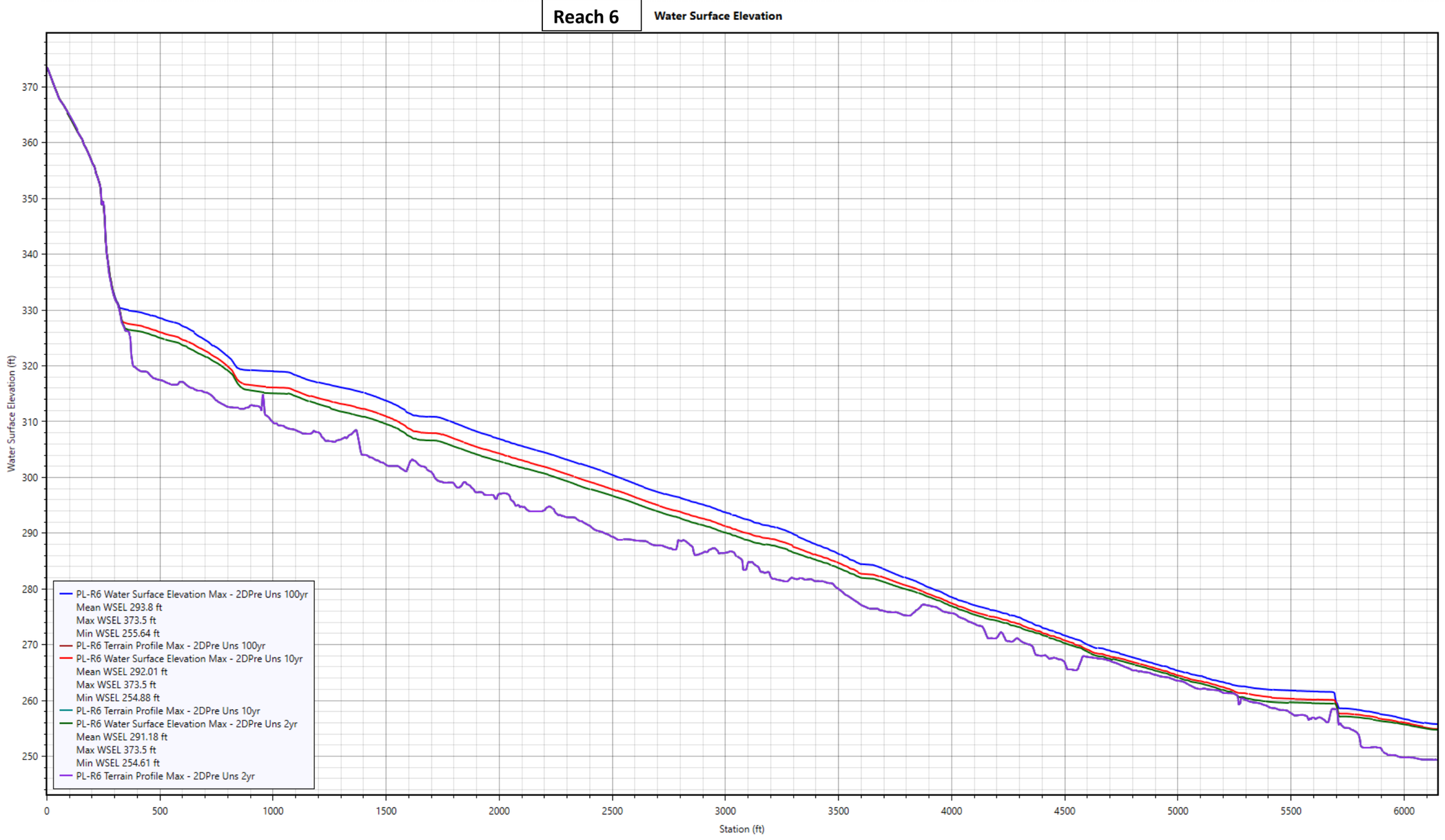
Profile Line Plot

Profile Line Plot and Data

Profile Line Plot | Profile Data

Scenarios: 2DPre Uns 100yr, 2DPre U | Profiles: Max - 2DPre Uns 100yr, Max - 2DPre Uns 10yr, | Profile lines: PL-R6 | Plot type: Water Surface Elevation

Reach 6 **Water Surface Elevation**



POST WATER SURFACE PROFILE PLOT PER REACH

DRAFT

Exhibit M.1.2

Profile Line Plot

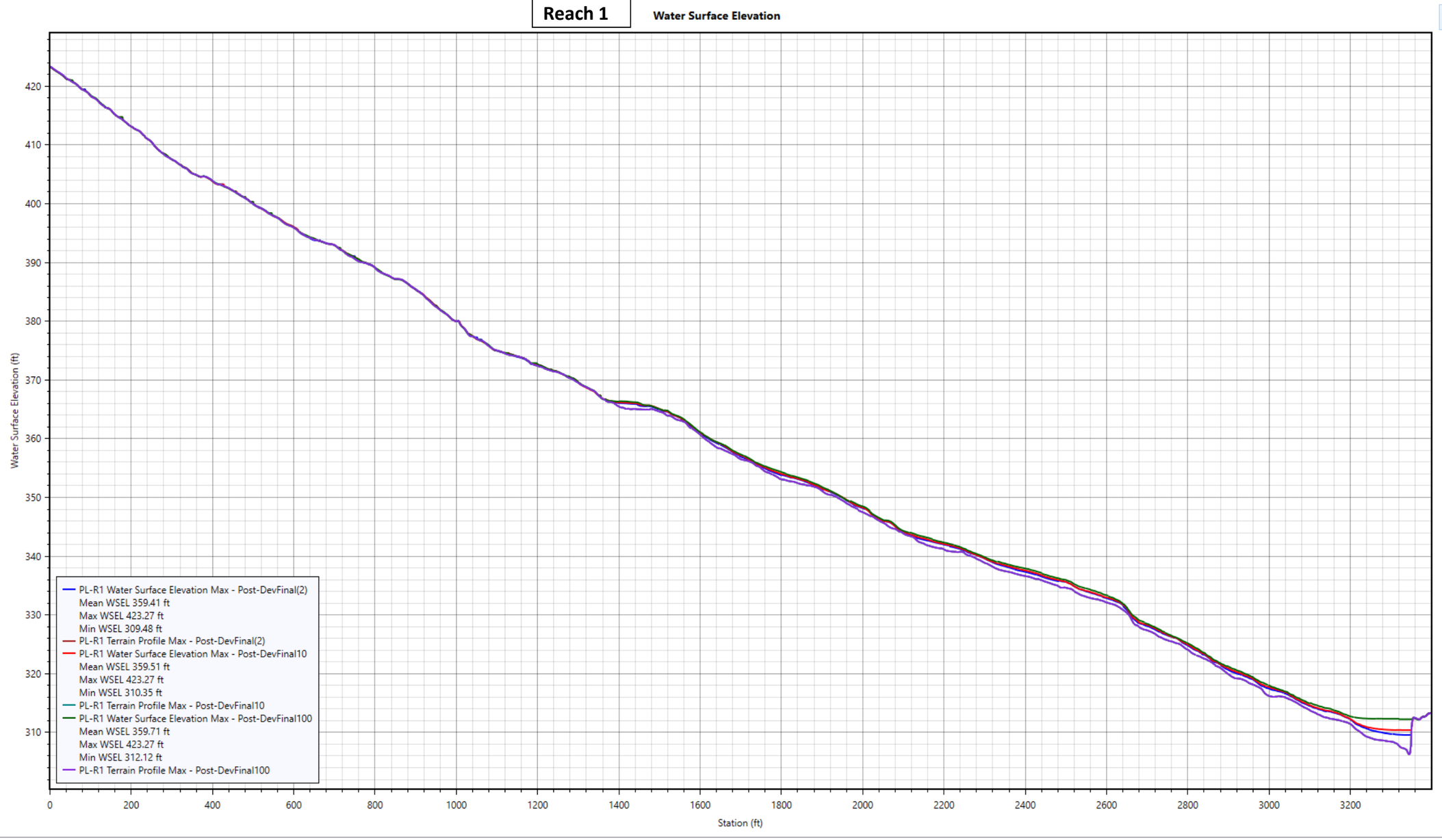
Profile Line Plot and Data

Profile Line Plot | Profile Data

Scenarios: Post-DevFinal100, Post-De | Profiles: Max - Post-DevFinal(2), Max - Post-DevFinal10 | Profile lines: PL-R1 | Plot type: Water Surface Elevation

Reach 1

Water Surface Elevation



POST WATER SURFACE PROFILE PLOT PER REACH

DRAFT Exhibit M.1.2

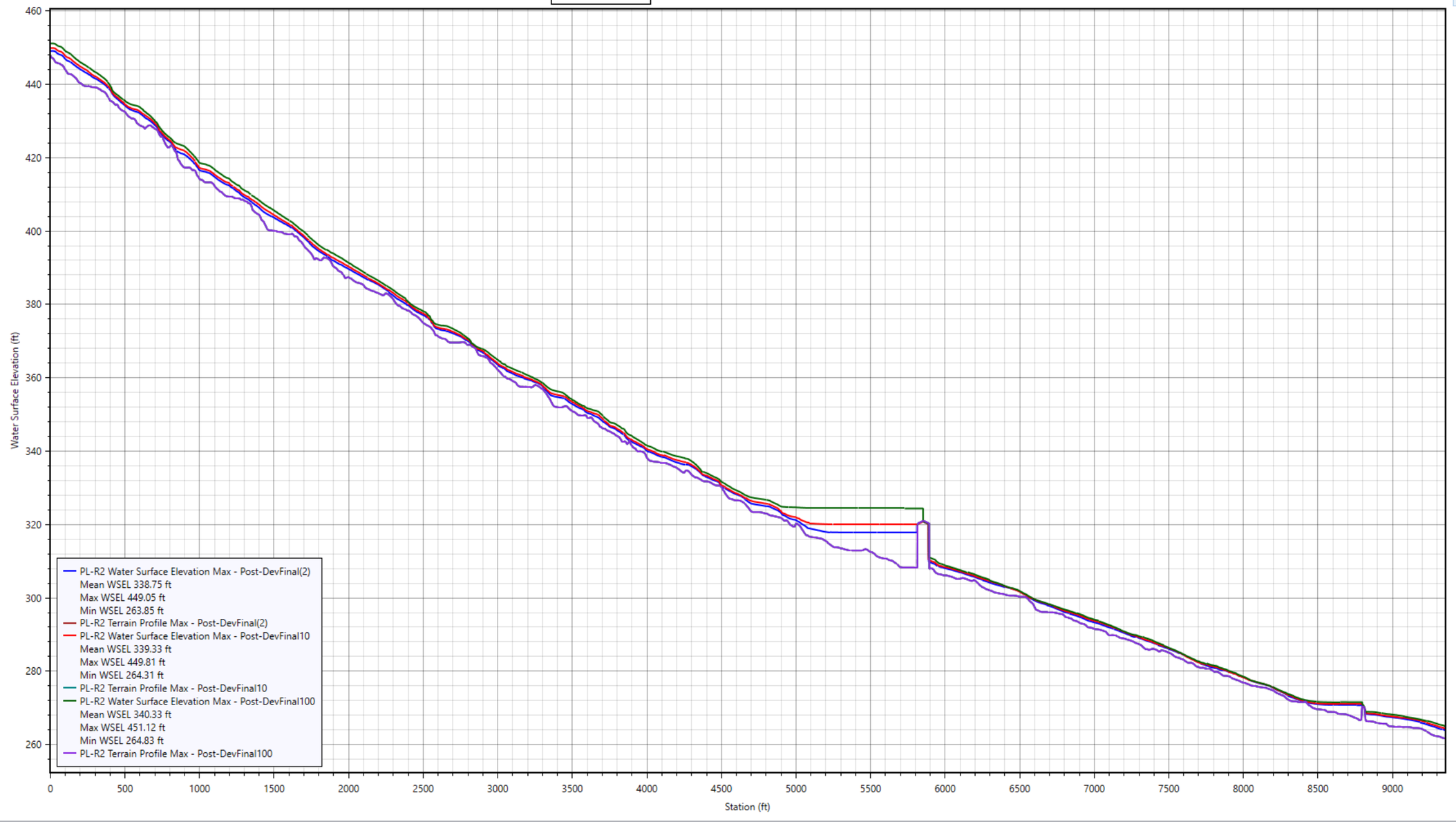
Profile Line Plot

Profile Line Plot and Data

Profile Line Plot | Profile Data

Scenarios: Post-DevFinal100, Post-De | Profiles: Max - Post-DevFinal(2), Max - Post-DevFinal10 | Profile lines: PL-R2 | Plot type: Water Surface Elevation

Reach 2 **Water Surface Elevation**



POST WATER SURFACE PROFILE PLOT PER REACH

DRAFT Exhibit M.1.2

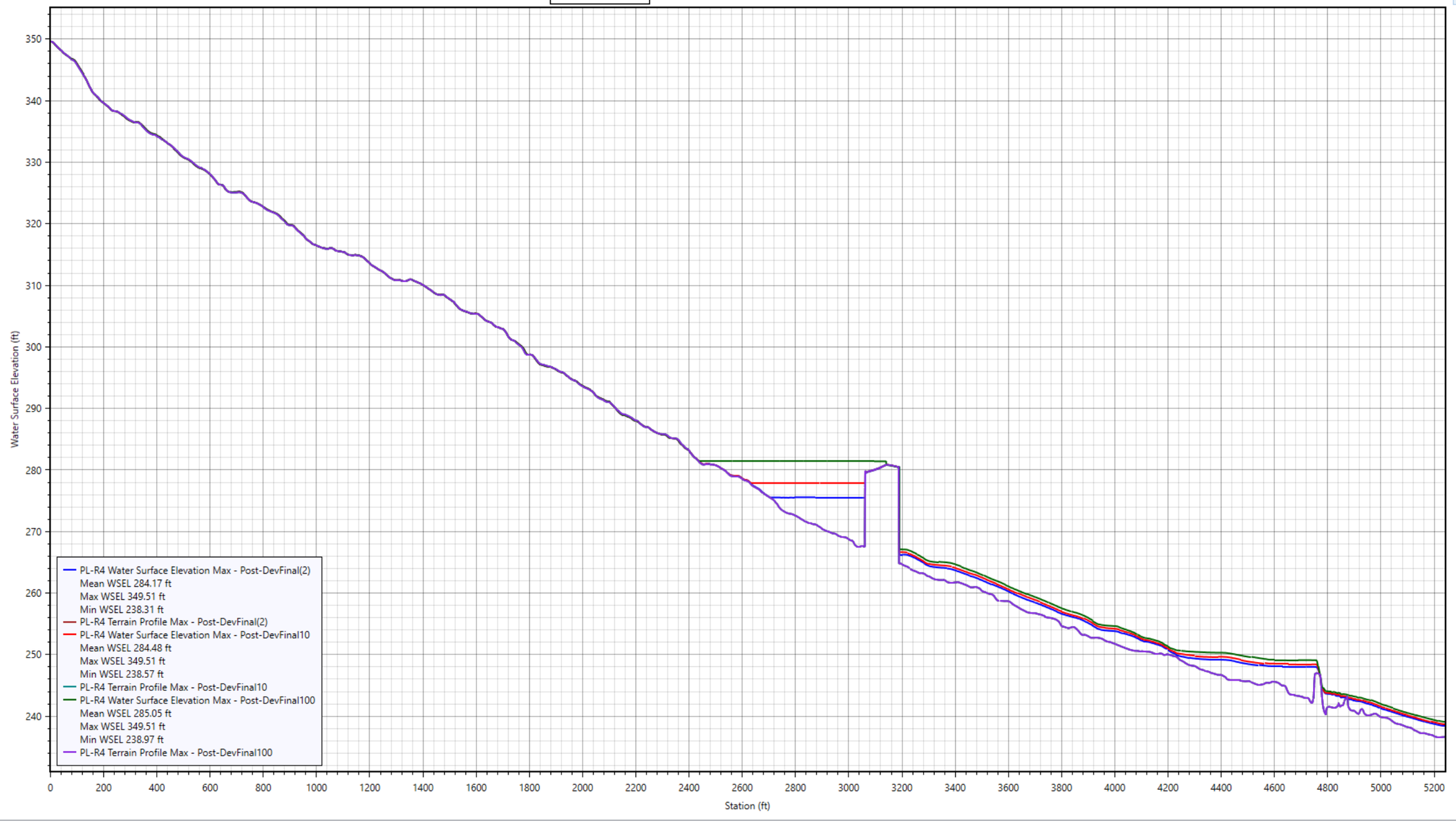
Profile Line Plot

Profile Line Plot and Data

Profile Line Plot | Profile Data

Scenarios: Post-DevFinal100, Post-De | Profiles: Max - Post-DevFinal(2), Max - Post-DevFinal10 | Profile lines: PL-R4 | Plot type: Water Surface Elevation

Reach 4 **Water Surface Elevation**



POST WATER SURFACE PROFILE PLOT PER REACH

DRAFT Exhibit M.1.2

Profile Line Plot

Profile Line Plot and Data

Profile Line Plot | Profile Data

Scenarios: Post-DevFinal100, Post-De | Profiles: Max - Post-DevFinal(2), Max - Post-DevFinal10 | Profile lines: PL-R4T | Plot type: Water Surface Elevation

Reach 4T **Water Surface Elevation**

POST WATER SURFACE PROFILE PLOT PER REACH

DRAFT

Exhibit M.1.2

Profile Line Plot

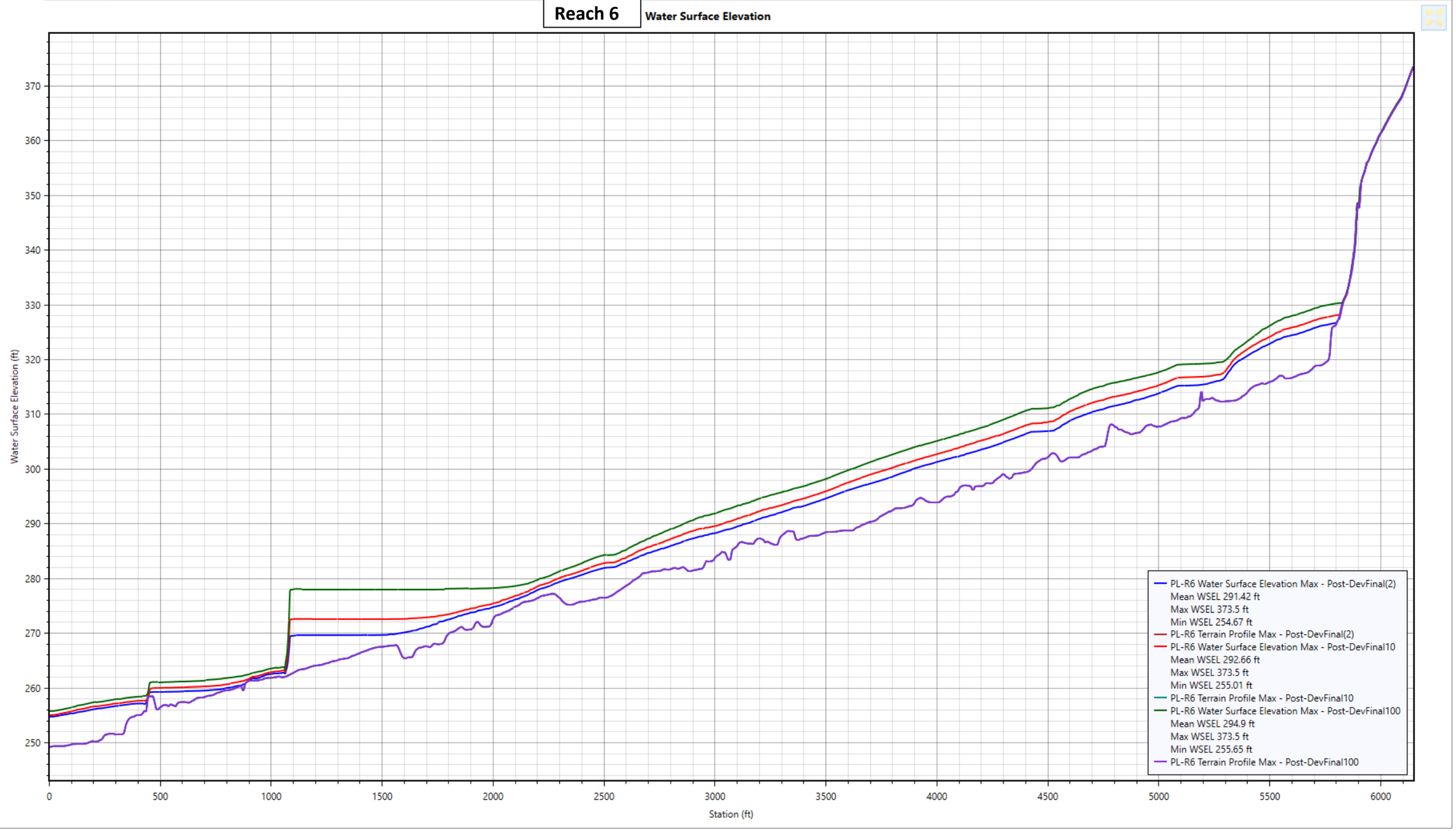
Profile Line Plot and Data

Profile Line Plot | Profile Data

Scenarios: Post-DevFinal100, Post-De | Profiles: Max - Post-DevFinal(2), Max - Post-DevFinal10 | Profile lines: PL-R6 | Plot type: Water Surface Elevation

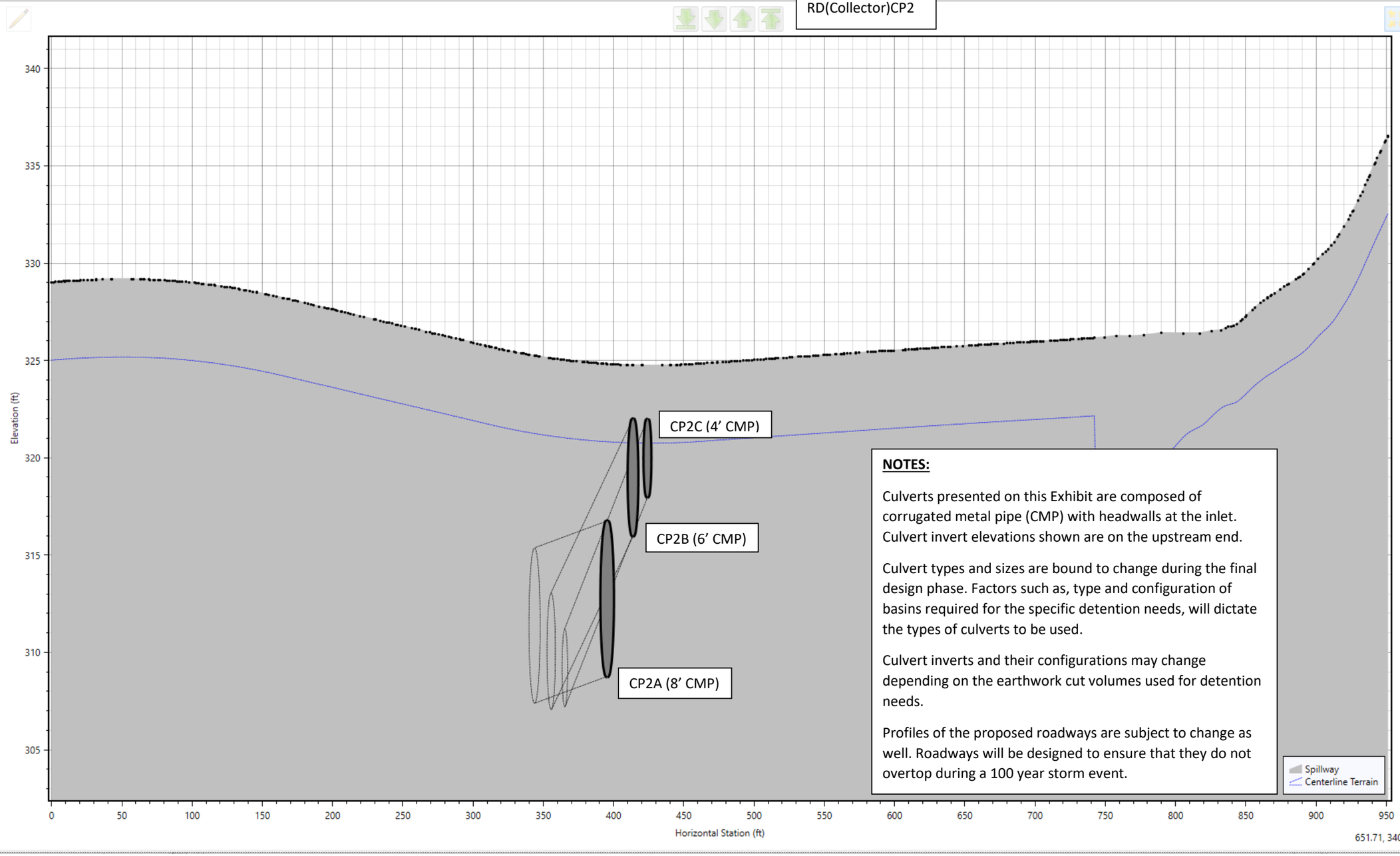
Reach 6

Water Surface Elevation



SA/2D Connection Data

SA/2D Connection Plot



NOTES:

Culverts presented on this Exhibit are composed of corrugated metal pipe (CMP) with headwalls at the inlet. Culvert invert elevations shown are on the upstream end.

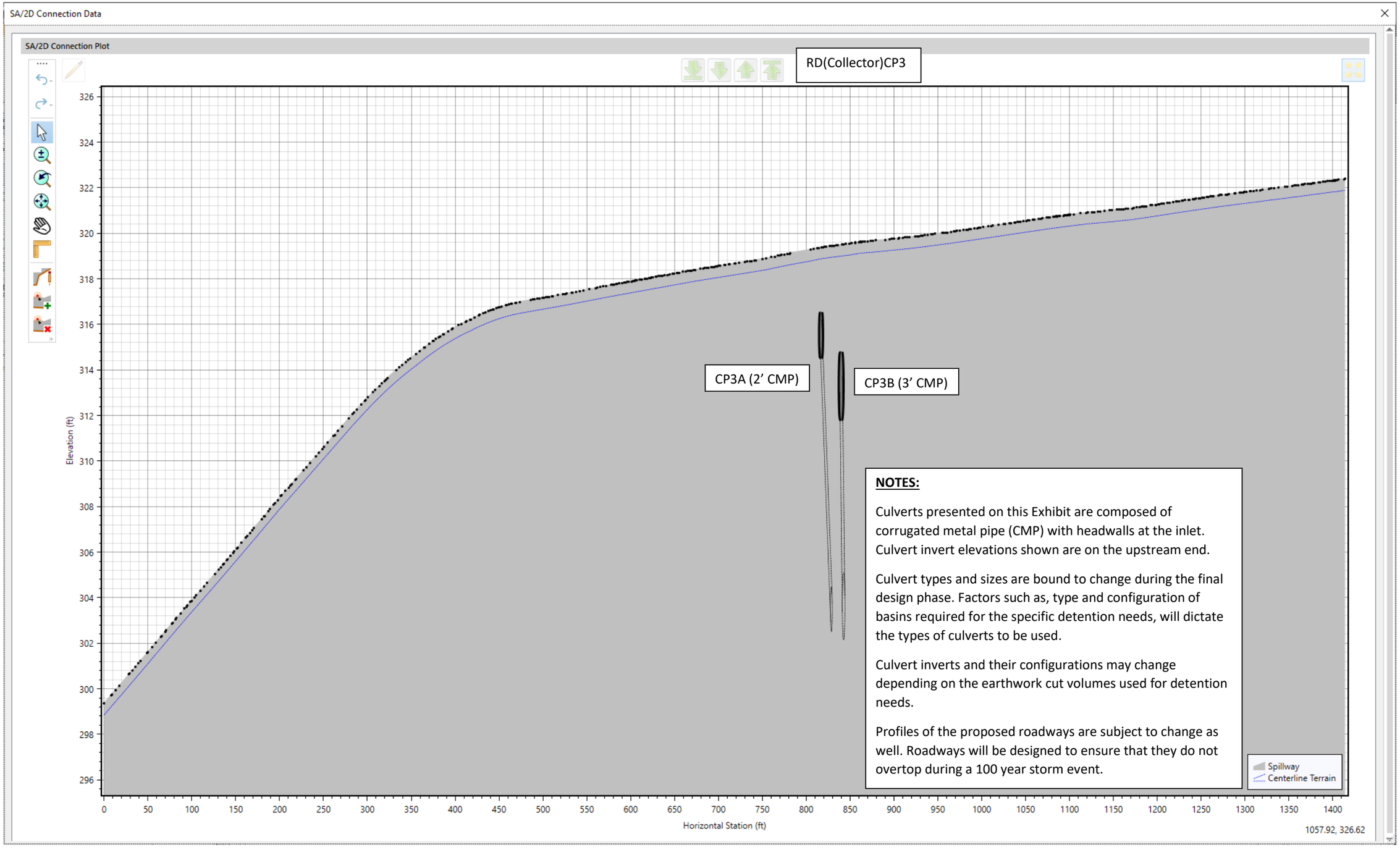
Culvert types and sizes are bound to change during the final design phase. Factors such as, type and configuration of basins required for the specific detention needs, will dictate the types of culverts to be used.

Culvert inverts and their configurations may change depending on the earthwork cut volumes used for detention needs.

Profiles of the proposed roadways are subject to change as well. Roadways will be designed to ensure that they do not overtop during a 100 year storm event.

PROPOSED SA-2D CONNECTIONS (Post)

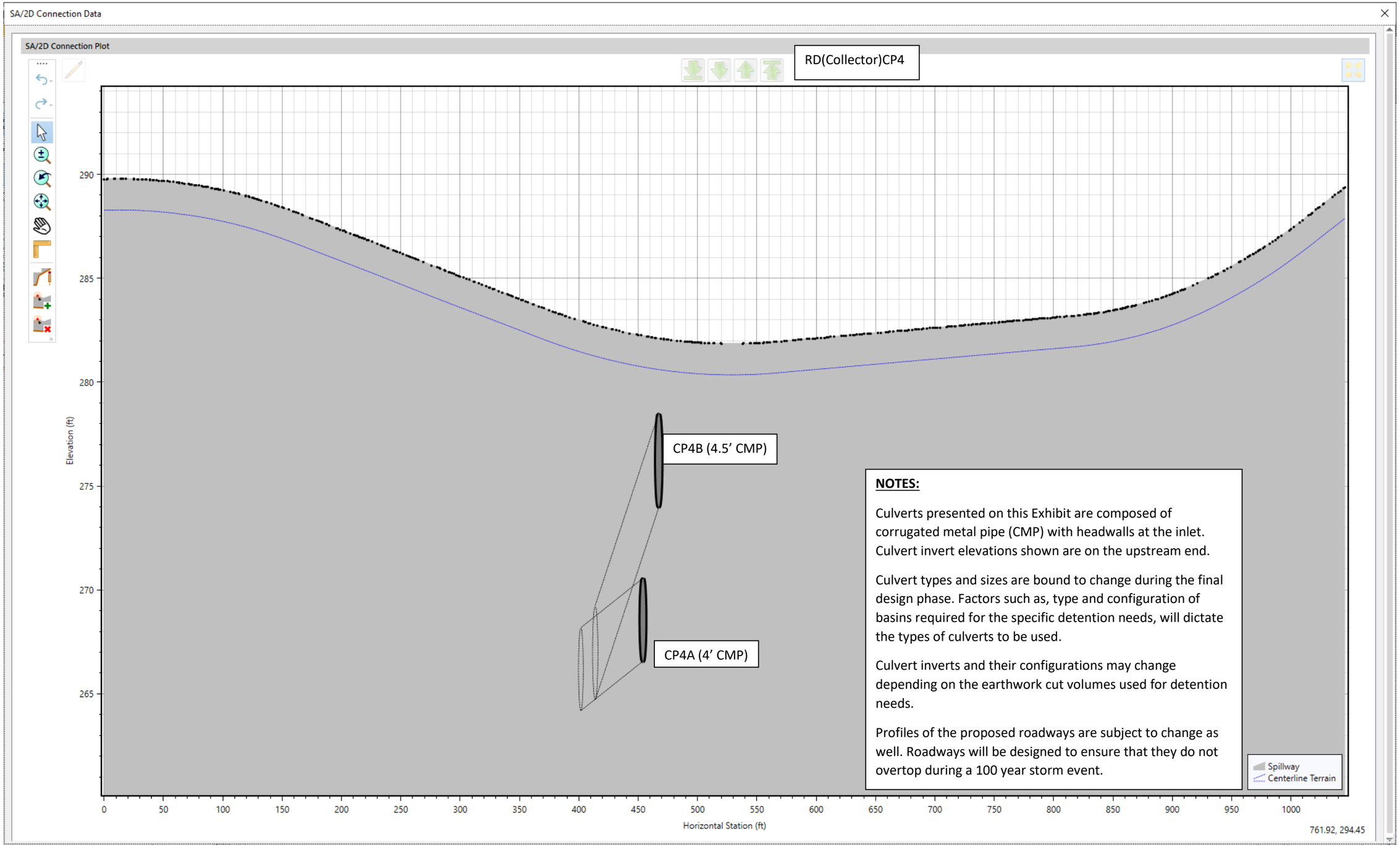
DRAFT **Exhibit N.1.0**



PROPOSED SA-2D CONNECTIONS (Post)

DRAFT

Exhibit N.1.0



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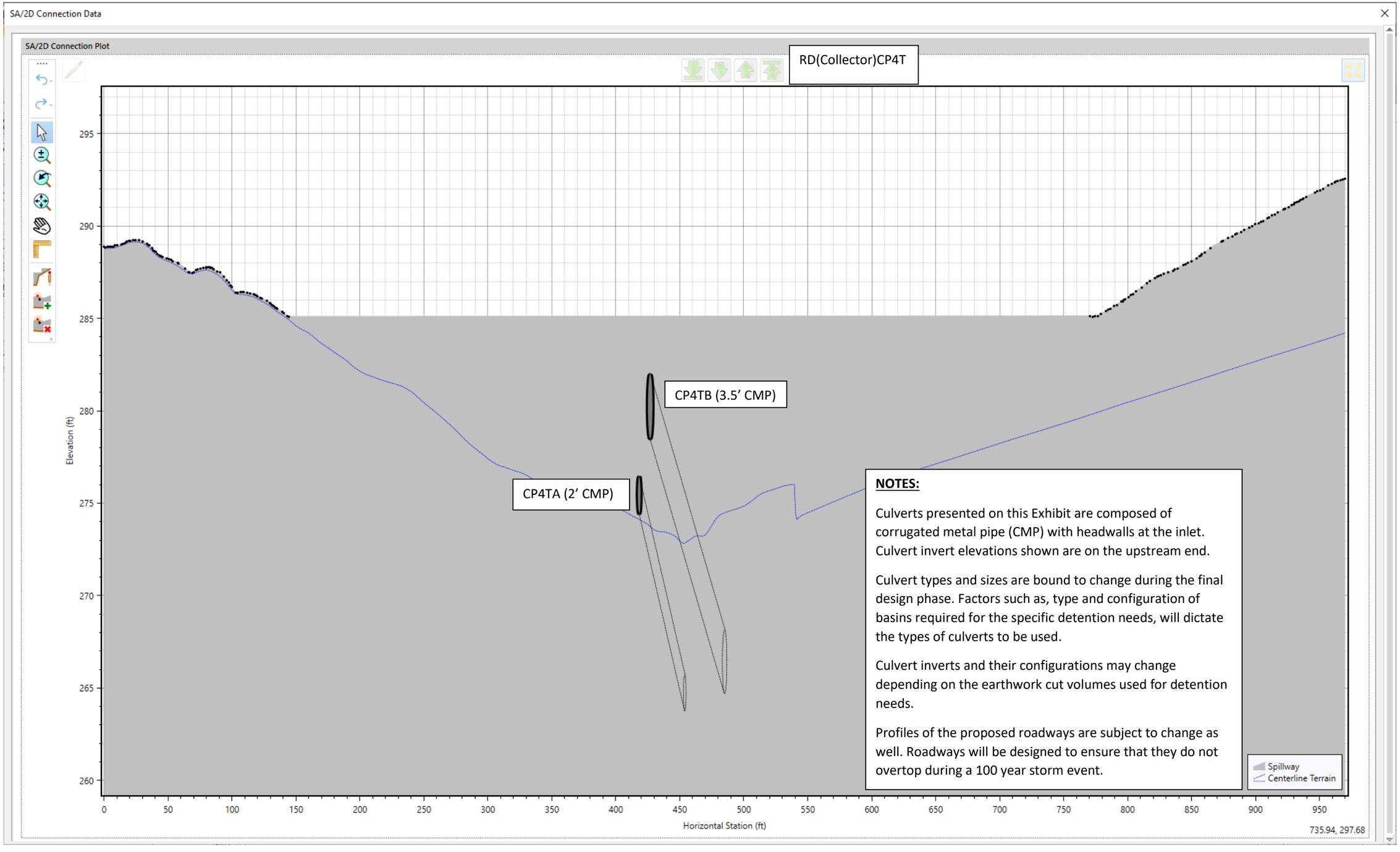
DRAFT

Exhibit N.1.0



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PROPOSED SA-2D CONNECTIONS (Post)

DRAFT

Exhibit N.1.0

SA/2D Connection Data

SA/2D Connection Plot

RD(Minor)CP6

CP5 (6’ CMP)

CP6A,B (12’x12’ CMB)

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Spillway
Centerline Terrain

Elevation (ft)

300
295
290
285
280
275
270
265
260

0 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600

Horizontal Station (ft)

1067.74, 303.3

PROPOSED SA-2D CONNECTIONS (Post) **Exhibit N.1.0**

EXHIBIT
O.1.1

DRAFT

HEC-RAS HEC-RAS 5.0.7 March 2019
U.S. Army Corps of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```
X     X  XXXXXX    XXXX        XXXX       XX      XXXX
X     X  X        X    X      X   X     X  X    X
X     X  X        X           X   X    X    X   X
XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
X     X  X        X           X  X     X    X        X
X     X  X        X    X      X   X    X    X        X
X     X  XXXXXX    XXXX       X    X   X    X   XXXXX
```

****

PROJECT DATA
Project Title: HEC-RAS Model(2D) 15min hydro
Project File : Pre-2DUns (2,10,100,200) (2-20-20).prj
Run Date and Time:

Project in English units

Project Description:
CRS Info=<SpatialReference> <CoordinateSystem Code="2871"
Unit="US_survey_Foot" AcadCode="CAHP-IIF" /> <Registration OffsetX="0"
OffsetY="0" OffsetZ="0" ScaleX="1" ScaleY="1" ScaleZ="1" /></SpatialReference>

****

PLAN DATA

Plan Title: 2D Pre Uns 2yr
Plan File : I:\Engineering\28100-Valley's Edge\Drainage 2019\GeoHEC-RAS\Pre-Project (Use)\2D Model\2D Pre- Uns (2,10,100,200)\RAS (2-20-20)\Pre-2DUns (2,10,100,200) (2-20-20).p02

Geometry Title: 2D Pre Uns 2yr
Geometry File : I:\Engineering\28100-Valley's Edge\Drainage 2019\GeoHEC-RAS\Pre-Project (Use)\2D Model\2D Pre- Uns (2,10,100,200)\RAS (2-20-20)\Pre-2DUns (2,10,100,200) (2-20-20).g02

Flow Title   :
Flow File   :

Plan Description:

This plan represents the 100 year storm event scenario.

Plan Summary Information:
Number of: Cross Sections = 0 Multiple Openings = 0
Culverts = 0 Inline Structures = 0
Bridges = 0 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.01
Critical depth calculation tolerance = 0.01
Maximum number of iterations = 20
Maximum difference tolerance = 0.33
Flow tolerance factor = 0.001

Computation Options
Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

****

GEOMETRY DATA

Geometry Title: 2D Pre Uns 2yr
Geometry File : I:\Engineering\28100-Valley's Edge\Drainage 2019\GeoHEC-RAS\Pre-Project (Use)\2D Model\2D Pre- Uns (2,10,100,200)\RAS (2-20-20)\Pre-2DUns (2,10,100,200) (2-20-20).g02

STORAGE AREA: Pre-Flow Area
Volume Method : Area times depth
Area : 1104.02
Min Elev :

CONNECTION: RD(Dawncrest)C1B

Number of Culverts = 1

Culvert Name Shape Rise Span
C1B Circular 3.5
FHWA Chart # 55- Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef

```
                  1517.54     .009     .009        0                  .5
       1
Upstream   Elevation =  306.21
           Centerline Station =  433.9
Downstream Elevation =  275.77
           Centerline Station =  179.63

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C1B
*********************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  306.00  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)               *  275.69  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)              *    1.86  * Weir Max Depth (ft)        *    0.00  *
*                            *          * Weir Avg Depth (ft)        *          *
*                            *          * Weir Flow Area (sq ft)     *          *
*                            *          * Weir Coef (ft^1/2)         *    0.00  *
* Q Weir (cfs)               *    0.00  * Weir Submerg               *          *
* Q Gates (cfs)              *          *                            *          *
* Q Culv (cfs)               *    1.86  * Q Culv Group (cfs)         *    1.86  *
* Q RC (cfs)                 *          * # Barrels                  *       1  *
* Q Outlet TS (cfs)          *          * Culv Length (ft)           * 1517.54  *
* Q Breach (cfs)             *          * Culv Depth Blocked (ft)    *    0.00  *
* Breach Avg Velocity (ft/s) *          * Culv Inv El Up (ft)        *  306.21  *
* Breach Flow Area (sq ft)   *          * Culv Inv El Dn (ft)        *  275.77  *
* Breach WD (ft)             *          *                            *          *
* Breach Top El (ft)         *          * Culv Stage HW (ft)         *  306.82  *
* Breach Bottom El (ft)      *          * Culv Stage TW (ft)         *  276.21  *
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
*********************************************************************************


CONNECTION: RD(Humbug)C5C6CE


Number of Culverts =  3

Culvert Name     Shape      Rise    Span
C5AB           Pipe Arch       3    4.83
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     41.05     .024     .024        0                  .9
       1
Number of Barrels =  2
Upstream   Elevation =  252.98
Centerline Stations
```

```
    Sta.    Sta.
 1833.43 1839.16
Downstream Elevation =  252.78
Centerline Stations
    Sta.    Sta.
 1853.12 1858.92

Culvert Name     Shape      Rise    Span
C6ABC          Pipe Arch     3.3    5.41
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 1 - 90 Degree headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      40.97     .021     .021       .1                  .5
       1
Number of Barrels =  3
Upstream   Elevation =  253.86
Centerline Stations
    Sta.    Sta.    Sta.
 1636.77 1643.15  1649.6
Downstream Elevation =  253.69
Centerline Stations
    Sta.    Sta.    Sta.
 1658.52 1665.02 1670.84

Culvert Name     Shape      Rise    Span
C6D             Circular       7
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      48.52     .021     .021        0                  .9
       1
Upstream   Elevation =  253.73
           Centerline Station =  1656.28
Downstream Elevation =  253
           Centerline Station =  1677.64

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C5AB
*************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  252.91  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)               *  252.59  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)              *    6.98  * Weir Max Depth (ft)        *    0.00  *
*                            *          * Weir Avg Depth (ft)        *          *
*                            *          * Weir Flow Area (sq ft)     *          *
*                            *          * Weir Coef (ft^1/2)         *    0.00  *
```

* Q Weir (cfs)	*	0.00	* Weir Submerg	*	*
* Q Gates (cfs)	*		*	*	*
* Q Culv (cfs)	*	6.98	* Q Culv Group (cfs)	*	3.67 *
* Q RC (cfs)	*		* # Barrels	*	2 *
* Q Outlet TS (cfs)	*		* Culv Length (ft)	*	41.05 *
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	*	0.00 *
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	*	252.98 *
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	*	252.78 *
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	*	253.42 *
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	*	253.31 *
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C6ABC

*	*		* Weir Sta US (ft)	*	*
* W.S. HW (ft)	*	252.91	* Weir Sta DS (ft)	*	*
*	*		* Min El Weir Flow (ft)	*	*
* W.S. TW (ft)	*	252.59	* Wr Top Wdth (ft)	*	*
* Q Total (cfs)	*	6.98	* Weir Max Depth (ft)	*	0.00 *
*	*		* Weir Avg Depth (ft)	*	*
*	*		* Weir Flow Area (sq ft)	*	*
*	*		* Weir Coef (ft^1/2)	*	0.00 *
* Q Weir (cfs)	*	0.00	* Weir Submerg	*	*
* Q Gates (cfs)	*		*	*	*
* Q Culv (cfs)	*	6.98	* Q Culv Group (cfs)	*	2.33 *
* Q RC (cfs)	*		* # Barrels	*	3 *
* Q Outlet TS (cfs)	*		* Culv Length (ft)	*	40.97 *
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	*	0.10 *
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	*	253.86 *
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	*	253.69 *
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	*	254.17 *
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	*	254.07 *
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C6D

*	*		* Weir Sta US (ft)	*	*
* W.S. HW (ft)	*	252.91	* Weir Sta DS (ft)	*	*
*	*		* Min El Weir Flow (ft)	*	*
* W.S. TW (ft)	*	252.59	* Wr Top Wdth (ft)	*	*
* Q Total (cfs)	*	6.98	* Weir Max Depth (ft)	*	0.00 *
*	*		* Weir Avg Depth (ft)	*	*
*	*		* Weir Flow Area (sq ft)	*	*
*	*		* Weir Coef (ft^1/2)	*	0.00 *

* Q Weir (cfs)	*	0.00	* Weir Submerg	*	*
* Q Gates (cfs)	*		*	*	*
* Q Culv (cfs)	*	6.98	* Q Culv Group (cfs)	*	0.98 *
* Q RC (cfs)	*		* # Barrels	*	1 *
* Q Outlet TS (cfs)	*		* Culv Length (ft)	*	48.52 *
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	*	0.00 *
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	*	253.73 *
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	*	253.00 *
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	*	254.13 *
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	*	254.07 *
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

****

CONNECTION: RD(Humbug)CC3

Number of Culverts = 1

Culvert Name	Shape	Rise	Span
CC3	Pipe Arch	1.5	2.42

FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG

Culvert	Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
		20.66	.024	.024	0	.9	1

Upstream Elevation = 258.62
Centerline Station = 27.5
Downstream Elevation = 257.84
Centerline Station = 29.28

CONNECTION: RD(Humbug)CC4

Number of Culverts = 1

Culvert Name	Shape	Rise	Span
CC4	Circular	2	

FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 2 - Groove end entrance with headwall
Solution Criteria = Highest U.S. EG

Culvert	Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
		78.49	.011	.011	0	.7	1

```
Upstream   Elevation =  257.12
           Centerline Station =  10.1
Downstream Elevation =  256.53
           Centerline Station =  9.18


CONNECTION: RD(Humbug)CI


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CI              Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      41.06     .024     .024       .1                    .9
       1
Upstream   Elevation =  267.93
           Centerline Station =  160.36
Downstream Elevation =  267.24
           Centerline Station =  159.87


CONNECTION: RD(Humbug)CJ


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CJ              Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      40.05     .024     .024       .2                    .9
       1
Upstream   Elevation =  267.93
           Centerline Station =  135.27
Downstream Elevation =  263.88
           Centerline Station =  133.82


CONNECTION: RD(Humbug)CK


Number of Culverts =  1
```

```
Culvert Name     Shape      Rise    Span
CK              Circular       2
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.83     .024     .024        0                   .9
       1
Upstream   Elevation =  272.54
           Centerline Station =  104.04
Downstream Elevation =  271.9
           Centerline Station =  100.83


CONNECTION: RD(HumbugCD)


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CE              Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.65     .024     .024        0                   .9
       1
Upstream   Elevation =  279.23
           Centerline Station =  121.73
Downstream Elevation =  277.91
           Centerline Station =  107.6


CONNECTION: RD(HumbugS)CF


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CF              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     29.68     .013     .013        0                   .5
       1
```

```
Upstream   Elevation =  264.11
           Centerline Station =  275.57
Downstream Elevation =  263.56
           Centerline Station =  273.5


CONNECTION: RD(HumbugS)CG


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CG              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      36.49     .013     .013        0                   .5
       1
Upstream   Elevation =  265.33
           Centerline Station =  85.33
Downstream Elevation =  263.75
           Centerline Station =  85.04


CONNECTION: RD(HumbugS)CH


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CH              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      37.81     .013     .013        0                   .5
       1
Upstream   Elevation =  265.33
           Centerline Station =  108.9
Downstream Elevation =  264.02
           Centerline Station =  111.54


CONNECTION: RD(PotterMid)CA


Number of Culverts =  1
```

```
Culvert Name     Shape      Rise    Span
CA             Pipe Arch       1    1.67
FHWA Chart # 35- 18 inch corner radius; Corrugated metal
FHWA Scale # 1 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     41.24     .024     .024        0                   .9
       1
Upstream   Elevation =  269.32
           Centerline Station =  273.05
Downstream Elevation =  268.47
           Centerline Station =  272.19


CONNECTION: RD(PotterN)C1-C3


Number of Culverts =  3

Culvert Name     Shape      Rise    Span
C2AB           Pipe Arch    3.75    6.01
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.86     .024     .024      .25                 .9
       1
Number of Barrels =  2
Upstream   Elevation =  266.48
Centerline Stations
    Sta.    Sta.
 1275.41 1283.98
Downstream Elevation =  266.29
Centerline Stations
    Sta.    Sta.
 1280.34 1289.17

Culvert Name     Shape      Rise    Span
C1E            Pipe Arch    3.83    6.01
FHWA Chart # 36- 31 inch corner radius; Corrugated metal
FHWA Scale # 1 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     50.99     .024     .024      .25                 .9
       1
Upstream   Elevation =  268.57
```

```
           Centerline Station =  1667.26
Downstream Elevation =  268.23
           Centerline Station =  1658.01

Culvert Name     Shape      Rise    Span
C3A             Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     36.42     .024     .024        0                  .9
       1
Upstream   Elevation =  267.92
           Centerline Station =  919.01
Downstream Elevation =  267.45
           Centerline Station =  920.09

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C2AB
*********************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  266.41  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)               *  266.13  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)              *    7.82  * Weir Max Depth (ft)        *    0.00  *
*                            *          * Weir Avg Depth (ft)        *          *
*                            *          * Weir Flow Area (sq ft)     *          *
*                            *          * Weir Coef (ft^1/2)         *    0.50  *
* Q Weir (cfs)               *    0.00  * Weir Submerg               *          *
* Q Gates (cfs)              *          *                            *          *
* Q Culv (cfs)               *    7.82  * Q Culv Group (cfs)         *    2.75  *
* Q RC (cfs)                 *          * # Barrels                  *       2  *
* Q Outlet TS (cfs)          *          * Culv Length (ft)           *   40.86  *
* Q Breach (cfs)             *          * Culv Depth Blocked (ft)    *    0.25  *
* Breach Avg Velocity (ft/s) *          * Culv Inv El Up (ft)        *  266.48  *
* Breach Flow Area (sq ft)   *          * Culv Inv El Dn (ft)        *  266.29  *
* Breach WD (ft)             *          *                            *          *
* Breach Top El (ft)         *          * Culv Stage HW (ft)         *  266.99  *
* Breach Bottom El (ft)      *          * Culv Stage TW (ft)         *  266.52  *
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
*********************************************************************************

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C1E
*********************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  266.41  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)               *  266.13  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)              *    7.82  * Weir Max Depth (ft)        *    0.00  *
```

```
*                          *          * Weir Avg Depth (ft)        *          *
*                          *          * Weir Flow Area (sq ft)     *          *
*                          *          * Weir Coef (ft^1/2)         *    0.50  *
* Q Weir (cfs)              *    0.00  * Weir Submerg               *          *
* Q Gates (cfs)             *          *                            *          *
* Q Culv (cfs)              *    7.82  * Q Culv Group (cfs)         *    3.00  *
* Q RC (cfs)                *          * # Barrels                  *       1  *
* Q Outlet TS (cfs)         *          * Culv Length (ft)           *   50.99  *
* Q Breach (cfs)            *          * Culv Depth Blocked (ft)    *    0.25  *
* Breach Avg Velocity (ft/s) *         * Culv Inv El Up (ft)        *  268.57  *
* Breach Flow Area (sq ft)  *          * Culv Inv El Dn (ft)        *  268.23  *
* Breach WD (ft)            *          *                            *          *
* Breach Top El (ft)        *          * Culv Stage HW (ft)         *  269.09  *
* Breach Bottom El (ft)     *          * Culv Stage TW (ft)         *  268.49  *
* Breach SSL (ft)           *          *                            *          *
* Breach SSR (ft)           *          *                            *          *
*************************************************************************

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C3A
*************************************************************************
*                          *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)              *  266.41  * Weir Sta DS (ft)           *          *
*                          *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)              *  266.13  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)             *    7.82  * Weir Max Depth (ft)        *    0.00  *
*                          *          * Weir Avg Depth (ft)        *          *
*                          *          * Weir Flow Area (sq ft)     *          *
*                          *          * Weir Coef (ft^1/2)         *    0.50  *
* Q Weir (cfs)              *    0.00  * Weir Submerg               *          *
* Q Gates (cfs)             *          *                            *          *
* Q Culv (cfs)              *    7.82  * Q Culv Group (cfs)         *    2.07  *
* Q RC (cfs)                *          * # Barrels                  *       1  *
* Q Outlet TS (cfs)         *          * Culv Length (ft)           *   36.42  *
* Q Breach (cfs)            *          * Culv Depth Blocked (ft)    *    0.00  *
* Breach Avg Velocity (ft/s) *         * Culv Inv El Up (ft)        *  267.92  *
* Breach Flow Area (sq ft)  *          * Culv Inv El Dn (ft)        *  267.45  *
* Breach WD (ft)            *          *                            *          *
* Breach Top El (ft)        *          * Culv Stage HW (ft)         *  268.99  *
* Breach Bottom El (ft)     *          * Culv Stage TW (ft)         *  267.84  *
* Breach SSL (ft)           *          *                            *          *
* Breach SSR (ft)           *          *                            *          *
*************************************************************************


CONNECTION: RD(PotterS)C4


Number of Culverts =  2

Culvert Name     Shape      Rise    Span
```

```
C4A             Circular       4
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      41.08     .011     .013        1                   .2
       1
Upstream   Elevation =  242.07
           Centerline Station =  976.72
Downstream Elevation =  241.54
           Centerline Station =  979.96

Culvert Name     Shape      Rise    Span
C4B             Circular       3
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                       46.3     .019     .019       .3                  .5
       1
Upstream   Elevation =  241.97
           Centerline Station =  981.14
Downstream Elevation =  239.9
           Centerline Station =  984.41


CONNECTION: RD(Sky)CC


Number of Culverts =  2

Culvert Name     Shape      Rise    Span
CC1            Pipe Arch     1.5    2.42
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 2 - Mitered to slope
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      40.39     .024     .024        0                   .9
       1
Upstream   Elevation =  260.61
           Centerline Station =  23.89
Downstream Elevation =  259.73
           Centerline Station =  28.33

Culvert Name     Shape      Rise    Span
CC2             Circular       1
FHWA Chart # 55-  Circular Culvert
```

FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     21.04   .009   .009   0   .9
       1
Upstream   Elevation = 260.84
           Centerline Station = 118.04
Downstream Elevation = 259.92
           Centerline Station = 118.09

CONNECTION: RD(Skyway)CB1

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CB1   Circular   1
FHWA Chart # 55- Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     20.66   .009   .009   0   .5
       1
Upstream   Elevation = 255.65
           Centerline Station = 122.88
Downstream Elevation = 254.85
           Centerline Station = 124.13

CONNECTION: RD(Skyway)CB2

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CB2   Circular   1.5
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     49.71   .024   .024   0   .9
       1
Upstream   Elevation = 253.82
           Centerline Station = 456.32
Downstream Elevation = 251.55
           Centerline Station = 456.14

CONNECTION: RDC1A

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
C1A   Circular   4.5
FHWA Chart # 55- Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     1082.6   .009   .009   0   .3
       1
Upstream   Elevation = 306.14
           Centerline Station = 14.07
Downstream Elevation = 281.78
           Centerline Station = 13.81

****

SUMMARY OF MANNING'S N VALUES

****

SUMMARY OF REACH LENGTHS

****

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

****

ERRORS WARNINGS AND NOTES

DRAFT

EXHIBIT
O.1.2

HEC-RAS HEC-RAS 5.0.7 March 2019
U.S. Army Corps of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```
X     X  XXXXXX    XXXX        XXXX       XX      XXXX
X     X  X        X    X      X   X     X  X    X
X     X  X        X           X   X    X    X   X
XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
X     X  X        X           X  X     X    X        X
X     X  X        X    X      X   X    X    X        X
X     X  XXXXXX    XXXX       X    X   X    X   XXXXX
```

****

PROJECT DATA
Project Title: HEC-RAS Model(2D) 15min hydro
Project File : Pre-2DUns (2,10,100,200) (2-20-20).prj
Run Date and Time:

Project in English units

Project Description:
CRS Info=<SpatialReference> <CoordinateSystem Code="2871"
Unit="US_survey_Foot" AcadCode="CAHP-IIF" /> <Registration OffsetX="0"
OffsetY="0" OffsetZ="0" ScaleX="1" ScaleY="1" ScaleZ="1" /></SpatialReference>

****

PLAN DATA

Plan Title: 2D Pre Uns 10yr
Plan File : I:\Engineering\28100-Valley's Edge\Drainage 2019\GeoHEC-RAS\Pre-Project (Use)\2D Model\2D Pre- Uns (2,10,100,200)\RAS (2-20-20)\Pre-2DUns (2,10,100,200) (2-20-20).p01

Geometry Title: 2D Pre Uns 10yr
Geometry File : I:\Engineering\28100-Valley's Edge\Drainage 2019\GeoHEC-RAS\Pre-Project (Use)\2D Model\2D Pre- Uns (2,10,100,200)\RAS (2-20-20)\Pre-2DUns (2,10,100,200) (2-20-20).g01

Flow Title   :
Flow File   :

Plan Description:

This plan represents the 100 year storm event scenario.

Plan Summary Information:
Number of: Cross Sections =   0   Multiple Openings =   0
            Culverts   =   0   Inline Structures =   0
            Bridges   =   0   Lateral Structures =   0

Computational Information
    Water surface calculation tolerance = 0.01
    Critical depth calculation tolerance = 0.01
    Maximum number of iterations   = 20
    Maximum difference tolerance   = 0.33
    Flow tolerance factor   = 0.001

Computation Options
    Critical depth computed only where necessary
    Conveyance Calculation Method: At breaks in n values only
    Friction Slope Method: Average Conveyance
    Computational Flow Regime: Subcritical Flow

****

GEOMETRY DATA

Geometry Title: 2D Pre Uns 10yr
Geometry File : I:\Engineering\28100-Valley's Edge\Drainage 2019\GeoHEC-RAS\Pre-Project (Use)\2D Model\2D Pre- Uns (2,10,100,200)\RAS (2-20-20)\Pre-2DUns (2,10,100,200) (2-20-20).g01

STORAGE AREA: Pre-Flow Area
Volume Method : Area times depth
         Area : 1104.02
     Min Elev :

CONNECTION: RD(Dawncrest)C1B

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
C1B   Circular   3.5
FHWA Chart # 55- Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef

```
                  1517.54     .009     .009        0                  .5
       1
Upstream   Elevation =  306.21
           Centerline Station =  433.9
Downstream Elevation =  275.77
           Centerline Station =  179.63

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C1B
*********************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  306.00  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)               *  275.69  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)              *    4.34  * Weir Max Depth (ft)        *    0.00  *
*                            *          * Weir Avg Depth (ft)        *          *
*                            *          * Weir Flow Area (sq ft)     *          *
*                            *          * Weir Coef (ft^1/2)         *    0.00  *
* Q Weir (cfs)               *    0.00  * Weir Submerg               *          *
* Q Gates (cfs)              *          *                            *          *
* Q Culv (cfs)               *    4.34  * Q Culv Group (cfs)         *    4.34  *
* Q RC (cfs)                 *          * # Barrels                  *       1  *
* Q Outlet TS (cfs)          *          * Culv Length (ft)           * 1517.54  *
* Q Breach (cfs)             *          * Culv Depth Blocked (ft)    *    0.00  *
* Breach Avg Velocity (ft/s) *          * Culv Inv El Up (ft)        *  306.21  *
* Breach Flow Area (sq ft)   *          * Culv Inv El Dn (ft)        *  275.77  *
* Breach WD (ft)             *          *                            *          *
* Breach Top El (ft)         *          * Culv Stage HW (ft)         *  307.16  *
* Breach Bottom El (ft)      *          * Culv Stage TW (ft)         *  276.38  *
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
*********************************************************************************


CONNECTION: RD(Humbug)C5C6CE


Number of Culverts =  3

Culvert Name     Shape      Rise    Span
C5AB           Pipe Arch       3    4.83
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     41.05     .024     .024        0                  .9
       1
Number of Barrels =  2
Upstream   Elevation =  252.98
Centerline Stations
```

```
    Sta.    Sta.
 1833.43 1839.16
Downstream Elevation =  252.78
Centerline Stations
    Sta.    Sta.
 1853.12 1858.92

Culvert Name     Shape      Rise    Span
C6ABC          Pipe Arch     3.3    5.41
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 1 - 90 Degree headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      40.97     .021     .021       .1                  .5
       1
Number of Barrels =  3
Upstream   Elevation =  253.86
Centerline Stations
    Sta.    Sta.    Sta.
 1636.77 1643.15  1649.6
Downstream Elevation =  253.69
Centerline Stations
    Sta.    Sta.    Sta.
 1658.52 1665.02 1670.84

Culvert Name     Shape      Rise    Span
C6D             Circular       7
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      48.52     .021     .021        0                  .9
       1
Upstream   Elevation =  253.73
           Centerline Station =  1656.28
Downstream Elevation =  253
           Centerline Station =  1677.64

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C5AB
*********************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  252.91  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)               *  252.59  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)              *   11.98  * Weir Max Depth (ft)        *    0.00  *
*                            *          * Weir Avg Depth (ft)        *          *
*                            *          * Weir Flow Area (sq ft)     *          *
*                            *          * Weir Coef (ft^1/2)         *    0.00  *
```

* Q Weir (cfs)	*	0.00	* Weir Submerg	*	*
* Q Gates (cfs)	*		*	*	*
* Q Culv (cfs)	*	11.98	* Q Culv Group (cfs)	*	6.36 *
* Q RC (cfs)	*		* # Barrels	*	2 *
* Q Outlet TS (cfs)	*		* Culv Length (ft)	*	41.05 *
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	*	0.00 *
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	*	252.98 *
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	*	252.78 *
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	*	253.58 *
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	*	253.44 *
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C6ABC

*	*		* Weir Sta US (ft)	*	*
* W.S. HW (ft)	*	252.91	* Weir Sta DS (ft)	*	*
*	*		* Min El Weir Flow (ft)	*	*
* W.S. TW (ft)	*	252.59	* Wr Top Wdth (ft)	*	*
* Q Total (cfs)	*	11.98	* Weir Max Depth (ft)	*	0.00 *
*	*		* Weir Avg Depth (ft)	*	*
*	*		* Weir Flow Area (sq ft)	*	*
*	*		* Weir Coef (ft^1/2)	*	0.00 *
* Q Weir (cfs)	*	0.00	* Weir Submerg	*	*
* Q Gates (cfs)	*		*	*	*
* Q Culv (cfs)	*	11.98	* Q Culv Group (cfs)	*	4.14 *
* Q RC (cfs)	*		* # Barrels	*	3 *
* Q Outlet TS (cfs)	*		* Culv Length (ft)	*	40.97 *
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	*	0.10 *
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	*	253.86 *
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	*	253.69 *
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	*	254.26 *
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	*	254.15 *
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C6D

*	*		* Weir Sta US (ft)	*	*
* W.S. HW (ft)	*	252.91	* Weir Sta DS (ft)	*	*
*	*		* Min El Weir Flow (ft)	*	*
* W.S. TW (ft)	*	252.59	* Wr Top Wdth (ft)	*	*
* Q Total (cfs)	*	11.98	* Weir Max Depth (ft)	*	0.00 *
*	*		* Weir Avg Depth (ft)	*	*
*	*		* Weir Flow Area (sq ft)	*	*
*	*		* Weir Coef (ft^1/2)	*	0.00 *

```
* Q Weir (cfs)               *    0.00  * Weir Submerg               *          *
* Q Gates (cfs)              *          *                            *          *
* Q Culv (cfs)               *   11.98  * Q Culv Group (cfs)         *    1.47  *
* Q RC (cfs)                 *          * # Barrels                  *       1  *
* Q Outlet TS (cfs)          *          * Culv Length (ft)           *   48.52  *
* Q Breach (cfs)             *          * Culv Depth Blocked (ft)    *    0.00  *
* Breach Avg Velocity (ft/s) *          * Culv Inv El Up (ft)        *  253.73  *
* Breach Flow Area (sq ft)   *          * Culv Inv El Dn (ft)        *  253.00  *
* Breach WD (ft)             *          *                            *          *
* Breach Top El (ft)         *          * Culv Stage HW (ft)         *  254.22  *
* Breach Bottom El (ft)      *          * Culv Stage TW (ft)         *  254.14  *
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
********************************************************************************


CONNECTION: RD(Humbug)CC3


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CC3            Pipe Arch     1.5    2.42
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     20.66     .024     .024        0                  .9
       1
Upstream   Elevation =  258.62
           Centerline Station =  27.5
Downstream Elevation =  257.84
           Centerline Station =  29.28


CONNECTION: RD(Humbug)CC4


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CC4             Circular       2
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 2 - Groove end entrance with headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     78.49     .011     .011        0                  .7
       1
```

```
Upstream   Elevation =  257.12
           Centerline Station =  10.1
Downstream Elevation =  256.53
           Centerline Station =  9.18


CONNECTION: RD(Humbug)CI


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CI              Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      41.06     .024     .024       .1                    .9
       1
Upstream   Elevation =  267.93
           Centerline Station =  160.36
Downstream Elevation =  267.24
           Centerline Station =  159.87


CONNECTION: RD(Humbug)CJ


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CJ              Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      40.05     .024     .024       .2                    .9
       1
Upstream   Elevation =  267.93
           Centerline Station =  135.27
Downstream Elevation =  263.88
           Centerline Station =  133.82


CONNECTION: RD(Humbug)CK


Number of Culverts =  1
```

```
Culvert Name     Shape      Rise    Span
CK              Circular       2
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.83     .024     .024        0                   .9
       1
Upstream   Elevation =  272.54
           Centerline Station =  104.04
Downstream Elevation =  271.9
           Centerline Station =  100.83


CONNECTION: RD(HumbugCD)


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CE              Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.65     .024     .024        0                   .9
       1
Upstream   Elevation =  279.23
           Centerline Station =  121.73
Downstream Elevation =  277.91
           Centerline Station =  107.6


CONNECTION: RD(HumbugS)CF


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CF              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     29.68     .013     .013        0                   .5
       1
```

```
Upstream   Elevation =  264.11
           Centerline Station =  275.57
Downstream Elevation =  263.56
           Centerline Station =  273.5


CONNECTION: RD(HumbugS)CG


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CG              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      36.49     .013     .013        0                   .5
       1
Upstream   Elevation =  265.33
           Centerline Station =  85.33
Downstream Elevation =  263.75
           Centerline Station =  85.04


CONNECTION: RD(HumbugS)CH


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CH              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      37.81     .013     .013        0                   .5
       1
Upstream   Elevation =  265.33
           Centerline Station =  108.9
Downstream Elevation =  264.02
           Centerline Station =  111.54


CONNECTION: RD(PotterMid)CA


Number of Culverts =  1
```

```
Culvert Name     Shape      Rise    Span
CA             Pipe Arch       1    1.67
FHWA Chart # 35- 18 inch corner radius; Corrugated metal
FHWA Scale # 1 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     41.24     .024     .024        0                   .9
       1
Upstream   Elevation =  269.32
           Centerline Station =  273.05
Downstream Elevation =  268.47
           Centerline Station =  272.19


CONNECTION: RD(PotterN)C1-C3


Number of Culverts =  3

Culvert Name     Shape      Rise    Span
C2AB           Pipe Arch    3.75    6.01
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.86     .024     .024      .25                 .9
       1
Number of Barrels =  2
Upstream   Elevation =  266.48
Centerline Stations
    Sta.    Sta.
 1275.41 1283.98
Downstream Elevation =  266.29
Centerline Stations
    Sta.    Sta.
 1280.34 1289.17

Culvert Name     Shape      Rise    Span
C1E            Pipe Arch    3.83    6.01
FHWA Chart # 36- 31 inch corner radius; Corrugated metal
FHWA Scale # 1 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     50.99     .024     .024      .25                 .9
       1
Upstream   Elevation =  268.57
```

```
           Centerline Station =  1667.26
Downstream Elevation =  268.23
           Centerline Station =  1658.01

Culvert Name     Shape      Rise    Span
C3A             Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     36.42     .024     .024        0                  .9
       1
Upstream   Elevation =  267.92
           Centerline Station =  919.01
Downstream Elevation =  267.45
           Centerline Station =  920.09

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C2AB
*********************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  266.41  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)               *  266.13  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)              *   17.92  * Weir Max Depth (ft)        *    0.00  *
*                            *          * Weir Avg Depth (ft)        *          *
*                            *          * Weir Flow Area (sq ft)     *          *
*                            *          * Weir Coef (ft^1/2)         *    0.50  *
* Q Weir (cfs)               *    0.00  * Weir Submerg               *          *
* Q Gates (cfs)              *          *                            *          *
* Q Culv (cfs)               *   17.92  * Q Culv Group (cfs)         *    7.33  *
* Q RC (cfs)                 *          * # Barrels                  *       2  *
* Q Outlet TS (cfs)          *          * Culv Length (ft)           *   40.86  *
* Q Breach (cfs)             *          * Culv Depth Blocked (ft)    *    0.25  *
* Breach Avg Velocity (ft/s) *          * Culv Inv El Up (ft)        *  266.48  *
* Breach Flow Area (sq ft)   *          * Culv Inv El Dn (ft)        *  266.29  *
* Breach WD (ft)             *          *                            *          *
* Breach Top El (ft)         *          * Culv Stage HW (ft)         *  267.20  *
* Breach Bottom El (ft)      *          * Culv Stage TW (ft)         *  266.68  *
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
*********************************************************************************

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C1E
*********************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  266.41  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)               *  266.13  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)              *   17.92  * Weir Max Depth (ft)        *    0.00  *
```

			Weir Avg Depth (ft)		
			Weir Flow Area (sq ft)		
			Weir Coef (ft^1/2)		0.50
Q Weir (cfs)		0.00	Weir Submerg		
Q Gates (cfs)					
Q Culv (cfs)		17.92	Q Culv Group (cfs)		7.92
Q RC (cfs)			# Barrels		1
Q Outlet TS (cfs)			Culv Length (ft)		50.99
Q Breach (cfs)			Culv Depth Blocked (ft)		0.25
Breach Avg Velocity (ft/s)			Culv Inv El Up (ft)		268.57
Breach Flow Area (sq ft)			Culv Inv El Dn (ft)		268.23
Breach WD (ft)					
Breach Top El (ft)			Culv Stage HW (ft)		269.30
Breach Bottom El (ft)			Culv Stage TW (ft)		268.72
Breach SSL (ft)					
Breach SSR (ft)					

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C3A

			Weir Sta US (ft)		
W.S. HW (ft)	266.41		Weir Sta DS (ft)		
			Min El Weir Flow (ft)		
W.S. TW (ft)	266.13		Wr Top Wdth (ft)		
Q Total (cfs)	17.92		Weir Max Depth (ft)		0.00
			Weir Avg Depth (ft)		
			Weir Flow Area (sq ft)		
			Weir Coef (ft^1/2)		0.50
Q Weir (cfs)	0.00		Weir Submerg		
Q Gates (cfs)					
Q Culv (cfs)	17.92		Q Culv Group (cfs)		2.66
Q RC (cfs)			# Barrels		1
Q Outlet TS (cfs)			Culv Length (ft)		36.42
Q Breach (cfs)			Culv Depth Blocked (ft)		0.00
Breach Avg Velocity (ft/s)			Culv Inv El Up (ft)		267.92
Breach Flow Area (sq ft)			Culv Inv El Dn (ft)		267.45
Breach WD (ft)					
Breach Top El (ft)			Culv Stage HW (ft)		269.28
Breach Bottom El (ft)			Culv Stage TW (ft)		267.89
Breach SSL (ft)					
Breach SSR (ft)					

CONNECTION: RD(PotterS)C4

Number of Culverts = 2

Culvert Name	Shape	Rise	Span

```
C4A             Circular       4
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      41.08     .011     .013        1                   .2
       1
Upstream   Elevation =  242.07
           Centerline Station =  976.72
Downstream Elevation =  241.54
           Centerline Station =  979.96

Culvert Name     Shape      Rise    Span
C4B             Circular       3
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                       46.3     .019     .019       .3                  .5
       1
Upstream   Elevation =  241.97
           Centerline Station =  981.14
Downstream Elevation =  239.9
           Centerline Station =  984.41


CONNECTION: RD(Sky)CC


Number of Culverts =  2

Culvert Name     Shape      Rise    Span
CC1            Pipe Arch     1.5    2.42
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 2 - Mitered to slope
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      40.39     .024     .024        0                   .9
       1
Upstream   Elevation =  260.61
           Centerline Station =  23.89
Downstream Elevation =  259.73
           Centerline Station =  28.33

Culvert Name     Shape      Rise    Span
CC2             Circular       1
FHWA Chart # 55-  Circular Culvert
```

FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     21.04   .009   .009   0   .9
       1
Upstream   Elevation = 260.84
           Centerline Station = 118.04
Downstream Elevation = 259.92
           Centerline Station = 118.09

CONNECTION: RD(Skyway)CB1

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CB1   Circular   1
FHWA Chart # 55- Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     20.66   .009   .009   0   .5
       1
Upstream   Elevation = 255.65
           Centerline Station = 122.88
Downstream Elevation = 254.85
           Centerline Station = 124.13

CONNECTION: RD(Skyway)CB2

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CB2   Circular   1.5
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     49.71   .024   .024   0   .9
       1
Upstream   Elevation = 253.82
           Centerline Station = 456.32
Downstream Elevation = 251.55
           Centerline Station = 456.14

CONNECTION: RDC1A

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
C1A   Circular   4.5
FHWA Chart # 55- Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     1082.6   .009   .009   0   .3
       1
Upstream   Elevation = 306.14
           Centerline Station = 14.07
Downstream Elevation = 281.78
           Centerline Station = 13.81

****

SUMMARY OF MANNING'S N VALUES

****

SUMMARY OF REACH LENGTHS

****

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

****

ERRORS WARNINGS AND NOTES

DRAFT

EXHIBIT
O.1.3

HEC-RAS HEC-RAS 5.0.7 March 2019
U.S. Army Corps of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```
X     X  XXXXXX    XXXX        XXXX       XX      XXXX
X     X  X        X    X       X   X     X  X    X
X     X  X        X            X   X    X    X   X
XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
X     X  X        X            X  X     X    X        X
X     X  X        X    X       X   X    X    X        X
X     X  XXXXXX    XXXX        X    X   X    X   XXXXX
```

****

PROJECT DATA
Project Title: HEC-RAS Model(2D) 15min hydro
Project File : Pre-2DUns (2,10,100,200) (2-20-20).prj
Run Date and Time:

Project in English units

Project Description:
CRS Info=<SpatialReference> <CoordinateSystem Code="2871"
Unit="US_survey_Foot" AcadCode="CAHP-IIF" /> <Registration OffsetX="0"
OffsetY="0" OffsetZ="0" ScaleX="1" ScaleY="1" ScaleZ="1" /></SpatialReference>

****

PLAN DATA

Plan Title: 2DPre Uns 100yr
Plan File : I:\Engineering\28100-Valley's Edge\Drainage 2019\GeoHEC-RAS\Pre-Project (Use)\2D Model\2D Pre- Uns (2,10,100,200)\RAS (2-20-20)\Pre-2DUns (2,10,100,200) (2-20-20).p03

Geometry Title: 2DPre Uns 100yr
Geometry File : I:\Engineering\28100-Valley's Edge\Drainage 2019\GeoHEC-RAS\Pre-Project (Use)\2D Model\2D Pre- Uns (2,10,100,200)\RAS (2-20-20)\Pre-2DUns (2,10,100,200) (2-20-20).g03

Flow Title   :
Flow File   :

Plan Description:

This plan represents the 100 year storm event scenario.

Plan Summary Information:
Number of: Cross Sections =   0   Multiple Openings =   0
            Culverts   =   0   Inline Structures =   0
            Bridges   =   0   Lateral Structures =   0

Computational Information
    Water surface calculation tolerance = 0.01
    Critical depth calculation tolerance = 0.01
    Maximum number of iterations   = 20
    Maximum difference tolerance   = 0.33
    Flow tolerance factor   = 0.001

Computation Options
    Critical depth computed only where necessary
    Conveyance Calculation Method: At breaks in n values only
    Friction Slope Method: Average Conveyance
    Computational Flow Regime: Subcritical Flow

****

GEOMETRY DATA

Geometry Title: 2DPre Uns 100yr
Geometry File : I:\Engineering\28100-Valley's Edge\Drainage 2019\GeoHEC-RAS\Pre-Project (Use)\2D Model\2D Pre- Uns (2,10,100,200)\RAS (2-20-20)\Pre-2DUns (2,10,100,200) (2-20-20).g03

STORAGE AREA: Pre-Flow Area
Volume Method : Area times depth
         Area : 1104.02
     Min Elev :

CONNECTION: RD(Dawncrest)C1B

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
C1B   Circular   3.5
FHWA Chart # 55- Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef

```
                  1517.54     .009     .009        0                  .5
       1
Upstream   Elevation =  306.21
           Centerline Station =  433.9
Downstream Elevation =  275.77
           Centerline Station =  179.63

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C1B
*********************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  306.00  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)               *  275.69  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)              *    4.34  * Weir Max Depth (ft)        *    0.00  *
*                            *          * Weir Avg Depth (ft)        *          *
*                            *          * Weir Flow Area (sq ft)     *          *
*                            *          * Weir Coef (ft^1/2)         *    0.00  *
* Q Weir (cfs)               *    0.00  * Weir Submerg               *          *
* Q Gates (cfs)              *          *                            *          *
* Q Culv (cfs)               *    4.34  * Q Culv Group (cfs)         *    4.34  *
* Q RC (cfs)                 *          * # Barrels                  *       1  *
* Q Outlet TS (cfs)          *          * Culv Length (ft)           * 1517.54  *
* Q Breach (cfs)             *          * Culv Depth Blocked (ft)    *    0.00  *
* Breach Avg Velocity (ft/s) *          * Culv Inv El Up (ft)        *  306.21  *
* Breach Flow Area (sq ft)   *          * Culv Inv El Dn (ft)        *  275.77  *
* Breach WD (ft)             *          *                            *          *
* Breach Top El (ft)         *          * Culv Stage HW (ft)         *  307.16  *
* Breach Bottom El (ft)      *          * Culv Stage TW (ft)         *  276.38  *
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
*********************************************************************************


CONNECTION: RD(Humbug)C5C6CE


Number of Culverts =  3

Culvert Name     Shape      Rise    Span
C5AB           Pipe Arch       3    4.83
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     41.05     .024     .024        0                  .9
       1
Number of Barrels =  2
Upstream   Elevation =  252.98
Centerline Stations
```

```
    Sta.    Sta.
 1833.43 1839.16
Downstream Elevation =  252.78
Centerline Stations
    Sta.    Sta.
 1853.12 1858.92

Culvert Name     Shape      Rise    Span
C6ABC          Pipe Arch     3.3    5.41
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 1 - 90 Degree headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      40.97     .021     .021       .1                  .5
       1
Number of Barrels =  3
Upstream   Elevation =  253.86
Centerline Stations
    Sta.    Sta.    Sta.
 1636.77 1643.15  1649.6
Downstream Elevation =  253.69
Centerline Stations
    Sta.    Sta.    Sta.
 1658.52 1665.02 1670.84

Culvert Name     Shape      Rise    Span
C6D             Circular       7
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      48.52     .021     .021        0                  .9
       1
Upstream   Elevation =  253.73
           Centerline Station =  1656.28
Downstream Elevation =  253
           Centerline Station =  1677.64

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C5AB
*************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  252.91  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)               *  252.59  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)              *   22.18  * Weir Max Depth (ft)        *    0.00  *
*                            *          * Weir Avg Depth (ft)        *          *
*                            *          * Weir Flow Area (sq ft)     *          *
*                            *          * Weir Coef (ft^1/2)         *    0.00  *
```

* Q Weir (cfs)	*	0.00	* Weir Submerg	*	*
* Q Gates (cfs)	*		*	*	*
* Q Culv (cfs)	*	22.18	* Q Culv Group (cfs)	*	8.45 *
* Q RC (cfs)	*		* # Barrels	*	2 *
* Q Outlet TS (cfs)	*		* Culv Length (ft)	*	41.05 *
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	*	0.00 *
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	*	252.98 *
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	*	252.78 *
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	*	253.68 *
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	*	253.52 *
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C6ABC

*	*		* Weir Sta US (ft)	*	*
* W.S. HW (ft)	*	252.91	* Weir Sta DS (ft)	*	*
*	*		* Min El Weir Flow (ft)	*	*
* W.S. TW (ft)	*	252.59	* Wr Top Wdth (ft)	*	*
* Q Total (cfs)	*	22.18	* Weir Max Depth (ft)	*	0.00 *
*	*		* Weir Avg Depth (ft)	*	*
*	*		* Weir Flow Area (sq ft)	*	*
*	*		* Weir Coef (ft^1/2)	*	0.00 *
* Q Weir (cfs)	*	0.00	* Weir Submerg	*	*
* Q Gates (cfs)	*		*	*	*
* Q Culv (cfs)	*	22.18	* Q Culv Group (cfs)	*	10.88 *
* Q RC (cfs)	*		* # Barrels	*	3 *
* Q Outlet TS (cfs)	*		* Culv Length (ft)	*	40.97 *
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	*	0.10 *
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	*	253.86 *
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	*	253.69 *
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	*	254.46 *
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	*	254.31 *
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C6D

*	*		* Weir Sta US (ft)	*	*
* W.S. HW (ft)	*	252.91	* Weir Sta DS (ft)	*	*
*	*		* Min El Weir Flow (ft)	*	*
* W.S. TW (ft)	*	252.59	* Wr Top Wdth (ft)	*	*
* Q Total (cfs)	*	22.18	* Weir Max Depth (ft)	*	0.00 *
*	*		* Weir Avg Depth (ft)	*	*
*	*		* Weir Flow Area (sq ft)	*	*
*	*		* Weir Coef (ft^1/2)	*	0.00 *

```
* Q Weir (cfs)               *    0.00  * Weir Submerg               *          *
* Q Gates (cfs)              *          *                           *          *
* Q Culv (cfs)               *   22.18  * Q Culv Group (cfs)         *    2.85  *
* Q RC (cfs)                 *          * # Barrels                  *       1  *
* Q Outlet TS (cfs)          *          * Culv Length (ft)          *   48.52  *
* Q Breach (cfs)             *          * Culv Depth Blocked (ft)    *    0.00  *
* Breach Avg Velocity (ft/s) *          * Culv Inv El Up (ft)        *  253.73  *
* Breach Flow Area (sq ft)   *          * Culv Inv El Dn (ft)        *  253.00  *
* Breach WD (ft)             *          *                           *          *
* Breach Top El (ft)         *          * Culv Stage HW (ft)         *  254.42  *
* Breach Bottom El (ft)      *          * Culv Stage TW (ft)         *  254.30  *
* Breach SSL (ft)            *          *                           *          *
* Breach SSR (ft)            *          *                           *          *
********************************************************************************


CONNECTION: RD(Humbug)CC3


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CC3            Pipe Arch     1.5    2.42
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     20.66     .024     .024        0                  .9
       1
Upstream   Elevation =  258.62
           Centerline Station =  27.5
Downstream Elevation =  257.84
           Centerline Station =  29.28


CONNECTION: RD(Humbug)CC4


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CC4             Circular       2
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 2 - Groove end entrance with headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     78.49     .011     .011        0                  .7
       1
```

```
Upstream   Elevation =  257.12
           Centerline Station =  10.1
Downstream Elevation =  256.53
           Centerline Station =  9.18


CONNECTION: RD(Humbug)CI


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CI              Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      41.06     .024     .024       .1                    .9
       1
Upstream   Elevation =  267.93
           Centerline Station =  160.36
Downstream Elevation =  267.24
           Centerline Station =  159.87


CONNECTION: RD(Humbug)CJ


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CJ              Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      40.05     .024     .024       .2                    .9
       1
Upstream   Elevation =  267.93
           Centerline Station =  135.27
Downstream Elevation =  263.88
           Centerline Station =  133.82


CONNECTION: RD(Humbug)CK


Number of Culverts =  1
```

```
Culvert Name     Shape      Rise    Span
CK              Circular       2
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.83     .024     .024        0                   .9
       1
Upstream   Elevation =  272.54
           Centerline Station =  104.04
Downstream Elevation =  271.9
           Centerline Station =  100.83


CONNECTION: RD(HumbugCD)


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CE              Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.65     .024     .024        0                   .9
       1
Upstream   Elevation =  279.23
           Centerline Station =  121.73
Downstream Elevation =  277.91
           Centerline Station =  107.6


CONNECTION: RD(HumbugS)CF


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CF              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     29.68     .013     .013        0                   .5
       1
```

```
Upstream   Elevation =  264.11
           Centerline Station =  275.57
Downstream Elevation =  263.56
           Centerline Station =  273.5


CONNECTION: RD(HumbugS)CG


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CG              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      36.49     .013     .013        0                   .5
       1
Upstream   Elevation =  265.33
           Centerline Station =  85.33
Downstream Elevation =  263.75
           Centerline Station =  85.04


CONNECTION: RD(HumbugS)CH


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CH              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      37.81     .013     .013        0                   .5
       1
Upstream   Elevation =  265.33
           Centerline Station =  108.9
Downstream Elevation =  264.02
           Centerline Station =  111.54


CONNECTION: RD(PotterMid)CA


Number of Culverts =  1
```

```
Culvert Name     Shape      Rise    Span
CA             Pipe Arch       1    1.67
FHWA Chart # 35- 18 inch corner radius; Corrugated metal
FHWA Scale # 1 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     41.24     .024     .024        0                   .9
       1
Upstream   Elevation =  269.32
           Centerline Station =  273.05
Downstream Elevation =  268.47
           Centerline Station =  272.19


CONNECTION: RD(PotterN)C1-C3


Number of Culverts =  3

Culvert Name     Shape      Rise    Span
C2AB           Pipe Arch    3.75    6.01
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.86     .024     .024      .25                 .9
       1
Number of Barrels =  2
Upstream   Elevation =  266.48
Centerline Stations
    Sta.    Sta.
 1275.41 1283.98
Downstream Elevation =  266.29
Centerline Stations
    Sta.    Sta.
 1280.34 1289.17

Culvert Name     Shape      Rise    Span
C1E            Pipe Arch    3.83    6.01
FHWA Chart # 36- 31 inch corner radius; Corrugated metal
FHWA Scale # 1 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     50.99     .024     .024      .25                 .9
       1
Upstream   Elevation =  268.57
```

```
           Centerline Station =  1667.26
Downstream Elevation =  268.23
           Centerline Station =  1658.01

Culvert Name     Shape      Rise    Span
C3A             Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     36.42     .024     .024        0                  .9
       1
Upstream   Elevation =  267.92
           Centerline Station =  919.01
Downstream Elevation =  267.45
           Centerline Station =  920.09

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C2AB
*********************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  266.41  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)               *  266.13  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)              *   22.92  * Weir Max Depth (ft)        *    0.00  *
*                            *          * Weir Avg Depth (ft)        *          *
*                            *          * Weir Flow Area (sq ft)     *          *
*                            *          * Weir Coef (ft^1/2)         *    0.50  *
* Q Weir (cfs)               *    0.00  * Weir Submerg               *          *
* Q Gates (cfs)              *          *                            *          *
* Q Culv (cfs)               *   22.92  * Q Culv Group (cfs)         *   12.31  *
* Q RC (cfs)                 *          * # Barrels                  *       2  *
* Q Outlet TS (cfs)          *          * Culv Length (ft)           *   40.86  *
* Q Breach (cfs)             *          * Culv Depth Blocked (ft)    *    0.25  *
* Breach Avg Velocity (ft/s) *          * Culv Inv El Up (ft)        *  266.48  *
* Breach Flow Area (sq ft)   *          * Culv Inv El Dn (ft)        *  266.29  *
* Breach WD (ft)             *          *                            *          *
* Breach Top El (ft)         *          * Culv Stage HW (ft)         *  267.37  *
* Breach Bottom El (ft)      *          * Culv Stage TW (ft)         *  266.79  *
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
*********************************************************************************

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C1E
*********************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  266.41  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)               *  266.13  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)              *   22.92  * Weir Max Depth (ft)        *    0.00  *
```

			Weir Avg Depth (ft)		
			Weir Flow Area (sq ft)		
			Weir Coef (ft^1/2)		0.50
Q Weir (cfs)		0.00	Weir Submerg		
Q Gates (cfs)					
Q Culv (cfs)		22.92	Q Culv Group (cfs)		7.92
Q RC (cfs)			# Barrels		1
Q Outlet TS (cfs)			Culv Length (ft)		50.99
Q Breach (cfs)			Culv Depth Blocked (ft)		0.25
Breach Avg Velocity (ft/s)			Culv Inv El Up (ft)		268.57
Breach Flow Area (sq ft)			Culv Inv El Dn (ft)		268.23
Breach WD (ft)					
Breach Top El (ft)			Culv Stage HW (ft)		269.30
Breach Bottom El (ft)			Culv Stage TW (ft)		268.72
Breach SSL (ft)					
Breach SSR (ft)					

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C3A

			Weir Sta US (ft)		
W.S. HW (ft)	266.41		Weir Sta DS (ft)		
			Min El Weir Flow (ft)		
W.S. TW (ft)	266.13		Wr Top Wdth (ft)		
Q Total (cfs)	22.92		Weir Max Depth (ft)		0.00
			Weir Avg Depth (ft)		
			Weir Flow Area (sq ft)		
			Weir Coef (ft^1/2)		0.50
Q Weir (cfs)	0.00		Weir Submerg		
Q Gates (cfs)					
Q Culv (cfs)	22.92		Q Culv Group (cfs)		2.69
Q RC (cfs)			# Barrels		1
Q Outlet TS (cfs)			Culv Length (ft)		36.42
Q Breach (cfs)			Culv Depth Blocked (ft)		0.00
Breach Avg Velocity (ft/s)			Culv Inv El Up (ft)		267.92
Breach Flow Area (sq ft)			Culv Inv El Dn (ft)		267.45
Breach WD (ft)					
Breach Top El (ft)			Culv Stage HW (ft)		269.31
Breach Bottom El (ft)			Culv Stage TW (ft)		267.89
Breach SSL (ft)					
Breach SSR (ft)					

CONNECTION: RD(PotterS)C4

Number of Culverts = 2

Culvert Name	Shape	Rise	Span

```
C4A             Circular       4
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      41.08     .011     .013        1                   .2
       1
Upstream   Elevation =  242.07
           Centerline Station =  976.72
Downstream Elevation =  241.54
           Centerline Station =  979.96

Culvert Name     Shape      Rise    Span
C4B             Circular       3
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                       46.3     .019     .019       .3                  .5
       1
Upstream   Elevation =  241.97
           Centerline Station =  981.14
Downstream Elevation =  239.9
           Centerline Station =  984.41


CONNECTION: RD(Sky)CC


Number of Culverts =  2

Culvert Name     Shape      Rise    Span
CC1            Pipe Arch     1.5    2.42
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 2 - Mitered to slope
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      40.39     .024     .024        0                   .9
       1
Upstream   Elevation =  260.61
           Centerline Station =  23.89
Downstream Elevation =  259.73
           Centerline Station =  28.33

Culvert Name     Shape      Rise    Span
CC2             Circular       1
FHWA Chart # 55-  Circular Culvert
```

FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     21.04   .009   .009   0   .9
       1
Upstream   Elevation = 260.84
           Centerline Station = 118.04
Downstream Elevation = 259.92
           Centerline Station = 118.09

CONNECTION: RD(Skyway)CB1

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CB1   Circular   1
FHWA Chart # 55- Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     20.66   .009   .009   0   .5
       1
Upstream   Elevation = 255.65
           Centerline Station = 122.88
Downstream Elevation = 254.85
           Centerline Station = 124.13

CONNECTION: RD(Skyway)CB2

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CB2   Circular   1.5
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     49.71   .024   .024   0   .9
       1
Upstream   Elevation = 253.82
           Centerline Station = 456.32
Downstream Elevation = 251.55
           Centerline Station = 456.14

CONNECTION: RDC1A

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
C1A   Circular   4.5
FHWA Chart # 55- Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     1082.6   .009   .009   0   .3
       1
Upstream   Elevation = 306.14
           Centerline Station = 14.07
Downstream Elevation = 281.78
           Centerline Station = 13.81

****

SUMMARY OF MANNING'S N VALUES

****

SUMMARY OF REACH LENGTHS

****

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

****

ERRORS WARNINGS AND NOTES

DRAFT

EXHIBIT
O.2.1

HEC-RAS HEC-RAS 5.0.7 March 2019
U.S. Army Corps of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```
X     X  XXXXXX    XXXX        XXXX       XX      XXXX
X     X  X        X    X      X   X     X  X    X
X     X  X        X           X   X    X    X   X
XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
X     X  X        X           X  X     X    X        X
X     X  X        X    X      X   X    X    X        X
X     X  XXXXXX    XXXX       X    X   X    X   XXXXX
```

****

PROJECT DATA
Project Title: HEC-RAS Model(2D) 15min hydro
Project File : 2D Uns- Post Final (2, 10, 100yr).prj
Run Date and Time:

Project in English units

Project Description:
CRS Info=<SpatialReference> <CoordinateSystem Code="2871"
Unit="US_survey_Foot" AcadCode="" /> <Registration OffsetX="0" OffsetY="0"
OffsetZ="0" ScaleX="1" ScaleY="1" ScaleZ="1" /></SpatialReference>

****

PLAN DATA

Plan Title: Post-Dev-Final (2yr)
Plan File : I:\Engineering\28100-Valley's Edge\Drainage
2019\GeoHEC-RAS\Post-Project\RAS (4-13-20)Final 2\RAS Final\2D Uns- Post Final (2,
10, 100yr).p10

Geometry Title: Post-Dev-Final (2yr)
Geometry File : I:\Engineering\28100-Valley's Edge\Drainage
2019\GeoHEC-RAS\Post-Project\RAS (4-13-20)Final 2\RAS Final\2D Uns- Post Final (2,
10, 100yr).g10

Flow Title   :
Flow File   :

Plan Description:

This plan represents the 2 year storm event scenario for the proposed (Post) Mitigated conditions.

Plan Summary Information:
Number of: Cross Sections = 0 Multiple Openings = 0
Culverts = 0 Inline Structures = 0
Bridges = 0 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.01
Critical depth calculation tolerance = 0.01
Maximum number of iterations = 20
Maximum difference tolerance = 0.33
Flow tolerance factor = 0.001

Computation Options
Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

****

GEOMETRY DATA

Geometry Title: Post-Dev-Final (2yr)
Geometry File : I:\Engineering\28100-Valley's Edge\Drainage 2019\GeoHEC-RAS\Post-Project\RAS (4-13-20)Final 2\RAS Final\2D Uns- Post Final (2, 10, 100yr).g10

STORAGE AREA: Pre-Flow Area
Volume Method : Area times depth
Area : 1104.02
Min Elev :

CONNECTION: RD(Collector)CP2

Number of Culverts = 3

Culvert Name	Shape	Rise	Span
CP2A	Circular	8	

FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG

Culvert	Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef

```
Exit Loss Coef
                     94.78     .024     .024        0                   .5
      1
Upstream   Elevation =  308.77
           Centerline Station =  395.42
Downstream Elevation =  307.39
           Centerline Station =  343.71

Culvert Name     Shape      Rise    Span
CP2B            Circular       6
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     96.02     .024     .024        0                   .5
      1
Upstream   Elevation =  316
           Centerline Station =  413.8
Downstream Elevation =  307.06
           Centerline Station =  355.55

Culvert Name     Shape      Rise    Span
CP2C            Circular       4
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                    109.47     .024     .024        0                   .5
      1
Upstream   Elevation =  318
           Centerline Station =  424.08
Downstream Elevation =  307.21
           Centerline Station =  365.28

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: CP2A
*********************************************************************************
*                           *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)              *  308.35  * Weir Sta DS (ft)           *          *
*                           *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)              *  307.06  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)             *   12.77  * Weir Max Depth (ft)        *    0.00  *
*                           *          * Weir Avg Depth (ft)        *          *
*                           *          * Weir Flow Area (sq ft)     *          *
*                           *          * Weir Coef (ft^1/2)         *    0.00  *
* Q Weir (cfs)              *    0.00  * Weir Submerg               *          *
* Q Gates (cfs)             *          *                            *          *
* Q Culv (cfs)              *   12.77  * Q Culv Group (cfs)         *   12.77  *
* Q RC (cfs)                *          * # Barrels                  *       1  *
```

* Q Outlet TS (cfs)	*	* Culv Length (ft)	*	94.78	*
* Q Breach (cfs)	*	* Culv Depth Blocked (ft)	*	0.00	*
* Breach Avg Velocity (ft/s)	*	* Culv Inv El Up (ft)	*	308.77	*
* Breach Flow Area (sq ft)	*	* Culv Inv El Dn (ft)	*	307.39	*
* Breach WD (ft)	*	*	*		*
* Breach Top El (ft)	*	* Culv Stage HW (ft)	*	310.07	*
* Breach Bottom El (ft)	*	* Culv Stage TW (ft)	*	307.69	*
* Breach SSL (ft)	*	*	*		*
* Breach SSR (ft)	*	*	*		*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: CP2B

*	*	* Weir Sta US (ft)	*		*
* W.S. HW (ft)	* 308.35	* Weir Sta DS (ft)	*		*
*	*	* Min El Weir Flow (ft)	*		*
* W.S. TW (ft)	* 307.06	* Wr Top Wdth (ft)	*		*
* Q Total (cfs)	* 12.77	* Weir Max Depth (ft)	*	0.00	*
*	*	* Weir Avg Depth (ft)	*		*
*	*	* Weir Flow Area (sq ft)	*		*
*	*	* Weir Coef (ft^1/2)	*	0.00	*
* Q Weir (cfs)	* 0.00	* Weir Submerg	*		*
* Q Gates (cfs)	*	*	*		*
* Q Culv (cfs)	* 12.77	* Q Culv Group (cfs)	*	0.00	*
* Q RC (cfs)	*	* # Barrels	*	1	*
* Q Outlet TS (cfs)	*	* Culv Length (ft)	*	96.02	*
* Q Breach (cfs)	*	* Culv Depth Blocked (ft)	*	0.00	*
* Breach Avg Velocity (ft/s)	*	* Culv Inv El Up (ft)	*	316.00	*
* Breach Flow Area (sq ft)	*	* Culv Inv El Dn (ft)	*	307.06	*
* Breach WD (ft)	*	*	*		*
* Breach Top El (ft)	*	* Culv Stage HW (ft)	*	310.07	*
* Breach Bottom El (ft)	*	* Culv Stage TW (ft)	*	307.45	*
* Breach SSL (ft)	*	*	*		*
* Breach SSR (ft)	*	*	*		*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: CP2C

*	*	* Weir Sta US (ft)	*		*
* W.S. HW (ft)	* 308.35	* Weir Sta DS (ft)	*		*
*	*	* Min El Weir Flow (ft)	*		*
* W.S. TW (ft)	* 307.06	* Wr Top Wdth (ft)	*		*
* Q Total (cfs)	* 12.77	* Weir Max Depth (ft)	*	0.00	*
*	*	* Weir Avg Depth (ft)	*		*
*	*	* Weir Flow Area (sq ft)	*		*
*	*	* Weir Coef (ft^1/2)	*	0.00	*
* Q Weir (cfs)	* 0.00	* Weir Submerg	*		*
* Q Gates (cfs)	*	*	*		*
* Q Culv (cfs)	* 12.77	* Q Culv Group (cfs)	*	0.00	*
* Q RC (cfs)	*	* # Barrels	*	1	*

```
* Q Outlet TS (cfs)          *          * Culv Length (ft)           *  109.47  *
* Q Breach (cfs)             *          * Culv Depth Blocked (ft)    *    0.00  *
* Breach Avg Velocity (ft/s) *          * Culv Inv El Up (ft)        *  318.00  *
* Breach Flow Area (sq ft)   *          * Culv Inv El Dn (ft)        *  307.21  *
* Breach WD (ft)             *          *                            *          *
* Breach Top El (ft)         *          * Culv Stage HW (ft)         *  318.00  *
* Breach Bottom El (ft)      *          * Culv Stage TW (ft)         *  307.28  *
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
*********************************************************************************


CONNECTION: RD(Collector)CP3


Number of Culverts =  2

Culvert Name     Shape      Rise    Span
CP3B            Circular       3
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     150.73     .024     .024        0                  .9
      1
Upstream   Elevation =  311.82
           Centerline Station =  839.82
Downstream Elevation =  302.15
           Centerline Station =  842.61

Culvert Name     Shape      Rise    Span
CP3A            Circular       2
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     142.34     .024     .024        0                  .9
      1
Upstream   Elevation =  314.55
           Centerline Station =  816.91
Downstream Elevation =  302.51
           Centerline Station =  828.74

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: CP3B
*********************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  298.50  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
```

* W.S. TW (ft)	* 298.41	* Wr Top Wdth (ft)	*		*
* Q Total (cfs)	* 2.00	* Weir Max Depth (ft)	*	0.00	*
*	*	* Weir Avg Depth (ft)	*		*
*	*	* Weir Flow Area (sq ft)	*		*
*	*	* Weir Coef (ft^1/2)	*	0.00	*
* Q Weir (cfs)	* 0.00	* Weir Submerg	*		*
* Q Gates (cfs)	*	*	*		*
* Q Culv (cfs)	* 2.00	* Q Culv Group (cfs)	*	2.00	*
* Q RC (cfs)	*	* # Barrels	*	1	*
* Q Outlet TS (cfs)	*	* Culv Length (ft)	*	150.73	*
* Q Breach (cfs)	*	* Culv Depth Blocked (ft)	*	0.00	*
* Breach Avg Velocity (ft/s)	*	* Culv Inv El Up (ft)	*	311.82	*
* Breach Flow Area (sq ft)	*	* Culv Inv El Dn (ft)	*	302.15	*
* Breach WD (ft)	*	*	*		*
* Breach Top El (ft)	*	* Culv Stage HW (ft)	*	312.54	*
* Breach Bottom El (ft)	*	* Culv Stage TW (ft)	*	301.95	*
* Breach SSL (ft)	*	*	*		*
* Breach SSR (ft)	*	*	*		*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: CP3A

*	*	* Weir Sta US (ft)	*		*
* W.S. HW (ft)	* 298.50	* Weir Sta DS (ft)	*		*
*	*	* Min El Weir Flow (ft)	*		*
* W.S. TW (ft)	* 298.41	* Wr Top Wdth (ft)	*		*
* Q Total (cfs)	* 2.00	* Weir Max Depth (ft)	*	0.00	*
*	*	* Weir Avg Depth (ft)	*		*
*	*	* Weir Flow Area (sq ft)	*		*
*	*	* Weir Coef (ft^1/2)	*	0.00	*
* Q Weir (cfs)	* 0.00	* Weir Submerg	*		*
* Q Gates (cfs)	*	*	*		*
* Q Culv (cfs)	* 2.00	* Q Culv Group (cfs)	*	0.00	*
* Q RC (cfs)	*	* # Barrels	*	1	*
* Q Outlet TS (cfs)	*	* Culv Length (ft)	*	142.34	*
* Q Breach (cfs)	*	* Culv Depth Blocked (ft)	*	0.00	*
* Breach Avg Velocity (ft/s)	*	* Culv Inv El Up (ft)	*	314.55	*
* Breach Flow Area (sq ft)	*	* Culv Inv El Dn (ft)	*	302.51	*
* Breach WD (ft)	*	*	*		*
* Breach Top El (ft)	*	* Culv Stage HW (ft)	*	314.55	*
* Breach Bottom El (ft)	*	* Culv Stage TW (ft)	*	302.32	*
* Breach SSL (ft)	*	*	*		*
* Breach SSR (ft)	*	*	*		*

CONNECTION: RD(Collector)CP4

Number of Culverts = 2

```
Culvert Name     Shape      Rise    Span
CP4A            Circular       4
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                    103.26     .024     .024        0                   .5
      1
Upstream   Elevation =  266.57
           Centerline Station =  453.99
Downstream Elevation =  264.19
           Centerline Station =  401.67

Culvert Name     Shape      Rise    Span
CP4B            Circular     4.5
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     99.41     .024     .024        0                   .5
      1
Upstream   Elevation =  274
           Centerline Station =  467.31
Downstream Elevation =  264.73
           Centerline Station =  413.76

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: CP4A
*************************************************************************
*                           *          * Weir Sta US (ft)          *          *
* W.S. HW (ft)              *  266.45  * Weir Sta DS (ft)          *          *
*                           *          * Min El Weir Flow (ft)     *          *
* W.S. TW (ft)              *  263.83  * Wr Top Wdth (ft)          *          *
* Q Total (cfs)             *   10.00  * Weir Max Depth (ft)       *    0.00  *
*                           *          * Weir Avg Depth (ft)       *          *
*                           *          * Weir Flow Area (sq ft)    *          *
*                           *          * Weir Coef (ft^1/2)        *    0.00  *
* Q Weir (cfs)              *    0.00  * Weir Submerg              *          *
* Q Gates (cfs)             *          *                           *          *
* Q Culv (cfs)              *   10.00  * Q Culv Group (cfs)        *   10.00  *
* Q RC (cfs)                *          * # Barrels                 *       1  *
* Q Outlet TS (cfs)         *          * Culv Length (ft)          *  103.26  *
* Q Breach (cfs)            *          * Culv Depth Blocked (ft)   *    0.00  *
* Breach Avg Velocity (ft/s) *         * Culv Inv El Up (ft)       *  266.57  *
* Breach Flow Area (sq ft)  *          * Culv Inv El Dn (ft)       *  264.19  *
* Breach WD (ft)            *          *                           *          *
* Breach Top El (ft)        *          * Culv Stage HW (ft)        *  267.96  *
* Breach Bottom El (ft)     *          * Culv Stage TW (ft)        *  264.53  *
```

```
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
*********************************************************************************

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: CP4B
*********************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  266.45  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)               *  263.83  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)              *   10.00  * Weir Max Depth (ft)        *    0.00  *
*                            *          * Weir Avg Depth (ft)        *          *
*                            *          * Weir Flow Area (sq ft)     *          *
*                            *          * Weir Coef (ft^1/2)         *    0.00  *
* Q Weir (cfs)               *    0.00  * Weir Submerg               *          *
* Q Gates (cfs)              *          *                            *          *
* Q Culv (cfs)               *   10.00  * Q Culv Group (cfs)         *    0.00  *
* Q RC (cfs)                 *          * # Barrels                  *       1  *
* Q Outlet TS (cfs)          *          * Culv Length (ft)           *   99.41  *
* Q Breach (cfs)             *          * Culv Depth Blocked (ft)    *    0.00  *
* Breach Avg Velocity (ft/s) *          * Culv Inv El Up (ft)        *  274.00  *
* Breach Flow Area (sq ft)   *          * Culv Inv El Dn (ft)        *  264.73  *
* Breach WD (ft)             *          *                            *          *
* Breach Top El (ft)         *          * Culv Stage HW (ft)         *  274.00  *
* Breach Bottom El (ft)      *          * Culv Stage TW (ft)         *  264.52  *
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
*********************************************************************************


CONNECTION: RD(Dawncrest)C1B


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
C1B             Circular     3.5
FHWA Chart # 55-  Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                    1517.54     .009     .009        0                  .5
      1
Upstream   Elevation =  306.21
           Centerline Station =  433.9
Downstream Elevation =  275.77
           Centerline Station =  179.63

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C1B
```

			Weir Sta US (ft)		
W.S. HW (ft)	306.13		Weir Sta DS (ft)		
			Min El Weir Flow (ft)		
W.S. TW (ft)	275.69		Wr Top Wdth (ft)		
Q Total (cfs)	2.70		Weir Max Depth (ft)	0.00	
			Weir Avg Depth (ft)		
			Weir Flow Area (sq ft)		
			Weir Coef (ft^1/2)	0.00	
Q Weir (cfs)	0.00		Weir Submerg		
Q Gates (cfs)					
Q Culv (cfs)	2.70		Q Culv Group (cfs)	2.70	
Q RC (cfs)			# Barrels	1	
Q Outlet TS (cfs)			Culv Length (ft)	1517.54	
Q Breach (cfs)			Culv Depth Blocked (ft)	0.00	
Breach Avg Velocity (ft/s)			Culv Inv El Up (ft)	306.21	
Breach Flow Area (sq ft)			Culv Inv El Dn (ft)	275.77	
Breach WD (ft)					
Breach Top El (ft)			Culv Stage HW (ft)	306.94	
Breach Bottom El (ft)			Culv Stage TW (ft)	276.43	
Breach SSL (ft)					
Breach SSR (ft)					

CONNECTION: RD(Humbug)C5C6CE

Number of Culverts = 4

Culvert Name	Shape	Rise	Span
C5AB	Pipe Arch	3	4.83

FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG

Culvert	Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
		41.05	.024	.024	0	.9	1

Number of Barrels = 2
Upstream Elevation = 252.98
Centerline Stations

Sta.	Sta.
1833.43	1839.16

Downstream Elevation = 252.78
Centerline Stations

Sta.	Sta.
1853.12	1858.92

Culvert Name	Shape	Rise	Span

```
C6ABC          Pipe Arch     3.3    5.41
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 1 - 90 Degree headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      40.97     .021     .021       .1                  .5
      1
Number of Barrels =  3
Upstream   Elevation =  253.86
Centerline Stations
    Sta.    Sta.    Sta.
 1636.77 1643.15  1649.6
Downstream Elevation =  253.69
Centerline Stations
    Sta.    Sta.    Sta.
 1658.52 1665.02 1670.84

Culvert Name     Shape      Rise    Span
C6D             Circular       7
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      48.52     .021     .021        0                  .9
      1
Upstream   Elevation =  253.73
           Centerline Station =  1656.28
Downstream Elevation =  253
           Centerline Station =  1677.64

Culvert Name     Shape      Rise    Span
CE Plugged      Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      46.72     .024     .024        0                  .9
      1
Upstream   Elevation =  267.1
           Centerline Station =  215.52
Downstream Elevation =  264.98
           Centerline Station =  210.3

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C5AB
************************************************************************
*                           *          * Weir Sta US (ft)           *   19.95  *
* W.S. HW (ft)              *  252.94  * Weir Sta DS (ft)           *  309.95  *
```

			Min El Weir Flow (ft)		
W.S. TW (ft)	252.60		Wr Top Wdth (ft)	17.24	
Q Total (cfs)	11.00		Weir Max Depth (ft)	0.03	
			Weir Avg Depth (ft)	0.00	
			Weir Flow Area (sq ft)	0.07	
			Weir Coef (ft^1/2)	1.50	
Q Weir (cfs)	0.00		Weir Submerg	0.00	
Q Gates (cfs)					
Q Culv (cfs)	11.00		Q Culv Group (cfs)	3.00	
Q RC (cfs)			# Barrels	2	
Q Outlet TS (cfs)			Culv Length (ft)	41.05	
Q Breach (cfs)			Culv Depth Blocked (ft)	0.00	
Breach Avg Velocity (ft/s)			Culv Inv El Up (ft)	252.98	
Breach Flow Area (sq ft)			Culv Inv El Dn (ft)	252.78	
Breach WD (ft)					
Breach Top El (ft)			Culv Stage HW (ft)	253.42	
Breach Bottom El (ft)			Culv Stage TW (ft)	253.37	
Breach SSL (ft)					
Breach SSR (ft)					

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C6ABC

			Weir Sta US (ft)	19.95	
W.S. HW (ft)	252.94		Weir Sta DS (ft)	309.95	
			Min El Weir Flow (ft)		
W.S. TW (ft)	252.60		Wr Top Wdth (ft)	17.24	
Q Total (cfs)	11.00		Weir Max Depth (ft)	0.03	
			Weir Avg Depth (ft)	0.00	
			Weir Flow Area (sq ft)	0.07	
			Weir Coef (ft^1/2)	1.50	
Q Weir (cfs)	0.00		Weir Submerg	0.00	
Q Gates (cfs)					
Q Culv (cfs)	11.00		Q Culv Group (cfs)	6.22	
Q RC (cfs)			# Barrels	3	
Q Outlet TS (cfs)			Culv Length (ft)	40.97	
Q Breach (cfs)			Culv Depth Blocked (ft)	0.10	
Breach Avg Velocity (ft/s)			Culv Inv El Up (ft)	253.86	
Breach Flow Area (sq ft)			Culv Inv El Dn (ft)	253.69	
Breach WD (ft)					
Breach Top El (ft)			Culv Stage HW (ft)	254.32	
Breach Bottom El (ft)			Culv Stage TW (ft)	254.22	
Breach SSL (ft)					
Breach SSR (ft)					

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C6D

			Weir Sta US (ft)	19.95	
W.S. HW (ft)	252.94		Weir Sta DS (ft)	309.95	

*		*	* Min El Weir Flow (ft)	*	*
* W.S. TW (ft)	* 252.60	*	* Wr Top Wdth (ft)	* 17.24	*
* Q Total (cfs)	* 11.00	*	* Weir Max Depth (ft)	* 0.03	*
*	*		* Weir Avg Depth (ft)	* 0.00	*
*	*		* Weir Flow Area (sq ft)	* 0.07	*
*	*		* Weir Coef (ft^1/2)	* 1.50	*
* Q Weir (cfs)	* 0.00	*	* Weir Submerg	* 0.00	*
* Q Gates (cfs)	*		*	*	*
* Q Culv (cfs)	* 11.00	*	* Q Culv Group (cfs)	* 1.78	*
* Q RC (cfs)	*		* # Barrels	* 1	*
* Q Outlet TS (cfs)	*		* Culv Length (ft)	* 48.52	*
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	* 0.00	*
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	* 253.73	*
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	* 253.00	*
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	* 254.27	*
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	* 254.22	*
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: CE Plugged

*		*	* Weir Sta US (ft)	* 19.95	*
* W.S. HW (ft)	* 252.94	*	* Weir Sta DS (ft)	* 309.95	*
*	*		* Min El Weir Flow (ft)	*	*
* W.S. TW (ft)	* 252.60	*	* Wr Top Wdth (ft)	* 17.24	*
* Q Total (cfs)	* 11.00	*	* Weir Max Depth (ft)	* 0.03	*
*	*		* Weir Avg Depth (ft)	* 0.00	*
*	*		* Weir Flow Area (sq ft)	* 0.07	*
*	*		* Weir Coef (ft^1/2)	* 1.50	*
* Q Weir (cfs)	* 0.00	*	* Weir Submerg	* 0.00	*
* Q Gates (cfs)	*		*	*	*
* Q Culv (cfs)	* 11.00	*	* Q Culv Group (cfs)	* 0.00	*
* Q RC (cfs)	*		* # Barrels	* 1	*
* Q Outlet TS (cfs)	*		* Culv Length (ft)	* 46.72	*
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	* 0.00	*
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	* 267.10	*
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	* 264.98	*
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	* 266.02	*
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	* 263.73	*
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

CONNECTION: RD(Humbug)CC3

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CC3   Pipe Arch   1.5   2.42
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     20.66   .024   .024   0   .9
      1
Upstream   Elevation = 258.62
           Centerline Station = 27.5
Downstream Elevation = 257.84
           Centerline Station = 29.28

CONNECTION: RD(Humbug)CC4

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CC4   Circular   2
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 2 - Groove end entrance with headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     78.49   .011   .011   0   .7
      1
Upstream   Elevation = 257.12
           Centerline Station = 10.1
Downstream Elevation = 256.53
           Centerline Station = 9.18

CONNECTION: RD(Humbug)CI

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CI   Circular   1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     41.06   .024   .024   .1   .9

```
      1
Upstream   Elevation =  267.93
           Centerline Station =  160.36
Downstream Elevation =  267.24
           Centerline Station =  159.87


CONNECTION: RD(Humbug)CJ


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CJ              Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.05     .024     .024       .2                   .9
      1
Upstream   Elevation =  267.93
           Centerline Station =  135.27
Downstream Elevation =  263.88
           Centerline Station =  133.82


CONNECTION: RD(Humbug)CK


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CK              Circular       2
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.83     .024     .024        0                   .9
      1
Upstream   Elevation =  272.54
           Centerline Station =  104.04
Downstream Elevation =  271.9
           Centerline Station =  100.83


CONNECTION: RD(HumbugCD)
```

```
Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CE              Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.65     .024     .024        0                   .9
      1
Upstream   Elevation =  279.23
           Centerline Station =  121.73
Downstream Elevation =  277.91
           Centerline Station =  107.6


CONNECTION: RD(HumbugS)CF


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CF              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     29.68     .013     .013        0                   .5
      1
Upstream   Elevation =  264.11
           Centerline Station =  275.57
Downstream Elevation =  263.56
           Centerline Station =  273.5


CONNECTION: RD(HumbugS)CG


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CG              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     36.49     .013     .013        0                   .5
```

```
      1
Upstream   Elevation =  265.33
           Centerline Station =  85.33
Downstream Elevation =  263.75
           Centerline Station =  85.04


CONNECTION: RD(HumbugS)CH


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CH              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      37.81     .013     .013        0                   .5
      1
Upstream   Elevation =  265.33
           Centerline Station =  108.9
Downstream Elevation =  264.02
           Centerline Station =  111.54


CONNECTION: RD(Minor)CP6


Number of Culverts =  2

Culvert Name     Shape      Rise    Span
CP6                 Box      12      12
FHWA Chart # 16- Corrugated metal box culvert
FHWA Scale # 1 - 90 degree headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     174.06     .024     .024        0                   .5
      1
Number of Barrels =  2
Upstream   Elevation =  261.42
Centerline Stations
    Sta.    Sta.
  520.05  536.02
Downstream Elevation =  260.74
Centerline Stations
    Sta.    Sta.
  555.01  570.47
```

```
Culvert Name     Shape      Rise    Span
CP5             Circular       6
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     65.49     .024     .024        0                   .5
      1
Upstream   Elevation =  267.5
           Centerline Station =  668.8
Downstream Elevation =  261.36
           Centerline Station =  713.49


CONNECTION: RD(PotterMid)CA


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CA              Pipe Arch       1    1.67
FHWA Chart # 35- 18 inch corner radius; Corrugated metal
FHWA Scale # 1 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     41.24     .024     .024        0                   .9
      1
Upstream   Elevation =  269.32
           Centerline Station =  273.05
Downstream Elevation =  268.47
           Centerline Station =  272.19


CONNECTION: RD(PotterN)C1-C3


Number of Culverts =  3

Culvert Name     Shape      Rise    Span
C2AB            Pipe Arch    3.75    6.01
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.86     .024     .024      .25                   .9
      1
```

```
Number of Barrels =  2
Upstream   Elevation =  266.48
Centerline Stations
    Sta.    Sta.
 1275.41 1283.98
Downstream Elevation =  266.29
Centerline Stations
    Sta.    Sta.
 1280.34 1289.17

Culvert Name     Shape      Rise    Span
C1E            Pipe Arch    3.83    6.01
FHWA Chart # 36- 31 inch corner radius; Corrugated metal
FHWA Scale # 1 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     50.99     .024     .024      .25                  .9
      1
Upstream   Elevation =  268.57
           Centerline Station =  1667.26
Downstream Elevation =  268.23
           Centerline Station =  1658.01

Culvert Name     Shape      Rise    Span
C3A             Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     36.42     .024     .024        0                  .9
      1
Upstream   Elevation =  267.92
           Centerline Station =  919.01
Downstream Elevation =  267.45
           Centerline Station =  920.09

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C2AB
************************************************************************
*                           *          * Weir Sta US (ft)          *          *
* W.S. HW (ft)              *  266.41  * Weir Sta DS (ft)          *          *
*                           *          * Min El Weir Flow (ft)     *          *
* W.S. TW (ft)              *  266.28  * Wr Top Wdth (ft)          *          *
* Q Total (cfs)             *   20.27  * Weir Max Depth (ft)       *    0.00  *
*                           *          * Weir Avg Depth (ft)       *          *
*                           *          * Weir Flow Area (sq ft)    *          *
*                           *          * Weir Coef (ft^1/2)        *    0.50  *
* Q Weir (cfs)              *    0.00  * Weir Submerg              *          *
* Q Gates (cfs)             *          *                           *          *
```

* Q Culv (cfs)	*	20.27	* Q Culv Group (cfs)	*	14.03 *
* Q RC (cfs)	*		* # Barrels	*	2 *
* Q Outlet TS (cfs)	*		* Culv Length (ft)	*	40.86 *
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	*	0.25 *
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	*	266.48 *
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	*	266.29 *
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	*	267.42 *
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	*	266.83 *
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C1E

*	*		* Weir Sta US (ft)	*	*
* W.S. HW (ft)	*	266.41	* Weir Sta DS (ft)	*	*
*	*		* Min El Weir Flow (ft)	*	*
* W.S. TW (ft)	*	266.28	* Wr Top Wdth (ft)	*	*
* Q Total (cfs)	*	20.27	* Weir Max Depth (ft)	*	0.00 *
*	*		* Weir Avg Depth (ft)	*	*
*	*		* Weir Flow Area (sq ft)	*	*
*	*		* Weir Coef (ft^1/2)	*	0.50 *
* Q Weir (cfs)	*	0.00	* Weir Submerg	*	*
* Q Gates (cfs)	*		*	*	*
* Q Culv (cfs)	*	20.27	* Q Culv Group (cfs)	*	4.00 *
* Q RC (cfs)	*		* # Barrels	*	1 *
* Q Outlet TS (cfs)	*		* Culv Length (ft)	*	50.99 *
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	*	0.25 *
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	*	268.57 *
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	*	268.23 *
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	*	269.14 *
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	*	268.74 *
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C3A

*	*		* Weir Sta US (ft)	*	*
* W.S. HW (ft)	*	266.41	* Weir Sta DS (ft)	*	*
*	*		* Min El Weir Flow (ft)	*	*
* W.S. TW (ft)	*	266.28	* Wr Top Wdth (ft)	*	*
* Q Total (cfs)	*	20.27	* Weir Max Depth (ft)	*	0.00 *
*	*		* Weir Avg Depth (ft)	*	*
*	*		* Weir Flow Area (sq ft)	*	*
*	*		* Weir Coef (ft^1/2)	*	0.50 *
* Q Weir (cfs)	*	0.00	* Weir Submerg	*	*
* Q Gates (cfs)	*		*	*	*

* Q Culv (cfs)	*	20.27	* Q Culv Group (cfs)	*	2.24 *
* Q RC (cfs)	*		* # Barrels	*	1 *
* Q Outlet TS (cfs)	*		* Culv Length (ft)	*	36.42 *
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	*	0.00 *
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	*	267.92 *
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	*	267.45 *
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	*	269.06 *
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	*	267.95 *
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

CONNECTION: RD(PotterS)C4

Number of Culverts = 2

Culvert Name	Shape	Rise	Span
C4A	Circular	4	

FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG

Culvert	Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
		41.08	.011	.013	1	.2	1

Upstream Elevation = 242.07
Centerline Station = 976.72
Downstream Elevation = 241.54
Centerline Station = 979.96

Culvert Name	Shape	Rise	Span
C4B	Circular	3	

FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG

Culvert	Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
		46.3	.019	.019	.3	.5	1

Upstream Elevation = 241.97
Centerline Station = 981.14
Downstream Elevation = 239.9
Centerline Station = 984.41

CONNECTION: RD(Sky)CC

```
Number of Culverts =  2

Culvert Name     Shape      Rise    Span
CC1            Pipe Arch     1.5    2.42
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 2 - Mitered to slope
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.39     .024     .024        0                   .9
      1
Upstream   Elevation =  260.61
           Centerline Station =  23.89
Downstream Elevation =  259.73
           Centerline Station =  28.33

Culvert Name     Shape      Rise    Span
CC2             Circular       1
FHWA Chart # 55-  Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     21.04     .009     .009        0                   .9
      1
Upstream   Elevation =  260.84
           Centerline Station =  118.04
Downstream Elevation =  259.92
           Centerline Station =  118.09


CONNECTION: RD(Skyway)CB1


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CB1             Circular       1
FHWA Chart # 55-  Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     20.66     .009     .009        0                   .5
      1
Upstream   Elevation =  255.65
           Centerline Station =  122.88
Downstream Elevation =  254.85
           Centerline Station =  124.13
```

CONNECTION: RD(Skyway)CB2

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CB2   Circular   1.5
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     49.71   .024   .024   0   .9
      1
Upstream   Elevation = 253.82
           Centerline Station = 456.32
Downstream Elevation = 251.55
           Centerline Station = 456.14

CONNECTION: RD(Skyway)CB3

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CB3 Plugged   Circular   1
FHWA Chart # 55- Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     19.09   .024   .024   0   .9
      1
Upstream   Elevation = 262.75
           Centerline Station = 93.7
Downstream Elevation = 262.71
           Centerline Station = 94.77

CONNECTION: RDC1A

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
C1A   Circular   4.5
FHWA Chart # 55- Circular Culvert

```
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     1082.6     .009     .009        0                   .3
      1
Upstream   Elevation =  306.14
           Centerline Station =  14.07
Downstream Elevation =  281.78
           Centerline Station =  13.81


CONNECTION: RDCollectorCP4T


Number of Culverts =  2

Culvert Name     Shape      Rise    Span
CP4TB           Circular     3.5
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     397.06     .024     .024        0                   .5
      1
Upstream   Elevation =  278.5
           Centerline Station =  426.8
Downstream Elevation =  264.69
           Centerline Station =  484.97

Culvert Name     Shape      Rise    Span
CP4TA           Circular       2
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     437.85     .024     .024        0                   .5
      1
Upstream   Elevation =  274.45
           Centerline Station =  418.23
Downstream Elevation =  263.75
           Centerline Station =  453.84

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

SUMMARY OF MANNING'S N VALUES

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SUMMARY OF REACH LENGTHS

****

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

****

ERRORS WARNINGS AND NOTES

DRAFT

EXHIBIT
O.2.2

HEC-RAS HEC-RAS 5.0.7 March 2019
U.S. Army Corps of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```
X     X  XXXXXX    XXXX        XXXX       XX      XXXX
X     X  X        X    X      X   X     X  X    X
X     X  X        X           X   X    X    X   X
XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
X     X  X        X           X  X     X    X        X
X     X  X        X    X      X   X    X    X        X
X     X  XXXXXX    XXXX       X    X   X    X   XXXXX
```

****

PROJECT DATA
Project Title: HEC-RAS Model(2D) 15min hydro
Project File : 2D Uns- Post Final (2, 10, 100yr).prj
Run Date and Time:

Project in English units

Project Description:
CRS Info=<SpatialReference> <CoordinateSystem Code="2871"
Unit="US_survey_Foot" AcadCode="" /> <Registration OffsetX="0" OffsetY="0"
OffsetZ="0" ScaleX="1" ScaleY="1" ScaleZ="1" /></SpatialReference>

****

PLAN DATA

Plan Title: Post-Dev-Final (10yr)
Plan File : I:\Engineering\28100-Valley's Edge\Drainage
2019\GeoHEC-RAS\Post-Project\RAS (4-13-20)Final 2\RAS Final\2D Uns- Post Final (2,
10, 100yr).p01

Geometry Title: Post-Dev-Final (10yr)
Geometry File : I:\Engineering\28100-Valley's Edge\Drainage
2019\GeoHEC-RAS\Post-Project\RAS (4-13-20)Final 2\RAS Final\2D Uns- Post Final (2,
10, 100yr).g01

Flow Title   :
Flow File   :

Plan Description:

This plan represents the 2 year storm event scenario for the proposed (Post) Mitigated conditions.

Plan Summary Information:
Number of: Cross Sections = 0 Multiple Openings = 0
Culverts = 0 Inline Structures = 0
Bridges = 0 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.01
Critical depth calculation tolerance = 0.01
Maximum number of iterations = 20
Maximum difference tolerance = 0.33
Flow tolerance factor = 0.001

Computation Options
Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

****

GEOMETRY DATA

Geometry Title: Post-Dev-Final (10yr)
Geometry File : I:\Engineering\28100-Valley's Edge\Drainage 2019\GeoHEC-RAS\Post-Project\RAS (4-13-20)Final 2\RAS Final\2D Uns- Post Final (2, 10, 100yr).g01

STORAGE AREA: Pre-Flow Area
Volume Method : Area times depth
Area : 1104.02
Min Elev :

CONNECTION: RD(Collector)CP2

Number of Culverts = 3

Culvert Name Shape Rise Span
CP2A Circular 8
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef

```
Exit Loss Coef
                     94.78     .024     .024        0                   .5
      1
Upstream   Elevation =  308.77
           Centerline Station =  395.42
Downstream Elevation =  307.39
           Centerline Station =  343.71

Culvert Name     Shape      Rise    Span
CP2B            Circular       6
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     96.02     .024     .024        0                   .5
      1
Upstream   Elevation =  316
           Centerline Station =  413.8
Downstream Elevation =  307.06
           Centerline Station =  355.55

Culvert Name     Shape      Rise    Span
CP2C            Circular       4
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                    109.47     .024     .024        0                   .5
      1
Upstream   Elevation =  318
           Centerline Station =  424.08
Downstream Elevation =  307.21
           Centerline Station =  365.28

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: CP2A
*********************************************************************************
*                           *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)              *  308.35  * Weir Sta DS (ft)           *          *
*                           *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)              *  307.06  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)             *   17.87  * Weir Max Depth (ft)        *    0.00  *
*                           *          * Weir Avg Depth (ft)        *          *
*                           *          * Weir Flow Area (sq ft)     *          *
*                           *          * Weir Coef (ft^1/2)         *    0.00  *
* Q Weir (cfs)              *    0.00  * Weir Submerg               *          *
* Q Gates (cfs)             *          *                            *          *
* Q Culv (cfs)              *   17.87  * Q Culv Group (cfs)         *   17.87  *
* Q RC (cfs)                *          * # Barrels                  *       1  *
```

* Q Outlet TS (cfs)	*	* Culv Length (ft)	*	94.78	*
* Q Breach (cfs)	*	* Culv Depth Blocked (ft)	*	0.00	*
* Breach Avg Velocity (ft/s)	*	* Culv Inv El Up (ft)	*	308.77	*
* Breach Flow Area (sq ft)	*	* Culv Inv El Dn (ft)	*	307.39	*
* Breach WD (ft)	*	*	*		*
* Breach Top El (ft)	*	* Culv Stage HW (ft)	*	310.32	*
* Breach Bottom El (ft)	*	* Culv Stage TW (ft)	*	307.80	*
* Breach SSL (ft)	*	*	*		*
* Breach SSR (ft)	*	*	*		*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: CP2B

*	*	* Weir Sta US (ft)	*		*
* W.S. HW (ft)	* 308.35	* Weir Sta DS (ft)	*		*
*	*	* Min El Weir Flow (ft)	*		*
* W.S. TW (ft)	* 307.06	* Wr Top Wdth (ft)	*		*
* Q Total (cfs)	* 17.87	* Weir Max Depth (ft)	*	0.00	*
*	*	* Weir Avg Depth (ft)	*		*
*	*	* Weir Flow Area (sq ft)	*		*
*	*	* Weir Coef (ft^1/2)	*	0.00	*
* Q Weir (cfs)	* 0.00	* Weir Submerg	*		*
* Q Gates (cfs)	*	*	*		*
* Q Culv (cfs)	* 17.87	* Q Culv Group (cfs)	*	0.00	*
* Q RC (cfs)	*	* # Barrels	*	1	*
* Q Outlet TS (cfs)	*	* Culv Length (ft)	*	96.02	*
* Q Breach (cfs)	*	* Culv Depth Blocked (ft)	*	0.00	*
* Breach Avg Velocity (ft/s)	*	* Culv Inv El Up (ft)	*	316.00	*
* Breach Flow Area (sq ft)	*	* Culv Inv El Dn (ft)	*	307.06	*
* Breach WD (ft)	*	*	*		*
* Breach Top El (ft)	*	* Culv Stage HW (ft)	*	310.32	*
* Breach Bottom El (ft)	*	* Culv Stage TW (ft)	*	307.52	*
* Breach SSL (ft)	*	*	*		*
* Breach SSR (ft)	*	*	*		*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: CP2C

*	*	* Weir Sta US (ft)	*		*
* W.S. HW (ft)	* 308.35	* Weir Sta DS (ft)	*		*
*	*	* Min El Weir Flow (ft)	*		*
* W.S. TW (ft)	* 307.06	* Wr Top Wdth (ft)	*		*
* Q Total (cfs)	* 17.87	* Weir Max Depth (ft)	*	0.00	*
*	*	* Weir Avg Depth (ft)	*		*
*	*	* Weir Flow Area (sq ft)	*		*
*	*	* Weir Coef (ft^1/2)	*	0.00	*
* Q Weir (cfs)	* 0.00	* Weir Submerg	*		*
* Q Gates (cfs)	*	*	*		*
* Q Culv (cfs)	* 17.87	* Q Culv Group (cfs)	*	0.00	*
* Q RC (cfs)	*	* # Barrels	*	1	*

```
* Q Outlet TS (cfs)          *          * Culv Length (ft)           *  109.47  *
* Q Breach (cfs)             *          * Culv Depth Blocked (ft)    *    0.00  *
* Breach Avg Velocity (ft/s) *          * Culv Inv El Up (ft)        *  318.00  *
* Breach Flow Area (sq ft)   *          * Culv Inv El Dn (ft)        *  307.21  *
* Breach WD (ft)             *          *                            *          *
* Breach Top El (ft)         *          * Culv Stage HW (ft)         *  318.00  *
* Breach Bottom El (ft)      *          * Culv Stage TW (ft)         *  307.34  *
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
*********************************************************************************


CONNECTION: RD(Collector)CP3


Number of Culverts =  2

Culvert Name     Shape      Rise    Span
CP3B            Circular       3
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     150.73     .024     .024        0                  .9
      1
Upstream   Elevation =  311.82
           Centerline Station =  839.82
Downstream Elevation =  302.15
           Centerline Station =  842.61

Culvert Name     Shape      Rise    Span
CP3A            Circular       2
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     142.34     .024     .024        0                  .9
      1
Upstream   Elevation =  314.55
           Centerline Station =  816.91
Downstream Elevation =  302.51
           Centerline Station =  828.74

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: CP3B
*********************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  298.50  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
```

* W.S. TW (ft)	* 298.41	* Wr Top Wdth (ft)	*		*
* Q Total (cfs)	* 3.00	* Weir Max Depth (ft)	*	0.00	*
*	*	* Weir Avg Depth (ft)	*		*
*	*	* Weir Flow Area (sq ft)	*		*
*	*	* Weir Coef (ft^1/2)	*	0.00	*
* Q Weir (cfs)	* 0.00	* Weir Submerg	*		*
* Q Gates (cfs)	*	*	*		*
* Q Culv (cfs)	* 3.00	* Q Culv Group (cfs)	*	3.00	*
* Q RC (cfs)	*	* # Barrels	*	1	*
* Q Outlet TS (cfs)	*	* Culv Length (ft)	*	150.73	*
* Q Breach (cfs)	*	* Culv Depth Blocked (ft)	*	0.00	*
* Breach Avg Velocity (ft/s)	*	* Culv Inv El Up (ft)	*	311.82	*
* Breach Flow Area (sq ft)	*	* Culv Inv El Dn (ft)	*	302.15	*
* Breach WD (ft)	*	*	*		*
* Breach Top El (ft)	*	* Culv Stage HW (ft)	*	312.72	*
* Breach Bottom El (ft)	*	* Culv Stage TW (ft)	*	302.01	*
* Breach SSL (ft)	*	*	*		*
* Breach SSR (ft)	*	*	*		*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: CP3A

*	*	* Weir Sta US (ft)	*		*
* W.S. HW (ft)	* 298.50	* Weir Sta DS (ft)	*		*
*	*	* Min El Weir Flow (ft)	*		*
* W.S. TW (ft)	* 298.41	* Wr Top Wdth (ft)	*		*
* Q Total (cfs)	* 3.00	* Weir Max Depth (ft)	*	0.00	*
*	*	* Weir Avg Depth (ft)	*		*
*	*	* Weir Flow Area (sq ft)	*		*
*	*	* Weir Coef (ft^1/2)	*	0.00	*
* Q Weir (cfs)	* 0.00	* Weir Submerg	*		*
* Q Gates (cfs)	*	*	*		*
* Q Culv (cfs)	* 3.00	* Q Culv Group (cfs)	*	0.00	*
* Q RC (cfs)	*	* # Barrels	*	1	*
* Q Outlet TS (cfs)	*	* Culv Length (ft)	*	142.34	*
* Q Breach (cfs)	*	* Culv Depth Blocked (ft)	*	0.00	*
* Breach Avg Velocity (ft/s)	*	* Culv Inv El Up (ft)	*	314.55	*
* Breach Flow Area (sq ft)	*	* Culv Inv El Dn (ft)	*	302.51	*
* Breach WD (ft)	*	*	*		*
* Breach Top El (ft)	*	* Culv Stage HW (ft)	*	314.55	*
* Breach Bottom El (ft)	*	* Culv Stage TW (ft)	*	302.32	*
* Breach SSL (ft)	*	*	*		*
* Breach SSR (ft)	*	*	*		*

CONNECTION: RD(Collector)CP4

Number of Culverts = 2

```
Culvert Name     Shape      Rise    Span
CP4A            Circular       4
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                    103.26     .024     .024        0                   .5
      1
Upstream   Elevation =  266.57
           Centerline Station =  453.99
Downstream Elevation =  264.19
           Centerline Station =  401.67

Culvert Name     Shape      Rise    Span
CP4B            Circular     4.5
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     99.41     .024     .024        0                   .5
      1
Upstream   Elevation =  274
           Centerline Station =  467.31
Downstream Elevation =  264.73
           Centerline Station =  413.76

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: CP4A
*************************************************************************
*                           *          * Weir Sta US (ft)          *          *
* W.S. HW (ft)              *  266.45  * Weir Sta DS (ft)          *          *
*                           *          * Min El Weir Flow (ft)     *          *
* W.S. TW (ft)              *  263.83  * Wr Top Wdth (ft)          *          *
* Q Total (cfs)             *   10.00  * Weir Max Depth (ft)       *    0.00  *
*                           *          * Weir Avg Depth (ft)       *          *
*                           *          * Weir Flow Area (sq ft)    *          *
*                           *          * Weir Coef (ft^1/2)        *    0.00  *
* Q Weir (cfs)              *    0.00  * Weir Submerg              *          *
* Q Gates (cfs)             *          *                           *          *
* Q Culv (cfs)              *   10.00  * Q Culv Group (cfs)        *   10.00  *
* Q RC (cfs)                *          * # Barrels                 *       1  *
* Q Outlet TS (cfs)         *          * Culv Length (ft)          *  103.26  *
* Q Breach (cfs)            *          * Culv Depth Blocked (ft)   *    0.00  *
* Breach Avg Velocity (ft/s) *         * Culv Inv El Up (ft)       *  266.57  *
* Breach Flow Area (sq ft)  *          * Culv Inv El Dn (ft)       *  264.19  *
* Breach WD (ft)            *          *                           *          *
* Breach Top El (ft)        *          * Culv Stage HW (ft)        *  267.96  *
* Breach Bottom El (ft)     *          * Culv Stage TW (ft)        *  264.53  *
```

```
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
*********************************************************************************

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: CP4B
*********************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  266.45  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)               *  263.83  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)              *   10.00  * Weir Max Depth (ft)        *    0.00  *
*                            *          * Weir Avg Depth (ft)        *          *
*                            *          * Weir Flow Area (sq ft)     *          *
*                            *          * Weir Coef (ft^1/2)         *    0.00  *
* Q Weir (cfs)               *    0.00  * Weir Submerg               *          *
* Q Gates (cfs)              *          *                            *          *
* Q Culv (cfs)               *   10.00  * Q Culv Group (cfs)         *    0.00  *
* Q RC (cfs)                 *          * # Barrels                  *       1  *
* Q Outlet TS (cfs)          *          * Culv Length (ft)           *   99.41  *
* Q Breach (cfs)             *          * Culv Depth Blocked (ft)    *    0.00  *
* Breach Avg Velocity (ft/s) *          * Culv Inv El Up (ft)        *  274.00  *
* Breach Flow Area (sq ft)   *          * Culv Inv El Dn (ft)        *  264.73  *
* Breach WD (ft)             *          *                            *          *
* Breach Top El (ft)         *          * Culv Stage HW (ft)         *  274.00  *
* Breach Bottom El (ft)      *          * Culv Stage TW (ft)         *  264.52  *
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
*********************************************************************************


CONNECTION: RD(Dawncrest)C1B


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
C1B             Circular     3.5
FHWA Chart # 55-  Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                    1517.54     .009     .009        0                  .5
      1
Upstream   Elevation =  306.21
           Centerline Station =  433.9
Downstream Elevation =  275.77
           Centerline Station =  179.63

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C1B
```

```
*****************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  306.13  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)               *  275.69  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)              *    4.91  * Weir Max Depth (ft)        *    0.00  *
*                            *          * Weir Avg Depth (ft)        *          *
*                            *          * Weir Flow Area (sq ft)     *          *
*                            *          * Weir Coef (ft^1/2)         *    0.00  *
* Q Weir (cfs)               *    0.00  * Weir Submerg               *          *
* Q Gates (cfs)              *          *                            *          *
* Q Culv (cfs)               *    4.91  * Q Culv Group (cfs)         *    4.91  *
* Q RC (cfs)                 *          * # Barrels                  *       1  *
* Q Outlet TS (cfs)          *          * Culv Length (ft)           * 1517.54  *
* Q Breach (cfs)             *          * Culv Depth Blocked (ft)    *    0.00  *
* Breach Avg Velocity (ft/s) *          * Culv Inv El Up (ft)        *  306.21  *
* Breach Flow Area (sq ft)   *          * Culv Inv El Dn (ft)        *  275.77  *
* Breach WD (ft)             *          *                            *          *
* Breach Top El (ft)         *          * Culv Stage HW (ft)         *  307.22  *
* Breach Bottom El (ft)      *          * Culv Stage TW (ft)         *  276.56  *
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
*****************************************************************************


CONNECTION: RD(Humbug)C5C6CE


Number of Culverts =  4

Culvert Name     Shape      Rise    Span
C5AB           Pipe Arch       3    4.83
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     41.05     .024     .024        0                  .9
      1
Number of Barrels =  2
Upstream   Elevation =  252.98
Centerline Stations
    Sta.    Sta.
 1833.43 1839.16
Downstream Elevation =  252.78
Centerline Stations
    Sta.    Sta.
 1853.12 1858.92

Culvert Name     Shape      Rise    Span
```

```
C6ABC          Pipe Arch     3.3    5.41
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 1 - 90 Degree headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      40.97     .021     .021       .1                  .5
      1
Number of Barrels =  3
Upstream   Elevation =  253.86
Centerline Stations
    Sta.    Sta.    Sta.
 1636.77 1643.15  1649.6
Downstream Elevation =  253.69
Centerline Stations
    Sta.    Sta.    Sta.
 1658.52 1665.02 1670.84

Culvert Name     Shape      Rise    Span
C6D             Circular       7
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      48.52     .021     .021        0                  .9
      1
Upstream   Elevation =  253.73
           Centerline Station =  1656.28
Downstream Elevation =  253
           Centerline Station =  1677.64

Culvert Name     Shape      Rise    Span
CE Plugged      Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      46.72     .024     .024        0                  .9
      1
Upstream   Elevation =  267.1
           Centerline Station =  215.52
Downstream Elevation =  264.98
           Centerline Station =  210.3

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C5AB
************************************************************************
*                           *          * Weir Sta US (ft)           *   19.95  *
* W.S. HW (ft)              *  252.94  * Weir Sta DS (ft)           *  309.95  *
```

			Min El Weir Flow (ft)		
W.S. TW (ft)	252.60		Wr Top Wdth (ft)	17.24	
Q Total (cfs)	15.00		Weir Max Depth (ft)	0.03	
			Weir Avg Depth (ft)	0.00	
			Weir Flow Area (sq ft)	0.07	
			Weir Coef (ft^1/2)	1.50	
Q Weir (cfs)	0.00		Weir Submerg	0.00	
Q Gates (cfs)					
Q Culv (cfs)	15.00		Q Culv Group (cfs)	5.00	
Q RC (cfs)			# Barrels	2	
Q Outlet TS (cfs)			Culv Length (ft)	41.05	
Q Breach (cfs)			Culv Depth Blocked (ft)	0.00	
Breach Avg Velocity (ft/s)			Culv Inv El Up (ft)	252.98	
Breach Flow Area (sq ft)			Culv Inv El Dn (ft)	252.78	
Breach WD (ft)					
Breach Top El (ft)			Culv Stage HW (ft)	253.56	
Breach Bottom El (ft)			Culv Stage TW (ft)	253.49	
Breach SSL (ft)					
Breach SSR (ft)					

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C6ABC

			Weir Sta US (ft)	19.95	
W.S. HW (ft)	252.94		Weir Sta DS (ft)	309.95	
			Min El Weir Flow (ft)		
W.S. TW (ft)	252.60		Wr Top Wdth (ft)	17.24	
Q Total (cfs)	15.00		Weir Max Depth (ft)	0.03	
			Weir Avg Depth (ft)	0.00	
			Weir Flow Area (sq ft)	0.07	
			Weir Coef (ft^1/2)	1.50	
Q Weir (cfs)	0.00		Weir Submerg	0.00	
Q Gates (cfs)					
Q Culv (cfs)	15.00		Q Culv Group (cfs)	7.83	
Q RC (cfs)			# Barrels	3	
Q Outlet TS (cfs)			Culv Length (ft)	40.97	
Q Breach (cfs)			Culv Depth Blocked (ft)	0.10	
Breach Avg Velocity (ft/s)			Culv Inv El Up (ft)	253.86	
Breach Flow Area (sq ft)			Culv Inv El Dn (ft)	253.69	
Breach WD (ft)					
Breach Top El (ft)			Culv Stage HW (ft)	254.37	
Breach Bottom El (ft)			Culv Stage TW (ft)	254.27	
Breach SSL (ft)					
Breach SSR (ft)					

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C6D

			Weir Sta US (ft)	19.95	
W.S. HW (ft)	252.94		Weir Sta DS (ft)	309.95	

*		*	* Min El Weir Flow (ft)	*	*
* W.S. TW (ft)	* 252.60	*	* Wr Top Wdth (ft)	* 17.24	*
* Q Total (cfs)	* 15.00	*	* Weir Max Depth (ft)	* 0.03	*
*	*		* Weir Avg Depth (ft)	* 0.00	*
*	*		* Weir Flow Area (sq ft)	* 0.07	*
*	*		* Weir Coef (ft^1/2)	* 1.50	*
* Q Weir (cfs)	* 0.00	*	* Weir Submerg	* 0.00	*
* Q Gates (cfs)	*		*	*	*
* Q Culv (cfs)	* 15.00	*	* Q Culv Group (cfs)	* 2.17	*
* Q RC (cfs)	*		* # Barrels	* 1	*
* Q Outlet TS (cfs)	*		* Culv Length (ft)	* 48.52	*
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	* 0.00	*
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	* 253.73	*
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	* 253.00	*
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	* 254.33	*
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	* 254.27	*
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: CE Plugged

*		*	* Weir Sta US (ft)	* 19.95	*
* W.S. HW (ft)	* 252.94	*	* Weir Sta DS (ft)	* 309.95	*
*	*		* Min El Weir Flow (ft)	*	*
* W.S. TW (ft)	* 252.60	*	* Wr Top Wdth (ft)	* 17.24	*
* Q Total (cfs)	* 15.00	*	* Weir Max Depth (ft)	* 0.03	*
*	*		* Weir Avg Depth (ft)	* 0.00	*
*	*		* Weir Flow Area (sq ft)	* 0.07	*
*	*		* Weir Coef (ft^1/2)	* 1.50	*
* Q Weir (cfs)	* 0.00	*	* Weir Submerg	* 0.00	*
* Q Gates (cfs)	*		*	*	*
* Q Culv (cfs)	* 15.00	*	* Q Culv Group (cfs)	* 0.00	*
* Q RC (cfs)	*		* # Barrels	* 1	*
* Q Outlet TS (cfs)	*		* Culv Length (ft)	* 46.72	*
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	* 0.00	*
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	* 267.10	*
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	* 264.98	*
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	* 266.02	*
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	* 263.73	*
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

CONNECTION: RD(Humbug)CC3

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CC3   Pipe Arch   1.5   2.42
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     20.66   .024   .024   0   .9
      1
Upstream   Elevation = 258.62
           Centerline Station = 27.5
Downstream Elevation = 257.84
           Centerline Station = 29.28

CONNECTION: RD(Humbug)CC4

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CC4   Circular   2
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 2 - Groove end entrance with headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     78.49   .011   .011   0   .7
      1
Upstream   Elevation = 257.12
           Centerline Station = 10.1
Downstream Elevation = 256.53
           Centerline Station = 9.18

CONNECTION: RD(Humbug)CI

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CI   Circular   1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     41.06   .024   .024   .1   .9

```
      1
Upstream   Elevation =  267.93
           Centerline Station =  160.36
Downstream Elevation =  267.24
           Centerline Station =  159.87


CONNECTION: RD(Humbug)CJ


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CJ              Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.05     .024     .024       .2                   .9
      1
Upstream   Elevation =  267.93
           Centerline Station =  135.27
Downstream Elevation =  263.88
           Centerline Station =  133.82


CONNECTION: RD(Humbug)CK


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CK              Circular       2
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.83     .024     .024        0                   .9
      1
Upstream   Elevation =  272.54
           Centerline Station =  104.04
Downstream Elevation =  271.9
           Centerline Station =  100.83


CONNECTION: RD(HumbugCD)
```

```
Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CE              Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.65     .024     .024        0                   .9
      1
Upstream   Elevation =  279.23
           Centerline Station =  121.73
Downstream Elevation =  277.91
           Centerline Station =  107.6


CONNECTION: RD(HumbugS)CF


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CF              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     29.68     .013     .013        0                   .5
      1
Upstream   Elevation =  264.11
           Centerline Station =  275.57
Downstream Elevation =  263.56
           Centerline Station =  273.5


CONNECTION: RD(HumbugS)CG


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CG              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     36.49     .013     .013        0                   .5
```

```
      1
Upstream   Elevation =  265.33
           Centerline Station =  85.33
Downstream Elevation =  263.75
           Centerline Station =  85.04


CONNECTION: RD(HumbugS)CH


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CH              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      37.81     .013     .013        0                   .5
      1
Upstream   Elevation =  265.33
           Centerline Station =  108.9
Downstream Elevation =  264.02
           Centerline Station =  111.54


CONNECTION: RD(Minor)CP6


Number of Culverts =  2

Culvert Name     Shape      Rise    Span
CP6                 Box      12      12
FHWA Chart # 16- Corrugated metal box culvert
FHWA Scale # 1 - 90 degree headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     174.06     .024     .024        0                   .5
      1
Number of Barrels =  2
Upstream   Elevation =  261.42
Centerline Stations
    Sta.    Sta.
  520.05  536.02
Downstream Elevation =  260.74
Centerline Stations
    Sta.    Sta.
  555.01  570.47
```

```
Culvert Name     Shape      Rise    Span
CP5             Circular       6
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     65.49     .024     .024        0                   .5
      1
Upstream   Elevation =  267.5
           Centerline Station =  668.8
Downstream Elevation =  261.36
           Centerline Station =  713.49


CONNECTION: RD(PotterMid)CA


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CA              Pipe Arch       1    1.67
FHWA Chart # 35- 18 inch corner radius; Corrugated metal
FHWA Scale # 1 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     41.24     .024     .024        0                   .9
      1
Upstream   Elevation =  269.32
           Centerline Station =  273.05
Downstream Elevation =  268.47
           Centerline Station =  272.19


CONNECTION: RD(PotterN)C1-C3


Number of Culverts =  3

Culvert Name     Shape      Rise    Span
C2AB            Pipe Arch    3.75    6.01
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.86     .024     .024      .25                   .9
      1
```

```
Number of Barrels =  2
Upstream   Elevation =  266.48
Centerline Stations
    Sta.    Sta.
 1275.41 1283.98
Downstream Elevation =  266.29
Centerline Stations
    Sta.    Sta.
 1280.34 1289.17

Culvert Name     Shape      Rise    Span
C1E            Pipe Arch    3.83    6.01
FHWA Chart # 36- 31 inch corner radius; Corrugated metal
FHWA Scale # 1 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     50.99     .024     .024      .25                  .9
      1
Upstream   Elevation =  268.57
           Centerline Station =  1667.26
Downstream Elevation =  268.23
           Centerline Station =  1658.01

Culvert Name     Shape      Rise    Span
C3A             Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     36.42     .024     .024        0                  .9
      1
Upstream   Elevation =  267.92
           Centerline Station =  919.01
Downstream Elevation =  267.45
           Centerline Station =  920.09

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C2AB
************************************************************************
*                           *          * Weir Sta US (ft)          *          *
* W.S. HW (ft)              *  266.41  * Weir Sta DS (ft)          *          *
*                           *          * Min El Weir Flow (ft)     *          *
* W.S. TW (ft)              *  266.28  * Wr Top Wdth (ft)          *          *
* Q Total (cfs)             *   34.16  * Weir Max Depth (ft)       *    0.00  *
*                           *          * Weir Avg Depth (ft)       *          *
*                           *          * Weir Flow Area (sq ft)    *          *
*                           *          * Weir Coef (ft^1/2)        *    0.50  *
* Q Weir (cfs)              *    0.00  * Weir Submerg              *          *
* Q Gates (cfs)             *          *                           *          *
```

* Q Culv (cfs)	*	34.16	* Q Culv Group (cfs)	*	24.48 *
* Q RC (cfs)	*		* # Barrels	*	2 *
* Q Outlet TS (cfs)	*		* Culv Length (ft)	*	40.86 *
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	*	0.25 *
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	*	266.48 *
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	*	266.29 *
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	*	267.71 *
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	*	267.01 *
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C1E

*	*		* Weir Sta US (ft)	*	*
* W.S. HW (ft)	*	266.41	* Weir Sta DS (ft)	*	*
*	*		* Min El Weir Flow (ft)	*	*
* W.S. TW (ft)	*	266.28	* Wr Top Wdth (ft)	*	*
* Q Total (cfs)	*	34.16	* Weir Max Depth (ft)	*	0.00 *
*	*		* Weir Avg Depth (ft)	*	*
*	*		* Weir Flow Area (sq ft)	*	*
*	*		* Weir Coef (ft^1/2)	*	0.50 *
* Q Weir (cfs)	*	0.00	* Weir Submerg	*	*
* Q Gates (cfs)	*		*	*	*
* Q Culv (cfs)	*	34.16	* Q Culv Group (cfs)	*	7.04 *
* Q RC (cfs)	*		* # Barrels	*	1 *
* Q Outlet TS (cfs)	*		* Culv Length (ft)	*	50.99 *
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	*	0.25 *
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	*	268.57 *
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	*	268.23 *
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	*	269.26 *
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	*	268.86 *
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C3A

*	*		* Weir Sta US (ft)	*	*
* W.S. HW (ft)	*	266.41	* Weir Sta DS (ft)	*	*
*	*		* Min El Weir Flow (ft)	*	*
* W.S. TW (ft)	*	266.28	* Wr Top Wdth (ft)	*	*
* Q Total (cfs)	*	34.16	* Weir Max Depth (ft)	*	0.00 *
*	*		* Weir Avg Depth (ft)	*	*
*	*		* Weir Flow Area (sq ft)	*	*
*	*		* Weir Coef (ft^1/2)	*	0.50 *
* Q Weir (cfs)	*	0.00	* Weir Submerg	*	*
* Q Gates (cfs)	*		*	*	*

```
* Q Culv (cfs)               *   34.16  * Q Culv Group (cfs)         *    2.65  *
* Q RC (cfs)                 *          * # Barrels                  *       1  *
* Q Outlet TS (cfs)          *          * Culv Length (ft)           *   36.42  *
* Q Breach (cfs)             *          * Culv Depth Blocked (ft)    *    0.00  *
* Breach Avg Velocity (ft/s) *          * Culv Inv El Up (ft)        *  267.92  *
* Breach Flow Area (sq ft)   *          * Culv Inv El Dn (ft)        *  267.45  *
* Breach WD (ft)             *          *                            *          *
* Breach Top El (ft)         *          * Culv Stage HW (ft)         *  269.27  *
* Breach Bottom El (ft)      *          * Culv Stage TW (ft)         *  267.98  *
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
********************************************************************************


CONNECTION: RD(PotterS)C4


Number of Culverts =  2

Culvert Name     Shape      Rise    Span
C4A             Circular       4
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     41.08     .011     .013        1                  .2
      1
Upstream   Elevation =  242.07
           Centerline Station =  976.72
Downstream Elevation =  241.54
           Centerline Station =  979.96

Culvert Name     Shape      Rise    Span
C4B             Circular       3
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      46.3     .019     .019       .3                  .5
      1
Upstream   Elevation =  241.97
           Centerline Station =  981.14
Downstream Elevation =  239.9
           Centerline Station =  984.41


CONNECTION: RD(Sky)CC
```

```
Number of Culverts =  2

Culvert Name     Shape      Rise    Span
CC1            Pipe Arch     1.5    2.42
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 2 - Mitered to slope
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.39     .024     .024        0                   .9
      1
Upstream   Elevation =  260.61
           Centerline Station =  23.89
Downstream Elevation =  259.73
           Centerline Station =  28.33

Culvert Name     Shape      Rise    Span
CC2             Circular       1
FHWA Chart # 55-  Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     21.04     .009     .009        0                   .9
      1
Upstream   Elevation =  260.84
           Centerline Station =  118.04
Downstream Elevation =  259.92
           Centerline Station =  118.09


CONNECTION: RD(Skyway)CB1


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CB1             Circular       1
FHWA Chart # 55-  Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     20.66     .009     .009        0                   .5
      1
Upstream   Elevation =  255.65
           Centerline Station =  122.88
Downstream Elevation =  254.85
           Centerline Station =  124.13
```

CONNECTION: RD(Skyway)CB2

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CB2   Circular   1.5
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     49.71   .024   .024   0   .9
      1
Upstream   Elevation = 253.82
           Centerline Station = 456.32
Downstream Elevation = 251.55
           Centerline Station = 456.14

CONNECTION: RD(Skyway)CB3

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CB3 Plugged   Circular   1
FHWA Chart # 55- Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     19.09   .024   .024   0   .9
      1
Upstream   Elevation = 262.75
           Centerline Station = 93.7
Downstream Elevation = 262.71
           Centerline Station = 94.77

CONNECTION: RDC1A

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
C1A   Circular   4.5
FHWA Chart # 55- Circular Culvert

```
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     1082.6     .009     .009        0                   .3
      1
Upstream   Elevation =  306.14
           Centerline Station =  14.07
Downstream Elevation =  281.78
           Centerline Station =  13.81


CONNECTION: RDCollectorCP4T


Number of Culverts =  2

Culvert Name     Shape      Rise    Span
CP4TB           Circular     3.5
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     397.06     .024     .024        0                   .5
      1
Upstream   Elevation =  278.5
           Centerline Station =  426.8
Downstream Elevation =  264.69
           Centerline Station =  484.97

Culvert Name     Shape      Rise    Span
CP4TA           Circular       2
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     437.85     .024     .024        0                   .5
      1
Upstream   Elevation =  274.45
           Centerline Station =  418.23
Downstream Elevation =  263.75
           Centerline Station =  453.84

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

SUMMARY OF MANNING'S N VALUES

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SUMMARY OF REACH LENGTHS

****

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

****

ERRORS WARNINGS AND NOTES

DRAFT

EXHIBIT
O.2.3

HEC-RAS HEC-RAS 5.0.7 March 2019
U.S. Army Corps of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```
X     X  XXXXXX    XXXX        XXXX       XX      XXXX
X     X  X        X    X      X   X     X  X    X
X     X  X        X           X   X    X    X   X
XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
X     X  X        X           X  X     X    X        X
X     X  X        X    X      X   X    X    X        X
X     X  XXXXXX    XXXX       X    X   X    X   XXXXX
```

****

PROJECT DATA
Project Title: HEC-RAS Model(2D) 15min hydro
Project File : 2D Uns- Post Final (2, 10, 100yr).prj
Run Date and Time:

Project in English units

Project Description:
CRS Info=<SpatialReference> <CoordinateSystem Code="2871"
Unit="US_survey_Foot" AcadCode="" /> <Registration OffsetX="0" OffsetY="0"
OffsetZ="0" ScaleX="1" ScaleY="1" ScaleZ="1" /></SpatialReference>

****

PLAN DATA

Plan Title: Post-Dev-Final (100yr)
Plan File : I:\Engineering\28100-Valley's Edge\Drainage
2019\GeoHEC-RAS\Post-Project\RAS (4-13-20)Final 2\RAS Final\2D Uns- Post Final (2,
10, 100yr).p02

Geometry Title: Post-Dev-Final (100yr)
Geometry File : I:\Engineering\28100-Valley's Edge\Drainage
2019\GeoHEC-RAS\Post-Project\RAS (4-13-20)Final 2\RAS Final\2D Uns- Post Final (2,
10, 100yr).g02

Flow Title   :
Flow File   :

Plan Description:

This plan represents the 2 year storm event scenario for the proposed (Post) Mitigated conditions.

Plan Summary Information:
Number of: Cross Sections = 0 Multiple Openings = 0
Culverts = 0 Inline Structures = 0
Bridges = 0 Lateral Structures = 0

Computational Information
Water surface calculation tolerance = 0.01
Critical depth calculation tolerance = 0.01
Maximum number of iterations = 20
Maximum difference tolerance = 0.33
Flow tolerance factor = 0.001

Computation Options
Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

****

GEOMETRY DATA

Geometry Title: Post-Dev-Final (100yr)
Geometry File : I:\Engineering\28100-Valley's Edge\Drainage 2019\GeoHEC-RAS\Post-Project\RAS (4-13-20)Final 2\RAS Final\2D Uns- Post Final (2, 10, 100yr).g02

STORAGE AREA: Pre-Flow Area
Volume Method : Area times depth
Area : 1104.02
Min Elev :

CONNECTION: RD(Collector)CP2

Number of Culverts = 3

Culvert Name Shape Rise Span
CP2A Circular 8
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef

```
Exit Loss Coef
                     94.78     .024     .024        0                   .5
      1
Upstream   Elevation =  308.77
           Centerline Station =  395.42
Downstream Elevation =  307.39
           Centerline Station =  343.71

Culvert Name     Shape      Rise    Span
CP2B            Circular       6
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     96.02     .024     .024        0                   .5
      1
Upstream   Elevation =  316
           Centerline Station =  413.8
Downstream Elevation =  307.06
           Centerline Station =  355.55

Culvert Name     Shape      Rise    Span
CP2C            Circular       4
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                    109.47     .024     .024        0                   .5
      1
Upstream   Elevation =  318
           Centerline Station =  424.08
Downstream Elevation =  307.21
           Centerline Station =  365.28

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: CP2A
*********************************************************************************
*                           *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)              *  308.35  * Weir Sta DS (ft)           *          *
*                           *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)              *  307.06  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)             *   23.02  * Weir Max Depth (ft)        *    0.00  *
*                           *          * Weir Avg Depth (ft)        *          *
*                           *          * Weir Flow Area (sq ft)     *          *
*                           *          * Weir Coef (ft^1/2)         *    0.00  *
* Q Weir (cfs)              *    0.00  * Weir Submerg               *          *
* Q Gates (cfs)             *          *                            *          *
* Q Culv (cfs)              *   23.02  * Q Culv Group (cfs)         *   23.02  *
* Q RC (cfs)                *          * # Barrels                  *       1  *
```

Q Outlet TS (cfs)		Culv Length (ft)		94.78
Q Breach (cfs)		Culv Depth Blocked (ft)		0.00
Breach Avg Velocity (ft/s)		Culv Inv El Up (ft)		308.77
Breach Flow Area (sq ft)		Culv Inv El Dn (ft)		307.39
Breach WD (ft)				
Breach Top El (ft)		Culv Stage HW (ft)		310.53
Breach Bottom El (ft)		Culv Stage TW (ft)		307.89
Breach SSL (ft)				
Breach SSR (ft)				

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: CP2B

		Weir Sta US (ft)		
W.S. HW (ft)	308.35	Weir Sta DS (ft)		
		Min El Weir Flow (ft)		
W.S. TW (ft)	307.06	Wr Top Wdth (ft)		
Q Total (cfs)	23.02	Weir Max Depth (ft)		0.00
		Weir Avg Depth (ft)		
		Weir Flow Area (sq ft)		
		Weir Coef (ft^1/2)		0.00
Q Weir (cfs)	0.00	Weir Submerg		
Q Gates (cfs)				
Q Culv (cfs)	23.02	Q Culv Group (cfs)		0.00
Q RC (cfs)		# Barrels		1
Q Outlet TS (cfs)		Culv Length (ft)		96.02
Q Breach (cfs)		Culv Depth Blocked (ft)		0.00
Breach Avg Velocity (ft/s)		Culv Inv El Up (ft)		316.00
Breach Flow Area (sq ft)		Culv Inv El Dn (ft)		307.06
Breach WD (ft)				
Breach Top El (ft)		Culv Stage HW (ft)		310.54
Breach Bottom El (ft)		Culv Stage TW (ft)		307.60
Breach SSL (ft)				
Breach SSR (ft)				

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: CP2C

		Weir Sta US (ft)		
W.S. HW (ft)	308.35	Weir Sta DS (ft)		
		Min El Weir Flow (ft)		
W.S. TW (ft)	307.06	Wr Top Wdth (ft)		
Q Total (cfs)	23.02	Weir Max Depth (ft)		0.00
		Weir Avg Depth (ft)		
		Weir Flow Area (sq ft)		
		Weir Coef (ft^1/2)		0.00
Q Weir (cfs)	0.00	Weir Submerg		
Q Gates (cfs)				
Q Culv (cfs)	23.02	Q Culv Group (cfs)		0.00
Q RC (cfs)		# Barrels		1

```
* Q Outlet TS (cfs)          *          * Culv Length (ft)           *  109.47  *
* Q Breach (cfs)             *          * Culv Depth Blocked (ft)    *    0.00  *
* Breach Avg Velocity (ft/s) *          * Culv Inv El Up (ft)        *  318.00  *
* Breach Flow Area (sq ft)   *          * Culv Inv El Dn (ft)        *  307.21  *
* Breach WD (ft)             *          *                            *          *
* Breach Top El (ft)         *          * Culv Stage HW (ft)         *  318.00  *
* Breach Bottom El (ft)      *          * Culv Stage TW (ft)         *  307.39  *
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
*********************************************************************************


CONNECTION: RD(Collector)CP3


Number of Culverts =  2

Culvert Name     Shape      Rise    Span
CP3B            Circular       3
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     150.73     .024     .024        0                  .9
      1
Upstream   Elevation =  311.82
           Centerline Station =  839.82
Downstream Elevation =  302.15
           Centerline Station =  842.61

Culvert Name     Shape      Rise    Span
CP3A            Circular       2
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     142.34     .024     .024        0                  .9
      1
Upstream   Elevation =  314.55
           Centerline Station =  816.91
Downstream Elevation =  302.51
           Centerline Station =  828.74

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: CP3B
*********************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  298.50  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
```

* W.S. TW (ft)	* 298.41	* Wr Top Wdth (ft)	*		*
* Q Total (cfs)	* 3.00	* Weir Max Depth (ft)	*	0.00	*
*	*	* Weir Avg Depth (ft)	*		*
*	*	* Weir Flow Area (sq ft)	*		*
*	*	* Weir Coef (ft^1/2)	*	0.00	*
* Q Weir (cfs)	* 0.00	* Weir Submerg	*		*
* Q Gates (cfs)	*	*	*		*
* Q Culv (cfs)	* 3.00	* Q Culv Group (cfs)	*	3.00	*
* Q RC (cfs)	*	* # Barrels	*	1	*
* Q Outlet TS (cfs)	*	* Culv Length (ft)	*	150.73	*
* Q Breach (cfs)	*	* Culv Depth Blocked (ft)	*	0.00	*
* Breach Avg Velocity (ft/s)	*	* Culv Inv El Up (ft)	*	311.82	*
* Breach Flow Area (sq ft)	*	* Culv Inv El Dn (ft)	*	302.15	*
* Breach WD (ft)	*	*	*		*
* Breach Top El (ft)	*	* Culv Stage HW (ft)	*	312.72	*
* Breach Bottom El (ft)	*	* Culv Stage TW (ft)	*	302.01	*
* Breach SSL (ft)	*	*	*		*
* Breach SSR (ft)	*	*	*		*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: CP3A

*	*	* Weir Sta US (ft)	*		*
* W.S. HW (ft)	* 298.50	* Weir Sta DS (ft)	*		*
*	*	* Min El Weir Flow (ft)	*		*
* W.S. TW (ft)	* 298.41	* Wr Top Wdth (ft)	*		*
* Q Total (cfs)	* 3.00	* Weir Max Depth (ft)	*	0.00	*
*	*	* Weir Avg Depth (ft)	*		*
*	*	* Weir Flow Area (sq ft)	*		*
*	*	* Weir Coef (ft^1/2)	*	0.00	*
* Q Weir (cfs)	* 0.00	* Weir Submerg	*		*
* Q Gates (cfs)	*	*	*		*
* Q Culv (cfs)	* 3.00	* Q Culv Group (cfs)	*	0.00	*
* Q RC (cfs)	*	* # Barrels	*	1	*
* Q Outlet TS (cfs)	*	* Culv Length (ft)	*	142.34	*
* Q Breach (cfs)	*	* Culv Depth Blocked (ft)	*	0.00	*
* Breach Avg Velocity (ft/s)	*	* Culv Inv El Up (ft)	*	314.55	*
* Breach Flow Area (sq ft)	*	* Culv Inv El Dn (ft)	*	302.51	*
* Breach WD (ft)	*	*	*		*
* Breach Top El (ft)	*	* Culv Stage HW (ft)	*	314.55	*
* Breach Bottom El (ft)	*	* Culv Stage TW (ft)	*	302.32	*
* Breach SSL (ft)	*	*	*		*
* Breach SSR (ft)	*	*	*		*

CONNECTION: RD(Collector)CP4

Number of Culverts = 2

```
Culvert Name     Shape      Rise    Span
CP4A            Circular       4
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                    103.26     .024     .024        0                   .5
      1
Upstream   Elevation =  266.57
           Centerline Station =  453.99
Downstream Elevation =  264.19
           Centerline Station =  401.67

Culvert Name     Shape      Rise    Span
CP4B            Circular     4.5
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     99.41     .024     .024        0                   .5
      1
Upstream   Elevation =  274
           Centerline Station =  467.31
Downstream Elevation =  264.73
           Centerline Station =  413.76

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: CP4A
*************************************************************************
*                           *          * Weir Sta US (ft)          *          *
* W.S. HW (ft)              *  266.45  * Weir Sta DS (ft)          *          *
*                           *          * Min El Weir Flow (ft)     *          *
* W.S. TW (ft)              *  263.83  * Wr Top Wdth (ft)          *          *
* Q Total (cfs)             *   10.00  * Weir Max Depth (ft)       *    0.00  *
*                           *          * Weir Avg Depth (ft)       *          *
*                           *          * Weir Flow Area (sq ft)    *          *
*                           *          * Weir Coef (ft^1/2)        *    0.00  *
* Q Weir (cfs)              *    0.00  * Weir Submerg              *          *
* Q Gates (cfs)             *          *                           *          *
* Q Culv (cfs)              *   10.00  * Q Culv Group (cfs)        *   10.00  *
* Q RC (cfs)                *          * # Barrels                 *       1  *
* Q Outlet TS (cfs)         *          * Culv Length (ft)          *  103.26  *
* Q Breach (cfs)            *          * Culv Depth Blocked (ft)   *    0.00  *
* Breach Avg Velocity (ft/s) *         * Culv Inv El Up (ft)       *  266.57  *
* Breach Flow Area (sq ft)  *          * Culv Inv El Dn (ft)       *  264.19  *
* Breach WD (ft)            *          *                           *          *
* Breach Top El (ft)        *          * Culv Stage HW (ft)        *  267.96  *
* Breach Bottom El (ft)     *          * Culv Stage TW (ft)        *  264.53  *
```

```
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
*********************************************************************************

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: CP4B
*********************************************************************************
*                            *          * Weir Sta US (ft)           *          *
* W.S. HW (ft)               *  266.45  * Weir Sta DS (ft)           *          *
*                            *          * Min El Weir Flow (ft)      *          *
* W.S. TW (ft)               *  263.83  * Wr Top Wdth (ft)           *          *
* Q Total (cfs)              *   10.00  * Weir Max Depth (ft)        *    0.00  *
*                            *          * Weir Avg Depth (ft)        *          *
*                            *          * Weir Flow Area (sq ft)     *          *
*                            *          * Weir Coef (ft^1/2)         *    0.00  *
* Q Weir (cfs)               *    0.00  * Weir Submerg               *          *
* Q Gates (cfs)              *          *                            *          *
* Q Culv (cfs)               *   10.00  * Q Culv Group (cfs)         *    0.00  *
* Q RC (cfs)                 *          * # Barrels                  *       1  *
* Q Outlet TS (cfs)          *          * Culv Length (ft)           *   99.41  *
* Q Breach (cfs)             *          * Culv Depth Blocked (ft)    *    0.00  *
* Breach Avg Velocity (ft/s) *          * Culv Inv El Up (ft)        *  274.00  *
* Breach Flow Area (sq ft)   *          * Culv Inv El Dn (ft)        *  264.73  *
* Breach WD (ft)             *          *                            *          *
* Breach Top El (ft)         *          * Culv Stage HW (ft)         *  274.00  *
* Breach Bottom El (ft)      *          * Culv Stage TW (ft)         *  264.52  *
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
*********************************************************************************


CONNECTION: RD(Dawncrest)C1B


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
C1B             Circular     3.5
FHWA Chart # 55-  Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                    1517.54     .009     .009        0                  .5
      1
Upstream   Elevation =  306.21
           Centerline Station =  433.9
Downstream Elevation =  275.77
           Centerline Station =  179.63

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C1B
```

			Weir Sta US (ft)		
W.S. HW (ft)	306.13		Weir Sta DS (ft)		
			Min El Weir Flow (ft)		
W.S. TW (ft)	275.69		Wr Top Wdth (ft)		
Q Total (cfs)	8.09		Weir Max Depth (ft)	0.00	
			Weir Avg Depth (ft)		
			Weir Flow Area (sq ft)		
			Weir Coef (ft^1/2)	0.00	
Q Weir (cfs)	0.00		Weir Submerg		
Q Gates (cfs)					
Q Culv (cfs)	8.09		Q Culv Group (cfs)	8.09	
Q RC (cfs)			# Barrels	1	
Q Outlet TS (cfs)			Culv Length (ft)	1517.54	
Q Breach (cfs)			Culv Depth Blocked (ft)	0.00	
Breach Avg Velocity (ft/s)			Culv Inv El Up (ft)	306.21	
Breach Flow Area (sq ft)			Culv Inv El Dn (ft)	275.77	
Breach WD (ft)					
Breach Top El (ft)			Culv Stage HW (ft)	307.51	
Breach Bottom El (ft)			Culv Stage TW (ft)	276.70	
Breach SSL (ft)					
Breach SSR (ft)					

CONNECTION: RD(Humbug)C5C6CE

Number of Culverts = 4

Culvert Name	Shape	Rise	Span
C5AB	Pipe Arch	3	4.83

FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG

Culvert	Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
		41.05	.024	.024	0	.9	1

Number of Barrels = 2
Upstream Elevation = 252.98
Centerline Stations

Sta.	Sta.
1833.43	1839.16

Downstream Elevation = 252.78
Centerline Stations

Sta.	Sta.
1853.12	1858.92

Culvert Name	Shape	Rise	Span

```
C6ABC          Pipe Arch     3.3    5.41
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 1 - 90 Degree headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      40.97     .021     .021       .1                  .5
      1
Number of Barrels =  3
Upstream   Elevation =  253.86
Centerline Stations
    Sta.    Sta.    Sta.
 1636.77 1643.15  1649.6
Downstream Elevation =  253.69
Centerline Stations
    Sta.    Sta.    Sta.
 1658.52 1665.02 1670.84

Culvert Name     Shape      Rise    Span
C6D             Circular       7
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      48.52     .021     .021        0                  .9
      1
Upstream   Elevation =  253.73
           Centerline Station =  1656.28
Downstream Elevation =  253
           Centerline Station =  1677.64

Culvert Name     Shape      Rise    Span
CE Plugged      Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      46.72     .024     .024        0                  .9
      1
Upstream   Elevation =  267.1
           Centerline Station =  215.52
Downstream Elevation =  264.98
           Centerline Station =  210.3

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C5AB
************************************************************************
*                           *          * Weir Sta US (ft)           *   19.95  *
* W.S. HW (ft)              *  252.94  * Weir Sta DS (ft)           *  309.95  *
```

			Min El Weir Flow (ft)		
W.S. TW (ft)	252.60		Wr Top Wdth (ft)	17.24	
Q Total (cfs)	20.00		Weir Max Depth (ft)	0.03	
			Weir Avg Depth (ft)	0.00	
			Weir Flow Area (sq ft)	0.07	
			Weir Coef (ft^1/2)	1.50	
Q Weir (cfs)	0.00		Weir Submerg	0.00	
Q Gates (cfs)					
Q Culv (cfs)	20.00		Q Culv Group (cfs)	10.00	
Q RC (cfs)			# Barrels	2	
Q Outlet TS (cfs)			Culv Length (ft)	41.05	
Q Breach (cfs)			Culv Depth Blocked (ft)	0.00	
Breach Avg Velocity (ft/s)			Culv Inv El Up (ft)	252.98	
Breach Flow Area (sq ft)			Culv Inv El Dn (ft)	252.78	
Breach WD (ft)					
Breach Top El (ft)			Culv Stage HW (ft)	253.80	
Breach Bottom El (ft)			Culv Stage TW (ft)	253.67	
Breach SSL (ft)					
Breach SSR (ft)					

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C6ABC

			Weir Sta US (ft)	19.95	
W.S. HW (ft)	252.94		Weir Sta DS (ft)	309.95	
			Min El Weir Flow (ft)		
W.S. TW (ft)	252.60		Wr Top Wdth (ft)	17.24	
Q Total (cfs)	20.00		Weir Max Depth (ft)	0.03	
			Weir Avg Depth (ft)	0.00	
			Weir Flow Area (sq ft)	0.07	
			Weir Coef (ft^1/2)	1.50	
Q Weir (cfs)	0.00		Weir Submerg	0.00	
Q Gates (cfs)					
Q Culv (cfs)	20.00		Q Culv Group (cfs)	7.83	
Q RC (cfs)			# Barrels	3	
Q Outlet TS (cfs)			Culv Length (ft)	40.97	
Q Breach (cfs)			Culv Depth Blocked (ft)	0.10	
Breach Avg Velocity (ft/s)			Culv Inv El Up (ft)	253.86	
Breach Flow Area (sq ft)			Culv Inv El Dn (ft)	253.69	
Breach WD (ft)					
Breach Top El (ft)			Culv Stage HW (ft)	254.37	
Breach Bottom El (ft)			Culv Stage TW (ft)	254.27	
Breach SSL (ft)					
Breach SSR (ft)					

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C6D

			Weir Sta US (ft)	19.95	
W.S. HW (ft)	252.94		Weir Sta DS (ft)	309.95	

		Min El Weir Flow (ft)	
W.S. TW (ft)	252.60	Wr Top Wdth (ft)	17.24
Q Total (cfs)	20.00	Weir Max Depth (ft)	0.03
		Weir Avg Depth (ft)	0.00
		Weir Flow Area (sq ft)	0.07
		Weir Coef (ft^1/2)	1.50
Q Weir (cfs)	0.00	Weir Submerg	0.00
Q Gates (cfs)			
Q Culv (cfs)	20.00	Q Culv Group (cfs)	2.17
Q RC (cfs)		# Barrels	1
Q Outlet TS (cfs)		Culv Length (ft)	48.52
Q Breach (cfs)		Culv Depth Blocked (ft)	0.00
Breach Avg Velocity (ft/s)		Culv Inv El Up (ft)	253.73
Breach Flow Area (sq ft)		Culv Inv El Dn (ft)	253.00
Breach WD (ft)			
Breach Top El (ft)		Culv Stage HW (ft)	254.33
Breach Bottom El (ft)		Culv Stage TW (ft)	254.27
Breach SSL (ft)			
Breach SSR (ft)			

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: CE Plugged

		Weir Sta US (ft)	19.95
W.S. HW (ft)	252.94	Weir Sta DS (ft)	309.95
		Min El Weir Flow (ft)	
W.S. TW (ft)	252.60	Wr Top Wdth (ft)	17.24
Q Total (cfs)	20.00	Weir Max Depth (ft)	0.03
		Weir Avg Depth (ft)	0.00
		Weir Flow Area (sq ft)	0.07
		Weir Coef (ft^1/2)	1.50
Q Weir (cfs)	0.00	Weir Submerg	0.00
Q Gates (cfs)			
Q Culv (cfs)	20.00	Q Culv Group (cfs)	0.00
Q RC (cfs)		# Barrels	1
Q Outlet TS (cfs)		Culv Length (ft)	46.72
Q Breach (cfs)		Culv Depth Blocked (ft)	0.00
Breach Avg Velocity (ft/s)		Culv Inv El Up (ft)	267.10
Breach Flow Area (sq ft)		Culv Inv El Dn (ft)	264.98
Breach WD (ft)			
Breach Top El (ft)		Culv Stage HW (ft)	266.02
Breach Bottom El (ft)		Culv Stage TW (ft)	263.73
Breach SSL (ft)			
Breach SSR (ft)			

CONNECTION: RD(Humbug)CC3

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CC3   Pipe Arch   1.5   2.42
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     20.66   .024   .024   0   .9
      1
Upstream   Elevation = 258.62
           Centerline Station = 27.5
Downstream Elevation = 257.84
           Centerline Station = 29.28

CONNECTION: RD(Humbug)CC4

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CC4   Circular   2
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 2 - Groove end entrance with headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     78.49   .011   .011   0   .7
      1
Upstream   Elevation = 257.12
           Centerline Station = 10.1
Downstream Elevation = 256.53
           Centerline Station = 9.18

CONNECTION: RD(Humbug)CI

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CI   Circular   1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     41.06   .024   .024   .1   .9

```
      1
Upstream   Elevation =  267.93
           Centerline Station =  160.36
Downstream Elevation =  267.24
           Centerline Station =  159.87


CONNECTION: RD(Humbug)CJ


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CJ              Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.05     .024     .024       .2                   .9
      1
Upstream   Elevation =  267.93
           Centerline Station =  135.27
Downstream Elevation =  263.88
           Centerline Station =  133.82


CONNECTION: RD(Humbug)CK


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CK              Circular       2
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.83     .024     .024        0                   .9
      1
Upstream   Elevation =  272.54
           Centerline Station =  104.04
Downstream Elevation =  271.9
           Centerline Station =  100.83


CONNECTION: RD(HumbugCD)
```

```
Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CE              Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.65     .024     .024        0                   .9
      1
Upstream   Elevation =  279.23
           Centerline Station =  121.73
Downstream Elevation =  277.91
           Centerline Station =  107.6


CONNECTION: RD(HumbugS)CF


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CF              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     29.68     .013     .013        0                   .5
      1
Upstream   Elevation =  264.11
           Centerline Station =  275.57
Downstream Elevation =  263.56
           Centerline Station =  273.5


CONNECTION: RD(HumbugS)CG


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CG              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     36.49     .013     .013        0                   .5
```

```
      1
Upstream   Elevation =  265.33
           Centerline Station =  85.33
Downstream Elevation =  263.75
           Centerline Station =  85.04


CONNECTION: RD(HumbugS)CH


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CH              Circular       1
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      37.81     .013     .013        0                   .5
      1
Upstream   Elevation =  265.33
           Centerline Station =  108.9
Downstream Elevation =  264.02
           Centerline Station =  111.54


CONNECTION: RD(Minor)CP6


Number of Culverts =  2

Culvert Name     Shape      Rise    Span
CP6                 Box      12      12
FHWA Chart # 16- Corrugated metal box culvert
FHWA Scale # 1 - 90 degree headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     174.06     .024     .024        0                   .5
      1
Number of Barrels =  2
Upstream   Elevation =  261.42
Centerline Stations
    Sta.    Sta.
  520.05  536.02
Downstream Elevation =  260.74
Centerline Stations
    Sta.    Sta.
  555.01  570.47
```

```
Culvert Name     Shape      Rise    Span
CP5             Circular       6
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     65.49     .024     .024        0                   .5
      1
Upstream   Elevation =  267.5
           Centerline Station =  668.8
Downstream Elevation =  261.36
           Centerline Station =  713.49


CONNECTION: RD(PotterMid)CA


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CA              Pipe Arch       1    1.67
FHWA Chart # 35- 18 inch corner radius; Corrugated metal
FHWA Scale # 1 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     41.24     .024     .024        0                   .9
      1
Upstream   Elevation =  269.32
           Centerline Station =  273.05
Downstream Elevation =  268.47
           Centerline Station =  272.19


CONNECTION: RD(PotterN)C1-C3


Number of Culverts =  3

Culvert Name     Shape      Rise    Span
C2AB            Pipe Arch    3.75    6.01
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 3 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.86     .024     .024      .25                   .9
      1
```

```
Number of Barrels =  2
Upstream   Elevation =  266.48
Centerline Stations
    Sta.    Sta.
 1275.41 1283.98
Downstream Elevation =  266.29
Centerline Stations
    Sta.    Sta.
 1280.34 1289.17

Culvert Name     Shape      Rise    Span
C1E            Pipe Arch    3.83    6.01
FHWA Chart # 36- 31 inch corner radius; Corrugated metal
FHWA Scale # 1 - Projecting
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     50.99     .024     .024      .25                  .9
      1
Upstream   Elevation =  268.57
           Centerline Station =  1667.26
Downstream Elevation =  268.23
           Centerline Station =  1658.01

Culvert Name     Shape      Rise    Span
C3A             Circular       1
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     36.42     .024     .024        0                  .9
      1
Upstream   Elevation =  267.92
           Centerline Station =  919.01
Downstream Elevation =  267.45
           Centerline Station =  920.09

SA/2D CONNECTION OUTPUT  Profile #30JAN2020 2400  Culv Group: C2AB
************************************************************************
*                           *          * Weir Sta US (ft)          *          *
* W.S. HW (ft)              *  266.41  * Weir Sta DS (ft)          *          *
*                           *          * Min El Weir Flow (ft)     *          *
* W.S. TW (ft)              *  266.28  * Wr Top Wdth (ft)          *          *
* Q Total (cfs)             *   42.20  * Weir Max Depth (ft)       *    0.00  *
*                           *          * Weir Avg Depth (ft)       *          *
*                           *          * Weir Flow Area (sq ft)    *          *
*                           *          * Weir Coef (ft^1/2)        *    0.50  *
* Q Weir (cfs)              *    0.00  * Weir Submerg              *          *
* Q Gates (cfs)             *          *                           *          *
```

* Q Culv (cfs)	*	42.20	* Q Culv Group (cfs)	*	29.51 *
* Q RC (cfs)	*		* # Barrels	*	2 *
* Q Outlet TS (cfs)	*		* Culv Length (ft)	*	40.86 *
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	*	0.25 *
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	*	266.48 *
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	*	266.29 *
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	*	267.83 *
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	*	267.09 *
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C1E

*	*		* Weir Sta US (ft)	*	*
* W.S. HW (ft)	*	266.41	* Weir Sta DS (ft)	*	*
*	*		* Min El Weir Flow (ft)	*	*
* W.S. TW (ft)	*	266.28	* Wr Top Wdth (ft)	*	*
* Q Total (cfs)	*	42.20	* Weir Max Depth (ft)	*	0.00 *
*	*		* Weir Avg Depth (ft)	*	*
*	*		* Weir Flow Area (sq ft)	*	*
*	*		* Weir Coef (ft^1/2)	*	0.50 *
* Q Weir (cfs)	*	0.00	* Weir Submerg	*	*
* Q Gates (cfs)	*		*	*	*
* Q Culv (cfs)	*	42.20	* Q Culv Group (cfs)	*	10.00 *
* Q RC (cfs)	*		* # Barrels	*	1 *
* Q Outlet TS (cfs)	*		* Culv Length (ft)	*	50.99 *
* Q Breach (cfs)	*		* Culv Depth Blocked (ft)	*	0.25 *
* Breach Avg Velocity (ft/s)	*		* Culv Inv El Up (ft)	*	268.57 *
* Breach Flow Area (sq ft)	*		* Culv Inv El Dn (ft)	*	268.23 *
* Breach WD (ft)	*		*	*	*
* Breach Top El (ft)	*		* Culv Stage HW (ft)	*	269.37 *
* Breach Bottom El (ft)	*		* Culv Stage TW (ft)	*	268.95 *
* Breach SSL (ft)	*		*	*	*
* Breach SSR (ft)	*		*	*	*

SA/2D CONNECTION OUTPUT Profile #30JAN2020 2400 Culv Group: C3A

*	*		* Weir Sta US (ft)	*	*
* W.S. HW (ft)	*	266.41	* Weir Sta DS (ft)	*	*
*	*		* Min El Weir Flow (ft)	*	*
* W.S. TW (ft)	*	266.28	* Wr Top Wdth (ft)	*	*
* Q Total (cfs)	*	42.20	* Weir Max Depth (ft)	*	0.00 *
*	*		* Weir Avg Depth (ft)	*	*
*	*		* Weir Flow Area (sq ft)	*	*
*	*		* Weir Coef (ft^1/2)	*	0.50 *
* Q Weir (cfs)	*	0.00	* Weir Submerg	*	*
* Q Gates (cfs)	*		*	*	*

```
* Q Culv (cfs)               *   42.20  * Q Culv Group (cfs)         *    2.69  *
* Q RC (cfs)                 *          * # Barrels                  *       1  *
* Q Outlet TS (cfs)          *          * Culv Length (ft)           *   36.42  *
* Q Breach (cfs)             *          * Culv Depth Blocked (ft)    *    0.00  *
* Breach Avg Velocity (ft/s) *          * Culv Inv El Up (ft)        *  267.92  *
* Breach Flow Area (sq ft)   *          * Culv Inv El Dn (ft)        *  267.45  *
* Breach WD (ft)             *          *                            *          *
* Breach Top El (ft)         *          * Culv Stage HW (ft)         *  269.30  *
* Breach Bottom El (ft)      *          * Culv Stage TW (ft)         *  267.98  *
* Breach SSL (ft)            *          *                            *          *
* Breach SSR (ft)            *          *                            *          *
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CONNECTION: RD(PotterS)C4


Number of Culverts =  2

Culvert Name     Shape      Rise    Span
C4A             Circular       4
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     41.08     .011     .013        1                  .2
      1
Upstream   Elevation =  242.07
           Centerline Station =  976.72
Downstream Elevation =  241.54
           Centerline Station =  979.96

Culvert Name     Shape      Rise    Span
C4B             Circular       3
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                      46.3     .019     .019       .3                  .5
      1
Upstream   Elevation =  241.97
           Centerline Station =  981.14
Downstream Elevation =  239.9
           Centerline Station =  984.41


CONNECTION: RD(Sky)CC
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```
Number of Culverts =  2

Culvert Name     Shape      Rise    Span
CC1            Pipe Arch     1.5    2.42
FHWA Chart # 34- 18 inch corner radius; Corrugated metal
FHWA Scale # 2 - Mitered to slope
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     40.39     .024     .024        0                   .9
      1
Upstream   Elevation =  260.61
           Centerline Station =  23.89
Downstream Elevation =  259.73
           Centerline Station =  28.33

Culvert Name     Shape      Rise    Span
CC2             Circular       1
FHWA Chart # 55-  Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     21.04     .009     .009        0                   .9
      1
Upstream   Elevation =  260.84
           Centerline Station =  118.04
Downstream Elevation =  259.92
           Centerline Station =  118.09


CONNECTION: RD(Skyway)CB1


Number of Culverts =  1

Culvert Name     Shape      Rise    Span
CB1             Circular       1
FHWA Chart # 55-  Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     20.66     .009     .009        0                   .5
      1
Upstream   Elevation =  255.65
           Centerline Station =  122.88
Downstream Elevation =  254.85
           Centerline Station =  124.13
```

CONNECTION: RD(Skyway)CB2

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CB2   Circular   1.5
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 3 - Pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     49.71   .024   .024   0   .9
      1
Upstream   Elevation = 253.82
           Centerline Station = 456.32
Downstream Elevation = 251.55
           Centerline Station = 456.14

CONNECTION: RD(Skyway)CB3

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
CB3 Plugged   Circular   1
FHWA Chart # 55- Circular Culvert
FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length   Top n Bottom n Depth Blocked Entrance Loss Coef
Exit Loss Coef
                     19.09   .024   .024   0   .9
      1
Upstream   Elevation = 262.75
           Centerline Station = 93.7
Downstream Elevation = 262.71
           Centerline Station = 94.77

CONNECTION: RDC1A

Number of Culverts = 1

Culvert Name   Shape   Rise   Span
C1A   Circular   4.5
FHWA Chart # 55- Circular Culvert

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FHWA Scale # 1 - Smooth tapered inlet throat
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     1082.6     .009     .009        0                   .3
      1
Upstream   Elevation =  306.14
           Centerline Station =  14.07
Downstream Elevation =  281.78
           Centerline Station =  13.81


CONNECTION: RDCollectorCP4T


Number of Culverts =  2

Culvert Name     Shape      Rise    Span
CP4TB           Circular     3.5
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     397.06     .024     .024        0                   .5
      1
Upstream   Elevation =  278.5
           Centerline Station =  426.8
Downstream Elevation =  264.69
           Centerline Station =  484.97

Culvert Name     Shape      Rise    Span
CP4TA           Circular       2
FHWA Chart # 2 - Corrugated Metal Pipe Culvert
FHWA Scale # 1 - Headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef
Exit Loss Coef
                     437.85     .024     .024        0                   .5
      1
Upstream   Elevation =  274.45
           Centerline Station =  418.23
Downstream Elevation =  263.75
           Centerline Station =  453.84

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SUMMARY OF MANNING'S N VALUES

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SUMMARY OF REACH LENGTHS

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SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

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ERRORS WARNINGS AND NOTES