American River Basin: Antelope Creek Improvement Project

Attachment 3: Work Plan

Att3_SWF_PCA_Workplan_3of4 includes the following supporting documentation:

- 2010 Update to Dry Creek Watershed Flood Control Plan Draft American River-Folsom Modifications Economic Analysis (Beginning with Appendix C)

Appendix C - Hydrologic Model Calibration

C.1 Introduction

Record event precipitation was applied in the models for the various precipitation gages as shown in Plate C.1. Nine (9) stream gage locations, also shown in Plate C.1 were used in the calibration analysis which included the hydraulic routing analysis which provide stage data for gages without rating curves. Plate C.2 through Plate C.10 report the comparison of the stream gage measured values to the event predicted values for these gages respectively: 1603, 1605, 1607, 1609, 1611, 1619, 1623, 1626, and 1630. The following items are compared for all gage locations:

HMS Predict: The raw hydrology analysis predicted flow rates. These flow rates are fed into the hydraulic routing analysis which produces results for a more detailed attenuation analysis.

Gage Measured: The gage reported stage values were converted to a hydrograph using the best fit rating curve values.

HEC-RAS: The results of the calibrated hydraulic routing analysis for the predicted storm response.

C.2 January 1995 Event

For the January 1995 event, calibration analysis was performed using the Plan's 1992 baseline analysis. The January 1995 event (which is the largest event of record for the Dry Creek watershed) had sufficient gage records that a calibration analysis was performed. Twelve (12) rain gages within the watershed reported valid and continuous results for this storm event and were used in the calibration analysis. Graphs of the gage recorded precipitation are shown in Plate C.11. Plate C.12 graphs the SWMM precipitation rating curves for the elevation of each gage against the peak precipitation recorded for each time interval. These graphs are used to determine the precipitation event rating for each gage. For the January 1995 event, the precipitation ratings vary from a 50-year event to more than a 500-year event.

The stream gage locations within the Dry Creek watershed are shown on Plate C.13. Plate C.14 compares the results of the Hydraulic Routing (HEC-RAS) analysis rating curve for each gage location to a best fit curve. The best fit curve was used to convert the reported stage values to flow rates for comparison to the predicted flow rates of the calibrated analysis. In some cases, the gages also reported a previously converted flow rate, and in those cases the internal gage rating curve used to convert stage to flow rate is also presented.

Plate C.15 presents the comparison of the calibrated analysis to the record analysis for this event through the peak flow period of the event. In some cases, where an internal gage rating curve was available, the "Gage Measured" curve is directly reporting the

gage values. In these cases, a “Gage Adjusted” curve is added to the graphs to depict the values that would result if the best fit curve were used to report the flow rates. In most cases this curve would better represent the peak flow rates as the best fit curve was developed based on the hydraulics demonstrated in the Hydraulic Routing analysis.

The results of the analysis demonstrate the Plan Update models adequately predict the peak flood timing, scale, volume and response for this event.

C.3 December 1995 Event

For the December 1995 event, the calibration analysis was performed using the Plan Update’s 1992 baseline analysis hydrology and hydraulic routing models.

The December 1995 event demonstrates the calibration of the Plan Update analysis for a smaller flood event. Eleven (11) rain gages within the watershed reported valid and continuous results for this storm event and were used in the calibration analysis. Gage 1608 had corrupted data and was not used.

Graphs of the gage recorded precipitation are shown in Plate C.16. Plate C.17 graphs the SWMM precipitation rating curves for the elevation of each gage against the peak precipitation recorded for each time interval. These graphs are used to determine the precipitation event rating for each gage. For the December 1995 event, the precipitation ratings vary from a 2-year event to a 5-year event.

The stream gage locations within the Dry Creek watershed are shown on Plate C.13 Plate C.18 presents the comparison of the calibrated analysis to the record analysis for this event through the peak flow period of the event. In some cases, where an internal gage rating curve was available, the “Gage Measured” curve is directly reporting the gage values. In these cases, a “Gage Adjusted” curve is added to the graphs to depict the values that would result if the best fit curve were used to report the flow rates. In most cases this curve would better represent the peak flow rates as the best fit curve was developed based on the hydraulics demonstrated in the Hydraulic Routing analysis. Plate C.19 presents the entire flood event hydrographs.

The results of the analysis demonstrate the Plan Update models adequately predict the peak flood timing, scale, volume and response for this event.

C.4 January 1997 Event

For the January 1997 event, the calibration analysis was performed using the Plan’s 1992 baseline analysis hydrology and hydraulic routing models.

The January 1997 event demonstrates the calibration of the Plan Update analysis for a smaller flood event. Eleven (11) rain gages within the watershed reported valid and continuous results for this storm event and were used in the calibration analysis. Gage 1608 had corrupted data and was not used.

Graphs of the gage recorded precipitation are shown in Plate C.20. Plate C.21 graphs the SWMM precipitation rating curves for the elevation of each gage against the peak precipitation recorded for each time interval. These graphs are used to determine the precipitation event rating for each gage. For the January 1997 event, the precipitation ratings vary from a 5-year event to a 50-year event.

The stream gage locations within the Dry Creek watershed are shown on Plate C.13. Plate C.22 presents the comparison of the calibrated analysis to the record analysis for this event through the peak flow period of the event. In some cases, where an internal gage rating curve was available, the "Gage Measured" curve is directly reporting the gage values. In these cases, a "Gage Adjusted" curve is added to the graphs to depict the values that would result if the best fit curve were used to report the flow rates. In most cases this curve would better represent the peak flow rates as the best fit curve was developed based on the hydraulics demonstrated in the Hydraulic Routing analysis. Plate C.23 presents the entire flood event hydrographs.

The results of the analysis demonstrate the Plan Update models adequately predict the peak flood timing, scale, volume and response for this event.

C.5 December 2005 Event

For the December 2005, the calibration analysis was performed using the Plan Update's 2007 analysis hydrology and hydraulic routing models.

The December 2005 is remembered as the "New Years Eve" event because the storm came early in the morning on New Years Eve. The event demonstrates the calibration of the Plan Update analysis for moderate flood event. Eleven rain gages within the watershed reported valid and continuous results for this storm event and were used in the calibration analysis.

Graphs of the gage recorded precipitation are shown in Plate C.24. Plate C.25 graphs the SWMM precipitation rating curves for the elevation of each gage against the peak precipitation recorded for each time interval. These graphs are used to determine the precipitation event rating for each gage. For the December 2005 event, the precipitation ratings vary from a 2-year event to a 50-year event.

The stream gage locations within the Dry Creek watershed are shown on Plate C.13. Plate C.26 presents the comparison of the calibrated analysis to the record analysis for this event through the peak flow period of the event. In some cases, where an internal gage rating curve was available, the "Gage Measured" curve is directly reporting the gage values. In these cases, a "Gage Adjusted" curve is added to the graphs to depict the values that would result if the best fit curve were used to report the flow rates. In most cases this curve would better represent the peak flow rates as the best fit curve was developed based on the hydraulics demonstrated in the Hydraulic Routing analysis. Plate C.27 presents the entire flood event hydrographs.

The results of the analysis demonstrate the Plan Update models adequately predict the peak flood timing, scale, volume and response for this event.

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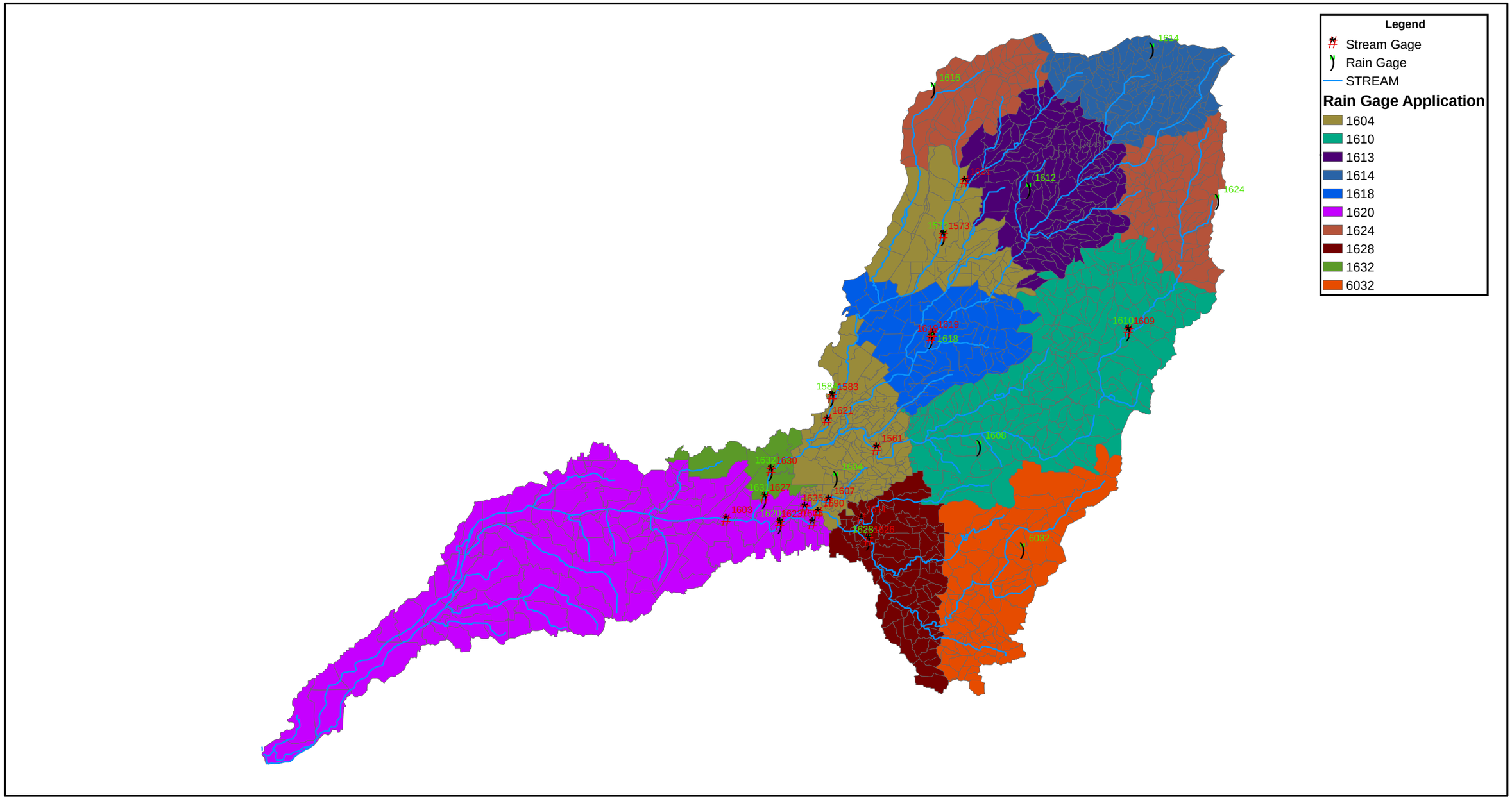
Plate C.27 December 2005 Event Hydrographs

RAIN GAGE APPLICATION TO WATERSHED FOR CALIBRATION ANALYSIS



PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

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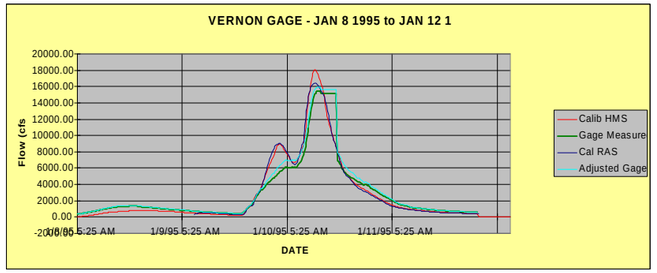
0 1 2 4 Miles

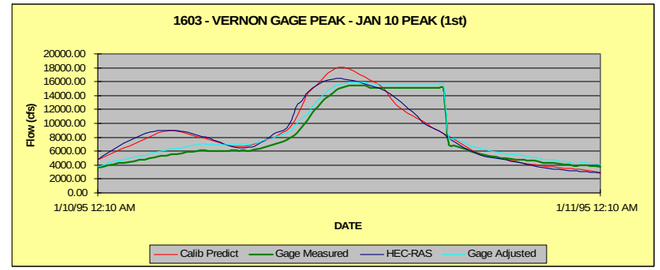
1 inch = 2 miles

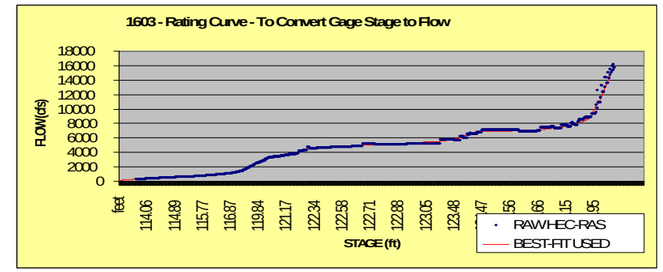
PLATE C.1

GAGE 1603 VERNON - ALL CALIBRATION HYDROGRAPHS AND RATING CURVES

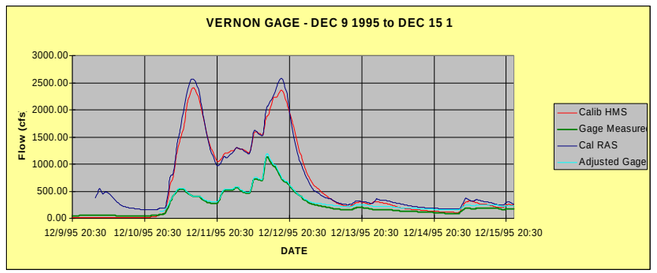
JAN. 1995 EVENT

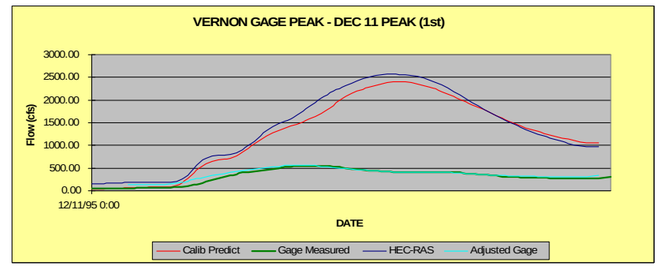




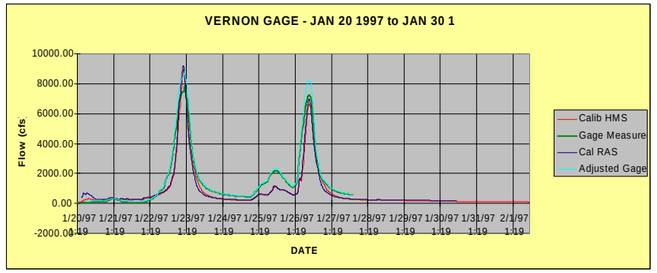


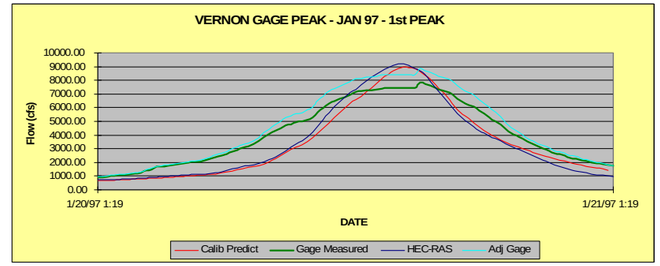
DEC. 1995 EVENT

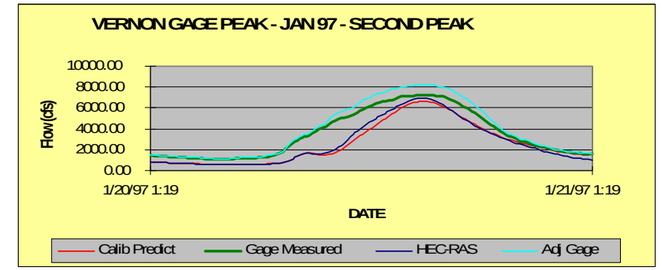




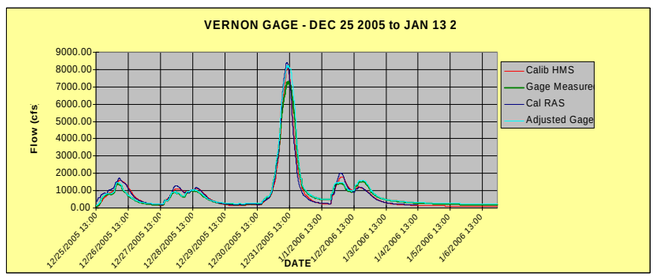
JAN. 1997 EVENT

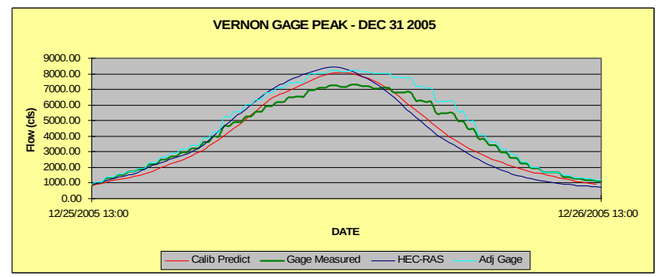






DEC. 2005 EVENT





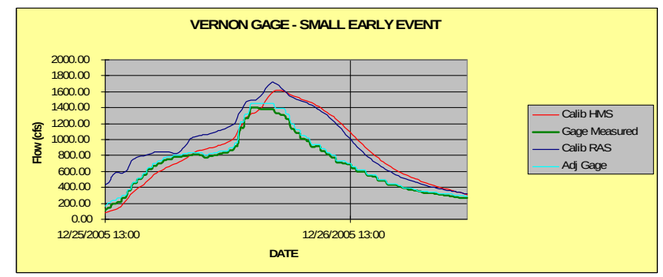


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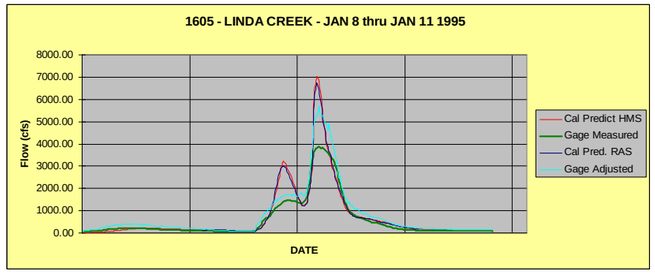
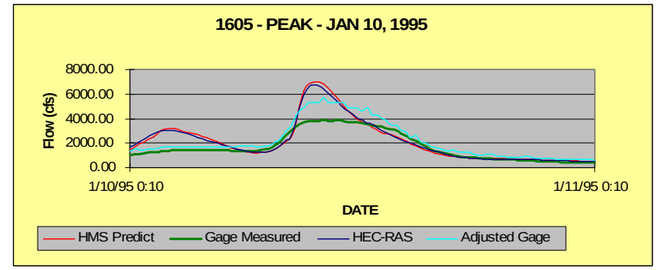
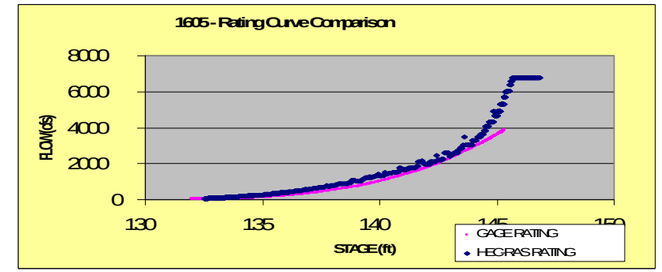
PLATE C.2

GAGE 1605 LINDA - ALL CALIBRATION HYDROGRAPHS AND RATING CURVES

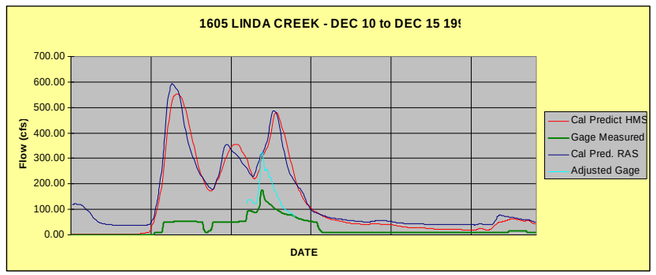
JAN. 1995 EVENT

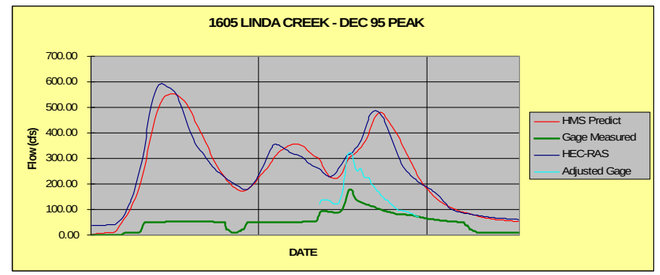




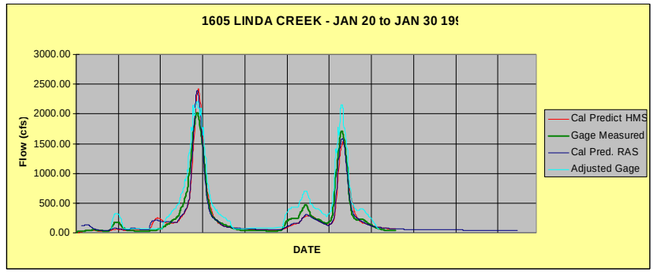


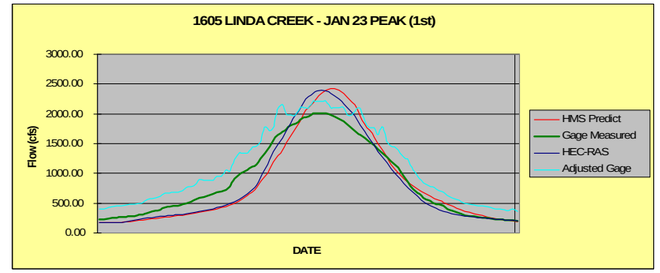
DEC. 1995 EVENT

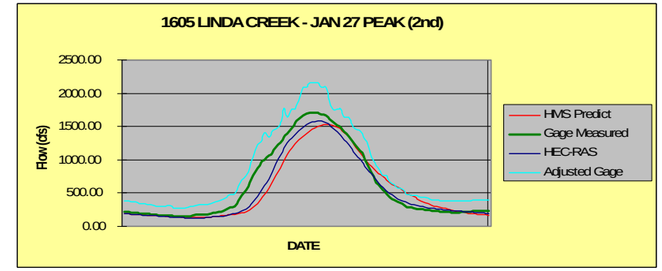




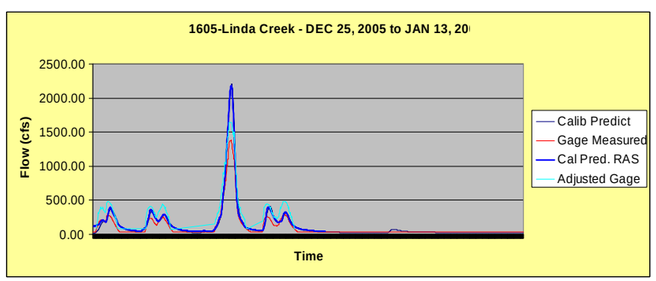
JAN. 1997 EVENT







DEC. 2005 EVENT



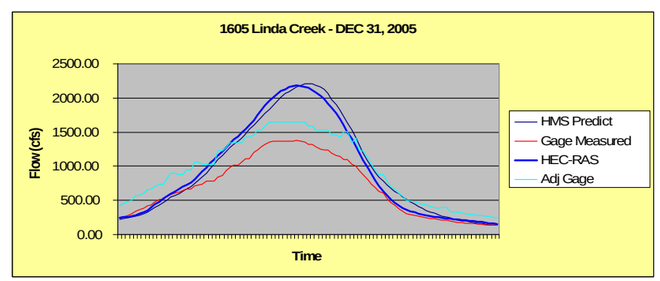


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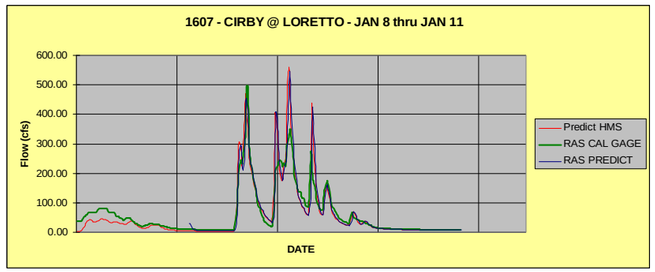
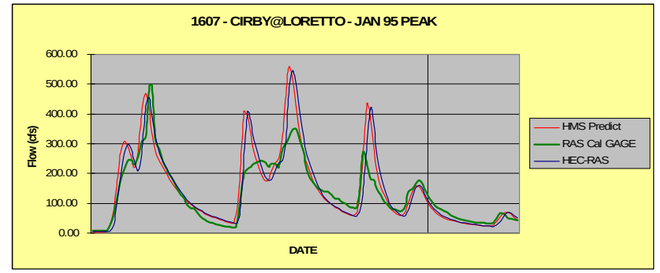
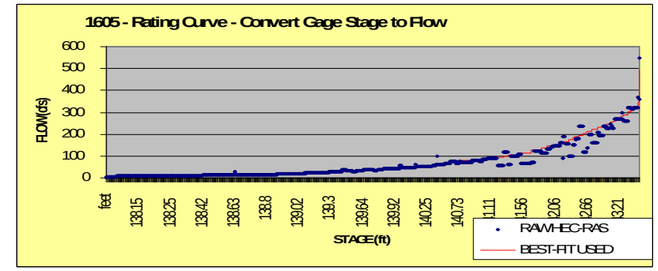
PLATE C.3

GAGE 1607 CIRBY/LORETTO - ALL CALIBRATION HYDROGRAPHS AND RATING CURVES

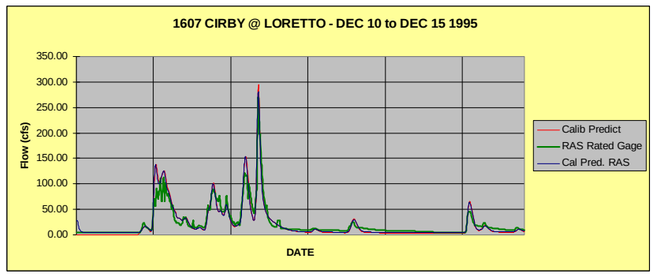
JAN. 1995 EVENT

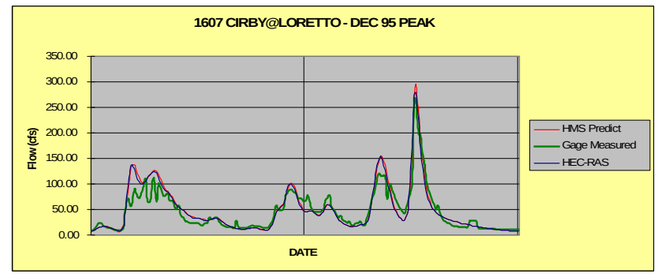




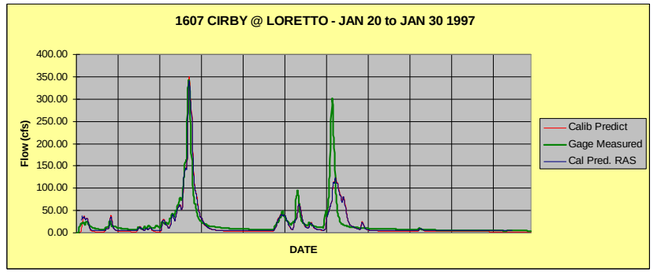


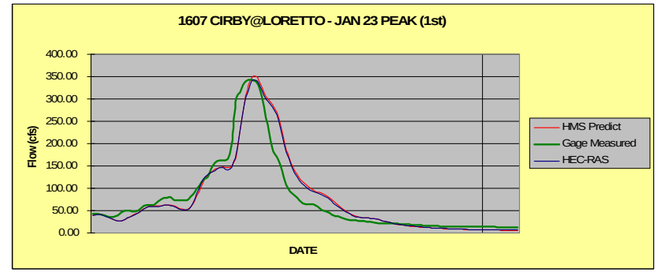
DEC. 1995 EVENT

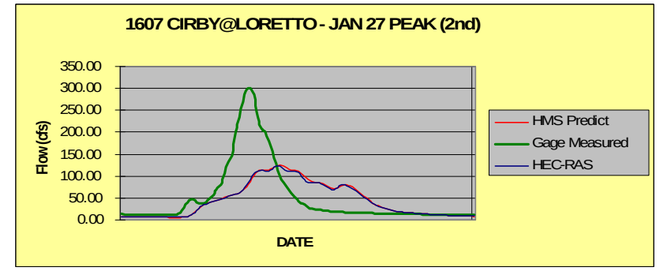




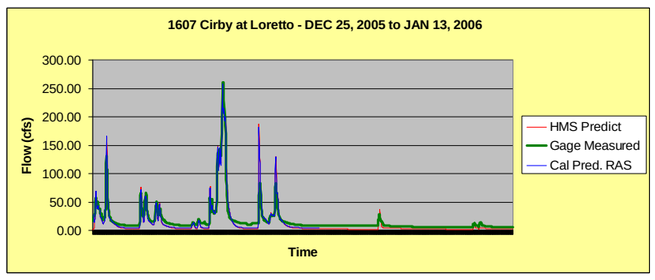
JAN. 1997 EVENT

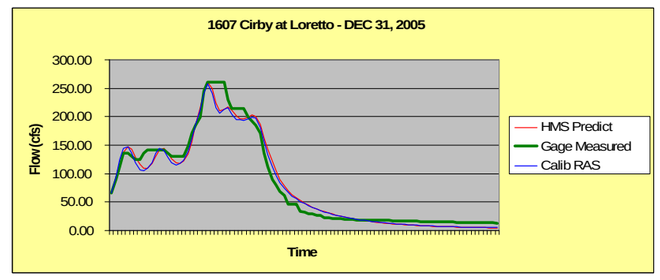






DEC. 2005 EVENT





PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

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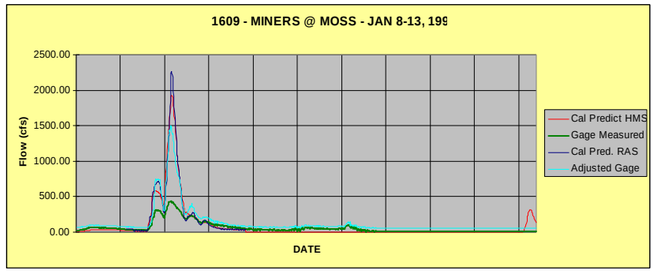
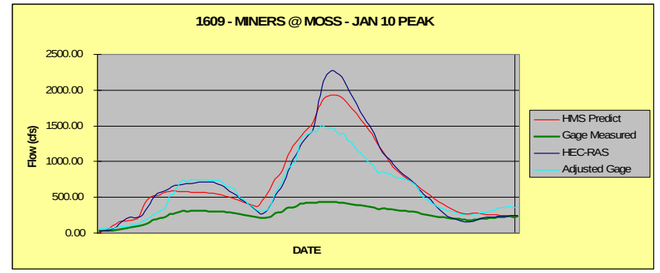
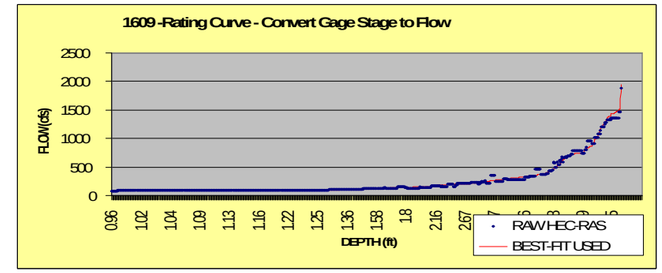
PLATE C.4

GAGE 1609 MINERS @ MOSS LN - ALL CALIBRATION HYDROGRAPHS AND RATING CURVES

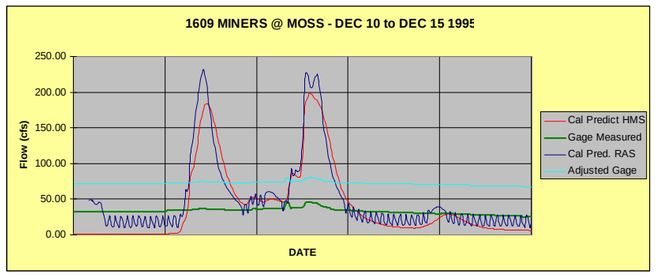
JAN. 1995 EVENT

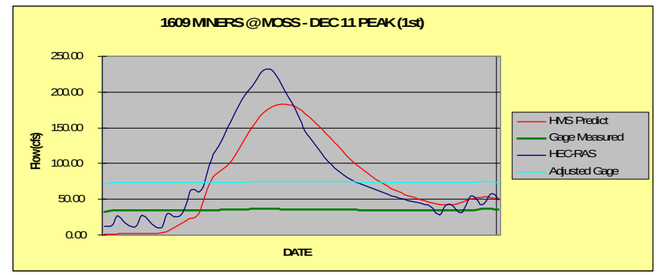




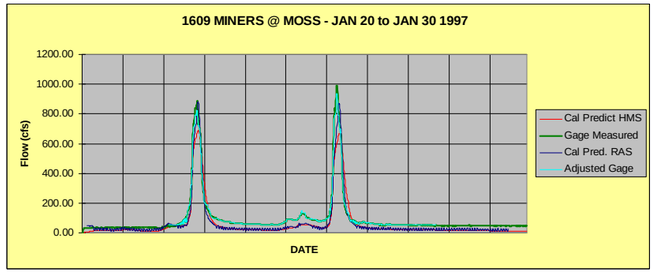


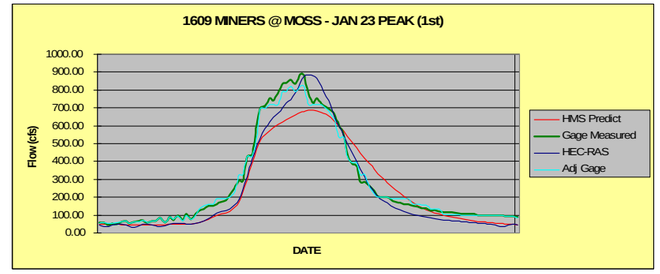
DEC. 1995 EVENT

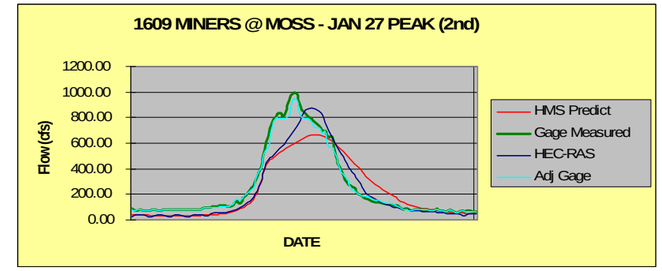




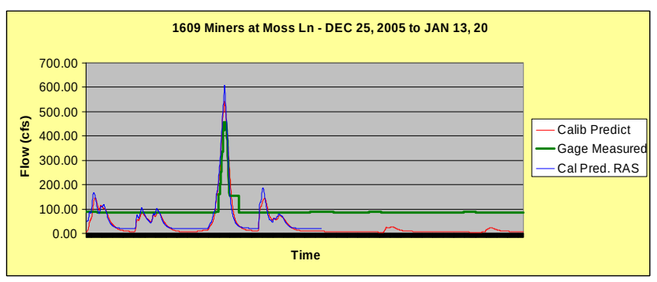
JAN. 1997 EVENT

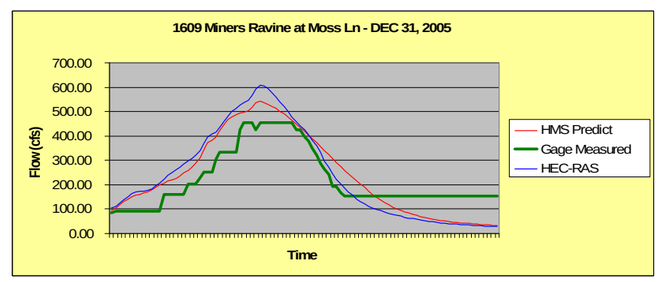






DEC. 2005 EVENT





PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

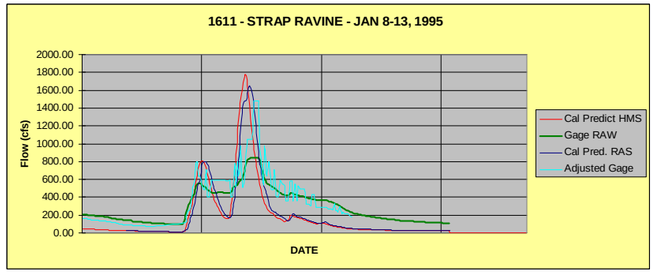
RBF CONSULTING

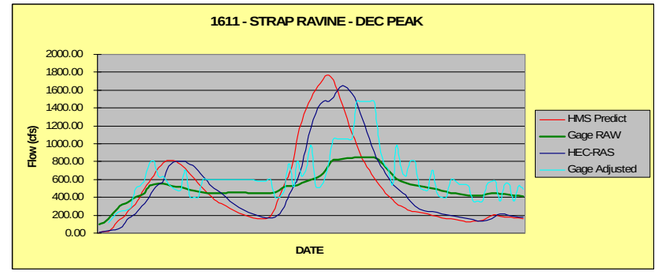
CIVIL ENGINEERING SOLUTIONS, INC.

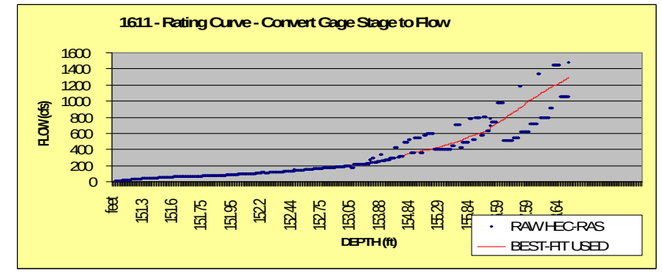
PLATE C.5

GAGE 1611 STRAP RAVINE - ALL CALIBRATION HYDROGRAPHS AND RATING CURVES

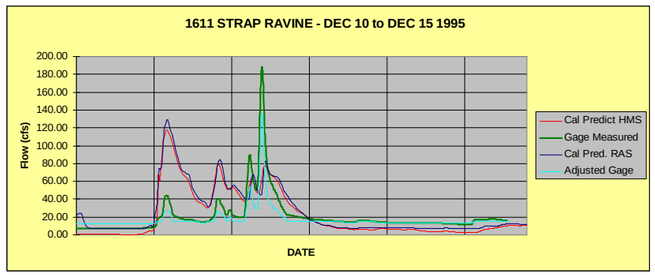
JAN. 1995 EVENT

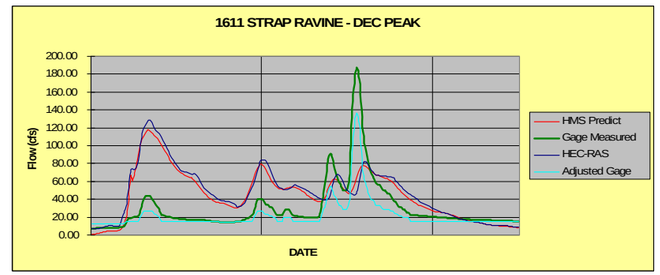




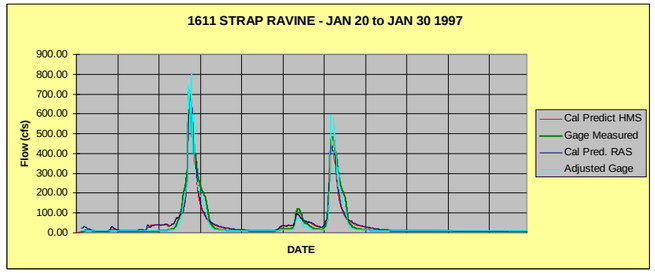


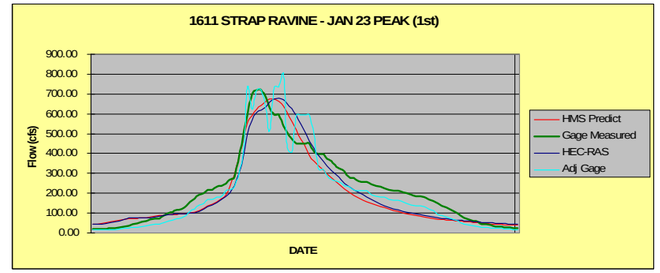
DEC. 1995 EVENT

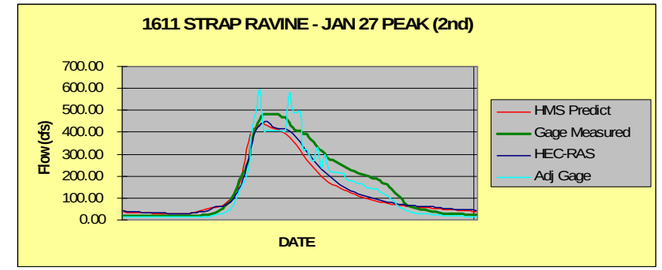




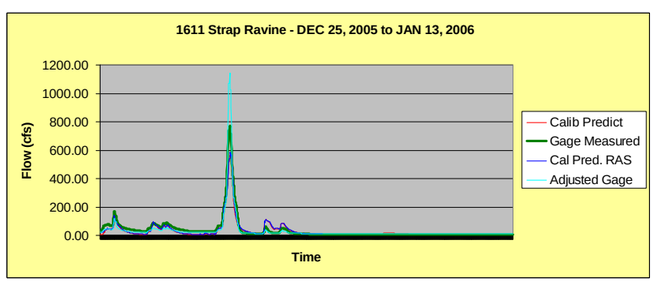
JAN. 1997 EVENT

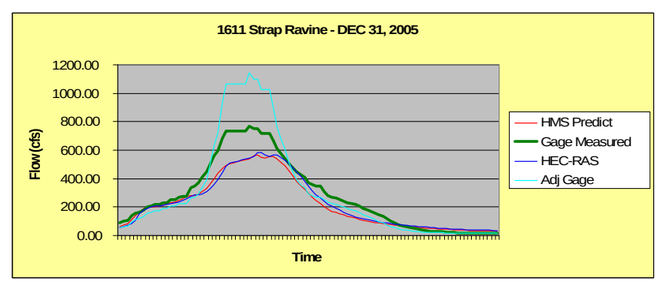






DEC. 2005 EVENT





PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

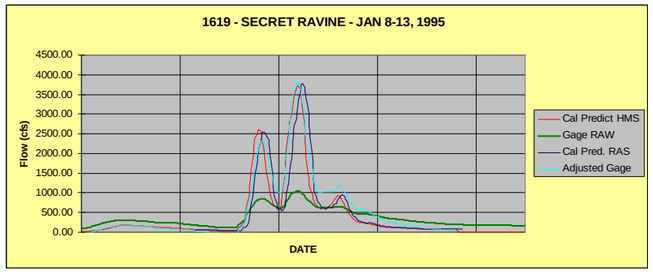
RBF CONSULTING

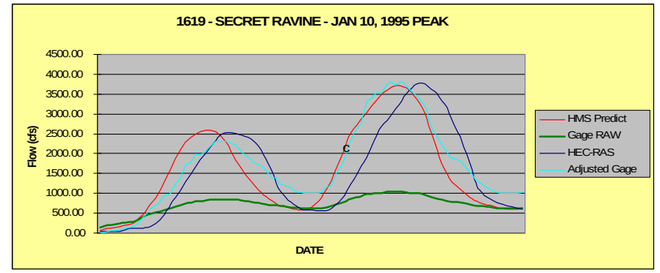
CIVIL ENGINEERING SOLUTIONS, INC.

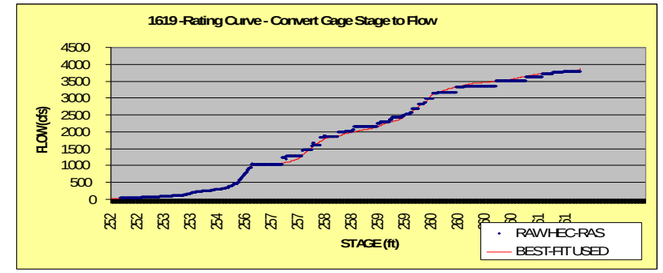
PLATE C.6

GAGE 1619 SECRET RAVINE - ALL CALIBRATION HYDROGRAPHS AND RATING CURVES

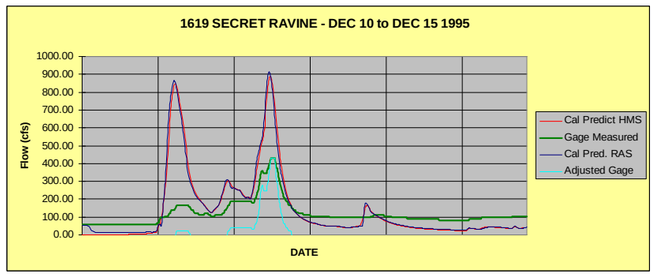
JAN. 1995 EVENT

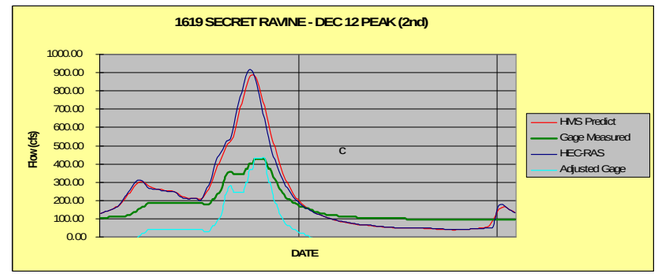




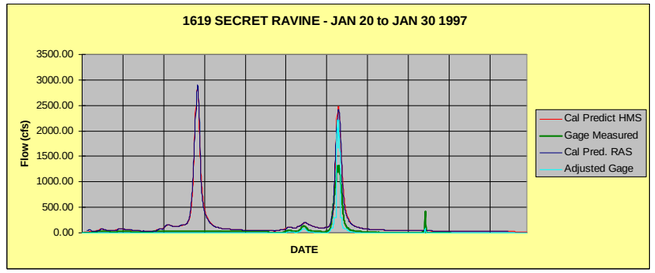


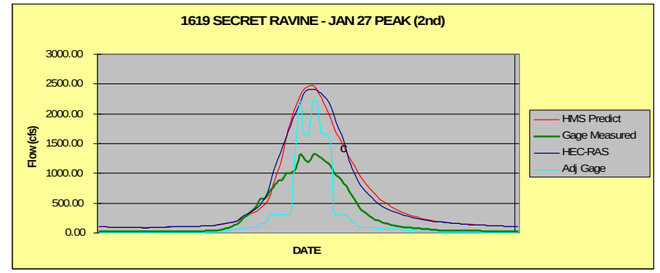
DEC. 1995 EVENT

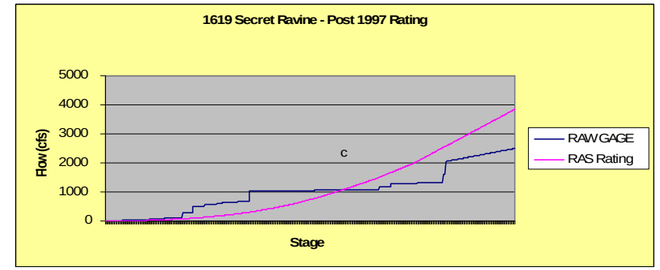




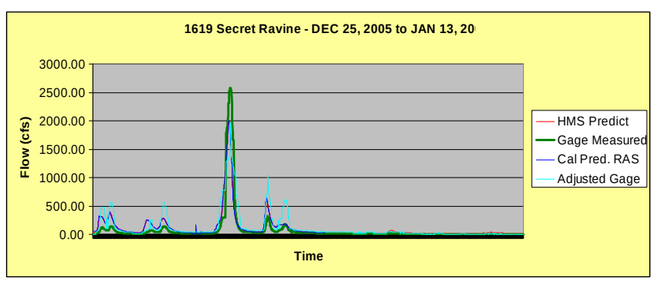
JAN. 1997 EVENT

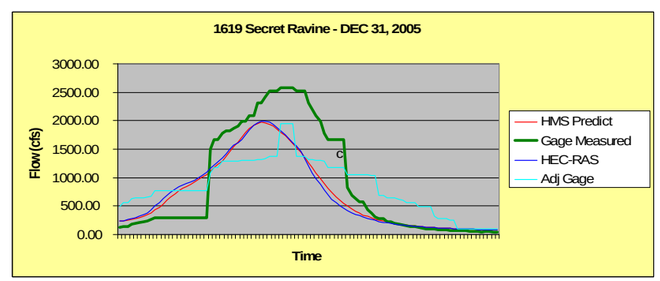






DEC. 2005 EVENT





PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

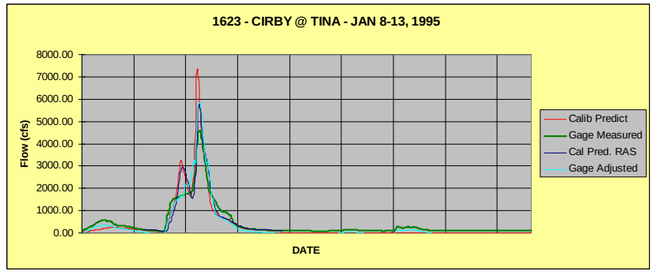
RBF CONSULTING

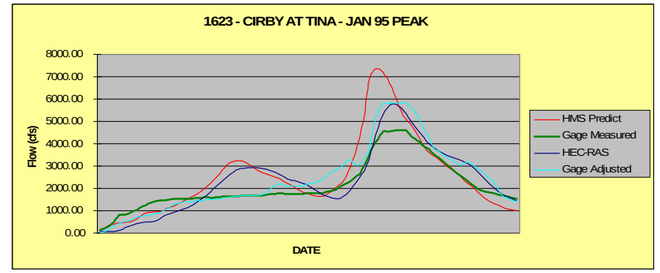
CIVIL ENGINEERING SOLUTIONS, INC.

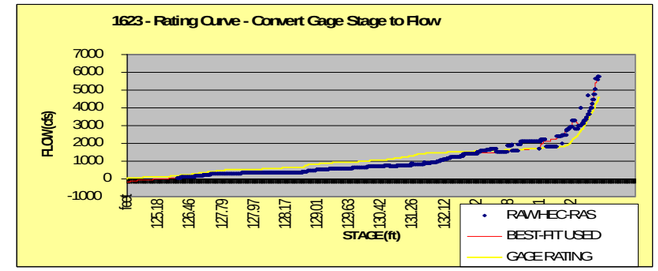
PLATE C.7

GAGE 1623 CIRBY @ TINA WAY - ALL CALIBRATION HYDROGRAPHS AND RATING CURVES

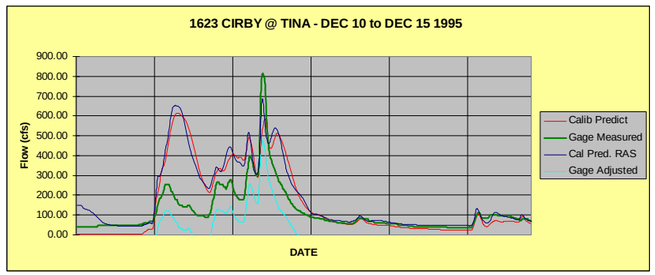
JAN. 1995 EVENT

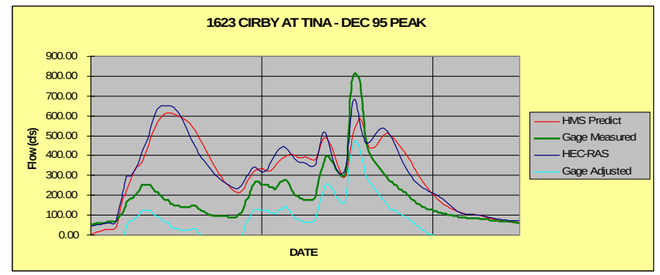




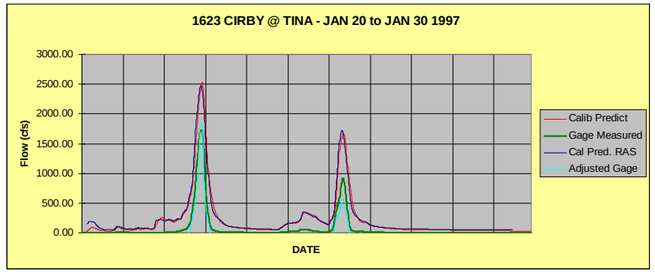


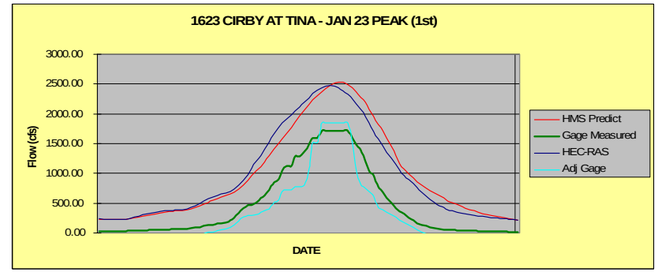
DEC. 1995 EVENT

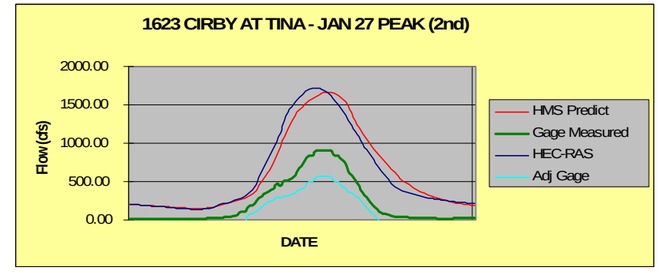




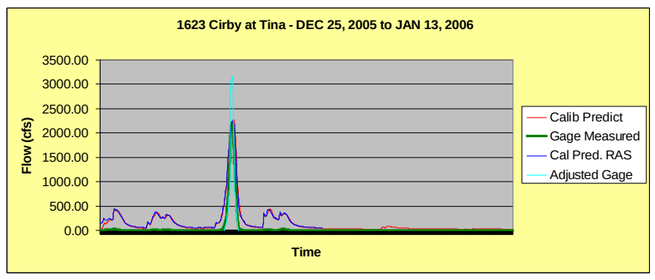
JAN. 1997 EVENT

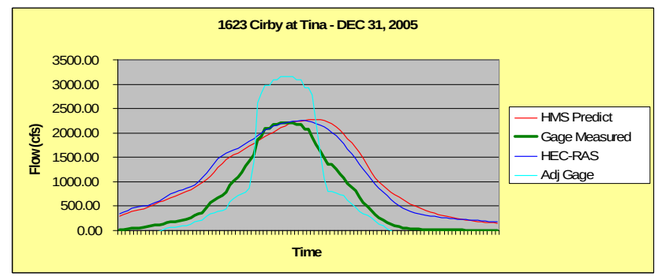






DEC. 2005 EVENT





PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

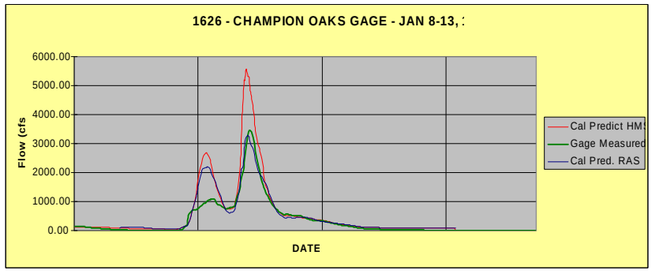
RBF CONSULTING

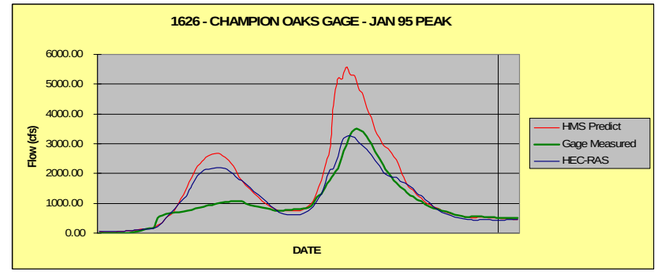
CIVIL ENGINEERING SOLUTIONS, INC.

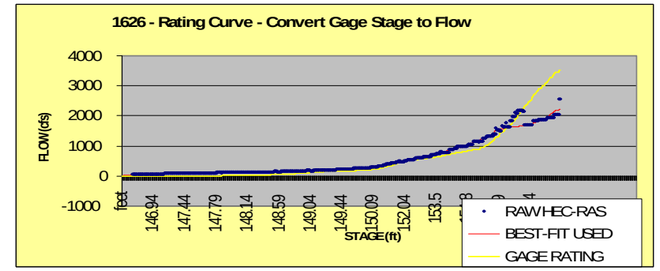
PLATE C.8

GAGE 1626 CIRBY @ CHAMPION - ALL CALIBRATION HYDROGRAPHS AND RATING CURVES

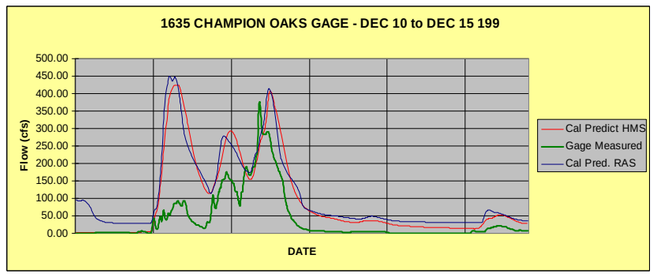
JAN. 1995 EVENT

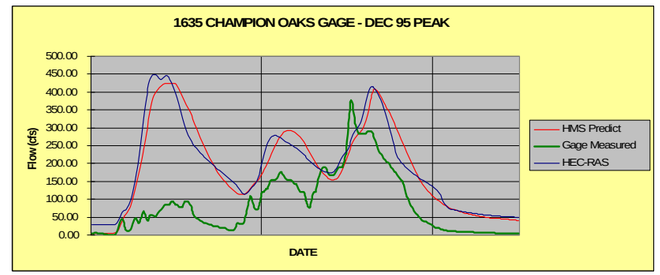




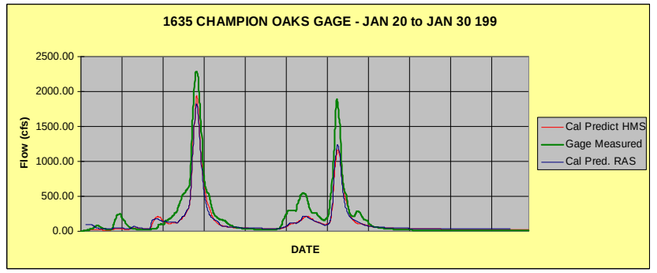


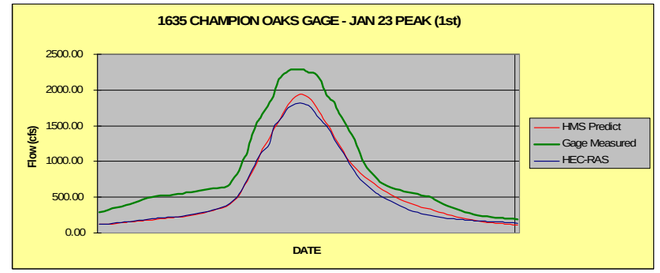
DEC. 1995 EVENT

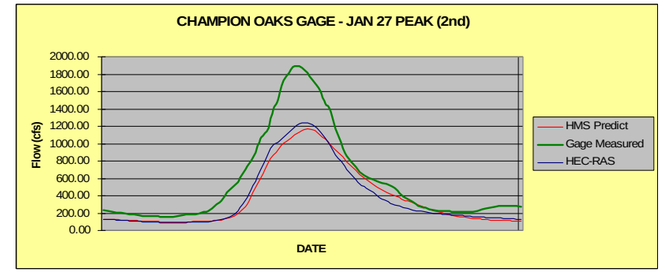




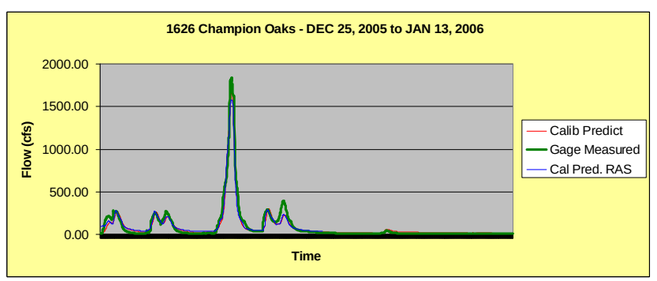
JAN. 1997 EVENT

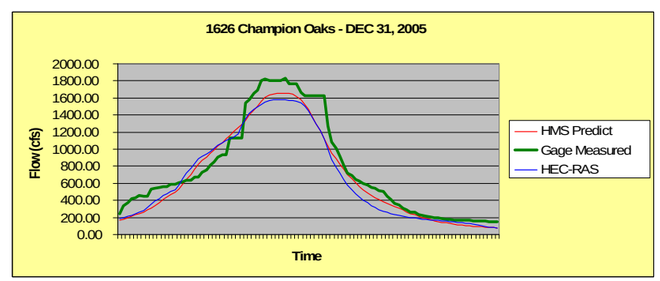






DEC. 2005 EVENT





PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

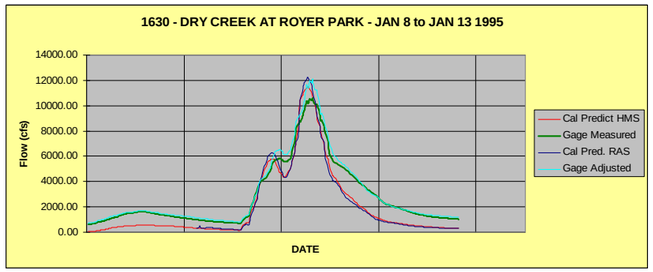
RBF CONSULTING

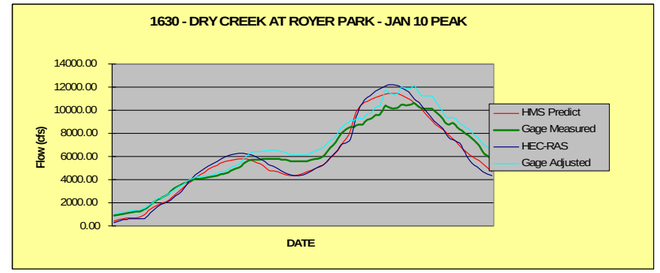
CIVIL ENGINEERING SOLUTIONS, INC.

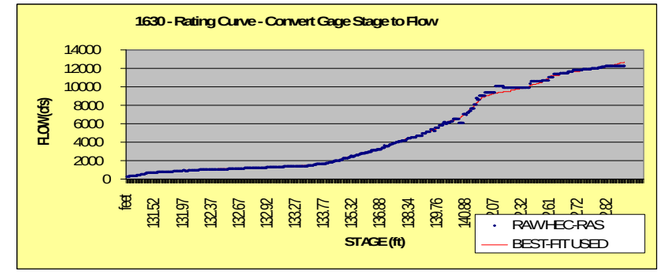
PLATE C.9

GAGE 1630 DC @ ROYER - ALL CALIBRATION HYDROGRAPHS AND RATING CURVES

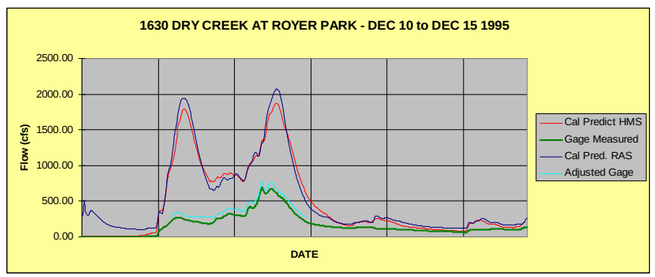
JAN. 1995 EVENT

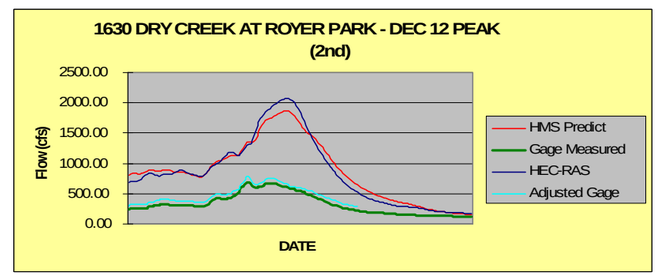




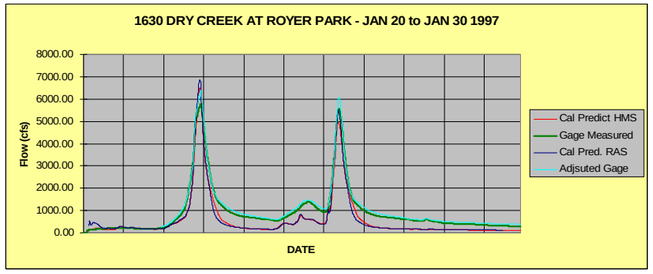


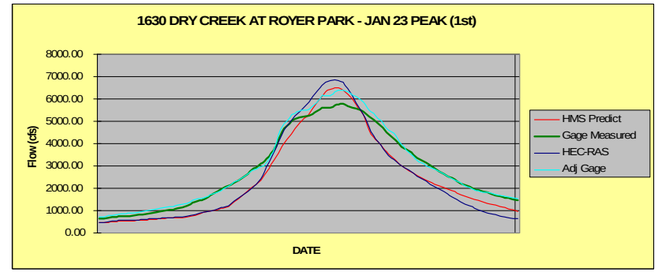
DEC. 1995 EVENT

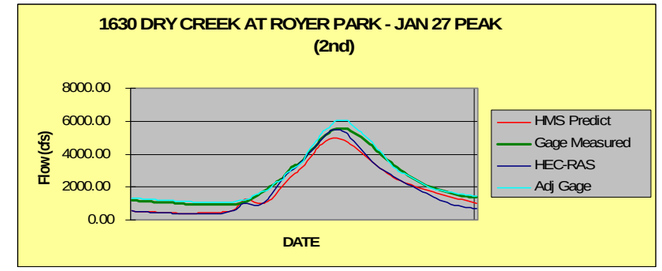




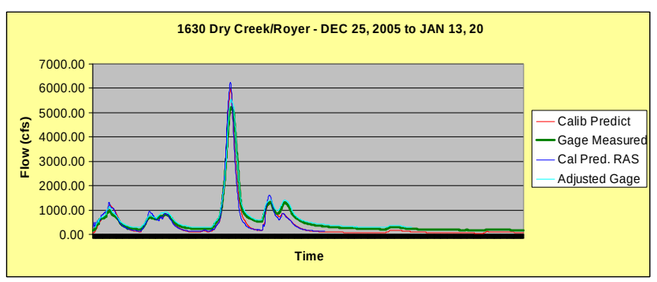
JAN. 1997 EVENT

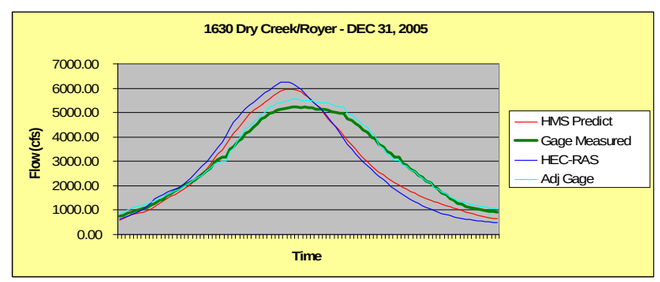




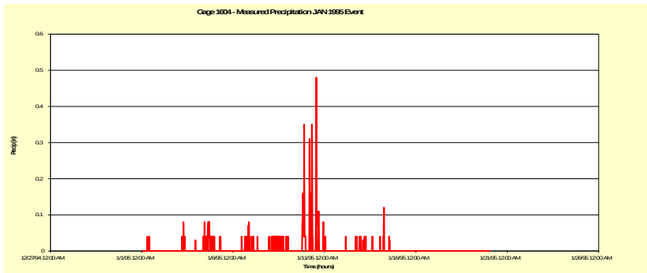


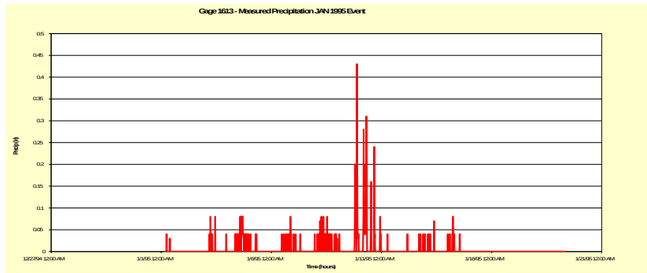
DEC. 2005 EVENT

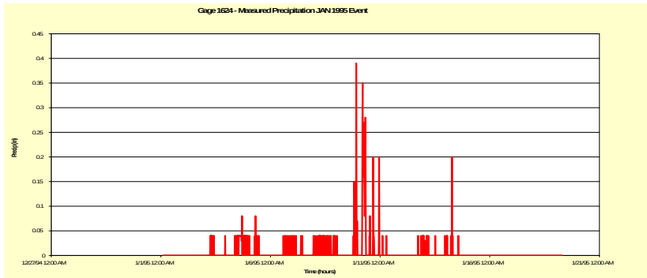


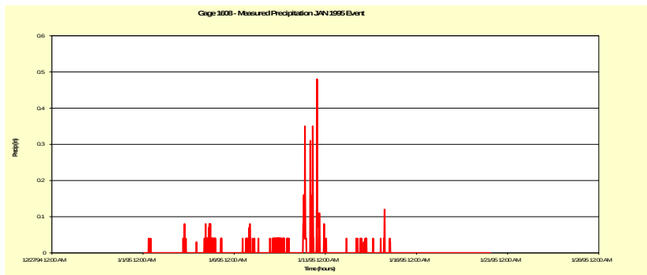


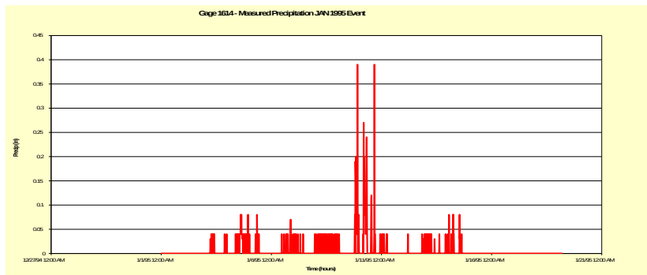
JANUARY 1995 EVENT RAINFALL BY GAGE

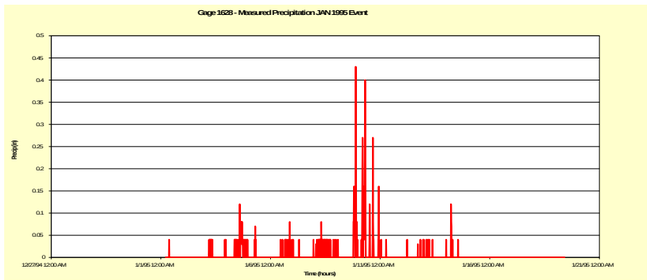


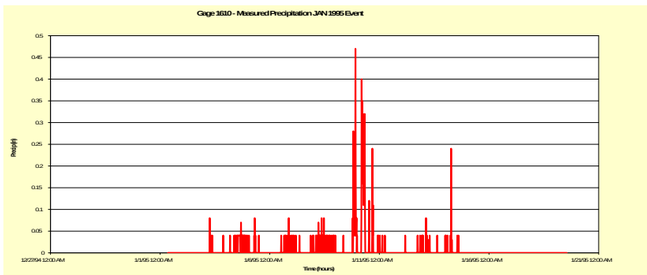


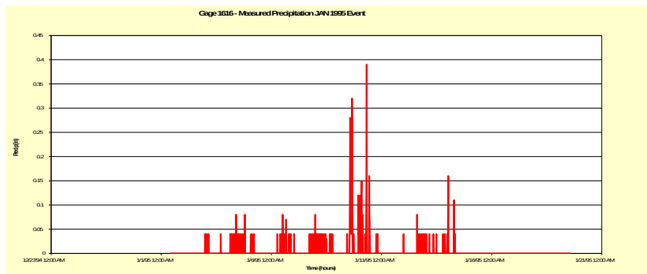


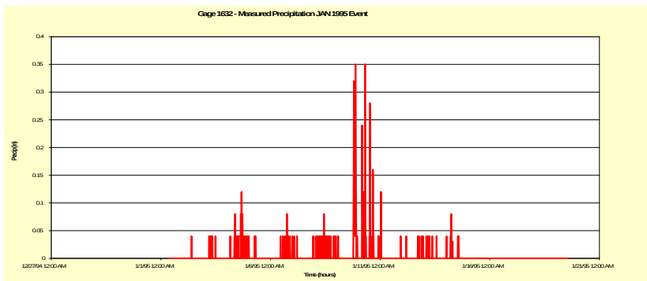


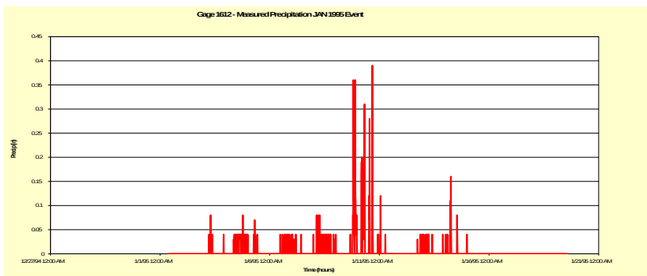


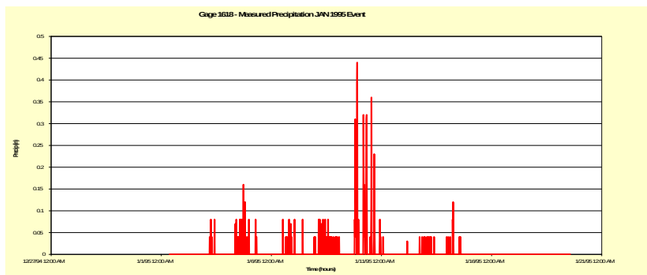


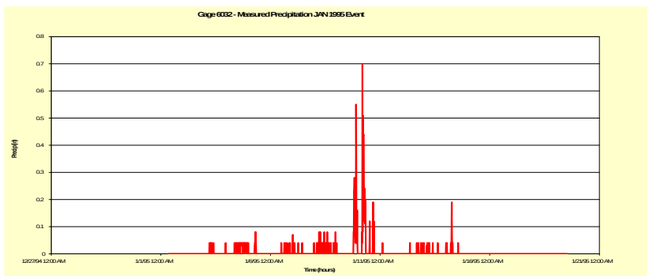












January 1995 Event

Varies between 50-yr and 500-yr precip.

50-year at gage:	1608
> 500-year at gage:	6032

Most Gages reported 200-year recurrance for 6-hour & 24-hour event.

24-hour precip varied between:	3.9	7.56
12-hour precip varied between	2.72	6.22
6-hour precip varied between	1.74	4.25

PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

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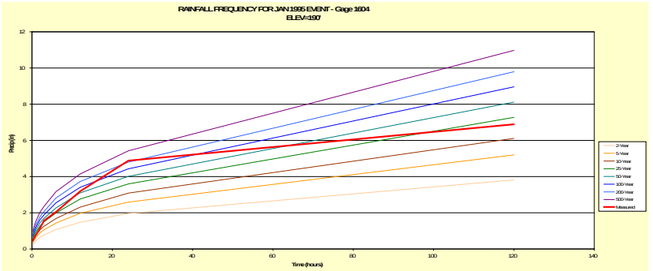
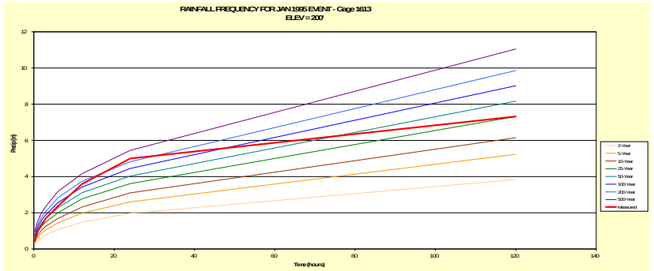
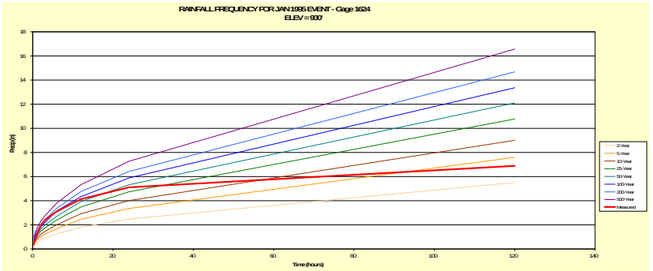
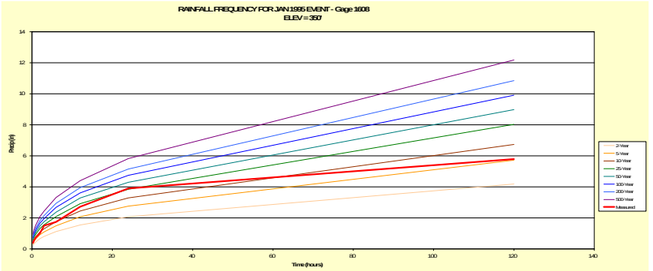
PLATE C.11

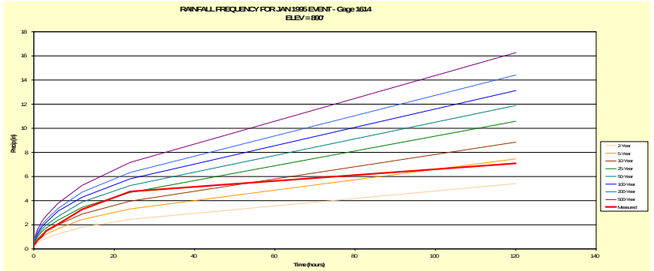
JANUARY 1995 EVENT RAINFALL STORM EVENT RATING BY GAGE

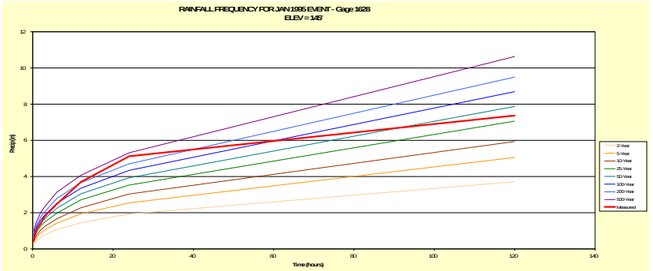


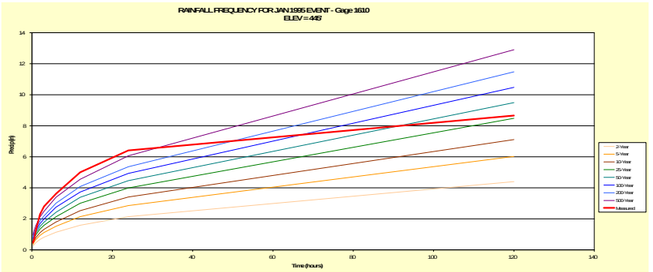


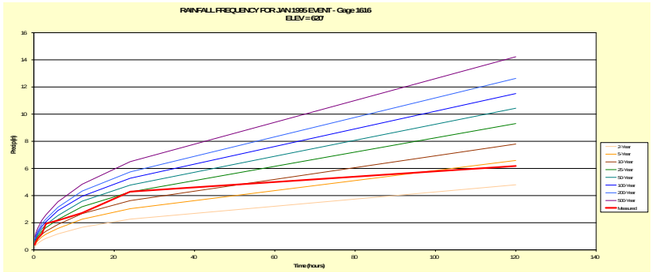


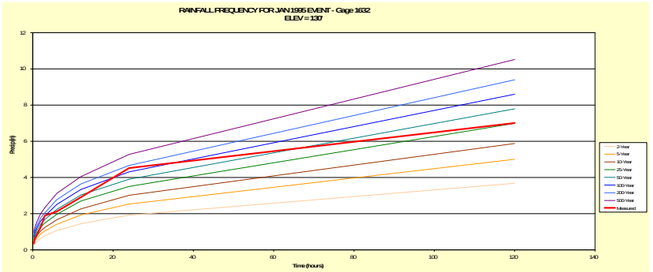


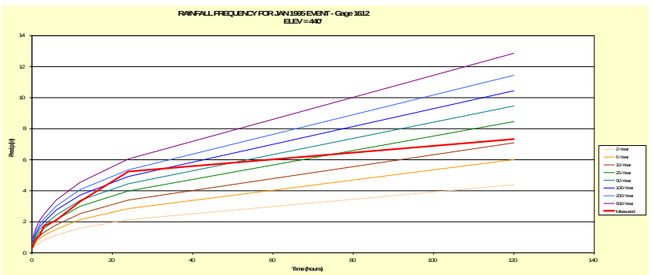


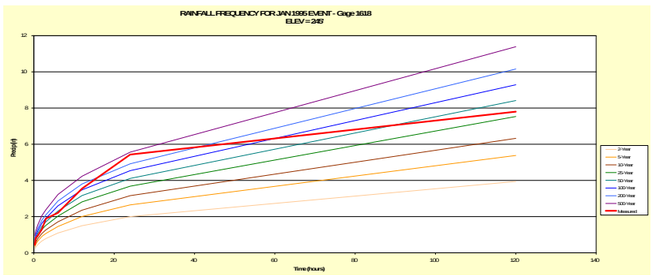


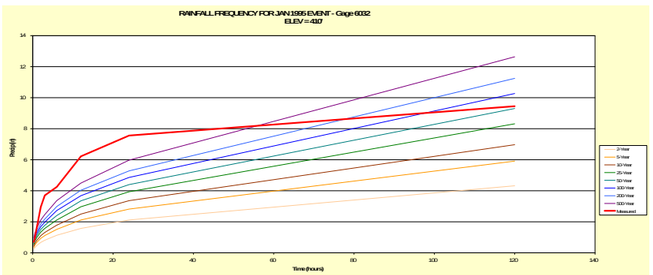












January 1995 Event

Varies between 50-yr and 500-yr precip.

50-year at gage:	1608
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PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

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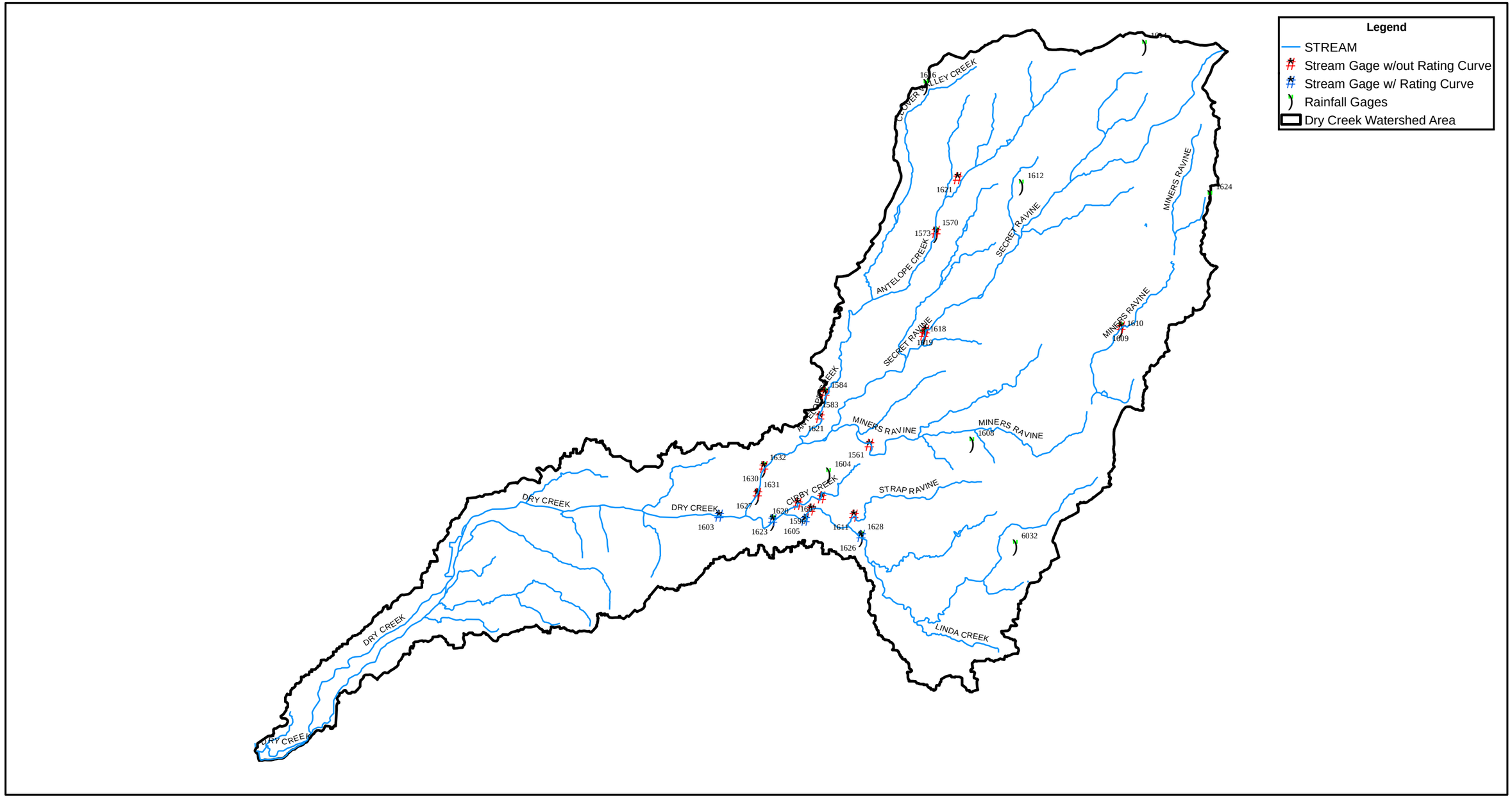
PLATE C.12

DRY CREEK WATERSHED STREAM AND RAINFALL GAGES



PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

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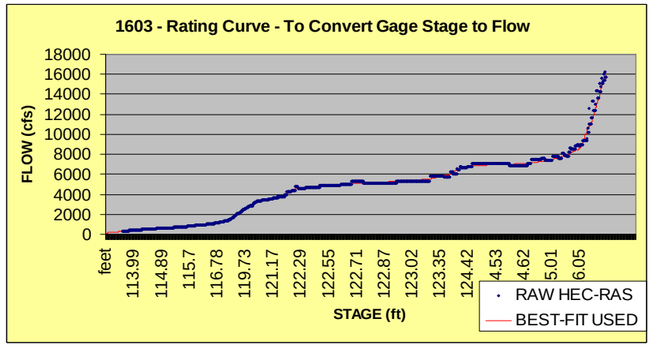
CIVIL ENGINEERING SOLUTIONS, INC.

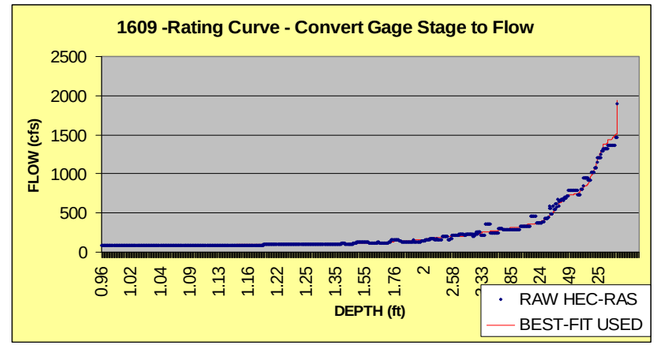
0 1 2 4 Miles

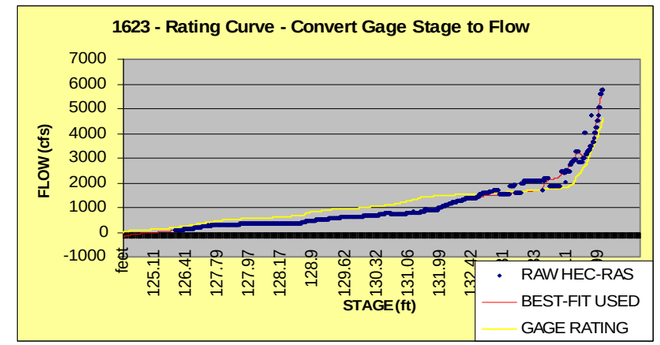
1 inch = 2 miles

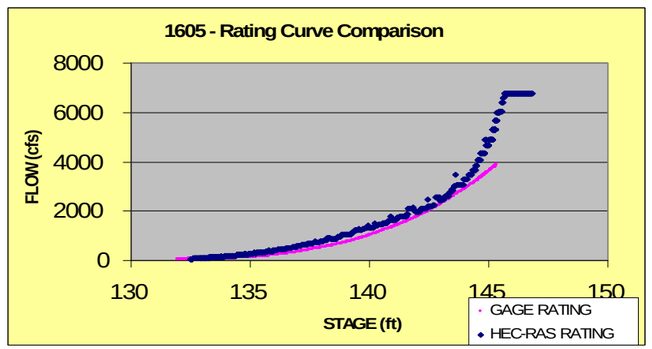
PLATE C.13

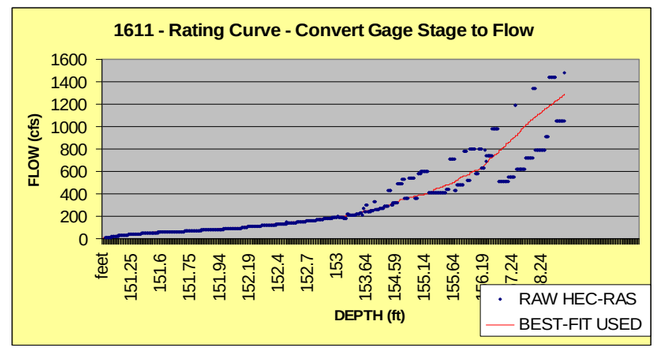
JANUARY 1995 GAGE / MODEL DEVELOPED RATING CURVES

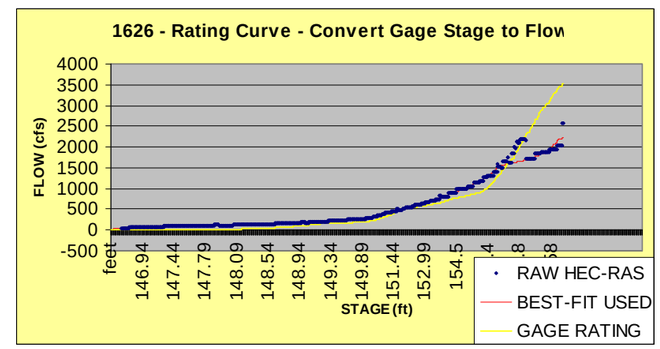


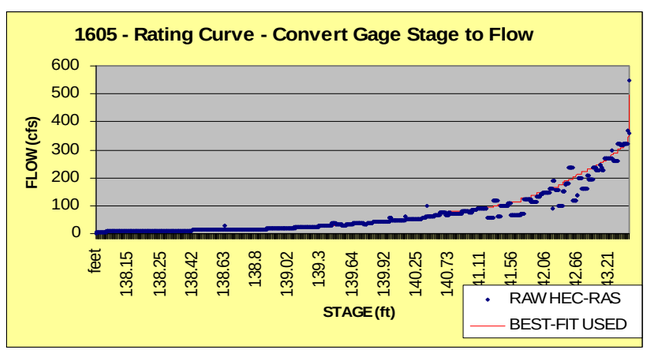


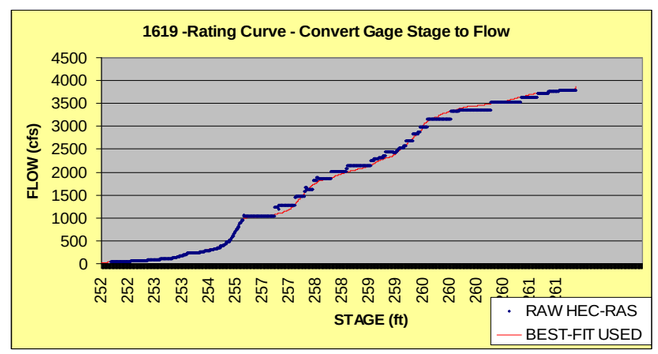


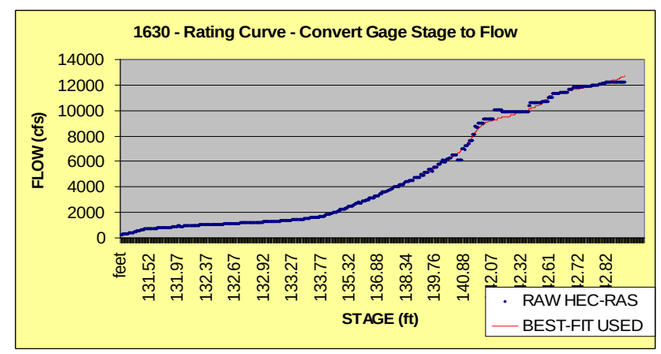












PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

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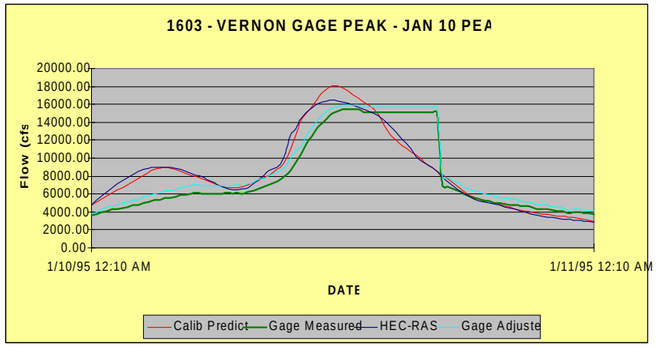
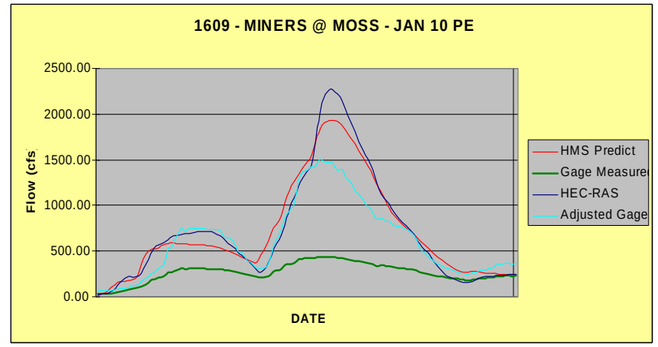
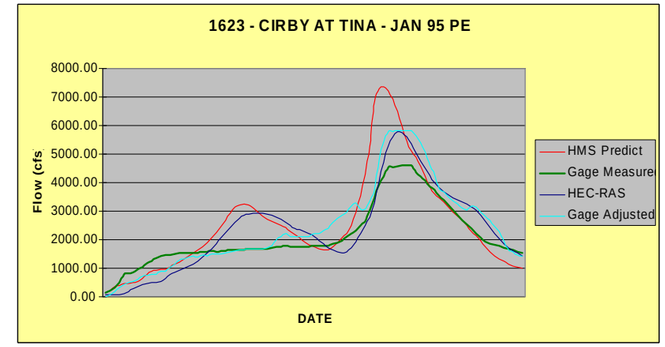
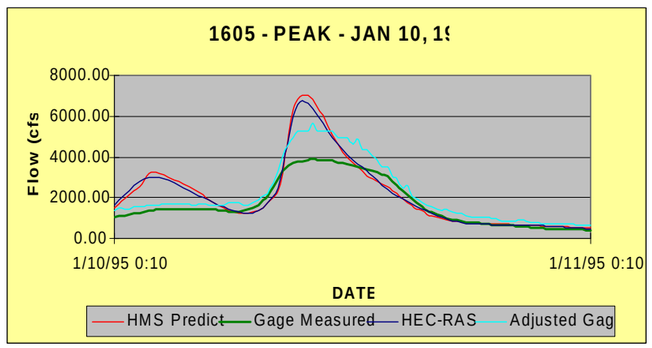
PLATE C.14

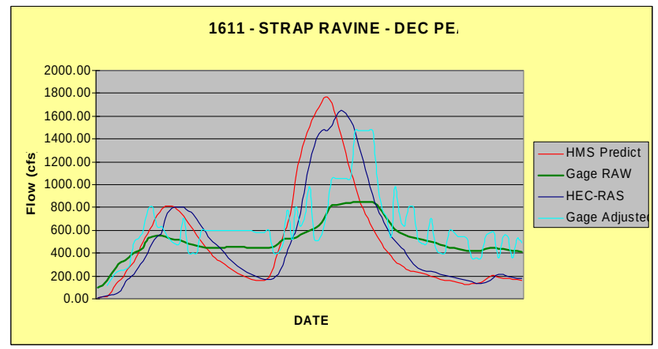
JANUARY 1995 PEAK EVENT HYDROGRAPH - GAGE VS CALIBRATED MODEL

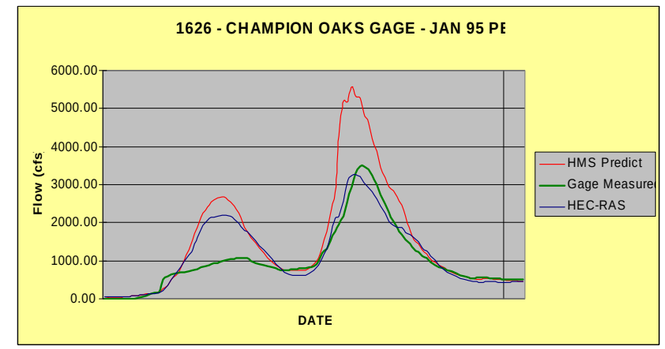


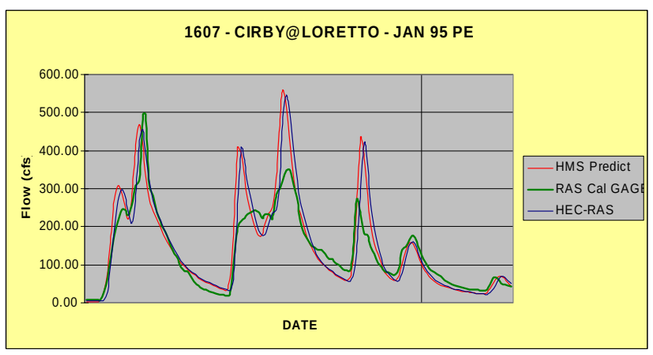


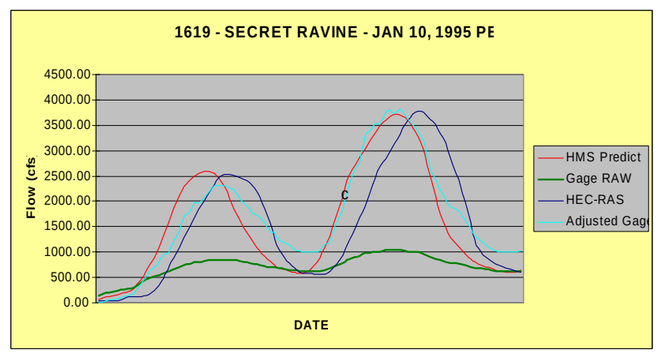


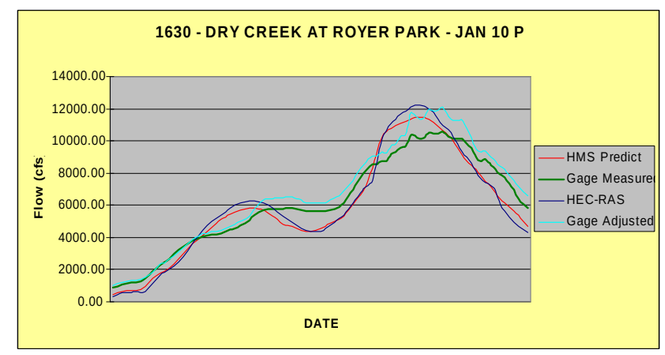












PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

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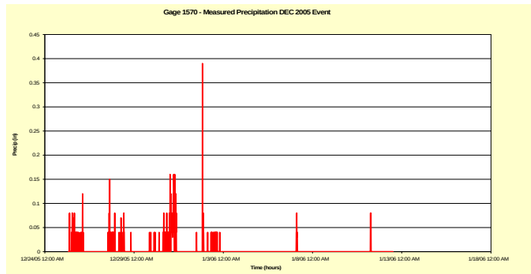
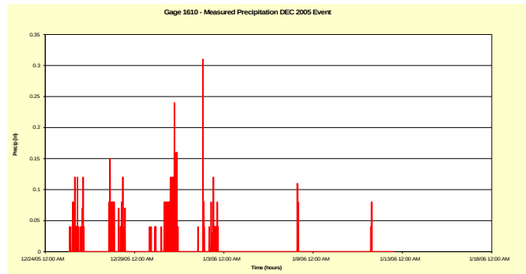
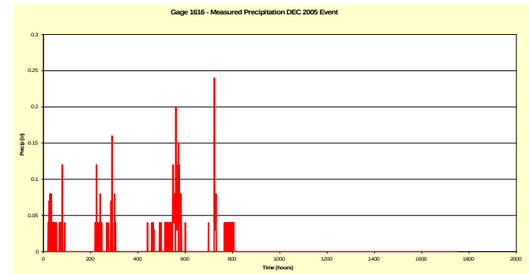
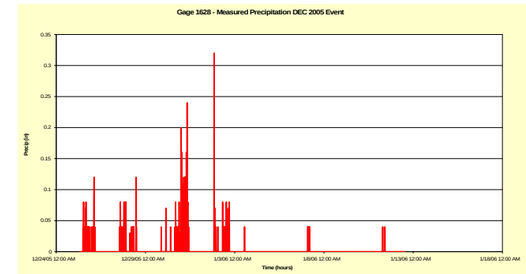
PLATE C.15

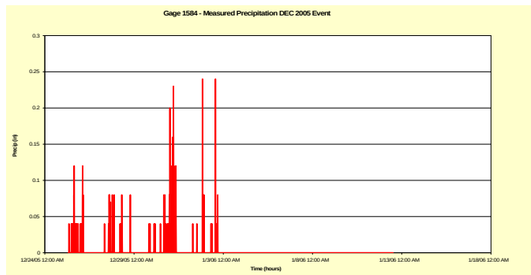
DECEMBER 1995 EVENT RAINFALL BY GAGE

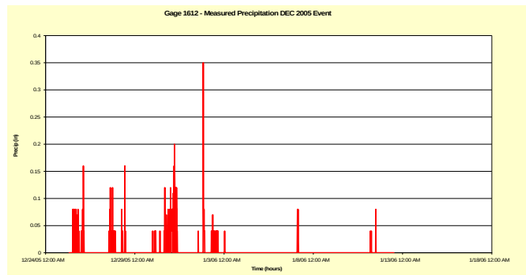


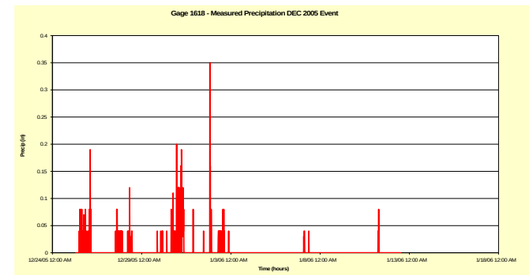


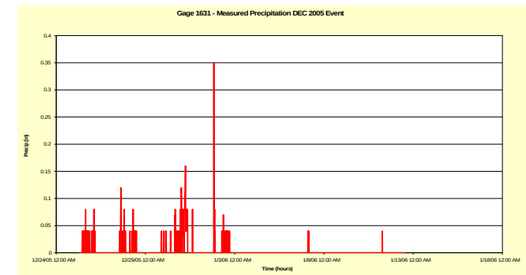


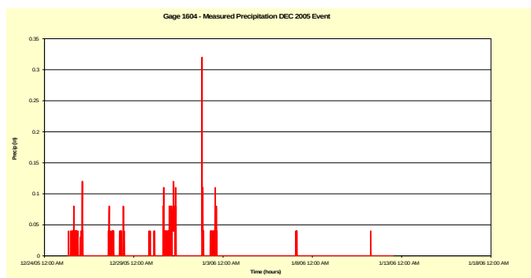


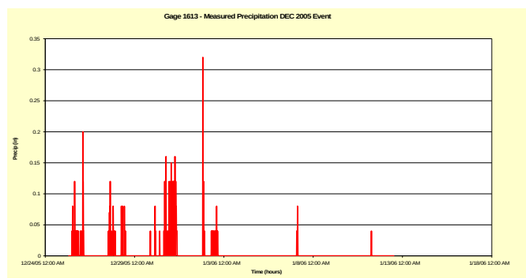


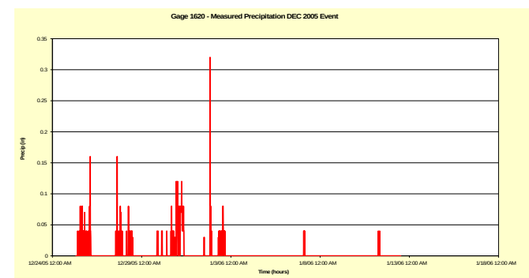


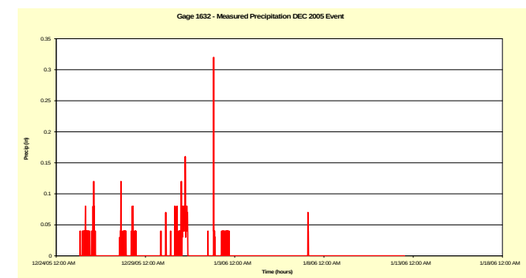


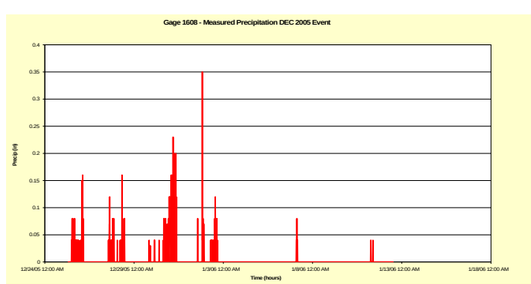


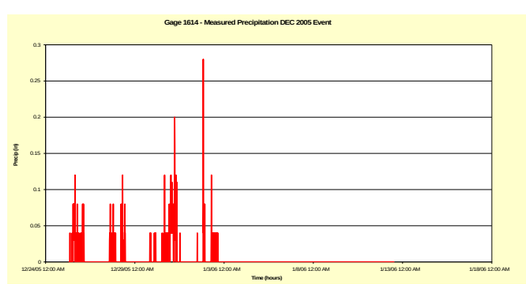


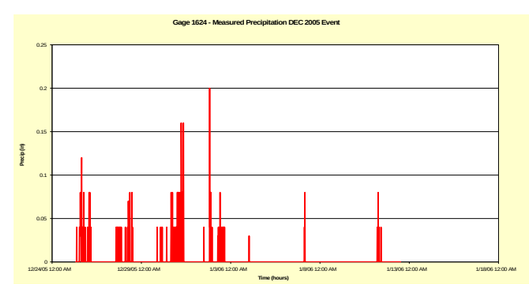


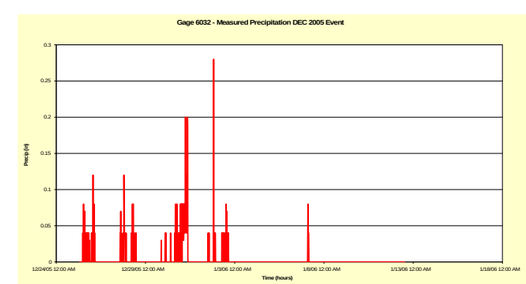












December 31, 2005 event

Varies between 2-yr and 50-yr precip.

		Most Gages reported 10-year recurrance for 12 hour event.		
2-year at gage:	1624	24-hour precip varied between:	2.55	3.82
50-year at gage:	6032	12-hour precip varied between	2.12	3.3
		6-hour precip varied between	1.26	2.16

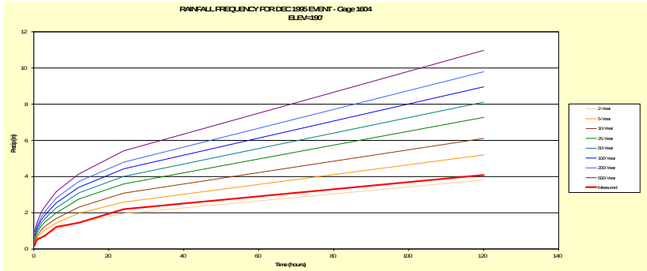
PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

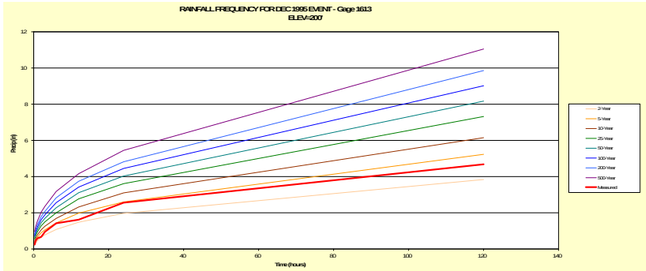
RBF CONSULTING

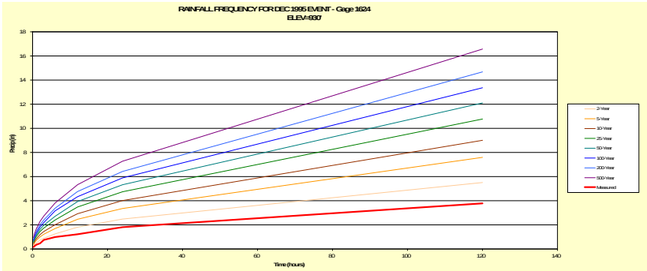
CIVIL ENGINEERING SOLUTIONS, INC.

PLATE C.16

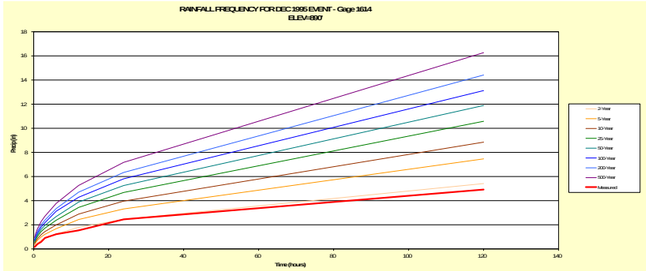
DECEMBER 1995 RAINFALL STORM EVENT RATING CURVE BY GAGE

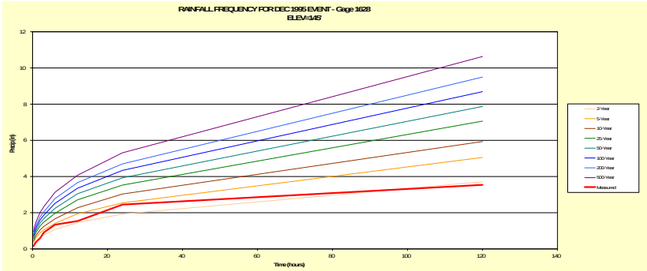


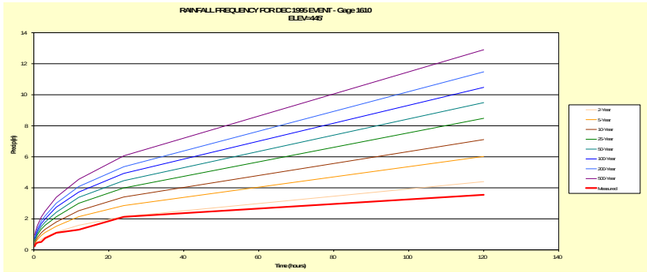


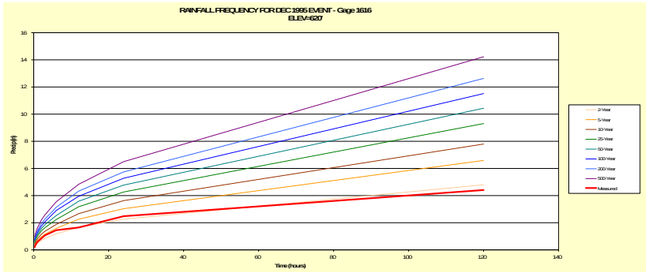


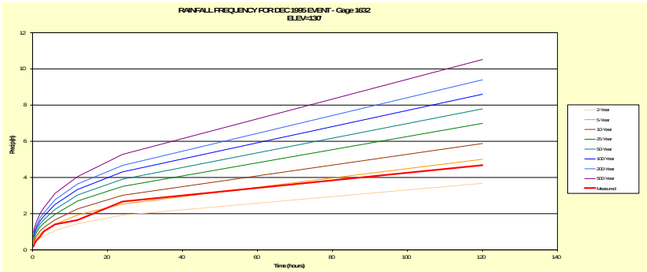
GAGE 1608
BAD DATA

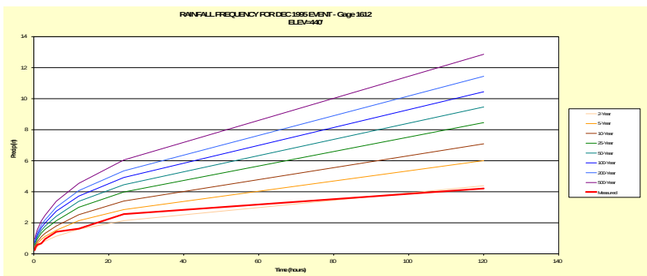


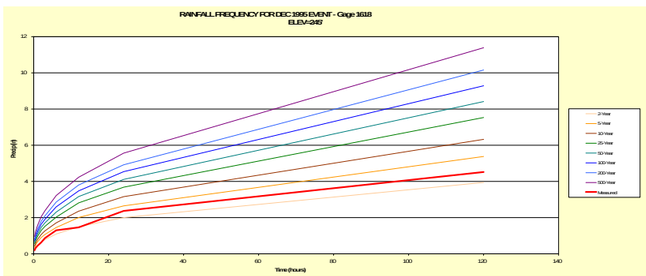


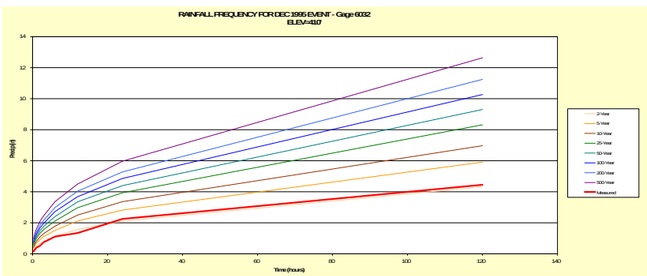












December 1995 event

Varies between 2-yr and 5-yr precip.

2-year at gage:	1614
5-year at gage:	1632

Most Gages reported 2-year recurrance for 24 hour event.

24-hour precip varied between:	1.81	2.67
12-hour precip varied between	1.22	1.65
6-hour precip varied between	0.99	1.45

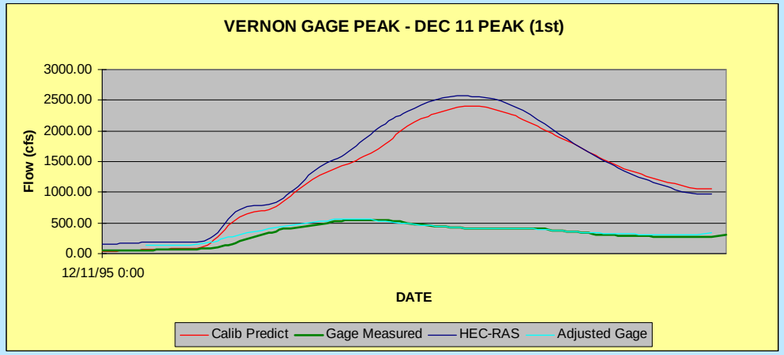
PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

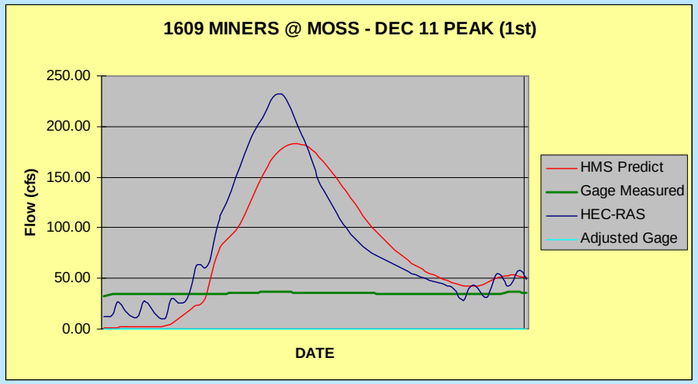
RBF CONSULTING

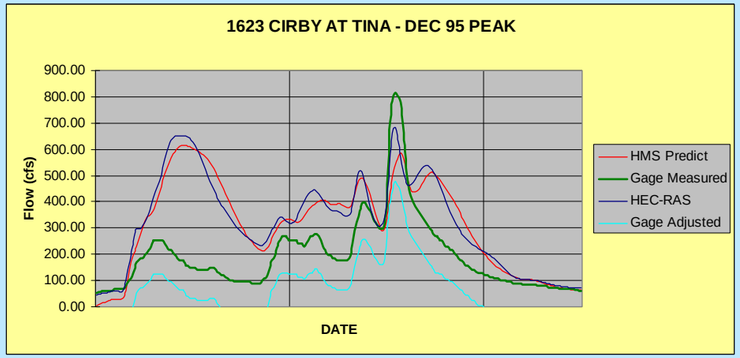
CIVIL ENGINEERING SOLUTIONS, INC.

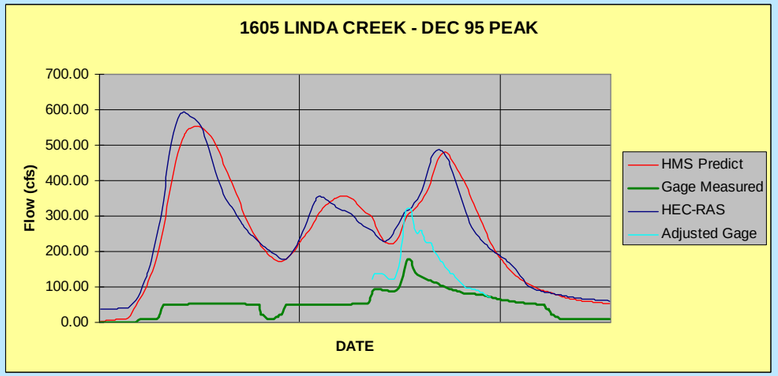
PLATE C.17

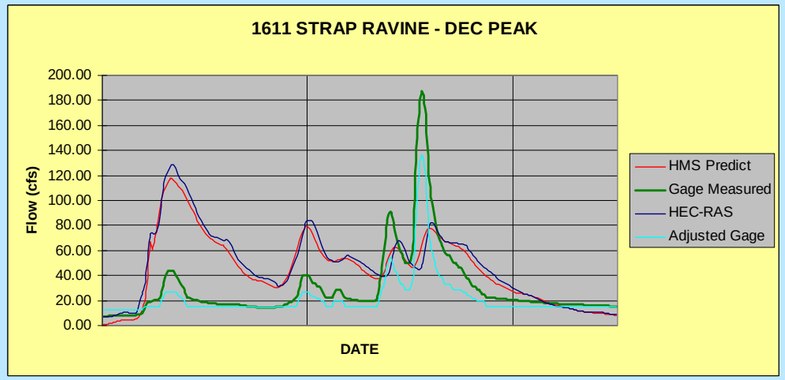
DEC. 1995 -PEAK EVENT HYDROGRAPH - GAGE VS. CALIBRATED MODEL

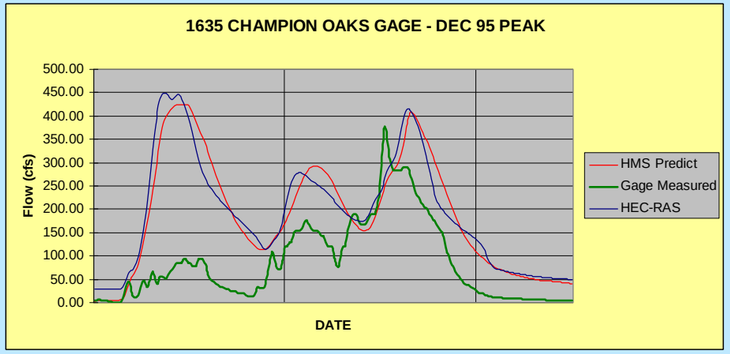


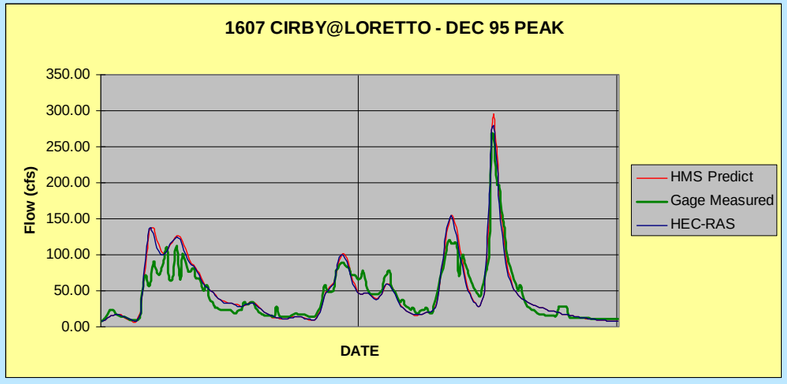


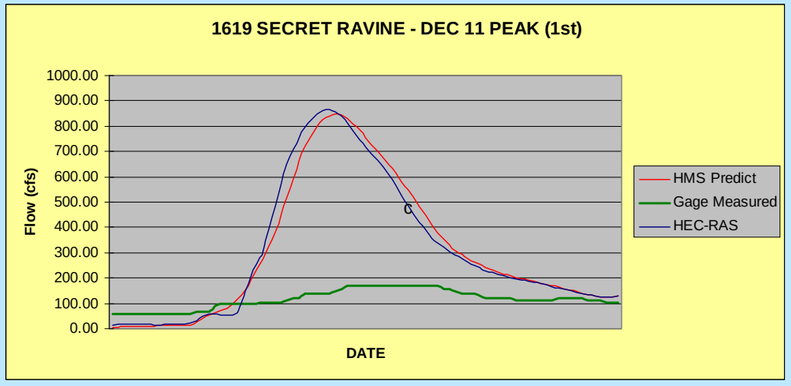


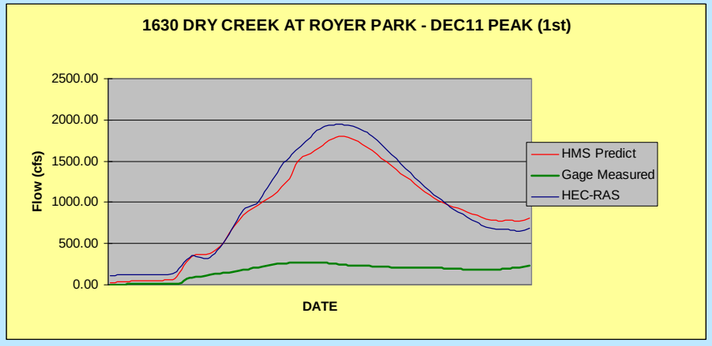












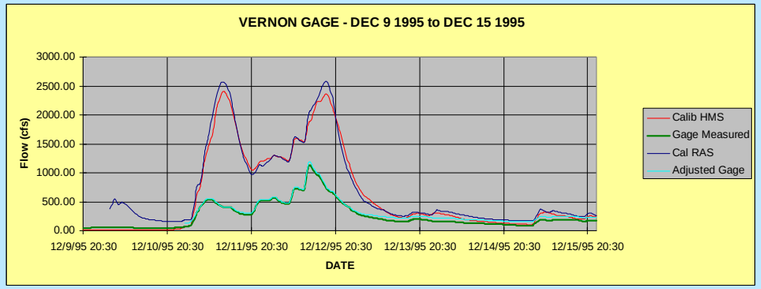
UPDATE TO THE 1992 DRY CREEK WATERSHED FLOOD CONTROL PLAN

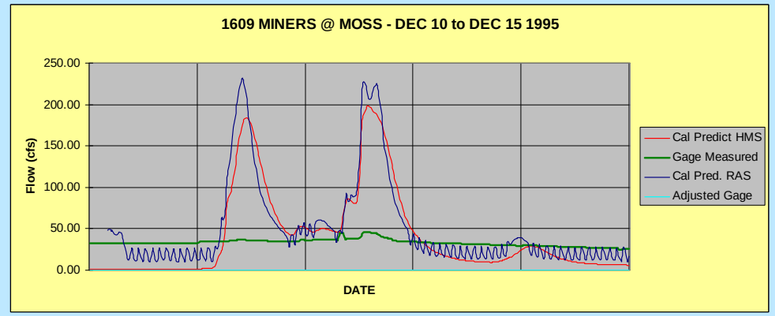
RBF CONSULTING

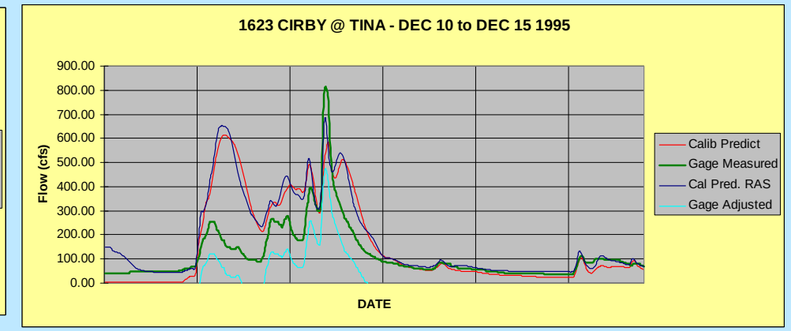
CIVIL ENGINEERING SOLUTIONS, INC.

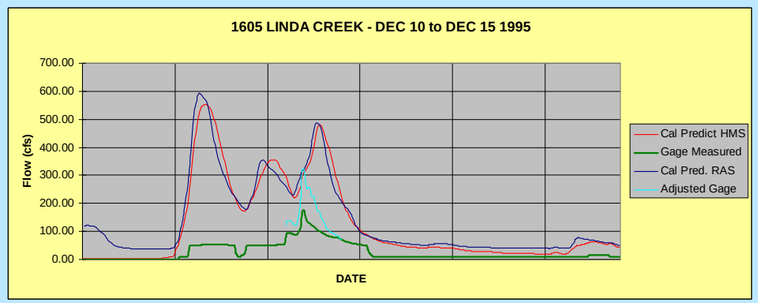
PLATE C-18

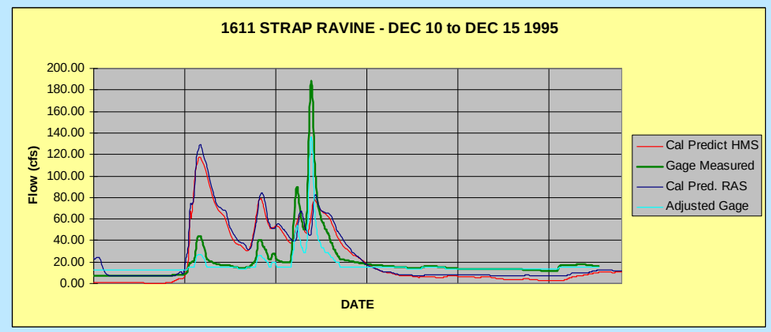
DEC. 1995 - WHOLE EVENT HYDROGRAPH - GAGE VS. CALIBRATED MODEL

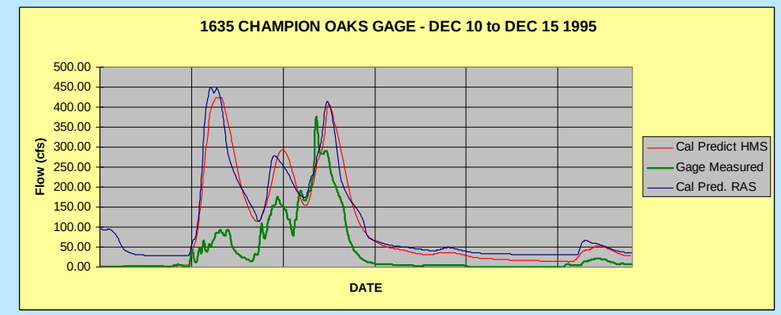


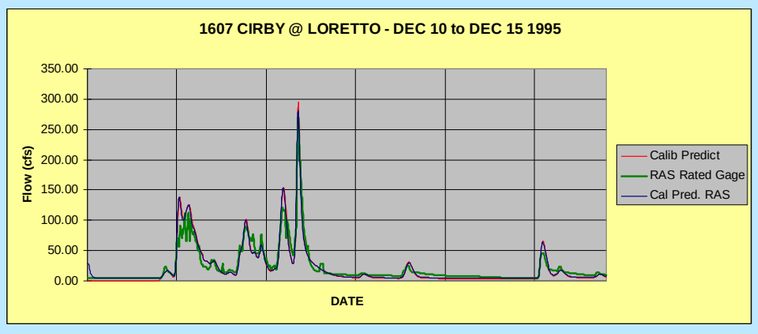


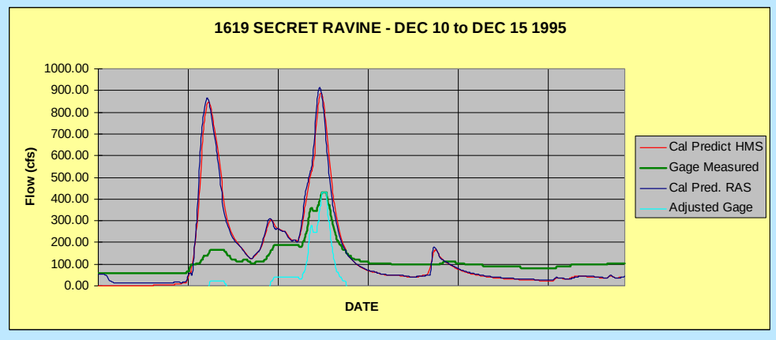


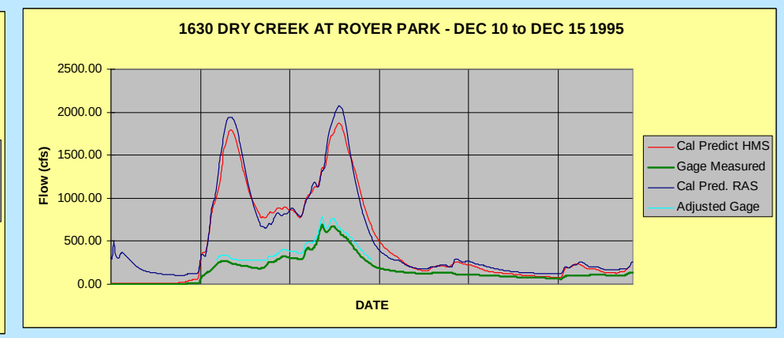












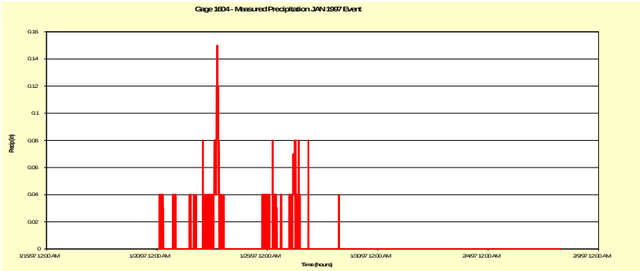
UPDATE TO THE 1992 DRY CREEK WATERSHED FLOOD CONTROL PLAN

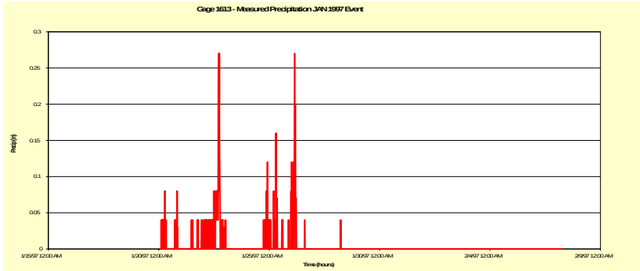
RBF CONSULTING

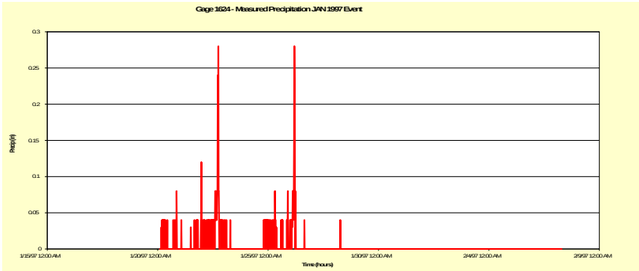
CIVIL ENGINEERING SOLUTIONS, INC.

PLATE C-19

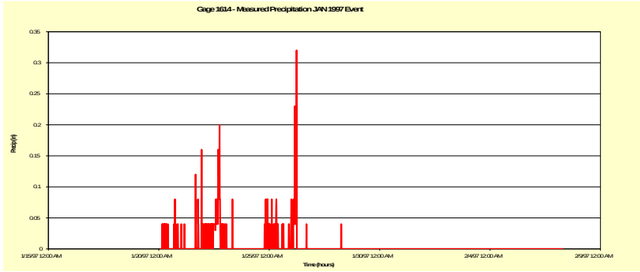
JANUARY 1997 EVENT RAINFALL BY GAGE

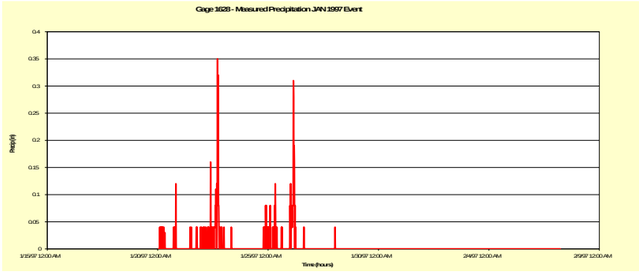


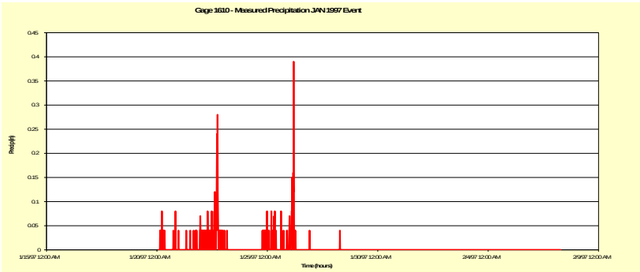


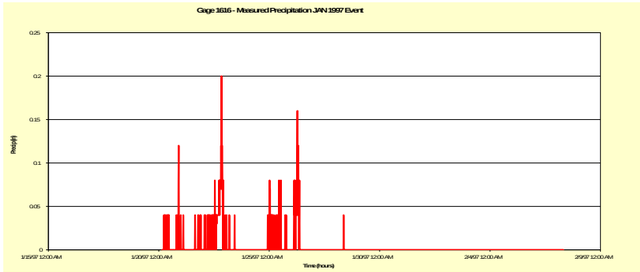


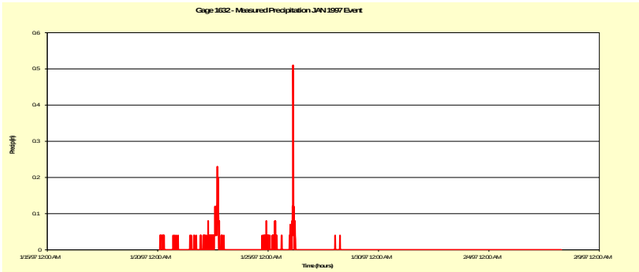
GAGE 1608
BAD DATA

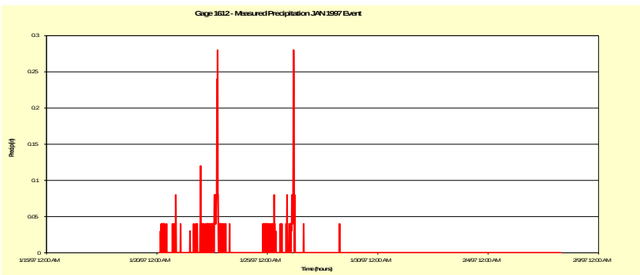


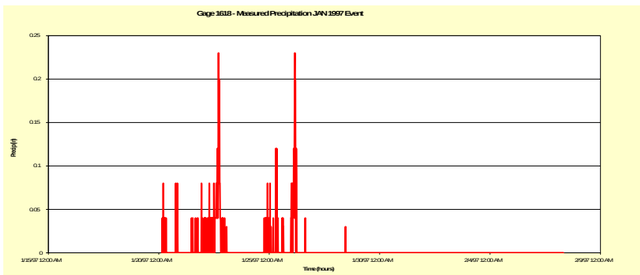


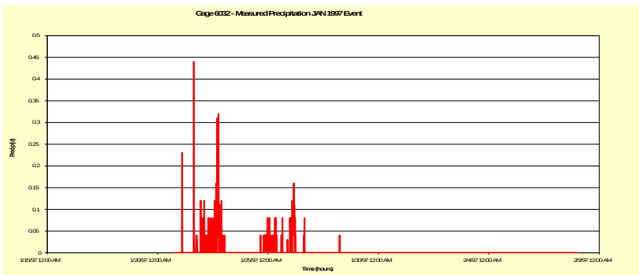












January 1997 event

Varies between 5-yr and 50-yr precip.

5-year at gage:	1624
50-year at gage:	1613

Most Gages reported 10-year recurrance for 24 hour event.

24-hour precip varied between:	2.95	3.55
12-hour precip varied between	2.37	2.99
6-hour precip varied between	1.81	2.29

PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

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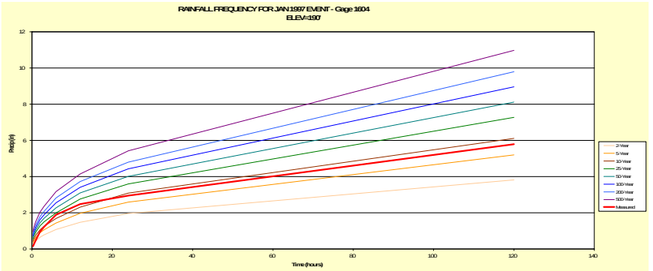
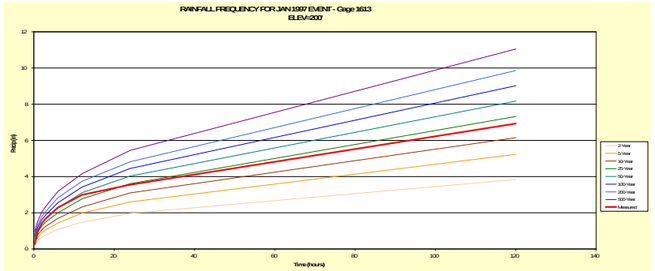
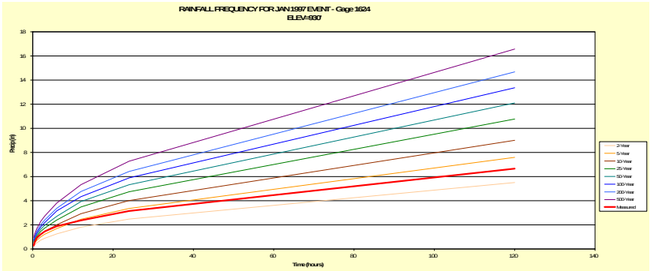
CIVIL ENGINEERING SOLUTIONS, INC.

PLATE C.20

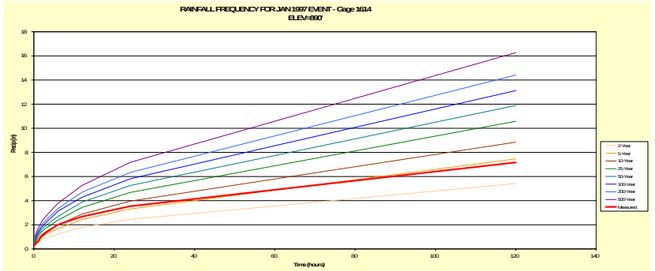
JANUARY 1997 STORM EVENT RATING BY GAGE

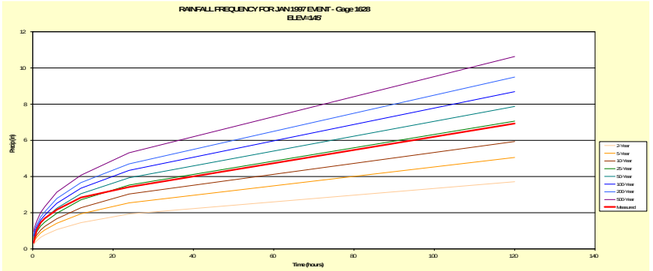


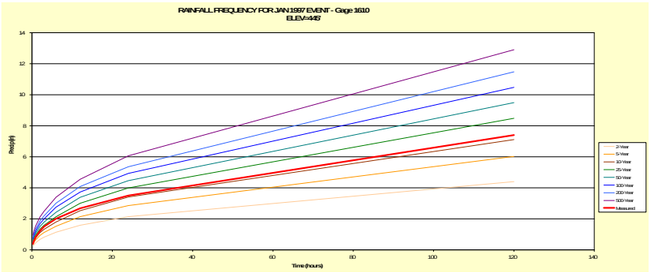


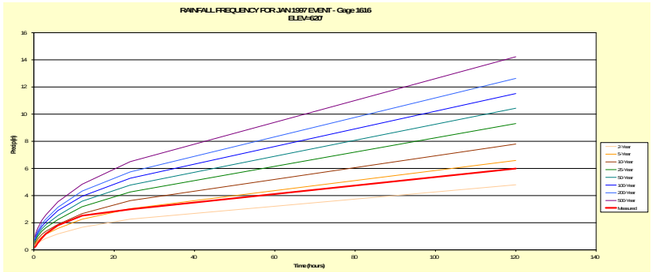


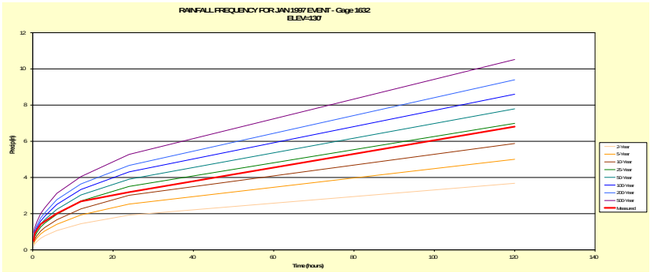
GAGE 1608
BAD DATA

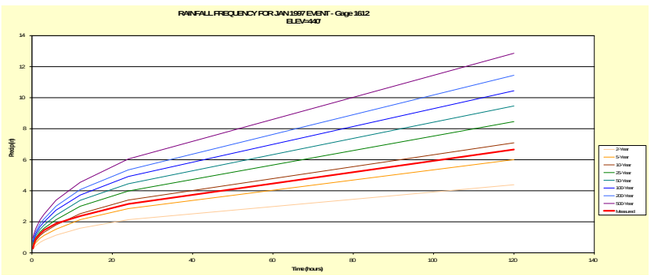


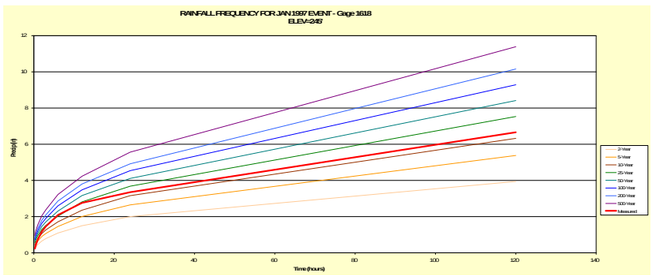


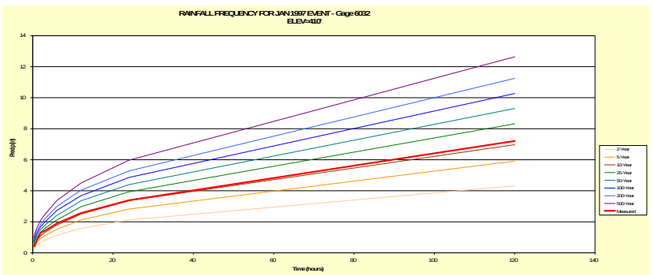












January 1997 event

Varies between 5-yr and 50-yr precip.

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PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

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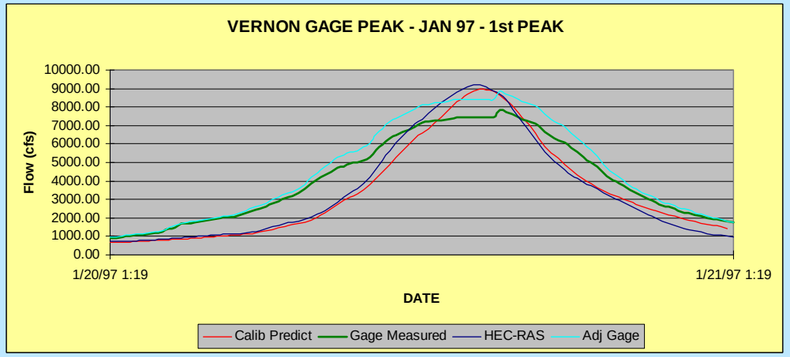
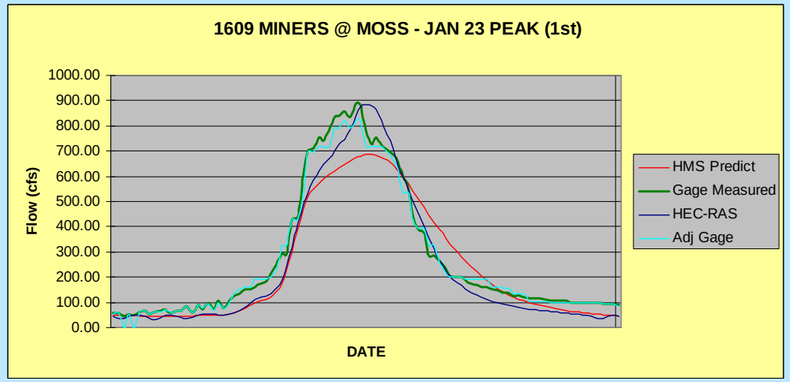
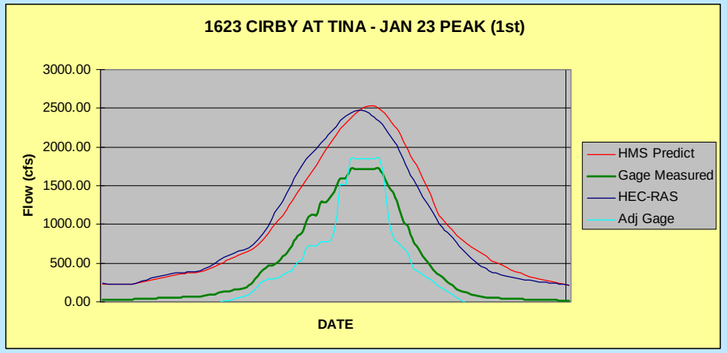
CIVIL ENGINEERING SOLUTIONS, INC.

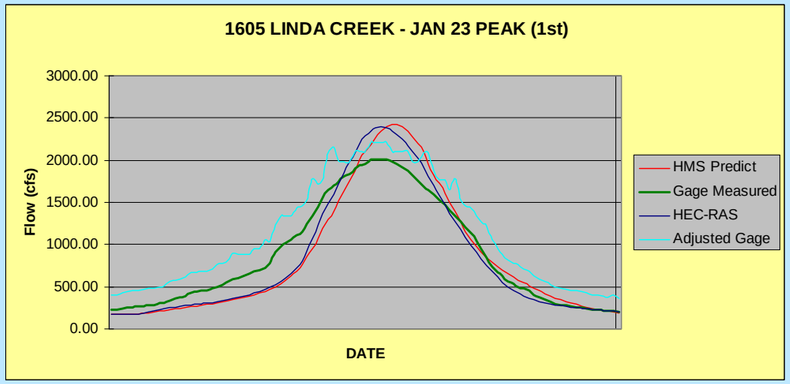
PLATE C.21

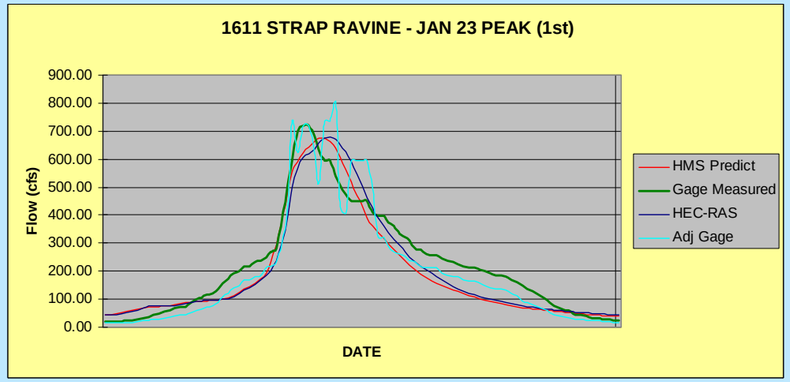
JAN. 1997 -PEAK EVENT HYDROGRAPH - GAGE VS. CALIBRATED MODEL

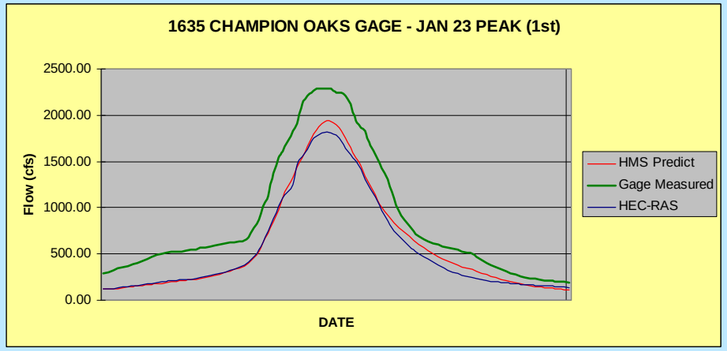


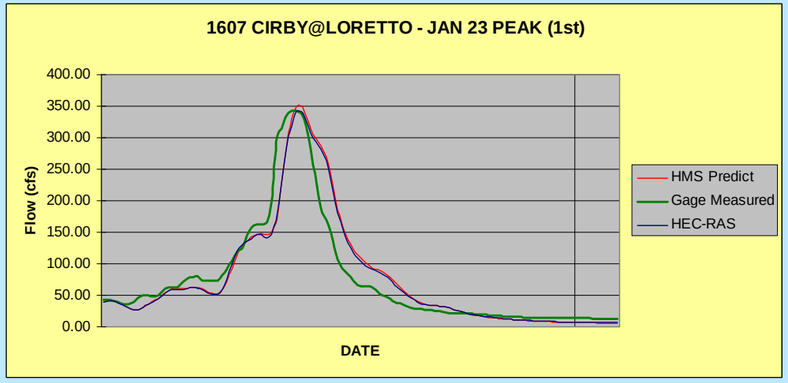


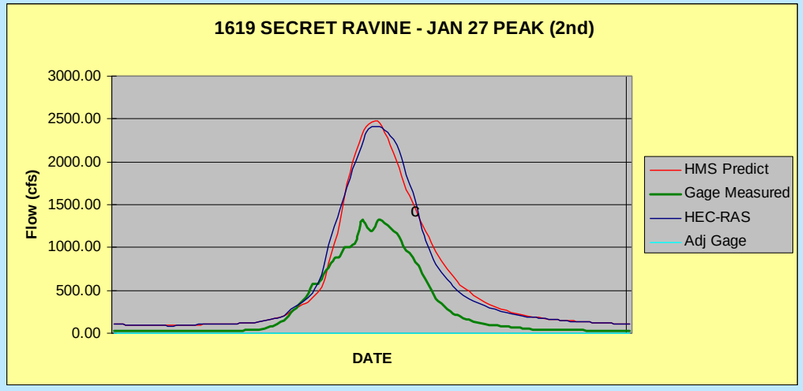


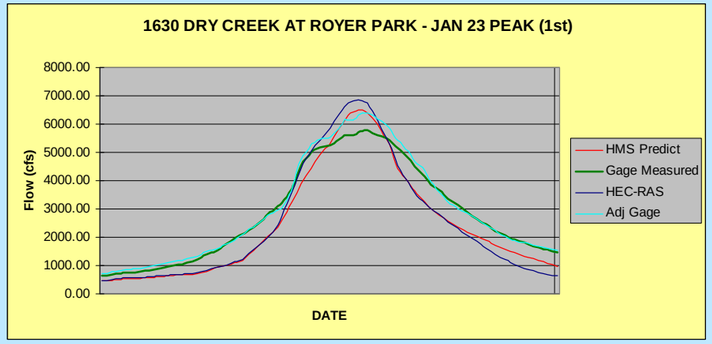












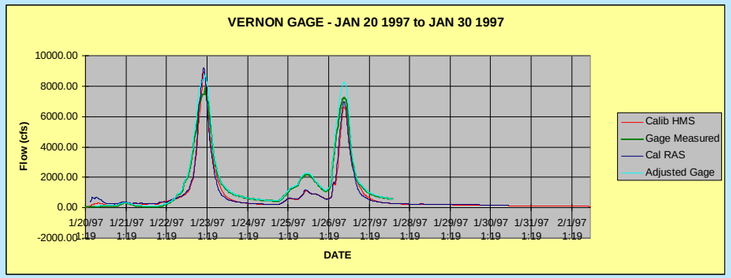
UPDATE TO THE 1992 DRY CREEK WATERSHED FLOOD CONTROL PLAN

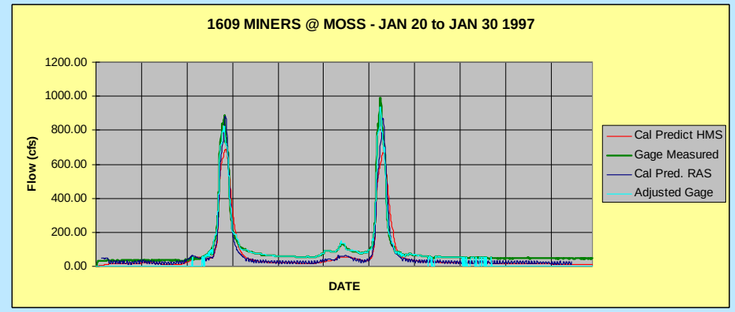
RBF CONSULTING

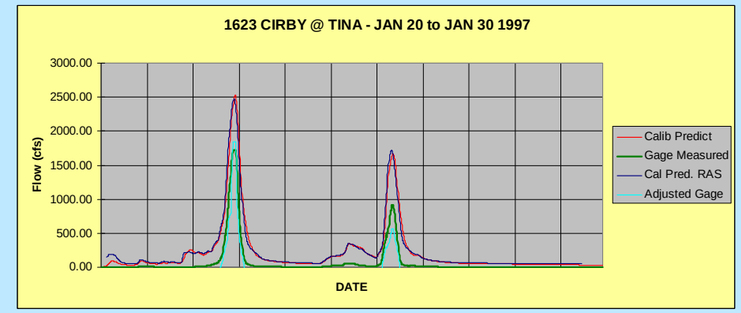
CIVIL ENGINEERING SOLUTIONS, INC.

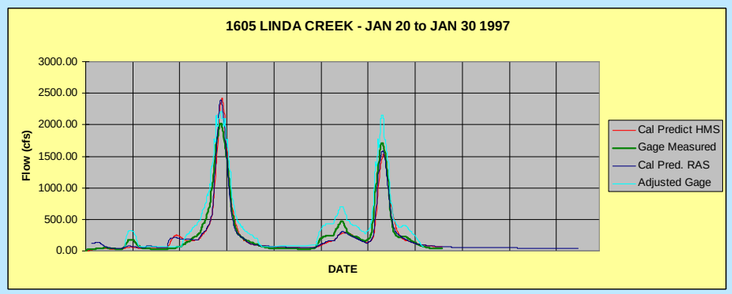
PLATE C-22

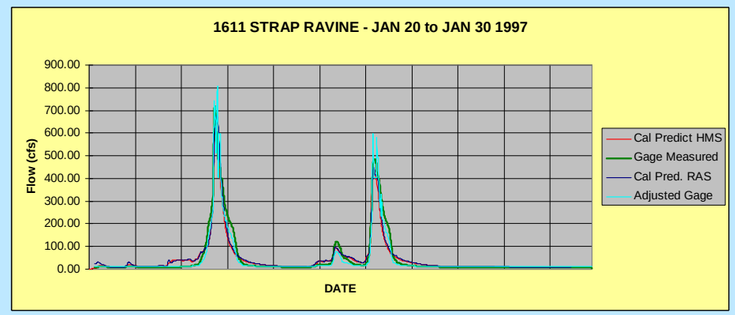
JAN. 1997 - WHOLE EVENT HYDROGRAPH - GAGE VS. CALIBRATED MODEL

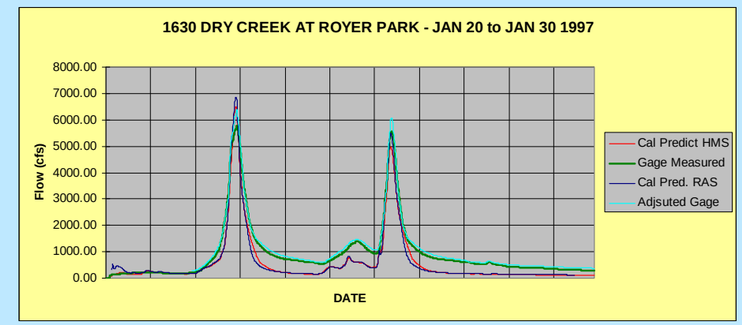


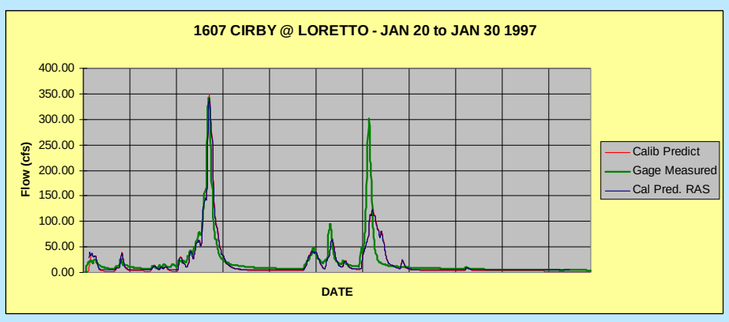


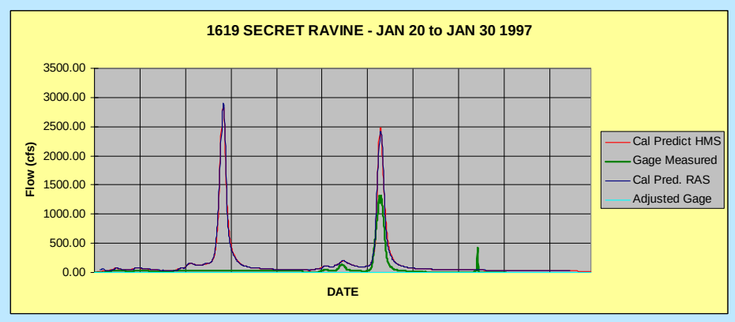


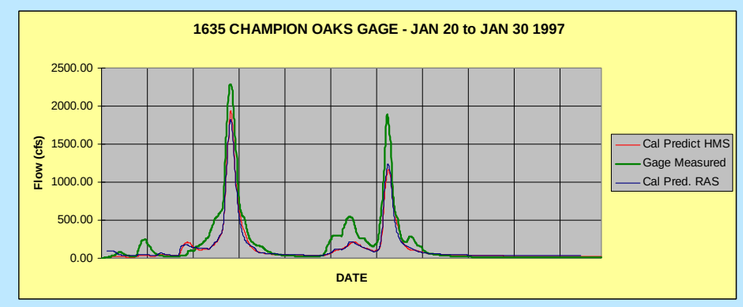












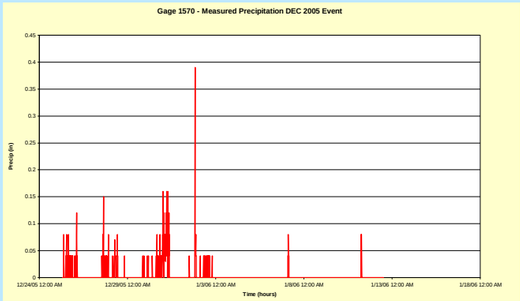
UPDATE TO THE 1992 DRY CREEK WATERSHED FLOOD CONTROL PLAN

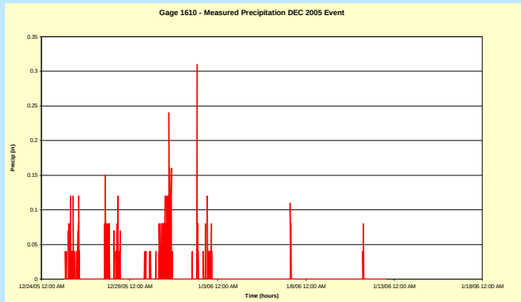
RBF CONSULTING

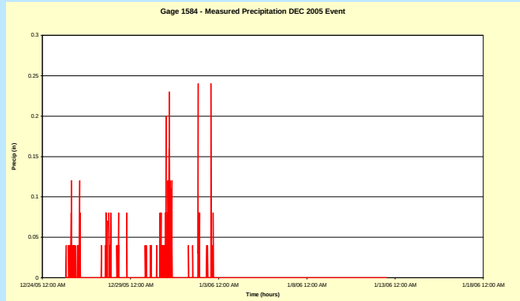
CIVIL ENGINEERING SOLUTIONS, INC.

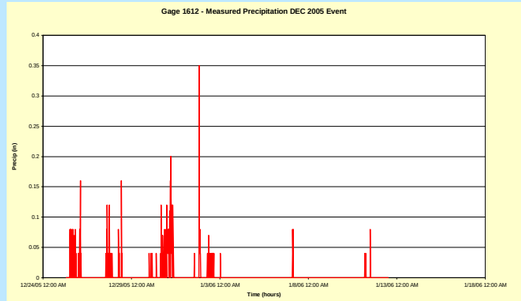
PLATE C-23

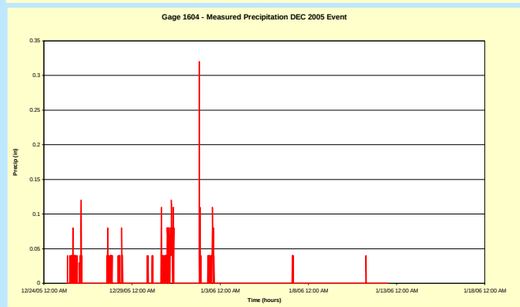
JANUARY 1997 EVENT RAINFALL BY GAGE

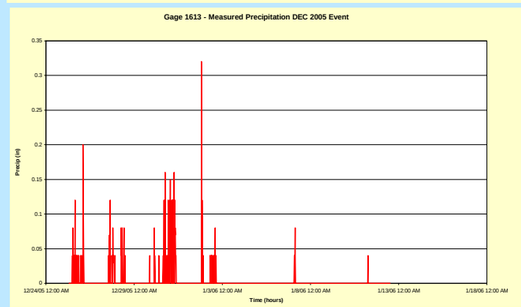


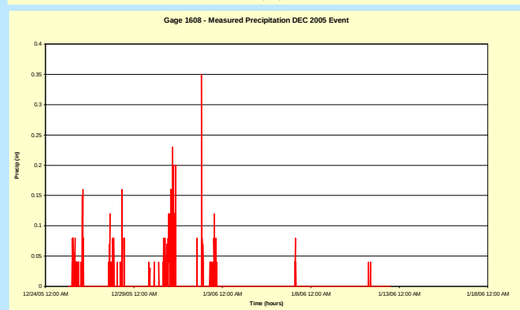


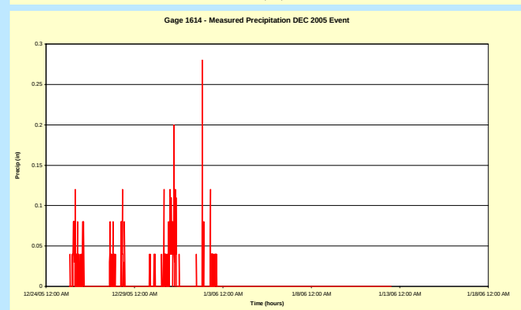


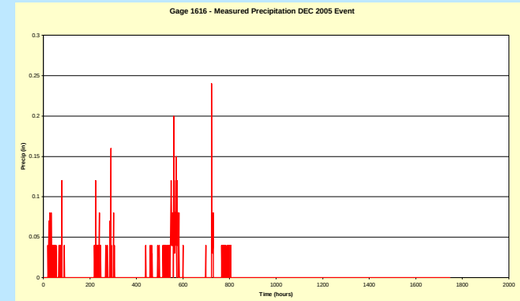


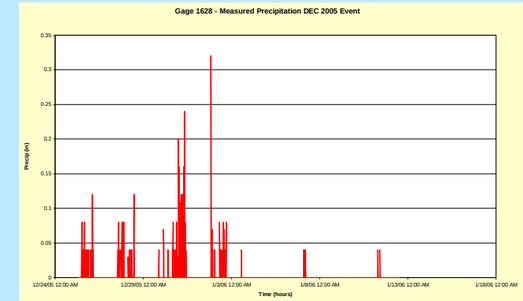


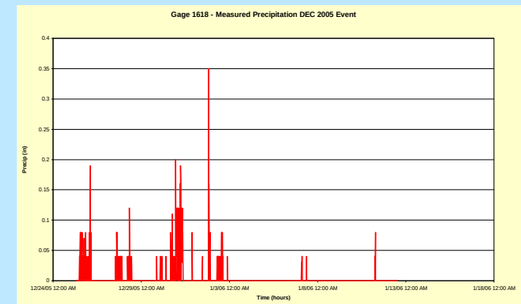


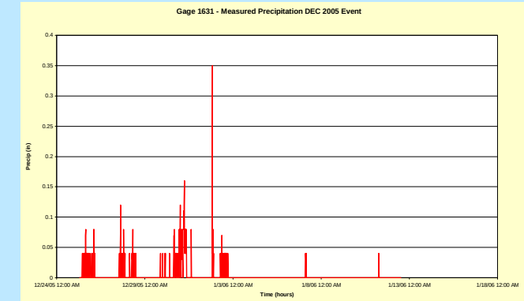


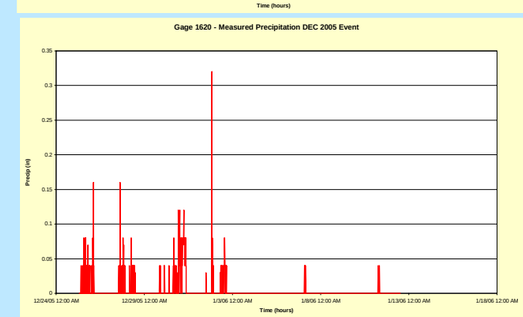


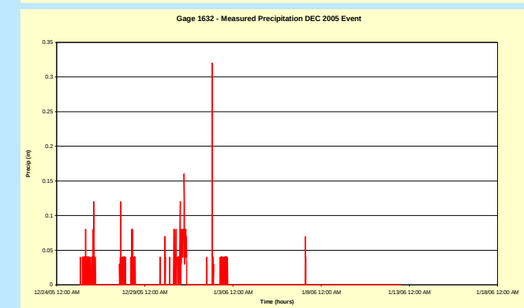


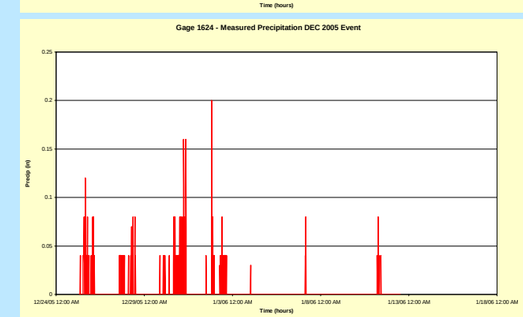


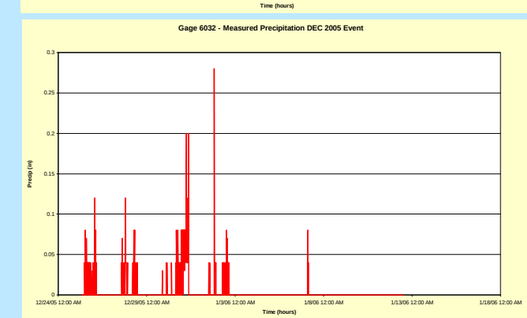












December 31, 2005 event

Varies between 2-yr and 50-yr precip.

2-year at gage:	1624
50-year at gage:	6032

Most Gages reported 10-year recurrance for 12 hour event.

24-hour precip varied between:	2.55	3.82
12-hour precip varied between	2.12	3.3
6-hour precip varied between	1.26	2.16

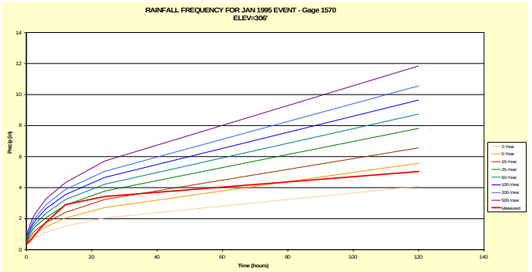
UPDATE TO THE 1992 DRY CREEK WATERSHED FLOOD CONTROL PLAN

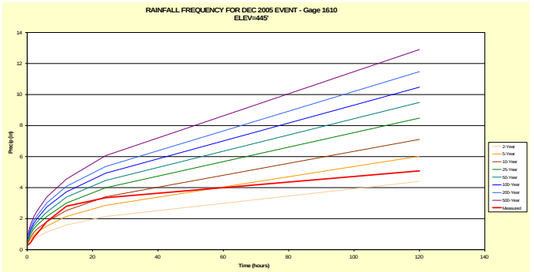
RBF CONSULTING

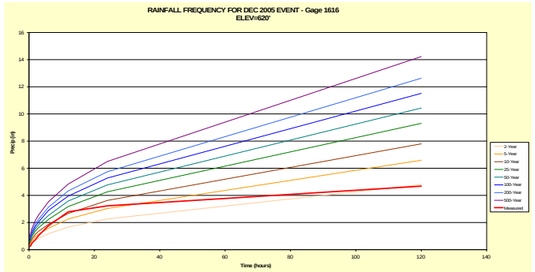
CIVIL ENGINEERING SOLUTIONS, INC.

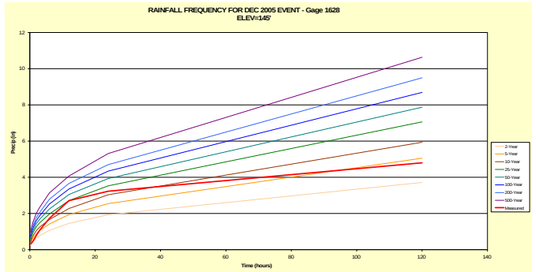
PLATE C-24

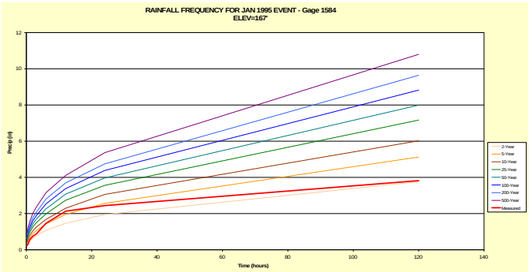
DECEMBER 2005 STORM EVENT RATING BY GAGE

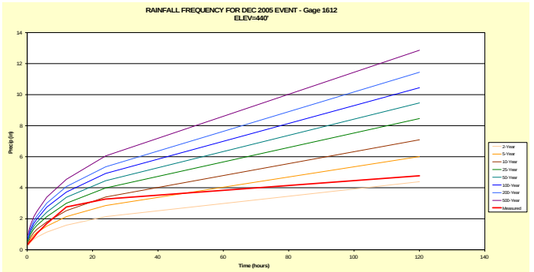


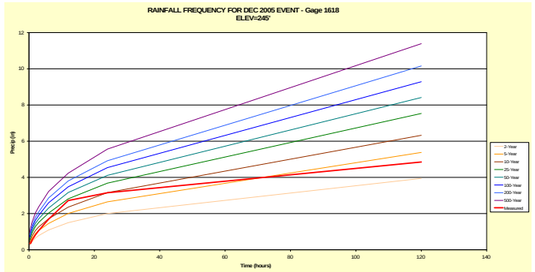


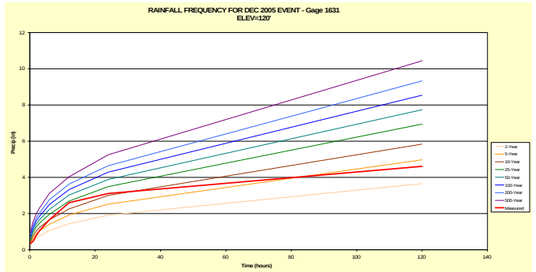


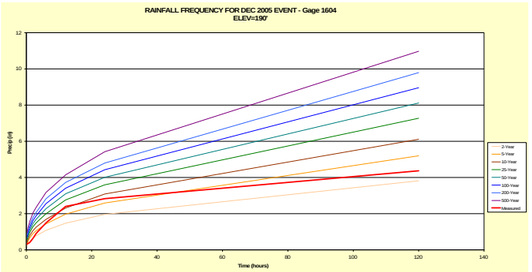


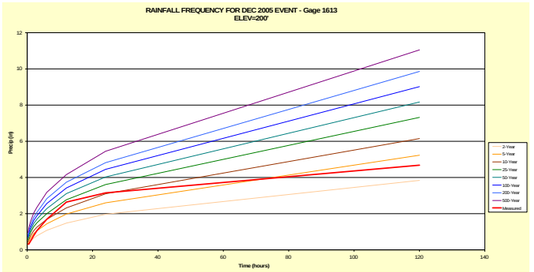


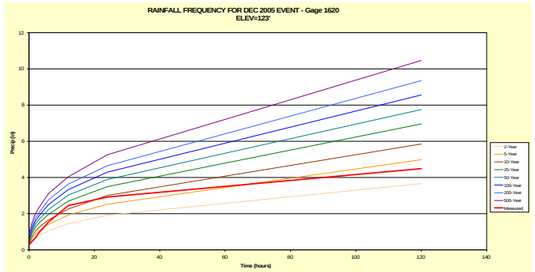


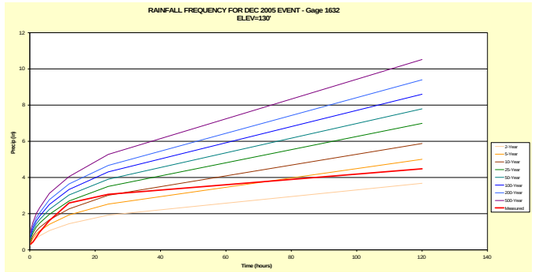


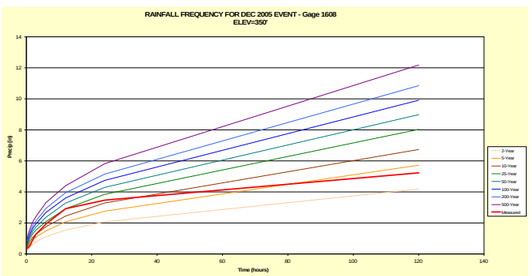


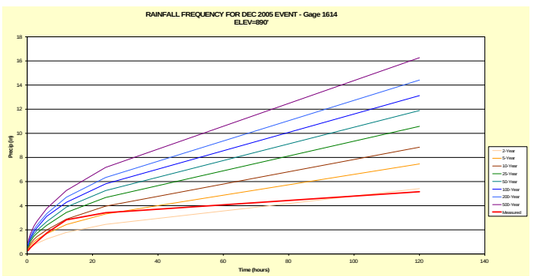


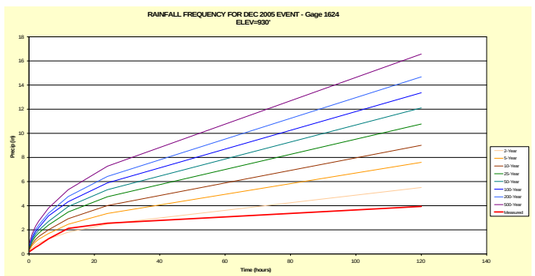


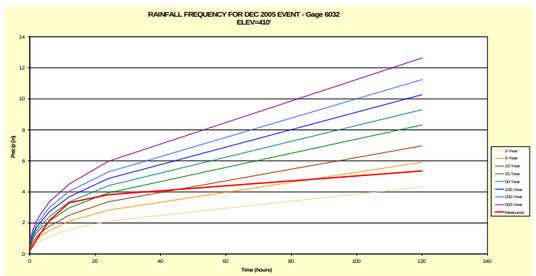












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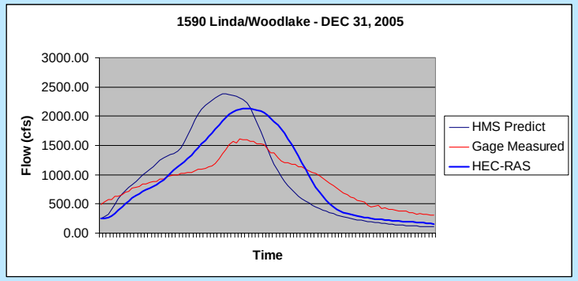
PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

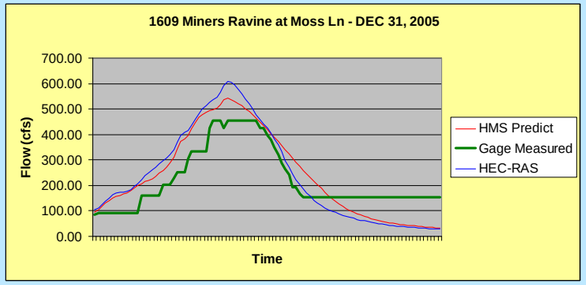
RBF CONSULTING

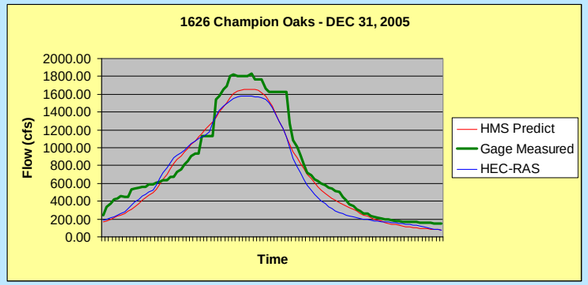
CIVIL ENGINEERING SOLUTIONS, INC.

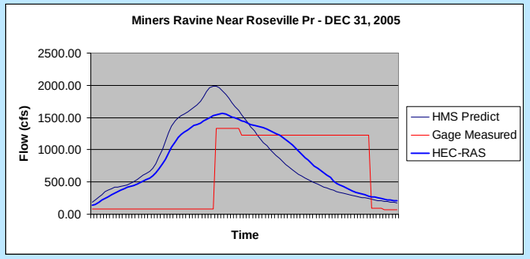
PLATE C.25

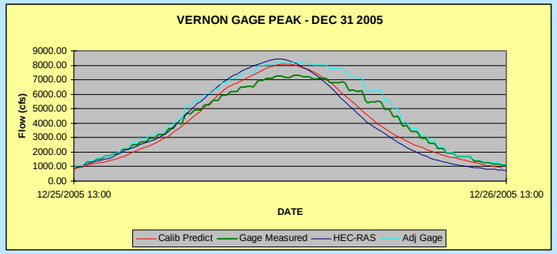
DEC. 2005 -PEAK EVENT HYDROGRAPH - GAGE VS. CALIBRATED MODEL

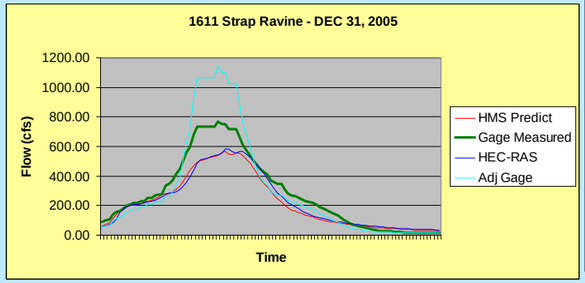


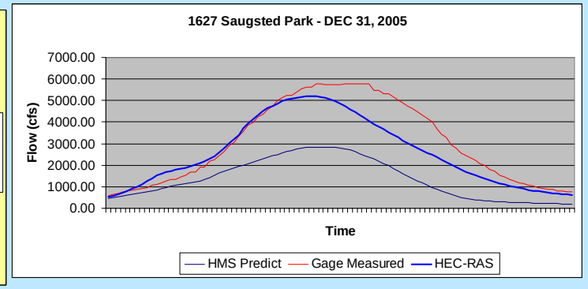


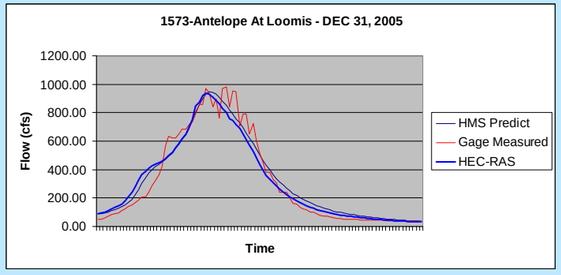


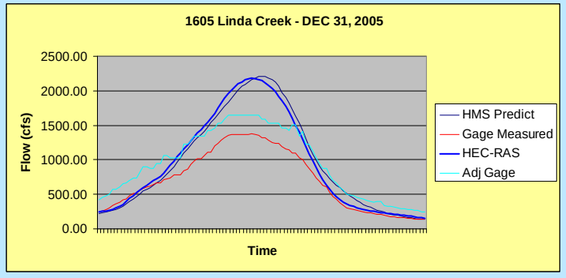


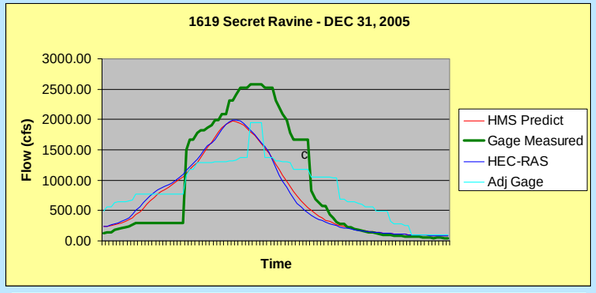


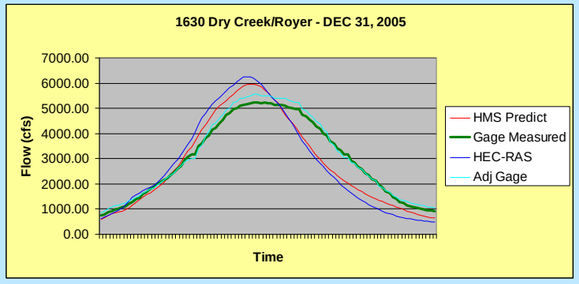


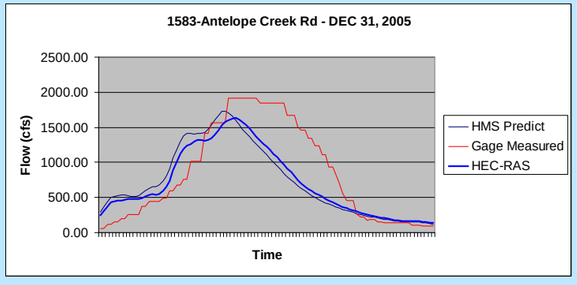


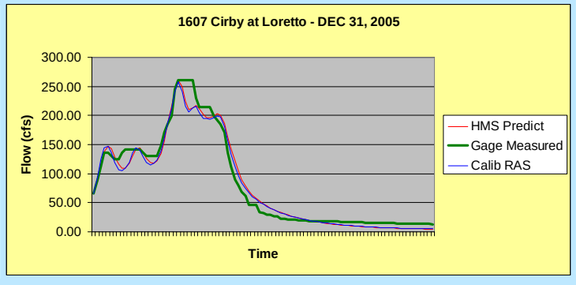


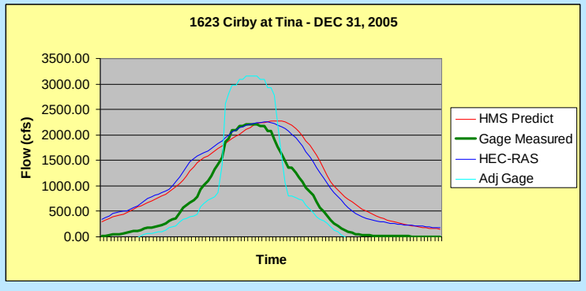


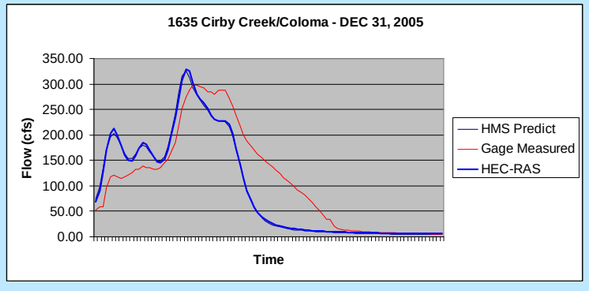












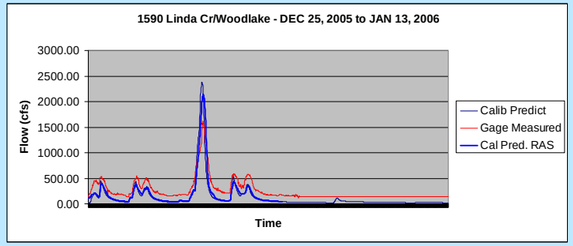
UPDATE TO THE 1992 DRY CREEK WATERSHED FLOOD CONTROL PLAN

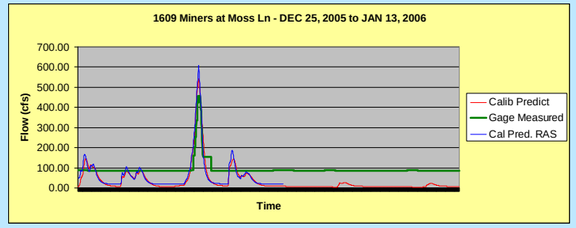
RBF CONSULTING

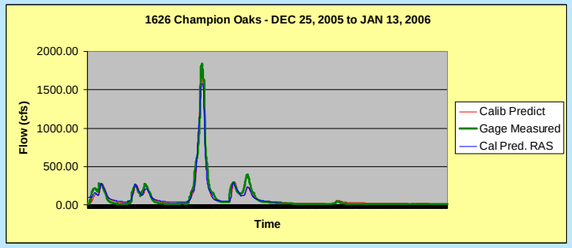
CIVIL ENGINEERING SOLUTIONS, INC.

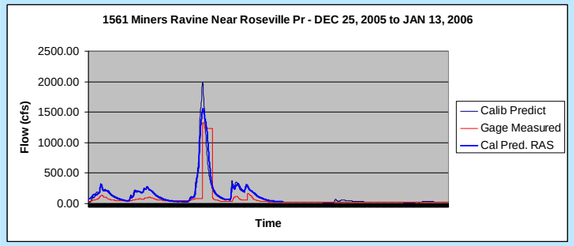
PLATE C-26

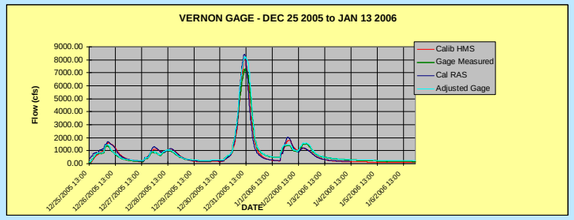
DEC. 2005 - WHOLE EVENT HYDROGRAPH - GAGE VS. CALIBRATED MODEL

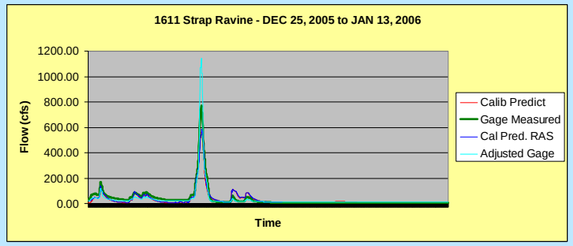


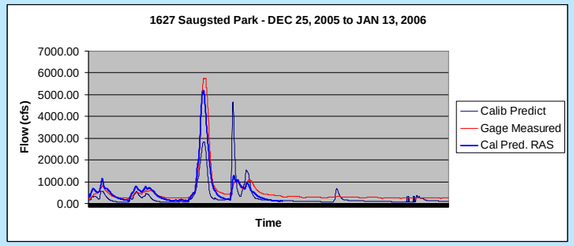


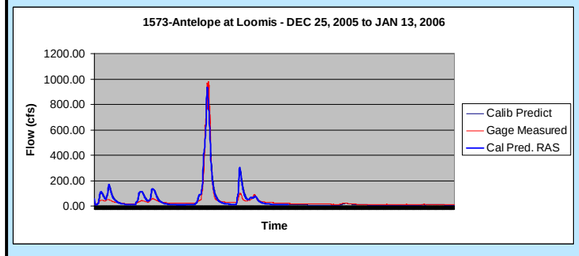


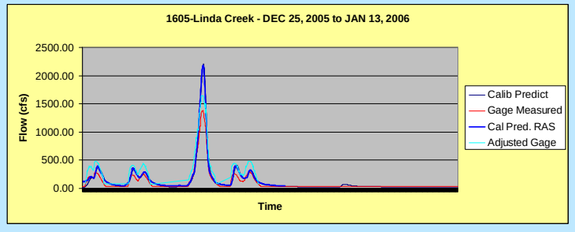


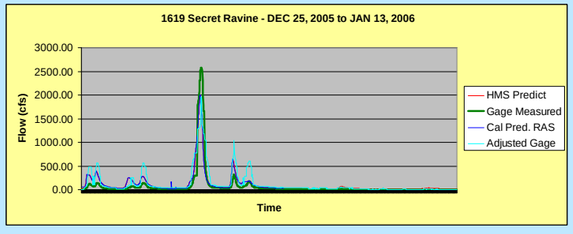


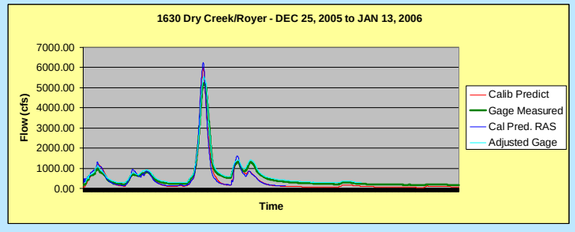


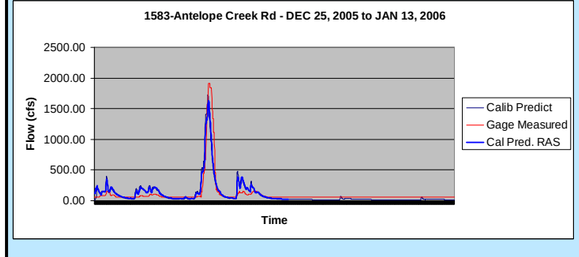


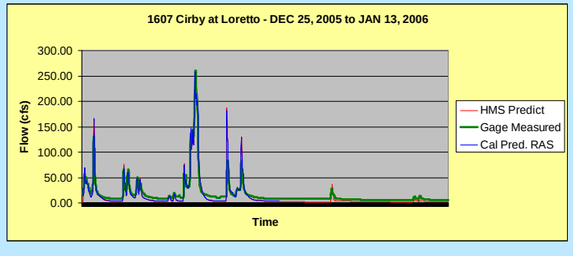


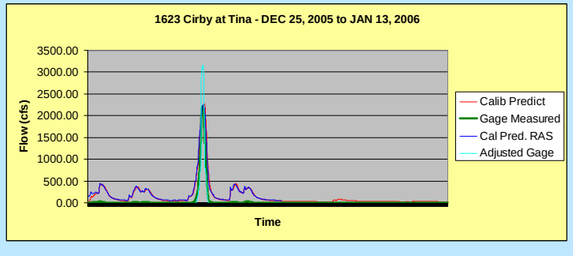


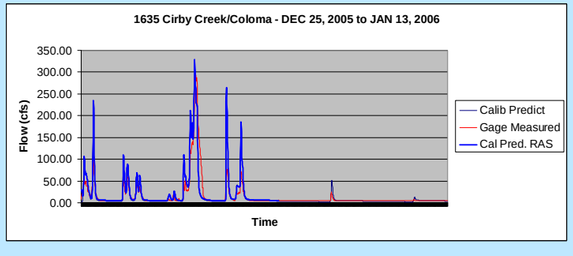












UPDATE TO THE 1992 DRY CREEK WATERSHED FLOOD CONTROL PLAN

RBF CONSULTING

CIVIL ENGINEERING SOLUTIONS, INC.

PLATE C-27

Appendix D - Completed Local Structural Flood Control Projects

Table D.1 Completed Local Structural Flood Control Projects

Year Completed	Project Location	Project Type	Brief Project Description
1986	City of Roseville: Rocky Ridge Drive on Linda Creek	Culvert Enlargement	Quadrupled size of culvert at Rocky Ridge Drive on Linda Creek to handle 100-year storm
1986	City of Roseville: Champion Oaks Drive at Linda Creek	Culvert Addition	Culvert added at Champion Oaks Drive at Linda Creek and improved channel upstream to increase channel capacity
1986	Union Pacific Railroad Tracks on Dry Creek	Culvert Improvement	Improved culvert at Southern (now Union) Pacific tracks on Dry Creek
1990	City of Roseville: Diamond Oaks Road	Culvert Enlargement	Enlarged culvert under Diamond Oaks Road thereby protecting 10 homes that flooded in 1986.
1992	City of Roseville: Cirby Creek	Channel Modifications	The City of Roseville lowered the Cirby Creek channel bed up to two feet near Eich Intermediate School and installed geoweb walls on the edge of the channel to Sierra Gardens Drive.
1992	City of Roseville: Cirby Creek between Eich School and Sierra Gardens Drive	Bridge Replacement	Replaced Loretto Bridge over Cirby Creek and widened channel between Eich School and Sierra Gardens Drive. This project brought all nearby homes out of the floodplain.
1993	City of Roseville: Southern Pacific Railroad Bridge	Culvert Replacement	The Southern Pacific Railroad replaced four, 18'x13' elliptical culverts with a concrete bridge on four rows of 15" to 16" piles. The two piers adjacent to Subway Road were lowered to match the existing road grade.
1993	City of Roseville: Diamond Oaks	Culvert Replacement	The culvert at Diamond Oaks Culvert was replaced. This project brought all nearby homes out of the floodplain.
1996	City of Roseville: 1-80 / Cirby Creek	Channel Modifications	The City of Roseville regraded portions of the Cirby Creek channel, just upstream of I-80, and added a floodwall along the north side of the channel. The levees were also regraded and a walkway was installed on the top of portions of the levee. This project brought the entire Tina/Elisa neighborhood of 40 homes out of the floodplain.
1996	City of Roseville: Dry Creek downstream of Vernon Street	Culvert Removal	The Union Pacific Culvert Removal project consisted of the removal of culverts under the railroad tracks on Dry Creek downstream of Vernon Street, thereby removing over 150 homes from the floodplain.

Year Completed	Project Location	Project Type	Brief Project Description
1998	City of Roseville: Cirby and Linda Creek to Tiffany Circle	Bypass Pipes / Bike Path / Floodwall	Two parallel 9-foot diameter cast-in-place bypass pipes on Linda Creek, just upstream of the confluence with Cirby Creek, was installed by the City of Roseville. The bypass pipes are 856 feet long and collect water from Linda Creek, bypassing a large bend in the stream, and discharge into Linda Creek, just upstream of the confluence with Cirby Creek. A bike path and floodwall were constructed upstream of the bypass to Tiffany Circle.
1998	City of Roseville: Rocky Ridge Drive to Old Auburn Road	Bypass Channel / Levee / Floodwall	The City of Roseville constructed a 115-foot long, 25-foot wide bypass channel on Linda Creek, upstream of Rocky Ridge Drive. The bypass channel parallels Linda Creek and is separated by about 100 feet. A levee and a floodwall were also installed along portions of the stream below Old Auburn Road.
XX	City of Roseville: Along Riverside, downstream of Darling Way	Bypass Channel	XX
XX	Hayer Dam	Dam Removal	XX
XX	City of Rocklin: Clover Valley Creek Near Cimmeron Court	Storm Drain Interceptor	XX
XX	City of Roseville: Atkinson Street Bridge	Bridge Replacement	Caltrans and the City of Roseville replaced the two-lane, five-span Atkinson Street Bridge with a five lane, four-span bridge. Floodplain Encroachment analysis performed for the bridge showed a net decrease in water surface elevation upstream of the bridge do to the low chord at a higher elevation and the piers aligned to the direction of flow instead of the previous configuration with the piers skewed to the direction of flow.
Source: City of Roseville, 2010.			

Appendix E - Summary of Bridges and Culverts

Table E.1 Bridge and Culvert Overtopping Based on Hydraulic Model

Crossing Number in 1992 Report	River	Type	Name	Max Flow Overtoppping the Structure (cfs)	Max Flow Total (cfs)	Flow Overtopping / Flow Total (%)	Centering	Recommended For Replacement
190	Miners Ravine	Culvert	Shadow Oaks Lane	2537	2560	99.1%	MR15J@30	No
91	Linda Creek	Culvert	Shadow Brook Place	685	692	99.0%	LC5A@0	No
120	Linda Creek	Culvert	Walnut Avenue	362	371	97.5%	LC40L@30	No
	Miners Ravine	Bridge	Ox Bow Lane	1185	1232	96.2%	MR15J@30	No
263	Sucker Ravine	Culvert	Pacific Street	350	365	95.9%	SE40N@0	No
76	Linda Creek	Culvert	Champion Oaks Drive	2084	2187	95.3%	LC40L@30	Yes
	Linda Creek	Culvert	Muir Way	264	296	89.4%	MR15J@30	No
213	Miners Ravine	Bridge	Penryn Rock Springs Rd.	468	524	89.3%	MR15J@30	No
92	Linda Creek	Culvert	Troy Purdy Lane	538	604	89.1%	LC5A@0	No
11	Dry Creek	Bridge	Watt Avenue	11535	13129	87.9%	LC5A@0	Yes
	Miners Ravine	Bridge	Willow Valley Place	1728	1989	86.9%	MR15J@30	No
	Miners Ravine	Bridge	Whiskey Bar Road	1172	1353	86.6%	MR15J@30	Yes
	Miners Ravine	Bridge	Buckboard Lane	1154	1363	84.7%	MR15J@30	No
203	Miners Ravine	Bridge	Auburn Folsom Road	2151	2541	84.7%	MR15J@30	Yes
	Miners Ravine	Culvert	Lomida Lane	1377	1647	83.6%	MR15J@30	No
212	Miners Ravine	Bridge	King Road	477	613	77.9%	MR15J@30	Yes
90	Linda Creek	Culvert	Barton Road	611	786	77.7%	LC5A@0	Yes
93	Linda Creek	Culvert	Country Court	375	494	75.9%	LC5A@0	No
14	Dry Creek	Bridge	Walerga Road	9874	13165	75.0%	SE40N@0	Scheduled for Replacement
119	Linda Creek	Culvert	Chestnut Avenue	332	449	73.9%	LC40L@30	No
266	Sucker Ravine	Culvert	Saunders Avenue	426	592	72.0%	SE40M@30	No
208	Miners Ravine	Culvert	Auburn Folsom Road	881	1294	68.1%	MR15J@30	Yes
211	Miners Ravine	Bridge	Auburn Folsom Road	766	1154	66.4%	MR15J@30	No
124	Antelope Creek	Bridge	Atlantic Street	2628	4022	65.3%	AC5I@60	No
	Miners Ravine	Bridge	South of Willow Valley	1258	1984	63.4%	SE40M@30	No
194	Miners Ravine	Bridge	Itchy Acres Road	1572	2530	62.2%	LC5A@0	Yes
265	Sucker Ravine	Culvert	Sierra College Blvd.	264	427	61.9%	SE40M@30	No

Crossing Number in 1992 Report	River	Type	Name	Max Flow Overtoppping the Structure (cfs)	Max Flow Total (cfs)	Flow Overtopping / Flow Total (%)	Centering	Recommended For Replacement
58	Cirby Creek	Culvert	Rocky Ridge Drive	318	521	61.1%	CC5G@90	No
196	Miners Ravine	Bridge	Miners Ravine Road	1437	2410	59.6%	SE40M@30	No
52	Cirby Creek	Culvert	Oak Ridge Drive	524	895	58.5%	CC5G@90	Yes
117	Linda Creek	Culvert	Oak Avenue	491	934	52.5%	LC40L@30	No
255	Sucker Ravine	Culvert	Lakeside Drive	380	727	52.2%	SE40N@0	No
209	Miners Ravine	Culvert	Placer Canyon Parkway	856	1670	51.3%	MR15J@30	No
141	Antelope Creek	Bridge	King Road	279	558	50.0%	SE40N@0	No
191	Miners Ravine	Bridge	Barton Road	1114	2255	49.4%	SE40N@0	Replaced
118	Linda Creek	Mult Open	Filbert Avenue	241	501	48.0%	LC40L@30	No
207	Miners Ravine	Bridge	Dick Cook Road	838	1777	47.2%	AC5I@60	Replaced
73	Linda Creek	Bridge	Rocky Ridge Drive	388	948	40.9%	LC40L@30	Yes
258	Sucker Ravine	Culvert	Super Span	282	697	40.4%	SE40M@30	No
236	Secret Ravine	Bridge	Horseshoe Bar Road	1866	4669	40.0%	SE40M@30	Yes
256	Sucker Ravine	Culvert	Rocklin Road	278	720	38.6%	SE40N@0	Yes
232	Secret Ravine	Culvert	Sierra College Blvd.	1882	4987	37.7%	SE40M@30	No
	Miners Ravine	Bridge	Hardy Lane	894	2470	36.2%	MR15J@30	No
205	Miners Ravine	Bridge	Moss Lane	710	2048	34.7%	MR15J@30	No
56	Cirby Creek	Culvert	Sierra Gardens Drive	310	897	34.5%	CC5G@90	Yes
139	Antelope Creek	Culvert	Delmar Avenue	103	317	32.6%	AC5I@60	No
158	Clover Valley	Culvert	Midas Avenue	351	1092	32.2%	AC5I@60	Yes
197	Miners Ravine	Culvert	Leibinger Lane	814	2534	32.1%	MR15J@30	Yes
83	Linda Creek	Culvert	Hazel Avenue	778	2427	32.1%	LC40L@30	Yes
50	Cirby Creek	Culvert	Sunrise Blvd.	277	904	30.6%	CC5G@90	Yes
163	Clover Valley	Culvert	Rawhide Road	308	1035	29.8%	AC5I@60	Yes
22	Dry Creek	Bridge	Riverside Avenue	2645	8908	29.7%	SE40N@0	Yes
199	Miners Ravine	Bridge	Auburn Folsom Road	727	2560	28.4%	MR15J@30	Yes
235	Secret Ravine	Bridge	Brace Road	1314	4702	27.9%	LC5A@0	Yes
21	Dry Creek	Bridge	Vernon Street	3532	12901	27.4%	SE40N@0	No
86	Linda Creek	Culvert	Cherry Avenue	356	1404	25.4%	LC40L@30	No

Crossing Number in 1992 Report	River	Type	Name	Max Flow Overtoppping the Structure (cfs)	Max Flow Total (cfs)	Flow Overtopping / Flow Total (%)	Centering	Recommended For Replacement
51	Cirby Creek	Bridge	Coloma Way	179	816	21.9%	LC40L@30	Yes
188	Miners Ravine	Bridge	Cavitt & Stallman Road	288	1440	20.0%	MR15J@30	No
54	Cirby Creek	Culvert	Loretto Drive	199	1126	17.7%	CC5G@90	No
94	Linda Creek	Culvert	Auburn Folsom Road	33	210	15.8%	LC5A@0	No
260	Sucker Ravine	Culvert	Dominguez Road	100	638	15.7%	SE40M@30	No
156	Clover Valley	Culvert	Argonaut Avenue	103	781	13.2%	AC5I@60	No
134	Antelope Creek	Culvert	Midas Avenue	151	1369	11.0%	AC5I@60	No
28	Dry Creek	Bridge	Folsom Road	1174	11098	10.6%	SE40N@0	Yes
25	Dry Creek	Bridge	Douglas Blvd.	823	9752	8.4%	AC5I@60	No
136	Antelope Creek	Bridge	Yankee Hill Road	65	1646	4.0%	AC5I@60	No
16	Dry Creek	Bridge	Cook Riolo Road	50	13341	0.4%	SE40N@0	Replaced
Recommended for replacement in 1992 study							**Total Recommended for Replacement =**	**23**

Table E.2 1992 Plan Recommended Bridge and Culvert Replacements Not Included in Update Models

Stream	Crossing Name
Dry Creek County Line Tributary	Watt Avenue
Dry Creek DC65 Tributary	Walerga Road
Linda Creek Treelake Tributary	Sierra College Boulevard
Antelope Creek Clark Tunnel Road Tributary	Colwell Road
Antelope Creek Clark Tunnel Road Tributary	Clark Tunnel
Clover Valley Creek	English Colony Road
Antelope Creek	Citrus Colony Road
Antelope Creek	English Colony Road
Antelope Creek Humphrey Tributary	Colwell road
Miners Ravine Cavitt Stallman Tributary	Barton Road
Miners Ravine Lake	Auburn-Folsom Road
Secret Ravine	Brennans Road
Secret Ravine	Rock Springs Road
Secret Ravine	Newcastle Road
Secret Ravine	Powerhouse Road
Secret Ravine	King Road
Secret Ravine West Fork Penryn Tributary	Gilardi Road

Appendix F - Hydrology Model Developments

F.1 Comparison of Original 1992 Model to 1992 Model Adapted to SWMM

The HEC-1 input file labeled “HNBDVRNN.HC1” is the 1992 HEC-1 input file for the 1992 Plan, for the 100-year event, peak storm centering at the Vernon Street crossing, and the Future Fully Developed, Unmitigated conditions. The peak precipitation input for this model was HEC-1 gage value 12 which was included at watersheds SE51 and SE55. All precipitation gages referenced in this HEC-1 file produced precipitation for a 6-hour rainfall event, and the model was run for a 24-hour timespan.

The base file was adapted to Kinematic Wave methodology and made ready for precipitation to be input in the file: “DC1992UN.INP”. “PDP.EXE” (Version 2.0) was used to insert 6-hour, 100-year precipitation tables into the “DC1992UN.DAT” file for a storm centering locations of SE51 and SE55, and storm angles of 0, 30, 60, and 90 degrees. An “ELTROID.DAT” file was created based on the watershed centroids obtained from the AUTOCAD drawings from the 1992 Plan.

The results indicate that the SWMM Kinematic Wave equivalent analysis generates higher flow rates. This is largely the result of the application of an alternate storm centering methodology (per SWMM 1994).

The centering analysis on the Kinematic Wave converted HEC-1 analysis found that a storm centering at SE51, with a storm angle of 60 degrees would generate the highest flows. The SWMM also requires that precipitation be applied differently for different elevations. The adapted model used a SWMM specified total 6-hour storm event precipitation for a 100-year event storm centered at SE55, at an angle of 0 degrees and with elevation factored (peak for Vernon Street Crossing).

Since the storm centering for the 1992 Plan was based on calibration to actual events, the results of this section indicate that a simple conversion and adaptation of the model to the SWMM requirements will not result in properly calibrated results. Additional modifications to the analysis would be necessary to get calibrated results with an HEC-1 model modified to meet the requirements of the SWMM.

F.2 Response Time Factors

Overland flow response time factors were determined using relationships based solely on watershed imperviousness. These relationships are illustrated

Chart F.1 Overland Slope and Length Based on Imperviousness for Calibrated Response Times

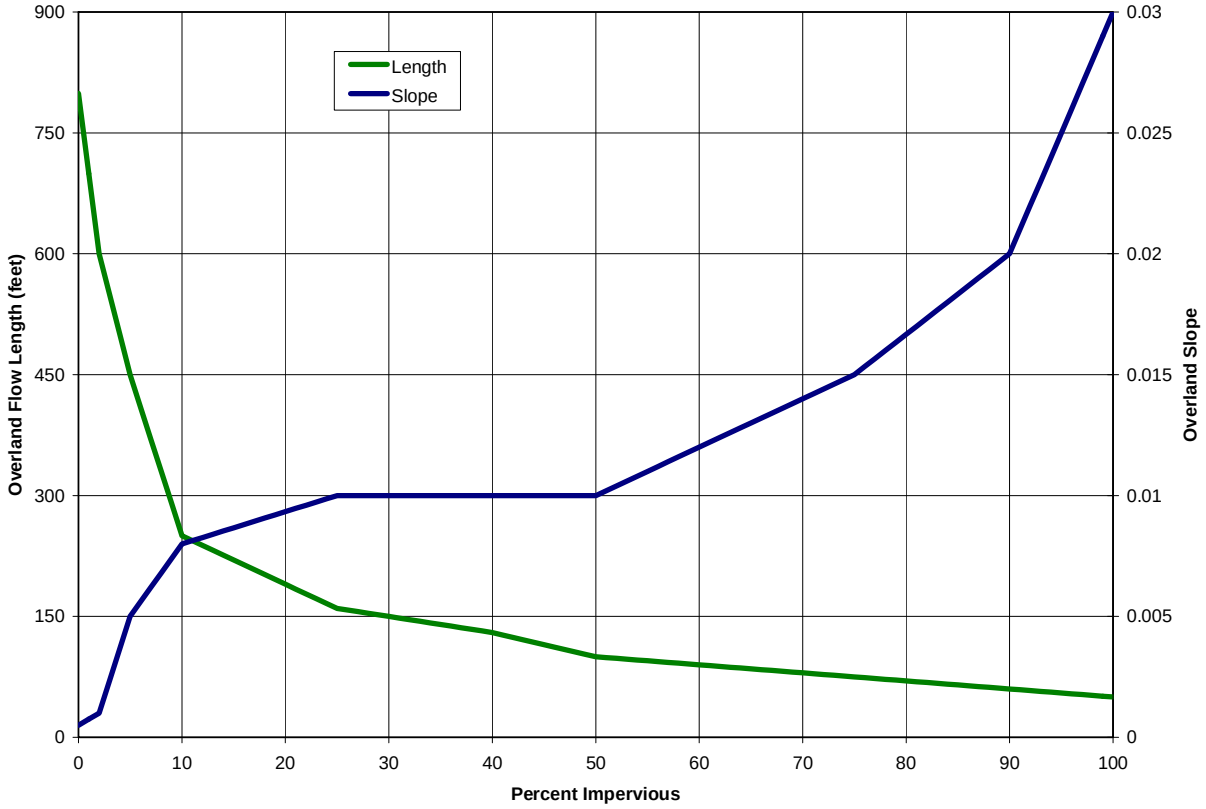


Table F.1 Overland Slope and Length Based on Imperviousness for Calibrated Response Times

Imperviousness (percent)	Length (feet)	Slope (feet/foot)
0	799	0.0005
2	600	0.001
5	450	0.005
10	250	0.008
25	160	0.01
40	130	0.01
50	100	0.01
75	75	0.015
90	60	0.02
100	50	0.03

Appendix G - Peak Flow Comparison Tables

G.1 Flow Comparison Model Descriptions

The following legend applies to all of the Master Flow Summary tables.

DRY CREEK MASTER WATERSHED PLAN UPDATE		From 2009 HEC-1 Analysis Results
		From 2009 HEC-RAS Analysis Results (Best Calibration)
2009		From 1992 Montgomery Study
		From 2009 - Measured Event Calibration (HEC-RAS results only) See Header for Event Occurrence
CIVIL ENGINEERING SOLUTIONS, RBF	#N/A	Data was not previously provided or Data point unknown in new study
	#REF	Spreadsheet is unable to resolve the data point value

Column Details

The following phrases describe different models and are found in the column headers.

1989 Mont
From the 1992 Montgomery Study. This model used the 1989 conditions.

1992 Corrected
The 1992 Corrected Original Baseline scenario uses Plan Update model methodology to provide a consistent basis for evaluating what has occurred since the preparation of the 1992 Plan. It uses 1992 hydrology and 1992 hydraulic conditions. This is Scenario 1 in the Model Scenario Matrix (Table 6).

2007-Current
The 2007 Current (Plan Update Baseline) scenario uses 2007 hydrology and 2007 hydraulics to provide a baseline for evaluating projects implemented after initiation of this Plan Update. This is Scenario 4 in the Model Scenario Matrix (Table 6).

Future Montgomery
1989 conditions model incorporating future expected land use. From the 1992 Montgomery Study.

Future Unmitigated
Update Future Fully Developed Unmitigated (UFFDU) model. The Future Unmitigated (Update from new baseline) scenario uses build-out hydrology without LID features and 2007 hydraulic conditions to provide a basis for potential impacts if build-out were to occur without any new mitigation measures. This is Scenario 5 in the Model Scenario Matrix (Table 6).

GP-LID/PROJ
The Build-out with LID and Projects scenario uses build-out hydrology with LID and hydraulic conditions that reflect current conditions plus the five potential projects recommended in this Plan Update. This is Scenario 7 in the Model Scenario Matrix (Table 6).

Table G.1 500-YEAR EVENT

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:	500-year 1989 JMM	500-year 1992 Corrected	500-year 2007-Current	500-year Future JMM	500-year Future Unmitigated	500-year Build-out w/LID & Projects
DRY CREEK													
1	VC135B	SE40N_0	8900	Dry Creek	Below Cirby	NONE	Rio Linda Blvd(North and South)	21352	20103	20312	23398	22089	22089
2	Y130B2	SE40N_0	15000	Dry Creek	Below Cirby	NONE	Elkhorn Blvd. (North and South)	21349	20163	20369	23395	22149	22149
3	YC125B	SE40N_0	16600	Dry Creek	Below Cirby	NONE	Curved Bridge Road (North)	21334	20329	20535	23380	22326	22326
4	YC125A	SE40N_0	17400	Dry Creek	Below Cirby	NONE	Dry Creek Road (North and South)	21332	20289	20506	23377	22288	22288
5	YDC115	SE40N_0	24400	Dry Creek	Below Cirby	NONE	Q Street (North and South)	21397	20405	20617	23444	22397	22397
6	YDC90	SE40N_0	34900	Dry Creek	Below Cirby	NONE	Sierra Creek Confluence	21333	20353	20565	23378	22337	22337
7	YDC85	SE40N_0	35200	Dry Creek	Below Cirby	NONE	28th Street (South)	21157	20429	20635	23151	22403	22403
8	YDC85	SE40N_0	35400	Dry Creek	Below Cirby	NONE	Elverta Road	21127	20429	20635	23113	22403	22403
9	YDC71B	SE40N_0	36900	Dry Creek	Below Cirby	38733	Confluence with County Line Trib	21145	19079	19351	23131	20001	19643
11	YDC75C	SE40N_0	41400	Dry Creek	Below Cirby	41634	Watt Avenue	21068	19146	19331	23035	19990	19620
13	YC65I2	SE40N_0	47700	Dry Creek	Below Cirby	47754	Confluence with DC65 Trib	21100	18959	19269	23076	19937	19520
14	YDC60A	SE40N_0	50300	Dry Creek	Below Cirby	50025	Walerga Road	21021	18980	19298	22980	19974	19521
1015	YDC50A	SE40N_0	0	Dry Creek	Below Cirby	55005	Morgan Creek Ped Crossing	#N/A	19001	19324	#N/A	20025	19502
16	YDC35C	SE40N_0	58800	Dry Creek	Below Cirby	58560	Cook Riolo Road	20982	19053	19466	22914	20174	19523
17	YDC25A	CC5G_90	67000	Dry Creek	Below Cirby	67583.80	S.P. Railroad Bridge	20738	19089	19778	22577	21341	18711
18	YDC10D	SE40N_0	67400	Dry Creek	Below Cirby	67641.80	Atkinson Blvd.	20738	19089	19777	22577	21340	19360
20	YDC20A	SE40N_0	68900	Dry Creek	Below Cirby	69138.40	S.P. Railroad Culverts (now bridge)	20732	19079	19763	22562	20594	19341
21	YDC10D	SE40N_0	69900	Dry Creek	Below Cirby	70071.60	Vernon Street	20656	19169	19767	22449	20633	19331
22	YDC10B	SE40N_0	72600	Dry Creek	Below Cirby	72702.60	Riverside Avenue	21221	20999	10343	23099	10608	9956
23	YDCCC	SE40N_0	73000	Dry Creek	Below Cirby	72982	Cirby Creek Confluence	21221	21095	10385	23099	10648	9988
24	YDC5A	SE40M_30	73800	Dry Creek	Above Cirby	73943.30	Darling Way	15823	16601	16269	17127	17800	15676
25	YDC5C	SE40M_30	77000	Dry Creek	Above Cirby	77218.89	Douglas Blvd.	15821	16831	16370	17120	17872	15653
26	UDC5B	SE40M_30	77500	Dry Creek	Above Cirby	77606.49	Royer Park Footbridge	15691	16888	16412	16864	17872	15663
27	YDC5B	SE40M_30	79100	Dry Creek	Above Cirby	79166.05	Lincoln Street	15690	17012	16494	16860	17878	15657
28	YDC4C	SE40M_30	79400	Dry Creek	Above Cirby	79816.70	Folsom Road	15675	17018	16497	16876	17874	15670
30	YACMR	SE40M_30	84100	Dry Creek	Above Cirby	84214.40	Antelope Creek/ Miners Ravine Confluence	15918	17291	16842	17148	17949	15719
DRY CREEK - ELVERTA TRIB													
31	UDC90	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	454	471	471	605	531	531
DRY CREEK - SIERRA CREEK													
32	YC100B	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	2066	2135	2204	2552	2633	2633
33	YC100A	CC5G_90	1400	0	0	NONE	28th Street	2018	2290	2363	2497	2753	2753
34	YC100A	CC5G_90	3700	0	0	NONE	Scotland Drive	1907	2290	2363	2370	2753	2753
35	VC96B2	CC5G_90	5400	0	0	NONE	Delaney Drive	1855	2100	2174	2340	2526	2526
36	YDC96A	CC5G_90	6800	0	0	NONE	Watt Avenue	1802	1801	1863	2287	2225	2225
37	VDC96C	CC5G_90	10300	0	0	NONE	Navaho Way	1079	1233	1294	1346	1609	1609

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38	YDC96C	CC5G_90	11400	0	0	NONE	Elverta Road	924	1252	1323	1145	1622	1622
39	DC95A	CC5G_90	13500	0	0	NONE	Walerga Road	769	165	165	943	275	275
DRY CREEK/County Line Trib. (Note: Riolo Vineyards project determined this tributary does not drain as previously modeled - corrected in 2009 study)													
40	YDC75B	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	898	1288	1321	1249	1585	1585
41	N/A	#N/A	3200	0	0	NONE	Watt Avenue	829	#N/A	#N/A	1196	#N/A	#N/A
42	VDC68B	CC5G_90	8200	0	0	NONE	PFE Road	645	1269	1299	993	1458	1458
Dry Creek DC-65 Tributary													
43	YDC65I	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	659	836	970	707	1047	1047
44	YDC65K	CC5G_90	3000	0	0	NONE	Walerga Road	527	770	914	566	967	967
Cirby Creek													
45	YCC45G	LC40L_30	0	Cirby Creek	below Linda	0	Dry Creek Confluence	4392	4112	4822	4887	5259	5264
46	YCC45A	LC40L_30	3000	Cirby Creek	below Linda	2969.699	Interstate 80	4371	4492	4927	4866	5440	5391
48	UCC45E	LC40L_30	4600	Cirby Creek	below Linda	4580.699	Wanda Lee Court Footbridge	4384	4636	4910	4886	5489	5402
49	YCC45E	LC40L_30	6100	Cirby Creek	Above Linda	6009.699	Linda Creek Confluence	6542	4790	4949	7178	5532	5418
50	YCC40A	CC5G_90	7400	Cirby Creek	Above Linda	7262.099	Sunrise Blvd.	1159	1207	1268	1444	1408	1336
51	YCC40C	CC5G_90	8100	Cirby Creek	Above Linda	8038.899	Coloma Way - Gage 1635	1176	973	1142	1440	1154	1160
52	YC40G2	CC5G_90	9100	Cirby Creek	Above Linda	9004.399	Oak Ridge Drive	1173	896	1116	1432	1128	1128
53	UCC35D	CC5G_90	10000	Cirby Creek	Above Linda	9873.999	Sierra Gardens Footbridge	1165	989	1233	1425	1246	1246
54	YCC15B	CC5G_90	11800	Cirby Creek	Above Linda	11679.19	Loretto Drive	1133	1093	1373	1431	1386	1386
55	YCC252	CC5G_90	12000	Cirby Creek	Above Linda	12228.79	Sierra Gardens Trib. Confluence	1175	816	1104	1440	1117	1117
56	YCC15C	CC5G_90	12500	Cirby Creek	Above Linda	12377.29	Sierra Gardens Drive	929	812	1103	1247	1116	1115
57	YCC10E	CC5G_90	13900	Cirby Creek	Above Linda	13765.49	Huntington Drive	895	478	480	1271	485	485
58	UCC10H	CC5G_90	14500	Cirby Creek	Above Linda	14420.19	Rocky Ridge Drive	559	473	692	742	708	714
60	YCC5B	CC5G_90	16400	Cirby Creek	Above Linda	15748.19	Winchester Way	482	357	539	670	546	546
61	YCC5D	CC5G_90	17200	Cirby Creek	Above Linda	16312.19	Eureka Road	485	249	423	745	430	430
62	YCC1A	CC5G_90	19700	Cirby Creek	Above Linda	17753.79	Douglas Blvd.	280	185	360	568	368	368
Cirby Creek/Sierra Gardens Trib.													
63	VCC25	CC5G_90	0	0	0	NONE	Cirby Creek Confluence	208	340	353	240	354	354
65	YCC20G	CC5G_90	1000	0	0	NONE	Douglas Blvd.	150	226	244	150	246	246
66	YCC20K	CC5G_90	1400	0	0	NONE	Sierra Gardens Ret. Basin	143	299	429	143	458	458
Linda Creek													
67	ULC95C	LC40L_30	0	Linda Creek	Below Strap	0.	Cirby Creek Confluence	5990	2911	2943	6592	3028	3009
68	ULC95D	LC40L_30	1000	Linda Creek	Below Strap	565.1000	Sunrise Avenue	5987	2960	2980	6587	3069	3055
70	YLC90A	LC40L_30	2600	Linda Creek	Below Strap	2125.000	Oak Ridge Drive	6185	5100	5058	6760	5779	5623
72	ULC90B	LC40L_30	4300	Linda Creek	Below Strap	3843.300	Sierra Gardens Footbridge	6160	5099	5250	6731	5991	5827
73	YLC85C	LC40L_30	8400	Linda Creek	Below Strap	8257.900	Rocky Ridge Dirve	6030	5413	5635	6574	6389	6266

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74	ULC85B	LC40L_30	10000	Linda Creek	Below Strap	9810.000	Strap Ravine Confluence	6024	5396	5620	6531	6381	6257
76	ULC80I	LC40L_30	11500	Linda Creek	Below S Branch	136	Champion Oaks Drive/Samoa Way (Gage 1626/1628)	4619	2660	2687	4985	3016	2914
78	ULC80A	LC40L_30	14300	Linda Creek	Below S Branch	157	Auburn Road	4562	3952	4157	4931	4711	4520
79	UC45J3	LC40L_30	15700	Linda Creek	Below S Branch	176	Old Auburn Road/City Limits	4652	3196	3416	5039	3921	3703
1079	ULC45J	LC40L_30	0	Linda Creek	Below S Branch	181	Ped Bridge over Creek in Park	#N/A	3067	3291	#N/A	3798	3576
Treelake Tributary Confluence													
80	ULC45J	LC40L_30	15900	Linda Creek	Below S Branch	181	Treelake Tributary Confluence	4652	3067	3291	5039	3798	3576
82	UC45J2	LC40L_30	19800	Linda Creek	Below S Branch	188	Indian Creek Drive	3474	3046	3291	3832	3836	3607
1082	ULC45D	LC40L_30	0	Linda Creek	Below S Branch	207	Private Bridge Near Hazel	#N/A	2804	3353	#N/A	3695	3525
83	ULC45D	LC40L_30	25300	Linda Creek	Below S Branch	211	Hazel Avenue	3213	2808	3211	3519	3691	3532
84	UC35Q3	LC40L_30	25500	Linda Creek	Below S Branch	212	Orangevale Tributary Confluence	3213	2808	3211	3519	3691	3532
1084	ULC40A	LC40L_30	0	Linda Creek	Above S Branch	3.075	BDG 17 2-24" CMPS	#N/A	2008	2020	#N/A	2355	2166
85	UC15N2	LC40L_30	31300	Linda Creek	Above S Branch	4.239	Granite Road Bridge	1738	1803	1683	1886	2021	1847
86	ULC15N	LC40L_30	32600	Linda Creek	Above S Branch	4.407	Cherry Avenue	1703	1767	1642	1841	1967	1800
1086	ULC15J	LC5A_0	0	Linda Creek	Above S Branch	5.22	Private Driveway Concrete Box Type	#N/A	1313	1195	#N/A	1256	1024
1087	YLC15J	LC5A_0	0	Linda Creek	Above S Branch	5.264	Driveway Bridge	#N/A	1314	1197	#N/A	1256	1024
1088	YLC15J	LC5A_0	0	Linda Creek	Above S Branch	5.526	Granite Glen Court (Private)	#N/A	1330	1216	#N/A	1263	1052
88	YLC15J	LC5A_0	38600	Linda Creek	Above S Branch	5.715	Wedgewood Drive	1186	1343	1215	1357	1265	1052
1089	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.039	Golf Cart Bridge #5	#N/A	1289	1128	#N/A	1182	995
1090	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.12	Golf Cart Bridge #4	#N/A	1293	1195	#N/A	1184	972
1091	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.197	Golf Cart Bridge #3	#N/A	1260	1126	#N/A	1184	977
1092	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.241	Golf Cart Bridge #2	#N/A	1240	1126	#N/A	1184	978
1093	ULC5F2	LC5A_0	0	Linda Creek	Above S Branch	6.515	Golf Cart Bridge #1	#N/A	1064	1076	#N/A	1134	956
89	ULC5F2	LC5A_0	42300	Linda Creek	Above S Branch	6.53	East Roaseville Parkway	1066	1064	1076	1293	1134	958
90	ULC5F	LC5A_0	43100	Linda Creek	Above S Branch	6.759	Barton Road	1006	1025	1035	1227	1094	969
91	YLC5E	LC5A_0	44600	Linda Creek	Above S Branch	7.140	Shadow Brook Place	848	876	886	1036	949	745
92	ULC5B	LC5A_0	46500	Linda Creek	Above S Branch	7.479	Troy Purdy Lane	620	740	750	834	814	650
1094	ULC5C	LC5A_0	0	Linda Creek	Above S Branch	7.609	Muir Way	#N/A	601	615	#N/A	687	557
93	YLC5C	LC5A_0	48100	Linda Creek	Above S Branch	7.77	Country Court (Private)	510	615	624	722	680	557
1095	ULC1A	LC5A_0	0	Linda Creek	Above S Branch	7.839	Country Court	#N/A	1319	1501	#N/A	1624	1665
94	YLC1A	LC5A_0	48700	Linda Creek	Above S Branch	8.011	Auburn Folsom Road	455	700	638	666	696	672
Linda Creek/Strap Ravine													
95	USR25C	CC5G_90	0	Strap Ravine	Reach 1	0.	Linda Creek Confluence	1339	1314	1476	1494	1619	1657
1095	YSR25A	CC5G_90	300	Strap Ravine	Reach 1	276	Foot Bridge in Park	#N/A	1319	1501	#N/A	1624	1665
96	UR20A4	CC5G_90	1500	Strap Ravine	Reach 1	1136.900	McClaren Drive (Gage 1611)	1335	1321	1543	1490	1633	1675
97	UXR20A	CC5G_90	5900	Strap Ravine	Reach 1	5539.100	Johnson Ranch Drive	1303	1308	1642	1469	1705	1743
98	USR152	CC5G_90	6800	Strap Ravine	Reach 1	6380.600	Eureka Road	1299	1308	1643	1468	1706	1745
99	USR82	CC5G_90	8600	Strap Ravine	Reach 1	8201.500	East Roseville Parkway	1278	1140	1363	1627	1459	1517

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100	USR5C2	LC5A_0	11800	Strap Ravine	Reach 1	11366.10	Sierra College Blvd.	1165	820	1051	1478	1322	1250
101	USR1A	LC5A_0	23000	0	0	NONE	Barton Road	851	828	1472	1312	1346	1346
Linda Creek/Treelake Tributary													
102	ULC60B	LC40L_30	0	0	0	NONE	Linda Creek Confluence	1177	867	999	1308	1173	1173
103	YLC60B	LC40L_30	3200	0	0	NONE	Petite Way (approximated)	1092	894	1036	1206	1213	1213
104	YLC60A	LC40L_30	5700	0	0	NONE	Old Auburn Road	1075	801	968	1314	1136	1136
105	YC55H3	LC40L_30	6000	0	0	NONE	Sierra College Blvd.	1064	867	1055	1315	1236	1236
106	YLC55F	LC40L_30	9600	0	0	NONE	Swan Lake Drive	766	742	995	919	1176	1176
107	UC55L2	LC40L_30	9600	0	0	NONE	Swan Lake	766	695	963	919	1140	1140
108	UPC55L	LC40L_30	10800	0	0	NONE	Waterbury Way	652	713	982	766	1169	1169
109	YLC55L	LC40L_30	10800	0	0	NONE	Waterbury Lake	652	757	1063	766	1265	1265
110	ULC50E	LC40L_30	11400	0	0	NONE	East Roaseville Parkway	566	611	820	654	980	980
111	YLC50E	LC40L_30	11400	0	0	NONE	East Roseville Parkway Pond	566	647	869	654	1039	1039
112	ULC50F	LC40L_30	11700	0	0	NONE	Treelake office Lane	566	565	702	654	839	839
113	ULC50F	LC40L_30	11700	0	0	NONE	Treelake office Lane Pond	566	565	702	654	839	839
Linda Creek/Hazel Avenue Tributary (Sac County)													
114	YC35Q2	LC40L_30	0	0	0	NONE	Linda Creek Confluence	920	881	1113	1146	1235	1235
115	UC35Q2	LC40L_30	400	0	0	NONE	Oak Avenue	920	881	1113	1146	1235	1235
Linda Creek/Orangevale Tributary (Sac County)													
116	YC35Q2	LC40L_30	0	Linda Creek	South Branch	.001	Linda Creek Confluence	1696	908	1248	1815	1396	1417
1116	YLC35Q	LC40L_30	0	Linda Creek	South Branch	0.125	Private Bridge (Metal and Concrete)	#N/A	976	1294	#N/A	1455	1481
117	ULC35Q	LC40L_30	900	Linda Creek	South Branch	0.196	Oak Avenue	865	978	1296	924	1462	1482
1117	ULC30E	LC40L_30	0	Linda Creek	South Branch	1.022	Private Bridge in Park Area	#N/A	468	671	#N/A	736	750
118	ULC30E	LC40L_30	3300	Linda Creek	South Branch	1.035	Filbert Avenue	813	468	671	868	736	751
1118	ULC30B	LC40L_30	0	Linda Creek	South Branch	1.244	Private Bridge Near Chestnut	#N/A	426	623	#N/A	722	690
119	UC30C2	LC40L_30	4300	Linda Creek	South Branch	1.346	Chestnut Avenue	896	408	595	973	798	673
120	ULC30A	LC40L_30	5500	Linda Creek	South Branch	1.649	Walnut Avenue (North)	383	315	431	386	485	485
120	UC20E3	LC40L_30	5500	Linda Creek	South Branch	1.772	Walnut Avenue (South)	383	315	431	386	485	485
121	VLC25C	LC40L_30	6700	Linda Creek	South Branch	NONE	Main Avenue (North)	287	61	88	290	99	99
1121	VLC20E	LC40L_30	6700	Linda Creek	South Branch	NONE	Main Avenue (South)	#N/A	259	355	#N/A	390	390
Antelope Creek													
122	UDC4D	AC5I_60	0	Antelope Ck	AntelopeBlwClove	0.	Miners Ravine/Dry Creek	4490	5292	5480	5027	5450	4590
123	UC45B2	AC5I_60	1400	Antelope Ck	AntelopeBlwClove	1394.899	Harding Blvd.	4487	5771	5577	5025	5598	4564
124	UAC45B	AC5I_60	2300	Antelope Ck	AntelopeBlwClove	2349.499	Atlantic Street	4485	5181	5507	5024	5486	4568
1124	UAC45B	AC5I_60	0	Antelope Ck	AntelopeBlwClove	2455.599	Bridge #3	#N/A	5166	5497	#N/A	5479	4563
125	UAC45L	AC5I_60	5000	Antelope Ck	AntelopeBlwClove	5017.599	County Dump Road	4472	5191	5531	5015	5506	4715
126	UC41E4	AC5I_60	9600	Antelope Ck	AntelopeBlwClove	10909.49	Highway 65 - non ras (Gage 1583)	4484	5499	5644	5037	5715	5744

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127	UC41E3	AC5I_60	10300	Antelope Ck	AntelopeBlwClove	11383.53	Springview Drive	4363	5909	5913	4911	5690	5723
128	YC41E2	AC5I_60	10800	Antelope Ck	AntelopeBlwClove	11418.53	Rocklin City Tributary Confluence	4342	6085	6038	4883	5681	5714
130	UC40K2	AC5I_60	15800	Antelope Ck	AntelopeBlwClove	16930.03	Sunset Blvd.	4508	5140	5485	5070	5535	5627
133	UV10B2	AC5I_60	22800	Antelope Ck	AntelopeBlwClove	24722.3	Clover Valley Creek Confluence	4653	5524	5678	5234	5935	5938
134	UC35G3	AC5I_60	23600	Antelope Ck	Reach 1	25350.71	Midas Avenue	3360	4316	4449	3847	4338	4338
135	UAC35C	AC5I_60	25700	Antelope Ck	Reach 1	27696.03	Southern Pacific Railroad (UPRR) - non ras	3317	4294	4412	3799	4333	4332
136	VAC35I	AC5I_60	26500	Antelope Ck	Reach 1	28434.67	Yankee Hill Road	3303	4280	4683	3783	4322	4321
137	YAC30C	AC5I_60	27600	Antelope Ck	Reach 1	34226	Atkinson Dairy Dam	3260	4136	4304	3735	4232	4232
138	YAC30B	AC5I_60	28900	Antelope Ck	Reach 1	34691	Unnamed Road - no ras - no find aerial	3218	4049	4207	3688	4161	4161
139	YAC30B	AC5I_60	31800	Antelope Ck	Reach 1	35656	Delmar Avenue - no ras	3173	4058	4218	3652	4167	4167
140	YAC30B	AC5I_60	34300	Antelope Ck	Reach 1	36964	Sierra College Blvd. (Gage 1573)	3073	4056	4221	3544	4167	4167
141	U30AC4	AC5I_60	37000	Antelope Ck	Reach 1	39726	King Road	2989	4185	4366	3446	4370	4369
Antelope Creek / Clark Tunnel Road Tributary													
142	U30AC2	AC5I_60	0	Antelope Ck	Reach 1	40906	Antelope Creek Confluence	2975	4115	4291	3431	4297	4297
143	UC25BC	AC5I_60	100	0	0	NONE	Barker Road	1780	1340	1390	2202	1382	1382
144	VAC20C	AC5I_60	1300	0	0	NONE	Humphrey Road	1649	886	911	2114	928	928
145	YC16EB	AC5I_60	1700	0	0	NONE	Humphrey Tributary Confluence	1619	727	748	2073	772	772
148	UC15CB	AC5I_60	7000	0	0	NONE	Colwell Road	1141	440	448	1578	464	464
149	YC15BC	AC5I_60	10000	0	0	NONE	English Colony Way	1024	368	371	1492	373	373
150	AC15AD	AC5I_60	12800	0	0	NONE	Clark Tunnel Road	395	273	274	658	275	275
Antelope Creek/Rocklin City Tributary													
151	VAC41E	CC5G_90	0	0	0	NONE	Antelope Creek Confluence	246	1144	1144	312	1258	1258
152	VAC41F	SE40M_30	2700	0	0	NONE	Taylor Road	185	449	449	234	550	550
153	VAC41F	SE40M_30	2800	0	0	NONE	Taylor Road	154	449	449	195	550	550
154	UAC41A	SE40M_30	4500	0	0	NONE	Sunset Blvd.	92	249	249	117	351	351
Antelope Creek/Clover Valley Creek													
155	UCV10B	AC5I_60	0	Clover Valley	Clover Valley1	.1	Antelope Creek Confluence	1266	1397	1464	1379	1634	1639
1155	UCV10B	AC5I_60	0	Clover Valley	Clover Valley1	155	Golf Course Ped Bridge	#N/A	1395	1458	#N/A	1648	1654
156	UCV10B	AC5I_60	400	Clover Valley	Clover Valley1	445	Argonaut Avenue	1261	1471	1455	1373	1656	1661
157	YCV10B	AC5I_60	2200	Clover Valley	Clover Valley1	2785	Footbridge and Weir	1237	1355	1458	1342	1654	1659
158	UXV10A	AC5I_60	4300	Clover Valley	Clover Valley1	4090	Midas Avenue	1227	1329	1428	1330	1619	1624
159	YCV10A	AC5I_60	4700	Clover Valley	Clover Valley1	4430	Abandoned Stone Bridge	1224	1329	1428	1325	1619	1624
160	YCV10A	AC5I_60	5600	Clover Valley	Clover Valley1	5400	Unnamed Bridge	1207	1259	1360	1303	1554	1559
1160	UV6CB2	AC5I_60	0	Clover Valley	Clover Valley1	6365	Gazebo Crossing	#N/A	1259	1360	#N/A	1553	1559
161	UCV6CB	AC5I_60	6500	Clover Valley	Clover Valley1	6505	Clover Valley Detention Pond	1199	1259	1360	1292	1553	1558
162	YV6CB2	AC5I_60	7700	Clover Valley	Clover Valley1	7815	Creekwood Drive	1182	1260	1361	1270	1557	1562
163	UCV6BC	AC5I_60	12000	Clover Valley	Clover Valley1	12015	Rawhide Road	1073	1157	1184	1172	1364	1369

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164	UCV6BC	AC5I_60	12500	Clover Valley	Clover Valley1	12550	Rowhide Road Det. Pond	1058	1158	1185	1158	1370	1375
165	UCV5C	AC5I_60	25600	Clover Valley	Clover Valley1	NONE	Unnamed Road	696	955	978	827	1314	1314
166	UCV1T	AC5I_60	28000	Clover Valley	Clover Valley1	NONE	Sierra College Blvd.	578	601	609	694	713	713
167	VCV1T	AC5I_60	28500	Clover Valley	Clover Valley1	NONE	English Colony Way	578	580	598	694	1111	1111
Antelope Creek Continued (West Branch)													
169	UC25BC	AC5I_60	38700	0	0	NONE	Clark Tunnel Road Tributary Confluence	1195	1340	1390	1229	1382	1382
170	U25AD2	AC5I_60	40600	0	0	NONE	Barker Road	1059	1246	1291	1118	1288	1288
171	Y25AD2	AC5I_60	42500	0	0	NONE	Citrus Colony Road	1001	1283	1329	1084	1326	1326
172	YAC16A	AC5I_60	47900	0	0	NONE	English Colony Road	492	539	547	625	568	568
Antelope Creek/Humphrey Tributary													
173	UPAC5K	AC5I_60	0	0	0	NONE	Clark Tunnel Road Tributary Confluence	487	451	469	604	454	454
174	VAC5J2	AC5I_60	1700	0	0	NONE	Sandy Road	341	478	491	423	484	484
175	VAC5O	AC5I_60	3300	0	0	NONE	Mardell Lane	292	77	79	362	77	77
176	UPAC5G	AC5I_60	3700	0	0	NONE	Colwell Road	243	334	340	302	339	339
177	YAC5E	AC5I_60	6300	0	0	NONE	English Colony Way	146	289	290	181	294	294
Miners Ravine													
178	UMR40E	SE40M_30	0	Miners Ravine	Below Secret	10.	Antelope Creek/Dry Creek	11991	12061	11518	12943	12269	11131
179	UMR40E	SE40M_30	200	Miners Ravine	Below Secret	94.	Harding Blvd.	11989	12061	11518	12937	12269	11131
180	YMR40E	SE40M_30	1500	Miners Ravine	Below Secret	659.8999	Interstate 80 - no ras	11980	12067	11514	12914	12277	11130
181	YMR40B	SE40M_30	2800	Miners Ravine	Below Secret	1422.400	Eureka Way	11979	12086	11520	12900	12282	11125
182	YSEMR	SE40M_30	3800	Miners Ravine	Below Secret	3734.100	Secret Ravine Confluence	11950	12104	11528	12864	12298	11123
183	YMR37D	MR15J_30	5300	Miners Ravine	BET SECRET-FALSE	5674.100	Sunrise Avenue - no ras	9468	4207	3843	10338	4406	4406
184	UR37D4	MR15J_30	7000	Miners Ravine	BET SECRET-FALSE	7319.900	Boardman Tributary	2453	4204	3843	2808	4405	4405
185	UR36N2	MR15J_30	9000	Miners Ravine	Above False	9828.100	East Roseville Parkway	5991	4088	3762	6887	4310	4309
186	UMR31Q	MR15J_30	18200	Miners Ravine	Above False	18310.19	Sierra College Blvd.	5894	4024	3781	6883	4011	4011
187	YR31Q2	MR15J_30	18300	Miners Ravine	Above False	18610	Cavitt Stallman Tributary - no ras	5894	4025	4001	6883	4283	4351
188	UMR31G	MR15J_30	18600	Miners Ravine	Above False	18685	Cavitt (&) Stallman Road	5093	3685	3669	5980	3924	3927
190	UR31P2	MR15J_30	23400	Miners Ravine	Above False	23390	Shadow Oaks Lane	4940	3684	3636	5787	3944	3952
1190	YMR31D	MR15J_30	0	Miners Ravine	Above False	27990.	Hardy Lane	#N/A	3640	3602	#N/A	3900	3915
191	UMR31D	MR15J_30	28900	Miners Ravine	Above False	28826	Barton Road	4762	3636	3597	5565	3892	3907
192	UMR30R	MR15J_30	31300	Miners Ravine	Above False	31379	TallPine Lane	4661	3622	3585	5448	3870	3886
193	UMR30Q	MR15J_30	33000	Miners Ravine	Above False	32984	Carolinda Drive	4560	3809	3654	5332	3952	3883
194	UMR30P	MR15J_30	34800	Miners Ravine	Above False	34813	Itchy Acres Road	4474	3563	3541	5238	3814	3831
196	UR30H2	MR15J_30	35500	Miners Ravine	Above False	35489	Miners Ravine Road	4426	3564	3542	5184	3816	3832
197	UR30H3	MR15J_30	36800	Miners Ravine	Above False	36790	Leibinger Lane	4378	3538	3532	5129	3802	3818
199	UR29B2	MR15J_30	39700	Miners Ravine	Above False	39765	Auburn Folsom Road	4266	3532	3539	4976	3843	3866

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:	500-year 1989 JMM	500-year 1992 Corrected	500-year 2007-Current	500-year Future JMM	500-year Future Unmitigated	500-year Build-out w/LID & Projects
200	UXR29H	MR15J_30	41700	Miners Ravine	Above False	40276	Oak Lane	4148	3545	3550	4846	3844	3867
201	UR29I2	MR15J_30	43000	Miners Ravine	Above False	44240	Old Bridge	4067	3623	3638	4782	3885	3913
202	YMR29I	MR15J_30	43200	Miners Ravine	Above False	44240	Cottonwood Lake	4042	3623	3638	4758	3885	3913
203	UMR21C	MR15J_30	44400	Miners Ravine	Above False	44368	Auburn Folsom Road	4087	3624	3638	4772	3886	3913
1203	YMR21C	MR15J_30	0	Miners Ravine	Above False	44523	Driveway opposite Twin Rocks Road	#N/A	3550	3562	#N/A	3799	3825
204	YMR21D	MR15J_30	45600	Miners Ravine	Above False	45593	Confluence with Lake Tributary (MR15)	3891	3557	3565	4551	3795	3821
1204	UXR20R	MR15J_30	0	Miners Ravine	Above False	52637	Bridge 15	#N/A	2872	2873	#N/A	3020	3043
1205	UXR20Q	MR15J_30	0	Miners Ravine	Above False	53992	Bridge 16	#N/A	2822	2819	#N/A	2966	2984
205	UR20P2	MR15J_30	56000	Miners Ravine	Above False	55052	Moss Lane	3713	2865	2871	4364	2988	3029
1206	YR20K2	MR15J_30	0	Miners Ravine	Above False	57194	Bridge 18 So of Willow Valley Place	#N/A	2737	2743	#N/A	2860	2948
1207	YR20K2	MR15J_30	0	Miners Ravine	Above False	57599	Willow Valley Place	#N/A	2750	2746	#N/A	2870	2999
1208	UR20C2	MR15J_30	0	Miners Ravine	Above False	57984	Bridge 20 North of Willow Valley Place	#N/A	2702	2736	#N/A	2844	2948
207	UR15K2	MR15J_30	59900	Miners Ravine	Above False	59894	Dick Cook Road	2419	2531	2521	2950	2670	2694
208	UXR15V	MR15J_30	61500	Miners Ravine	Above False	61470	Auburn Folsom Road	2277	2248	2250	2773	2422	2429
209	UR15W2	MR15J_30	62400	Miners Ravine	Above False	62487	Placer Canyon Parkway	2135	2285	2269	2596	2411	2417
1209	Y15AE2	MR15J_30	0	Miners Ravine	Above False	64347	Lominda Lane	#N/A	2193	2191	#N/A	2390	2391
210	UXR15Q	MR15J_30	67600	Miners Ravine	Above False	67574	Horseshoe Bar Road	1749	2159	2123	2129	2344	2349
1210	UMR10M	MR15J_30	0	Miners Ravine	Above False	70394	Bridge 26	#N/A	2085	2085	#N/A	2303	2305
1211	UMR10M	MR15J_30	0	Miners Ravine	Above False	70984	Bridge 27	#N/A	2086	2086	#N/A	2304	2304
1212	UMR10I	MR15J_30	0	Miners Ravine	Above False	73328	Whiskey Bar Road	#N/A	1793	1794	#N/A	1999	1999
1213	UXR10E	MR15J_30	0	Miners Ravine	Above False	75238	Bridge 30	#N/A	1740	1740	#N/A	1947	1947
1214	UMMR5S	MR15J_30	0	Miners Ravine	Above False	75448	Bridge 31	#N/A	1568	1568	#N/A	1779	1779
1215	YMR10E	MR15J_30	0	Miners Ravine	Above False	76148	Bridge 32	#N/A	1579	1580	#N/A	1780	1780
211	YMR10E	MR15J_30	71700	Miners Ravine	Above False	76613	Auburn Folsom Road	1362	1578	1579	1715	1789	1789
212	UPMR5R	MR15J_30	73300	Miners Ravine	Above False	78358	King Road	1265	790	790	1611	894	894
213	YMR5W	MR15J_30	79400	Miners Ravine	Above False	79398	Penryn Rock Springs Road	365	731	731	488	818	818
214	YMR5P	MR15J_30	80200	Miners Ravine	Above False	80243	Newcastle Road	219	581	581	293	652	652
Miners Ravine/Boardman Tributary													
215	UR37D3	CC5G_90	0	0	0	NONE	Miners Ravine Confluence	557	702	1326	695	1387	1387
216	UR35R6	CC5G_90	800	0	0	NONE	East Roseville Parkway	529	690	1312	660	1371	1371
Miners Ravine/Cavitt & Stallman Tributary													
217	UMR25L	SE40N_0	0	0	0	NONE	Miners Ravine Confluence	885	1010	1002	989	1167	1167
218	YR25M2	SE40N_0	2400	0	0	NONE	Hidden Valley Place	843	1037	1029	943	1199	1199
219	YMR25N	SE40N_0	3100	0	0	NONE	Baywood Road	801	1022	1014	896	1183	1183
220	YR25P2	SE40N_0	3700	0	0	NONE	S. Bar B Lane	759	1004	996	850	1162	1162
221	YMR25D	SE40N_0	4500	0	0	NONE	Kokuia Lane	717	854	854	804	1028	1028
222	YMR25I	SE40N_0	5100	0	0	NONE	Crestview Lane	675	930	930	758	1089	1089
223	YMR24E	SE40N_0	9300	0	0	NONE	Barton Road	671	764	764	872	904	904

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Miners Ravine/Lake Tributary (MR21)													
224	UMR21H	MR15J_30	0	0	0	NONE	Miners Ravine Confluence	410	288	288	523	466	466
225	UMR21H	MR15J_30	200	0	0	NONE	Auburn Folsom Road	462	288	288	589	466	466
226	YMR21H	MR15J_30	300	0	0	NONE	South Lake Circle	462	336	336	589	529	529
Secret Ravine													
227	YSE85Q	SE40M_30	0	Secret Ravine	Below Sucker	1	Miners Ravine Confluence	6524	8703	8466	6695	9118	7421
228	YE85Y2	SE40M_30	1400	Secret Ravine	Below Sucker	798.3000	East Roseville Parkway	6521	8702	8466	6693	9121	7415
229	YE76A2	SE40M_30	13500	Secret Ravine	Below Sucker	14280.	Sucker Ravine Confluence	6288	8671	8444	6462	9159	7306
230	Y56AB3	SE40M_30	16200	Secret Ravine	Reach 1	17396	Aguiar Road Tributary Confluence	5600	7590	7316	6122	7985	6131
231	USE52D	SE40M_30	17600	Secret Ravine	Reach 1	18595.9	Rocklin Road - China Gardens	5158	7600	7317	5736	8003	6131
232	YSE51K	SE40M_30	23300	Secret Ravine	Reach 1	24526	Sierra College Blvd.	5143	8087	7862	5747	8470	6065
233	UE50Q2	SE40M_30	28800	Secret Ravine	Reach 1	30371	Private Road - Diaz	4832	7484	7307	5542	8133	8128
234	UE50P2	SE40M_30	29200	Secret Ravine	Reach 1	30801	Private Road	4813	7482	7324	5523	8146	8140
235	YE50F2	SE40M_30	30800	Secret Ravine	Reach 1	32256	Brace Road	4681	7435	7283	5385	8093	8087
236	YE50A2	SE40M_30	32600	Secret Ravine	Reach 1	34081	Horseshoe Bar Road	4593	7275	7188	5303	7983	7977
237	YE50A2	SE40M_30	33400	Secret Ravine	Reach 1	34081	Loomis Tributary Confluence	4577	7275	7188	5289	7983	7977
238	YE35B2	SE40M_30	33500	Secret Ravine	Reach 1	34866	King Road Tributary Confluence	4294	7109	7052	5041	7856	7851
239	USE35A	SE40M_30	38600	Secret Ravine	Reach 1	38066	King Road-no ras	3418	5711	5757	4019	6432	6427
241	YE35B2	SE40M_30	40000	Secret Ravine	Reach 1	40346	Penryn Road	3353	5566	5616	3961	6289	6284
242	YSE30E	SE40M_30	40500	Secret Ravine	Reach 1	NONE	Harris/Boulder Creek Road.	3334	5202	5253	3944	5950	5950
243	VSE26I	SE40M_30	40700	Secret Ravine	Reach 1	NONE	Penryn Tributary Confluence	3332	4981	5036	3955	5740	5740
244	VSE26H	SE40M_30	43300	Secret Ravine	Reach 1	NONE	Boulder Creek Road	2780	1831	1831	3285	2054	2054
245	VE26N2	SE40M_30	48500	Secret Ravine	Reach 1	NONE	Brennans Road	1570	1744	1744	1840	1970	1970
246	VE26N2	SE40M_30	48900	Secret Ravine	Reach 1	NONE	Rock Springs Road	1530	1744	1744	1799	1970	1970
247	USE26E	SE40M_30	50400	Secret Ravine	Reach 1	NONE	Meadow Lane	1410	1464	1464	1676	1664	1664
248	UE26BB	SE40M_30	51300	Secret Ravine	Reach 1	NONE	Los Puentes Road	1425	1410	1410	1834	1602	1602
249	VE25IA	SE40M_30	55300	Secret Ravine	Reach 1	NONE	Newcastle Road	1240	1464	1464	1689	1670	1670
250	UE25AB	SE40M_30	57700	Secret Ravine	Reach 1	NONE	Powerhouse Road	868	1334	1334	1182	1528	1528
Secret Ravine/Sucker Ravine													
251	UXE70I	SE40N_0	0	Sucker Ravine	Reach 1	0	Secret Ravine Confluence	1582	725	821	1798	932	962
252	USE76A	SE40N_0	1000	Sucker Ravine	Reach 1	840	China Garden Road	1575	688	728	1790	967	1000
253	YSE76B	SE40N_0	1200	Sucker Ravine	Reach 1	1305	Interstate 80	1572	688	722	1787	968	1001
254	YSE76B	SE40N_0	2200	Sucker Ravine	Reach 1	1860	Oakridge Street	1571	761	809	1786	988	1023
255	YSE76B	SE40N_0	2600	Sucker Ravine	Reach 1	2750	Lakeside Drive	1589	784	840	1823	1004	1039
256	USE70I	SE40N_0	3950	Sucker Ravine	Reach 1	4110	Rocklin Road	1596	769	832	1848	1012	1051
257	USE70H	SE40N_0	4300	Sucker Ravine	Reach 1	4580	Quary Lake	1582	695	740	1835	985	1020
258	YSE70H	SE40N_0	4700	Sucker Ravine	Reach 1	4840	Super Span	1568	695	740	1821	985	1020
259	USE70F	SE40N_0	7450	Sucker Ravine	Reach 1	7605	Sierra Meadows Drive	1527	646	717	1781	983	1000
1259	YSE70B	SE40N_0	0	Sucker Ravine	Reach 1	9955	Culvert 1	#N/A	552	649	#N/A	920	940

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1260	YSE70D	SE40N_0	0	Sucker Ravine	Reach 1	10565	Driveway Below Dominguez Road	#N/A	556	653	#N/A	926	946
260	YSE70C	SE40N_0	10800	Sucker Ravine	Reach 1	10935	Dominguez Road	1408	556	660	1791	1008	1043
261	UE60E2	SE40N_0	11000	Sucker Ravine	Reach 1	10935	Loomis Tributary Confluence	1431	556	660	1793	1008	1043
263	YSE66J	SE40N_0	13400	Sucker Ravine	Reach 1	14525	Pacific Street	803	443	533	689	629	643
1263	USE66J	SE40N_0	0	Sucker Ravine	Reach 1	14756	Railroad	#N/A	445	549	#N/A	630	643
1264	USE66D	SE40N_0	0	Sucker Ravine	Reach 1	16706	Culvert 5	#N/A	466	599	#N/A	814	840
264	USE66D	SE40N_0	14800	Sucker Ravine	Reach 1	16846	Bankhead Road	734	466	600	634	813	841
265	YSE66C	SE40N_0	15200	Sucker Ravine	Reach 1	17266	Sierra College Blvd.	711	449	583	615	803	824
266	USE66A	SE40N_0	19000	Sucker Ravine	Reach 1	20671	Saunders Avenue	695	740	1092	876	835	855
267	SE65	SE40N_0	20200	Sucker Ravine	Reach 1	22546	King Road	709	585	888	901	585	590
Secret Ravine/Sucker Ravine/Loomis Tributary													
268	VSE60E	SE40N_0	0	0	0	NONE	Sucker Ravine Confluence	497	608	603	941	875	875
270	VE60D2	SE40N_0	4400	0	0	NONE	Sierra College Blvd.	273	517	511	518	684	684
Secret Ravine/Aguilar Road Tributary													
271	Y56AB2	SE40N_0	0	0	0	NONE	Secret Ravine Confluence	929	916	849	1287	1379	1379
272	Y56AB2	SE40N_0	700	0	0	NONE	Aguilar Road	891	916	849	1223	1379	1379
273	YSE56B	SE40N_0	2400	0	0	NONE	Foothill Road	815	741	837	1095	1090	1090
274	Y55MA2	SE40N_0	4100	0	0	NONE	El Don Road	758	515	559	999	687	687
275	UE56DB	SE40N_0	4100	0	0	NONE	El Don Detention Pond	738	512	519	970	647	647
276	VSE55L	SE40N_0	6100	0	0	NONE	Sierra College Blvd.	624	414	417	768	536	536
Secret Ravine / Loomis Tributary													
277	YSE40J	SE40N_0	0	0	0	NONE	Secret Ravine Confluence	673	578	706	996	817	817
278	YSE40J	SE40N_0	1200	0	0	NONE	Interstate 80	622	578	706	921	817	817
279	VSE40I	SE40N_0	2800	0	0	NONE	Laird Street	586	507	625	866	658	658
280	VSE40F	SE40N_0	3600	0	0	NONE	King Road	549	375	476	812	477	477
Secret Ravine/King Road Tributary													
281	USE45W	SE40M_30	0	0	0	NONE	Secret Ravine Confluence	1838	1839	1840	1994	2077	2077
282	YSE45Q	SE40M_30	3900	0	0	NONE	Rancho Verde Road	1707	895	895	1855	1054	1054
283	YSE45A	MR15J_30	5400	0	0	NONE	Val Verde Road	558	745	745	659	925	925
284	USE44B	MR15J_30	6300	0	0	NONE	King Road	502	654	654	593	828	828
Secret Ravine/Penryn Tributary													
285	YE15L2	SE40M_30	0	0	0	NONE	Secret Ravine Confluence	1329	3242	3288	1830	3789	3789
286	USE7H2	SE40M_30	4700	0	0	NONE	Rock Springs Road	1413	2701	2762	2026	3215	3215
287	YSE5F2	SE40M_30	5600	0	0	NONE	East/West Forks Confluence	1240	2464	2528	1890	2979	2979

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Secret Ravine/ E. Fork Penryn Tributary													
288	VSE5F2	SE40M_30	0	0	0	NONE	West Fork Confluence	338	899	937	459	1114	1114
289	YSE5F	SE40M_30	900	0	0	NONE	Fairview Lane	303	902	940	411	1116	1116
290	YE20BS	SE40M_30	3700	0	0	NONE	Gilardi Road	125	709	749	169	919	919
Secret Ravine/W. Fork Penryn Tributary													
291	YSE7D	SE40M_30	0	0	0	NONE	East Fork Confluence	823	1712	1736	1299	2065	2065
292	YSE10A	SE40M_30	200	0	0	NONE	Interstate 80	819	1695	1720	1292	2047	2047
293	YE10BB	SE40M_30	1400	0	0	NONE	Girardi Road	773	1638	1669	1317	2006	2006

Table G.2 200-YEAR EVENT

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:	200-year 1989 JMM	200-year 1992 Corrected	January 1995	200-year 2007-Current	200-year Future JMM	200-year Future Unmitigated	200-year Build-out w/LID & Projects
DRY CREEK														
1	VC135B	SE40N_0	8900	Dry Creek	Below Cirby	NONE	Rio Linda Blvd(North and South)	17480	14641	18907	14995	19209	16681	16681
2	Y130B2	SE40N_0	15000	Dry Creek	Below Cirby	NONE	Elkhorn Blvd. (North and South)	17479	14690	18962	15046	19205	16734	16734
3	YC125B	SE40N_0	16600	Dry Creek	Below Cirby	NONE	Curved Bridge Road (North)	17467	14820	19054	15185	19193	16870	16870
4	YC125A	SE40N_0	17400	Dry Creek	Below Cirby	NONE	Dry Creek Road (North and South)	17465	14786	18970	15160	19190	16838	16838
5	YDC115	SE40N_0	24400	Dry Creek	Below Cirby	NONE	Q Street (North and South)	17526	14875	19005	15257	19245	16926	16926
6	YDC90	SE40N_0	34900	Dry Creek	Below Cirby	NONE	Sierra Creek Confluence	17473	14805	18551	15193	19184	16841	16841
7	YDC85	SE40N_0	35200	Dry Creek	Below Cirby	NONE	28th Street (South)	17320	14846	18564	15250	18984	16884	16884
8	YDC85	SE40N_0	35400	Dry Creek	Below Cirby	NONE	Elverta Road	17294	14846	18564	15250	18951	16884	16884
9	YDC71B	SE40N_0	36900	Dry Creek	Below Cirby	38733	Confluence with County Line Trib	17313	14820	17139	15020	18964	15646	16146
11	YDC75C	SE40N_0	41400	Dry Creek	Below Cirby	41634	Watt Avenue	17255	14802	17104	14999	18875	15637	16183
13	YC65I2	SE40N_0	47700	Dry Creek	Below Cirby	47754	Confluence with DC65 Trib	17282	14711	16697	14916	18903	15569	16048
14	YDC60A	SE40N_0	50300	Dry Creek	Below Cirby	50025	Walerga Road	17215	14715	16698	14936	18821	15593	16075
1015	YDC50A	SE40N_0	0	Dry Creek	Below Cirby	55005	Morgan Creek Ped Crossing	#N/A	14706	16494	14935	#N/A	15626	16104
16	YDC35C	SE40N_0	58800	Dry Creek	Below Cirby	58560	Cook Riolo Road	17185	14736	16432	14993	18753	15720	16227
17	YDC25A	CC5G_90	67000	Dry Creek	Below Cirby	67583.80	S.P. Railroad Bridge	16974	12455	16378	12248	18449	12790	12053
18	YDC10D	SE40N_0	67400	Dry Creek	Below Cirby	67641.80	Atkinson Blvd.	16974	14930	16378	15331	18449	15998	16282
20	YDC20A	SE40N_0	68900	Dry Creek	Below Cirby	69138.40	S.P. Railroad Culverts (now bridge)	16969	14927	16379	15319	18433	15994	16277
21	YDC10D	SE40N_0	69900	Dry Creek	Below Cirby	70071.60	Vernon Street	16903	14957	16438	15323	18335	16005	16323
22	YDC10B	SE40N_0	72600	Dry Creek	Below Cirby	72702.60	Riverside Avenue	17227	11319	15638	9165	18823	9262	9379
23	YDCCC	SE40N_0	73000	Dry Creek	Below Cirby	72982	Cirby Creek Confluence	17227	11332	15647	9182	18823	9278	9389
24	YDC5A	SE40M_30	73800	Dry Creek	Above Cirby	73943.30	Darling Way	12878	12925	12226	12542	13965	13987	13625
25	YDC5C	SE40M_30	77000	Dry Creek	Above Cirby	77218.89	Douglas Blvd.	12875	13040	12269	12548	13956	14082	13666
26	UDC5B	SE40M_30	77500	Dry Creek	Above Cirby	77606.49	Royer Park Footbridge	12875	13051	12268	12547	13890	14088	13685
27	YDC5B	SE40M_30	79100	Dry Creek	Above Cirby	79166.05	Lincoln Street	12873	13025	12260	12526	13886	14087	13694
28	YDC4C	SE40M_30	79400	Dry Creek	Above Cirby	79816.70	Folsom Road	12869	13029	12257	12530	13891	14091	13698
30	YACMR	SE40M_30	84100	Dry Creek	Above Cirby	84214.40	Antelope Creek/ Miners Ravine Confluence	12972	13128	12339	12618	13996	14249	13800
DRY CREEK - ELVERTA TRIB														
31	UDC90	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	395	229	275	229	530	254	254
DRY CREEK - SIERRA CREEK														
32	YC100B	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	1801	1025	1162	1051	2245	1219	1219
33	YC100A	CC5G_90	1400	0	0	NONE	28th Street	1759	1048	1216	1079	2197	1246	1246
34	YC100A	CC5G_90	3700	0	0	NONE	Scotland Drive	1663	1048	1216	1079	2085	1246	1246
35	VC96B2	CC5G_90	5400	0	0	NONE	Delaney Drive	1620	947	1101	978	2057	1130	1130

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36	YDC96A	CC5G_90	6800	0	0	NONE	Watt Avenue	1574	811	960	836	2010	987	987
37	VDC96C	CC5G_90	10300	0	0	NONE	Navaho Way	945	575	671	600	1181	734	734
38	YDC96C	CC5G_90	11400	0	0	NONE	Elverta Road	811	577	697	603	1004	737	737
39	DC95A	CC5G_90	13500	0	0	NONE	Walerga Road	676	88	98	88	826	133	133
DRY CREEK/County Line Trib. (Note: Riolo Vineyards project determined this tributary does not drain as previously modeled - corrected in 2009 study)														
40	YDC75B	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	775	677	732	688	1105	797	797
41	N/A	#N/A	3200	0	0	NONE	Watt Avenue	722	#N/A	#N/A	#N/A	1069	#N/A	#N/A
42	VDC68B	CC5G_90	8200	0	0	NONE	PFE Road	551	600	641	619	868	684	684
Dry Creek DC-65 Tributary														
43	YDC65I	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	565	499	455	577	608	613	613
44	YDC65K	CC5G_90	3000	0	0	NONE	Walerga Road	451	459	419	543	487	567	567
Cirby Creek														
45	YCC45G	LC40L_30	0	Cirby Creek	below Linda	0	Dry Creek Confluence	4248	3543	5573	3712	4739	4288	4158
46	YCC45A	LC40L_30	3000	Cirby Creek	below Linda	2969.699	Interstate 80	4228	3583	5763	3784	4718	4297	4237
48	UCC45E	LC40L_30	4600	Cirby Creek	below Linda	4580.699	Wanda Lee Court Footbridge	4240	3581	5768	3778	4739	4298	4215
49	YCC45E	LC40L_30	6100	Cirby Creek	Above Linda	6009.699	Linda Creek Confluence	5230	3596	2661	3791	5793	4335	4209
50	YCC40A	CC5G_90	7400	Cirby Creek	Above Linda	7262.099	Sunrise Blvd.	961	764	1575	967	1257	1025	1026
51	YCC40C	CC5G_90	8100	Cirby Creek	Above Linda	8038.899	Coloma Way - Gage 1635	996	831	548	991	1263	1032	1035
52	YC40G2	CC5G_90	9100	Cirby Creek	Above Linda	9004.399	Oak Ridge Drive	1007	775	531	944	1273	991	991
53	UCC35D	CC5G_90	10000	Cirby Creek	Above Linda	9873.999	Sierra Gardens Footbridge	1000	847	546	1040	1267	1100	1101
54	YCC15B	CC5G_90	11800	Cirby Creek	Above Linda	11679.19	Loretto Drive	981	902	547	1192	1271	1236	1237
55	YCC252	CC5G_90	12000	Cirby Creek	Above Linda	12228.79	Sierra Gardens Trib. Confluence	1009	661	389	954	1275	980	980
56	YCC15C	CC5G_90	12500	Cirby Creek	Above Linda	12377.29	Sierra Gardens Drive	803	662	389	959	1097	980	981
57	YCC10E	CC5G_90	13900	Cirby Creek	Above Linda	13765.49	Huntington Drive	768	462	352	475	1116	471	471
58	UCC10H	CC5G_90	14500	Cirby Creek	Above Linda	14420.19	Rocky Ridge Drive	478	390	217	625	646	590	591
60	YCC5B	CC5G_90	16400	Cirby Creek	Above Linda	15748.19	Winchester Way	414	288	155	448	581	455	455
61	YCC5D	CC5G_90	17200	Cirby Creek	Above Linda	16312.19	Eureka Road	416	201	117	350	643	356	356
62	YCC1A	CC5G_90	19700	Cirby Creek	Above Linda	17753.79	Douglas Blvd.	245	149	92	297	496	302	302
Cirby Creek/Sierra Gardens Trib.														
63	VCC25	CC5G_90	0	0	0	NONE	Cirby Creek Confluence	172	293	159	308	203	310	310
65	YCC20G	CC5G_90	1000	0	0	NONE	Douglas Blvd.	148	198	126	217	150	218	218
66	YCC20K	CC5G_90	1400	0	0	NONE	Sierra Gardens Ret. Basin	141	243	116	362	143	379	379
Linda Creek														
67	ULC95C	LC40L_30	0	Linda Creek	Below Strap	0.	Cirby Creek Confluence	4900	2789	3218	2822	5443	2885	2867
68	ULC95D	LC40L_30	1000	Linda Creek	Below Strap	565.1000	Sunrise Avenue	4898	2796	3290	2830	5439	2909	2890

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70	YLC90A	LC40L_30	2600	Linda Creek	Below Strap	2125.000	Oak Ridge Drive	5000	3806	6753	3839	5575	4438	4283
72	ULC90B	LC40L_30	4300	Linda Creek	Below Strap	3843.300	Sierra Gardens Footbridge	4986	3806	6728	4022	5556	4652	4490
73	YLC85C	LC40L_30	8400	Linda Creek	Below Strap	8257.900	Rocky Ridge Dirve	5020	4285	7238	4502	5521	5119	5039
74	ULC85B	LC40L_30	10000	Linda Creek	Below Strap	9810.000	Strap Ravine Confluence	4983	4260	7215	4481	5455	5107	5027
76	ULC80I	LC40L_30	11500	Linda Creek	Below S Branch	136	Champion Oaks Drive/Samoa Way (Gage 1626/1628)	3905	2252	3280	2289	4244	2513	2448
78	ULC80A	LC40L_30	14300	Linda Creek	Below S Branch	157	Auburn Road	3904	3180	5296	3440	4239	3835	3719
79	UC45J3	LC40L_30	15700	Linda Creek	Below S Branch	176	Old Auburn Road/City Limits	3914	2552	4346	2835	4250	3191	3055
1079	ULC45J	LC40L_30	0	Linda Creek	Below S Branch	181	Ped Bridge over Creek in Park	#N/A	2439	4184	2732	#N/A	3080	2944
Treelake Tributary Confluence														
80	ULC45J	LC40L_30	15900	Linda Creek	Below S Branch	181	Treelake Tributary Confluence	3914	2439	4184	2732	4250	3080	2944
82	UC45J2	LC40L_30	19800	Linda Creek	Below S Branch	188	Indian Creek Drive	2942	2419	4148	2726	3261	3068	2941
1082	ULC45D	LC40L_30	0	Linda Creek	Below S Branch	207	Private Bridge Near Hazel	#N/A	2184	3839	2556	#N/A	2986	2817
83	ULC45D	LC40L_30	25300	Linda Creek	Below S Branch	211	Hazel Avenue	2677	2185	3839	2566	2950	2987	2844
84	UC35Q3	LC40L_30	25500	Linda Creek	Below S Branch	212	Orangevale Tributary Confluence	2677	2185	3839	2566	2950	2987	2844
1084	ULC40A	LC40L_30	0	Linda Creek	Above S Branch	3.075	BDG 17 2-24" CMPS	#N/A	1498	2743	1677	#N/A	1971	1841
85	UC15N2	LC40L_30	31300	Linda Creek	Above S Branch	4.239	Granite Road Bridge	1475	1251	2312	1404	1613	1672	1552
86	ULC15N	LC40L_30	32600	Linda Creek	Above S Branch	4.407	Cherry Avenue	1448	1223	2253	1362	1576	1632	1509
1086	ULC15J	LC5A_0	0	Linda Creek	Above S Branch	5.22	Private Driveway Concrete Box Type	#N/A	862	1468	992	#N/A	1011	843
1087	YLC15J	LC5A_0	0	Linda Creek	Above S Branch	5.264	Driveway Bridge	#N/A	859	1467	992	#N/A	1011	843
1088	YLC15J	LC5A_0	0	Linda Creek	Above S Branch	5.526	Granite Glen Court (Private)	#N/A	855	1472	1015	#N/A	1014	849
88	YLC15J	LC5A_0	38600	Linda Creek	Above S Branch	5.715	Wedgewood Drive	1025	948	1479	1002	1181	1014	934
1089	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.039	Golf Cart Bridge #5	#N/A	870	1323	949	#N/A	961	878
1090	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.12	Golf Cart Bridge #4	#N/A	870	1323	948	#N/A	976	880
1091	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.197	Golf Cart Bridge #3	#N/A	871	1323	935	#N/A	944	882
1092	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.241	Golf Cart Bridge #2	#N/A	871	1322	935	#N/A	944	882
1093	ULC5F2	LC5A_0	0	Linda Creek	Above S Branch	6.515	Golf Cart Bridge #1	#N/A	854	1117	867	#N/A	916	799
89	ULC5F2	LC5A_0	42300	Linda Creek	Above S Branch	6.53	East Roaseville Parkway	927	854	1117	867	1132	916	799
90	ULC5F	LC5A_0	43100	Linda Creek	Above S Branch	6.759	Barton Road	874	855	1042	868	1074	909	800
91	YLC5E	LC5A_0	44600	Linda Creek	Above S Branch	7.140	Shadow Brook Place	737	748	799	762	907	794	611
92	ULC5B	LC5A_0	46500	Linda Creek	Above S Branch	7.479	Troy Purdy Lane	541	642	613	650	729	678	540
1094	ULC5C	LC5A_0	0	Linda Creek	Above S Branch	7.609	Muir Way	#N/A	528	432	531	#N/A	559	477
93	YLC5C	LC5A_0	48100	Linda Creek	Above S Branch	7.77	Country Court (Private)	445	524	439	533	631	555	486
1095	ULC1A	LC5A_0	0	Linda Creek	Above S Branch	7.839	Country Court	#N/A	1047	1654	1321	#N/A	1381	1423
94	YLC1A	LC5A_0	48700	Linda Creek	Above S Branch	8.011	Auburn Folsom Road	398	537	446	652	582	572	486
Linda Creek/Strap Ravine														
95	USR25C	CC5G_90	0	Strap Ravine	Reach 1	0.	Linda Creek Confluence	1110	1035	1653	1278	1254	1367	1410
1095	YSR25A	CC5G_90	300	Strap Ravine	Reach 1	276	Foot Bridge in Park	#N/A	1047	1654	1321	#N/A	1381	1423

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96	UR20A4	CC5G_90	1500	Strap Ravine	Reach 1	1136.900	McClaren Drive (Gage 1611)	1111	1074	1649	1344	1255	1417	1442
97	UXR20A	CC5G_90	5900	Strap Ravine	Reach 1	5539.100	Johnson Ranch Drive	1094	1019	1722	1388	1244	1384	1424
98	USR152	CC5G_90	6800	Strap Ravine	Reach 1	6380.600	Eureka Road	1092	1019	1717	1384	1244	1385	1424
99	USR82	CC5G_90	8600	Strap Ravine	Reach 1	8201.500	East Roseville Parkway	1077	879	1437	1045	1321	1136	1198
100	USR5C2	LC5A_0	11800	Strap Ravine	Reach 1	11366.10	Sierra College Blvd.	997	625	1068	826	1280	895	978
101	USR1A	LC5A_0	23000	0	0	NONE	Barton Road	744	641	605	1209	1154	1091	1091
Linda Creek/Treelake Tributary														
102	ULC60B	LC40L_30	0	0	0	NONE	Linda Creek Confluence	999	663	1009	788	1119	930	930
103	YLC60B	LC40L_30	3200	0	0	NONE	Petite Way (approximated)	931	681	1021	821	1034	966	966
104	YLC60A	LC40L_30	5700	0	0	NONE	Old Auburn Road	928	612	944	767	1135	906	906
105	YC55H3	LC40L_30	6000	0	0	NONE	Sierra College Blvd.	920	671	961	849	1137	998	998
106	YLC55F	LC40L_30	9600	0	0	NONE	Swan Lake Drive	665	587	889	800	800	949	949
107	UC55L2	LC40L_30	9600	0	0	NONE	Swan Lake	665	549	856	771	800	920	920
108	UPC55L	LC40L_30	10800	0	0	NONE	Waterbury Way	568	566	859	794	670	938	938
109	YLC55L	LC40L_30	10800	0	0	NONE	Waterbury Lake	568	616	866	856	670	1005	1005
110	ULC50E	LC40L_30	11400	0	0	NONE	East Roaseville Parkway	492	496	653	637	572	798	798
111	YLC50E	LC40L_30	11400	0	0	NONE	East Roseville Parkway Pond	492	523	655	699	572	844	844
112	ULC50F	LC40L_30	11700	0	0	NONE	Treelake office Lane	492	457	544	554	572	684	684
113	ULC50F	LC40L_30	11700	0	0	NONE	Treelake office Lane Pond	492	457	544	554	572	684	684
Linda Creek/Hazel Avenue Tributary (Sac County)														
114	YC35Q2	LC40L_30	0	0	0	NONE	Linda Creek Confluence	806	701	3689	908	1002	1016	1016
115	UC35Q2	LC40L_30	400	0	0	NONE	Oak Avenue	806	701	1083	908	1002	1016	1016
Linda Creek/Orangevale Tributary (Sac County)														
116	YC35Q2	LC40L_30	0	Linda Creek	South Branch	.001	Linda Creek Confluence	1481	688	1089	980	1587	1110	1120
1116	YLC35Q	LC40L_30	0	Linda Creek	South Branch	0.125	Private Bridge (Metal and Concrete)	#N/A	762	1105	1021	#N/A	1145	1162
117	ULC35Q	LC40L_30	900	Linda Creek	South Branch	0.196	Oak Avenue	756	763	1108	1022	809	1145	1170
1117	ULC30E	LC40L_30	0	Linda Creek	South Branch	1.022	Private Bridge in Park Area	#N/A	357	630	543	#N/A	607	621
118	ULC30E	LC40L_30	3300	Linda Creek	South Branch	1.035	Filbert Avenue	711	357	631	543	760	607	621
1118	ULC30B	LC40L_30	0	Linda Creek	South Branch	1.244	Private Bridge Near Chestnut	#N/A	337	570	501	#N/A	569	570
119	UC30C2	LC40L_30	4300	Linda Creek	South Branch	1.346	Chestnut Avenue	784	320	530	484	853	551	551
120	ULC30A	LC40L_30	5500	Linda Creek	South Branch	1.649	Walnut Avenue (North)	337	256	295	355	338	398	398
120	UC20E3	LC40L_30	5500	Linda Creek	South Branch	1.772	Walnut Avenue (South)	337	256	295	355	338	398	398
121	VLC25C	LC40L_30	6700	Linda Creek	South Branch	NONE	Main Avenue (North)	252	51	88	72	254	81	81
1121	VLC20E	LC40L_30	6700	Linda Creek	South Branch	NONE	Main Avenue (South)	#N/A	212	229	294	#N/A	324	324
Antelope Creek														
122	UDC4D	AC5I_60	0	Antelope Ck	AntelopeBlwClove	0.	Miners Ravine/Dry Creek	3726	4339	3172	4551	4195	4601	4455

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123	UC45B2	AC5I_60	1400	Antelope Ck	AntelopeBlwClove	1394.899	Harding Blvd.	3724	4346	3206	4561	4193	4610	4463
124	UAC45B	AC5I_60	2300	Antelope Ck	AntelopeBlwClove	2349.499	Atlantic Street	3722	4352	3185	4599	4192	4674	4467
1124	UAC45B	AC5I_60	0	Antelope Ck	AntelopeBlwClove	2455.599	Bridge #3	#N/A	4341	3176	4591	#N/A	4668	4460
125	UAC45L	AC5I_60	5000	Antelope Ck	AntelopeBlwClove	5017.599	County Dump Road	3712	4388	3480	4635	4184	4711	4542
126	UC41E4	AC5I_60	9600	Antelope Ck	AntelopeBlwClove	10909.49	Highway 65 - non ras (Gage 1583)	3729	4452	3137	4678	4207	4775	5446
127	UC41E3	AC5I_60	10300	Antelope Ck	AntelopeBlwClove	11383.53	Springview Drive	3722	4430	3128	4655	4209	4753	5911
128	YC41E2	AC5I_60	10800	Antelope Ck	AntelopeBlwClove	11418.53	Rocklin City Tributary Confluence	3704	4423	3128	4647	4186	4744	6108
130	UC40K2	AC5I_60	15800	Antelope Ck	AntelopeBlwClove	16930.03	Sunset Blvd.	3750	4314	3109	4518	4232	4639	4645
133	UV10B2	AC5I_60	22800	Antelope Ck	AntelopeBlwClove	24722.3	Clover Valley Creek Confluence	3849	4473	3079	4591	4348	4868	4872
134	UC35G3	AC5I_60	23600	Antelope Ck	Reach 1	25350.71	Midas Avenue	2804	3370	2077	3638	3229	3505	3505
135	UAC35C	AC5I_60	25700	Antelope Ck	Reach 1	27696.03	Southern Pacific Railroad (UPRR) - non ras	2773	3342	2062	3646	3196	3527	3526
136	VAC35I	AC5I_60	26500	Antelope Ck	Reach 1	28434.67	Yankee Hill Road	2763	3333	2062	3643	3185	3512	3512
137	YAC30C	AC5I_60	27600	Antelope Ck	Reach 1	34226	Atkinson Dairy Dam	2732	3218	1994	3561	3152	3463	3463
138	YAC30B	AC5I_60	28900	Antelope Ck	Reach 1	34691	Unnamed Road - no ras - no find aerial	2702	3153	1960	3486	3119	3414	3414
139	YAC30B	AC5I_60	31800	Antelope Ck	Reach 1	35656	Delmar Avenue - no ras	2670	3155	1962	3505	3088	3429	3429
140	YAC30B	AC5I_60	34300	Antelope Ck	Reach 1	36964	Sierra College Blvd. (Gage 1573)	2591	3158	1958	3513	3002	3442	3442
141	U30AC4	AC5I_60	37000	Antelope Ck	Reach 1	39726	King Road	2529	3429	1933	3599	2927	3596	3596
Antelope Creek / Clark Tunnel Road Tributary														
142	U30AC2	AC5I_60	0	Antelope Ck	Reach 1	40906	Antelope Creek Confluence	2520	3371	1896	3536	2926	3537	3537
143	UC25BC	AC5I_60	100	0	0	NONE	Barker Road	1504	1086	685	1135	1879	1125	1125
144	VAC20C	AC5I_60	1300	0	0	NONE	Humphrey Road	1382	722	520	748	1802	763	763
145	YC16EB	AC5I_60	1700	0	0	NONE	Humphrey Tributary Confluence	1358	595	425	616	1769	634	634
148	UC15CB	AC5I_60	7000	0	0	NONE	Colwell Road	963	357	200	366	1360	379	379
149	YC15BC	AC5I_60	10000	0	0	NONE	English Colony Way	881	296	138	300	1308	301	301
150	AC15AD	AC5I_60	12800	0	0	NONE	Clark Tunnel Road	342	219	97	223	581	223	223
Antelope Creek/Rocklin City Tributary														
151	VAC41E	CC5G_90	0	0	0	NONE	Antelope Creek Confluence	216	713	399	713	275	780	780
152	VAC41F	SE40M_30	2700	0	0	NONE	Taylor Road	162	269	202	269	206	328	328
153	VAC41F	SE40M_30	2800	0	0	NONE	Taylor Road	135	269	202	269	172	328	328
154	UAC41A	SE40M_30	4500	0	0	NONE	Sunset Blvd.	81	152	119	152	103	202	202
Antelope Creek/Clover Valley Creek														
155	UCV10B	AC5I_60	0	Clover Valley	Clover Valley1	.1	Antelope Creek Confluence	1045	1359	1000	1244	1139	1395	1402
1155	UCV10B	AC5I_60	0	Clover Valley	Clover Valley1	155	Golf Course Ped Bridge	#N/A	1360	1000	1237	#N/A	1399	1404
156	UCV10B	AC5I_60	400	Clover Valley	Clover Valley1	445	Argonaut Avenue	1042	1471	1000	1232	1134	1405	1409
157	YCV10B	AC5I_60	2200	Clover Valley	Clover Valley1	2785	Footbridge and Weir	1024	1152	998	1233	1111	1410	1413

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158	UXV10A	AC5I_60	4300	Clover Valley	Clover Valley1	4090	Midas Avenue	1016	1121	982	1213	1102	1381	1385
159	YCV10A	AC5I_60	4700	Clover Valley	Clover Valley1	4430	Abandoned Stone Bridge	1015	1121	982	1213	1100	1382	1385
160	YCV10A	AC5I_60	5600	Clover Valley	Clover Valley1	5400	Unnamed Bridge	1003	1072	949	1173	1084	1327	1330
1160	UV6CB2	AC5I_60	0	Clover Valley	Clover Valley1	6365	Gazebo Crossing	#N/A	1073	949	1173	#N/A	1329	1332
161	UCV6CB	AC5I_60	6500	Clover Valley	Clover Valley1	6505	Clover Valley Detention Pond	997	1078	950	1173	1076	1328	1332
162	YV6CB2	AC5I_60	7700	Clover Valley	Clover Valley1	7815	Creekwood Drive	985	1079	951	1174	1060	1330	1334
163	UCV6BC	AC5I_60	12000	Clover Valley	Clover Valley1	12015	Rawhide Road	895	1001	899	1032	981	1171	1175
164	UCV6BC	AC5I_60	12500	Clover Valley	Clover Valley1	12550	Rowhide Road Det. Pond	883	1005	904	1033	970	1173	1178
165	UCV5C	AC5I_60	25600	Clover Valley	Clover Valley1	NONE	Unnamed Road	578	849	826	874	691	1105	1105
166	UCV1T	AC5I_60	28000	Clover Valley	Clover Valley1	NONE	Sierra College Blvd.	494	554	484	566	600	637	637
167	VCV1T	AC5I_60	28500	Clover Valley	Clover Valley1	NONE	English Colony Way	494	474	352	489	600	1001	1001
Antelope Creek Continued (West Branch)														
169	UC25BC	AC5I_60	38700	0	0	NONE	Clark Tunnel Road Tributary Confluence	1016	1086	1894	1135	1048	1125	1125
170	U25AD2	AC5I_60	40600	0	0	NONE	Barker Road	903	1011	1293	1055	957	1050	1050
171	Y25AD2	AC5I_60	42500	0	0	NONE	Citrus Colony Road	856	1045	671	1088	931	1083	1083
172	YAC16A	AC5I_60	47900	0	0	NONE	English Colony Road	432	437	239	449	549	465	465
Antelope Creek/Humphrey Tributary														
173	UPAC5K	AC5I_60	0	0	0	NONE	Clark Tunnel Road Tributary Confluence	421	367	1250	382	527	368	368
174	VAC5J2	AC5I_60	1700	0	0	NONE	Sandy Road	295	389	231	401	369	392	392
175	VAC5O	AC5I_60	3300	0	0	NONE	Mardell Lane	252	62	1035	63	316	62	62
176	UPAC5G	AC5I_60	3700	0	0	NONE	Colwell Road	210	274	118	279	264	278	278
177	YAC5E	AC5I_60	6300	0	0	NONE	English Colony Way	126	236	107	237	158	242	242
Miners Ravine														
178	UMR40E	SE40M_30	0	Miners Ravine	Below Secret	10.	Antelope Creek/Dry Creek	9752	9317	9167	8783	10505	9711	9390
179	UMR40E	SE40M_30	200	Miners Ravine	Below Secret	94.	Harding Blvd.	9750	9317	9167	8783	10500	9711	9390
180	YMR40E	SE40M_30	1500	Miners Ravine	Below Secret	659.8999	Interstate 80 - no ras	9743	9361	9184	8800	10483	9712	9412
181	YMR40B	SE40M_30	2800	Miners Ravine	Below Secret	1422.400	Eureka Way	9745	9384	9186	8799	10475	9735	9434
182	YSEMR	SE40M_30	3800	Miners Ravine	Below Secret	3734.100	Secret Ravine Confluence	9717	9403	9180	8804	10423	9758	9438
183	YMR37D	MR15J_30	5300	Miners Ravine	BET SECRET-FALSE	5674.100	Sunrise Avenue - no ras	7676	3308	4638	2946	8342	3311	3311
184	UR37D4	MR15J_30	7000	Miners Ravine	BET SECRET-FALSE	7319.900	Boardman Tributary	1989	3307	4635	2944	2271	3309	3309
185	UR36N2	MR15J_30	9000	Miners Ravine	Above False	9828.100	East Roseville Parkway	4854	3217	4499	2871	5581	3226	3226
186	UMR31Q	MR15J_30	18200	Miners Ravine	Above False	18310.19	Sierra College Blvd.	4789	3165	4448	2882	5577	3153	3153
187	YR31Q2	MR15J_30	18300	Miners Ravine	Above False	18610	Cavitt Stallman Tributary - no ras	4789	3169	4433	3143	5577	3569	3572
188	UMR31G	MR15J_30	18600	Miners Ravine	Above False	18685	Cavitt (&) Stallman Road	4093	2915	3782	2891	4815	3268	3272

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190	UR31P2	MR15J_30	23400	Miners Ravine	Above False	23390	Shadow Oaks Lane	3985	2921	3689	2901	4684	3289	3307
1190	YMR31D	MR15J_30	0	Miners Ravine	Above False	27990.	Hardy Lane	#N/A	2891	3640	2876	#N/A	3254	3284
191	UMR31D	MR15J_30	28900	Miners Ravine	Above False	28826	Barton Road	3865	2903	3640	2882	4542	3248	3279
192	UMR30R	MR15J_30	31300	Miners Ravine	Above False	31379	TallPine Lane	3786	2891	3624	2871	4452	3253	3277
193	UMR30Q	MR15J_30	33000	Miners Ravine	Above False	32984	Carolinda Drive	3708	2891	3728	2872	4362	3550	3579
194	UMR30P	MR15J_30	34800	Miners Ravine	Above False	34813	Itchy Acres Road	3643	2852	3548	2843	4291	3197	3213
196	UR30H2	MR15J_30	35500	Miners Ravine	Above False	35489	Miners Ravine Road	3607	2854	3552	2845	4249	3198	3214
197	UR30H3	MR15J_30	36800	Miners Ravine	Above False	36790	Leibinger Lane	3570	2834	3520	2837	4207	3186	3203
199	UR29B2	MR15J_30	39700	Miners Ravine	Above False	39765	Auburn Folsom Road	3456	2821	3487	2834	4059	3466	3344
200	UXR29H	MR15J_30	41700	Miners Ravine	Above False	40276	Oak Lane	3369	2824	3493	2838	3960	3195	3212
201	UR29I2	MR15J_30	43000	Miners Ravine	Above False	44240	Old Bridge	3323	2916	3424	2930	3933	3150	3174
202	YMR29I	MR15J_30	43200	Miners Ravine	Above False	44240	Cottonwood Lake	3307	2916	3424	2930	3918	3150	3174
203	UMR21C	MR15J_30	44400	Miners Ravine	Above False	44368	Auburn Folsom Road	3335	2918	3424	2932	3925	3151	3176
1203	YMR21C	MR15J_30	0	Miners Ravine	Above False	44523	Driveway opposite Twin Rocks Road	#N/A	2862	3319	2873	#N/A	3083	3109
204	YMR21D	MR15J_30	45600	Miners Ravine	Above False	45593	Confluence with Lake Tributary (MR15)	3177	2872	3323	2880	3746	3085	3112
1204	UXR20R	MR15J_30	0	Miners Ravine	Above False	52637	Bridge 15	#N/A	2333	2468	2336	#N/A	2471	2494
1205	UXR20Q	MR15J_30	0	Miners Ravine	Above False	53992	Bridge 16	#N/A	2292	2376	2295	#N/A	2426	2451
205	UR20P2	MR15J_30	56000	Miners Ravine	Above False	55052	Moss Lane	3041	2333	2361	2337	3610	2434	2462
1206	YR20K2	MR15J_30	0	Miners Ravine	Above False	57194	Bridge 18 So of Willow Valley Place	#N/A	2231	2102	2227	#N/A	2337	2371
1207	YR20K2	MR15J_30	0	Miners Ravine	Above False	57599	Willow Valley Place	#N/A	2234	2108	2233	#N/A	2345	2374
1208	UR20C2	MR15J_30	0	Miners Ravine	Above False	57984	Bridge 20 North of Willow Valley Place	#N/A	2194	2050	2197	#N/A	2325	2354
207	UR15K2	MR15J_30	59900	Miners Ravine	Above False	59894	Dick Cook Road	2078	2080	1929	2072	2587	2179	2207
208	UXR15V	MR15J_30	61500	Miners Ravine	Above False	61470	Auburn Folsom Road	1961	1831	1998	1833	2439	1956	1971
209	UR15W2	MR15J_30	62400	Miners Ravine	Above False	62487	Placer Canyon Parkway	1844	1851	1448	1851	2291	1991	2008
1209	Y15AE2	MR15J_30	0	Miners Ravine	Above False	64347	Lominda Lane	#N/A	1794	1346	1792	#N/A	1959	1974
210	UXR15Q	MR15J_30	67600	Miners Ravine	Above False	67574	Horseshoe Bar Road	1506	1736	1163	1720	1868	1930	1950
1210	UMR10M	MR15J_30	0	Miners Ravine	Above False	70394	Bridge 26	#N/A	1734	1150	1727	#N/A	1963	1944
1211	UMR10M	MR15J_30	0	Miners Ravine	Above False	70984	Bridge 27	#N/A	1739	1113	1745	#N/A	1933	1933
1212	UMR10I	MR15J_30	0	Miners Ravine	Above False	73328	Whiskey Bar Road	#N/A	1483	934	1484	#N/A	1665	1665
1213	UXR10E	MR15J_30	0	Miners Ravine	Above False	75238	Bridge 30	#N/A	1473	904	1472	#N/A	1620	1615
1214	UMMR5S	MR15J_30	0	Miners Ravine	Above False	75448	Bridge 31	#N/A	1319	825	1320	#N/A	1454	1453
1215	YMR10E	MR15J_30	0	Miners Ravine	Above False	76148	Bridge 32	#N/A	1327	828	1327	#N/A	1471	1470
211	YMR10E	MR15J_30	71700	Miners Ravine	Above False	76613	Auburn Folsom Road	1171	1327	830	1327	1493	1465	1465
212	UPMR5R	MR15J_30	73300	Miners Ravine	Above False	78358	King Road	1094	679	538	679	1407	711	711
213	YMR5W	MR15J_30	79400	Miners Ravine	Above False	79398	Penryn Rock Springs Road	317	584	470	584	428	644	644
214	YMR5P	MR15J_30	80200	Miners Ravine	Above False	80243	Newcastle Road	190	459	350	459	257	508	508

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Miners Ravine/Boardman Tributary														
215	UR37D3	CC5G_90	0	0	0	NONE	Miners Ravine Confluence	480	520	4175	956	606	1004	1004
216	UR35R6	CC5G_90	800	0	0	NONE	East Roseville Parkway	456	509	353	939	576	984	984
Miners Ravine/Cavitt & Stallman Tributary														
217	UMR25L	SE40N_0	0	0	0	NONE	Miners Ravine Confluence	728	755	3757	751	826	871	871
218	YR25M2	SE40N_0	2400	0	0	NONE	Hidden Valley Place	693	776	1115	771	787	899	899
219	YMR25N	SE40N_0	3100	0	0	NONE	Baywood Road	658	762	1072	758	748	886	886
220	YR25P2	SE40N_0	3700	0	0	NONE	S. Bar B Lane	623	748	1034	744	709	870	870
221	YMR25D	SE40N_0	4500	0	0	NONE	Kokuia Lane	588	635	768	635	669	772	772
222	YMR25I	SE40N_0	5100	0	0	NONE	Crestview Lane	554	691	913	691	630	817	817
223	YMR24E	SE40N_0	9300	0	0	NONE	Barton Road	577	576	678	576	760	694	694
Miners Ravine/Lake Tributary (MR21)														
224	UMR21H	MR15J_30	0	0	0	NONE	Miners Ravine Confluence	358	227	2843	227	459	367	367
225	UMR21H	MR15J_30	200	0	0	NONE	Auburn Folsom Road	403	227	202	227	516	367	367
226	YMR21H	MR15J_30	300	0	0	NONE	South Lake Circle	403	267	209	267	516	432	432
Secret Ravine														
227	YSE85Q	SE40M_30	0	Secret Ravine	Below Sucker	1	Miners Ravine Confluence	5267	6974	4573	6608	5419	7328	7048
228	YE85Y2	SE40M_30	1400	Secret Ravine	Below Sucker	798.3000	East Roseville Parkway	5266	6973	4565	6611	5417	7328	7048
229	YE76A2	SE40M_30	13500	Secret Ravine	Below Sucker	14280.	Sucker Ravine Confluence	5134	7038	4490	6659	5305	7365	7013
230	Y56AB3	SE40M_30	16200	Secret Ravine	Reach 1	17396	Aguiar Road Tributary Confluence	4577	6171	3789	5790	5000	6372	6068
231	USE52D	SE40M_30	17600	Secret Ravine	Reach 1	18595.9	Rocklin Road - China Gardens	4195	6177	3787	5806	4701	6373	6068
232	YSE51K	SE40M_30	23300	Secret Ravine	Reach 1	24526	Sierra College Blvd.	4188	6274	3804	5848	4703	6534	6015
233	UE50Q2	SE40M_30	28800	Secret Ravine	Reach 1	30371	Private Road - Diaz	3942	5806	3373	5498	4555	6309	6302
234	UE50P2	SE40M_30	29200	Secret Ravine	Reach 1	30801	Private Road	3926	5810	3381	5394	4541	6313	6308
235	YE50F2	SE40M_30	30800	Secret Ravine	Reach 1	32256	Brace Road	3822	5755	3320	5466	4448	6379	6376
236	YE50A2	SE40M_30	32600	Secret Ravine	Reach 1	34081	Horseshoe Bar Road	3780	5656	3234	5404	4429	6295	6290
237	YE50A2	SE40M_30	33400	Secret Ravine	Reach 1	34081	Loomis Tributary Confluence	3768	5656	3234	5404	4418	6295	6290
238	YE35B2	SE40M_30	33500	Secret Ravine	Reach 1	34866	King Road Tributary Confluence	3516	5537	3159	5298	4199	6203	6199
239	USE35A	SE40M_30	38600	Secret Ravine	Reach 1	38066	King Road-no ras	2846	4486	2291	4530	3402	5108	5106
241	YE35B2	SE40M_30	40000	Secret Ravine	Reach 1	40346	Penryn Road	2804	4425	2214	4412	3364	4986	4984
242	YSE30E	SE40M_30	40500	Secret Ravine	Reach 1	NONE	Harris/Boulder Creek Road.	2792	4032	1960	4070	3353	4644	4644
243	VSE26I	SE40M_30	40700	Secret Ravine	Reach 1	NONE	Penryn Tributary Confluence	2800	3844	1851	3883	3359	4445	4445
244	VSE26H	SE40M_30	43300	Secret Ravine	Reach 1	NONE	Boulder Creek Road	2338	1317	663	1318	2791	1481	1481
245	VE26N2	SE40M_30	48500	Secret Ravine	Reach 1	NONE	Brennans Road	1341	1242	634	1242	1586	1410	1410
246	VE26N2	SE40M_30	48900	Secret Ravine	Reach 1	NONE	Rock Springs Road	1308	1242	634	1242	1551	1410	1410
247	USE26E	SE40M_30	50400	Secret Ravine	Reach 1	NONE	Meadow Lane	1206	1030	483	1030	1448	1174	1174
248	UE26BB	SE40M_30	51300	Secret Ravine	Reach 1	NONE	Los Puentes Road	1227	983	462	983	1596	1124	1124
249	VE25IA	SE40M_30	55300	Secret Ravine	Reach 1	NONE	Newcastle Road	1071	1001	466	1002	1477	1148	1148

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250	UE25AB	SE40M_30	57700	Secret Ravine	Reach 1	NONE	Powerhouse Road	750	896	415	897	1034	1030	1030
Secret Ravine/Sucker Ravine														
251	UXE70I	SE40N_0	0	Sucker Ravine	Reach 1	0	Secret Ravine Confluence	1345	546	558	587	1545	766	793
252	USE76A	SE40N_0	1000	Sucker Ravine	Reach 1	840	China Garden Road	1340	565	564	597	1539	790	818
253	YSE76B	SE40N_0	1200	Sucker Ravine	Reach 1	1305	Interstate 80	1338	566	564	598	1537	791	818
254	YSE76B	SE40N_0	2200	Sucker Ravine	Reach 1	1860	Oakridge Street	1337	573	576	613	1536	818	845
255	YSE76B	SE40N_0	2600	Sucker Ravine	Reach 1	2750	Lakeside Drive	1356	576	577	616	1572	830	859
256	USE70I	SE40N_0	3950	Sucker Ravine	Reach 1	4110	Rocklin Road	1365	561	610	607	1598	826	853
257	USE70H	SE40N_0	4300	Sucker Ravine	Reach 1	4580	Quary Lake	1354	541	566	584	1587	801	827
258	YSE70H	SE40N_0	4700	Sucker Ravine	Reach 1	4840	Super Span	1343	541	566	584	1577	801	827
259	USE70F	SE40N_0	7450	Sucker Ravine	Reach 1	7605	Sierra Meadows Drive	1310	528	478	567	1545	787	810
1259	YSE70B	SE40N_0	0	Sucker Ravine	Reach 1	9955	Culvert 1	#N/A	462	404	499	#N/A	741	764
1260	YSE70D	SE40N_0	0	Sucker Ravine	Reach 1	10565	Driveway Below Dominguez Road	#N/A	463	407	500	#N/A	748	770
260	YSE70C	SE40N_0	10800	Sucker Ravine	Reach 1	10935	Dominguez Road	1223	469	404	503	1560	810	830
261	UE60E2	SE40N_0	11000	Sucker Ravine	Reach 1	10935	Loomis Tributary Confluence	1244	469	404	503	1562	810	830
263	YSE66J	SE40N_0	13400	Sucker Ravine	Reach 1	14525	Pacific Street	697	322	172	408	594	504	532
1263	USE66J	SE40N_0	0	Sucker Ravine	Reach 1	14756	Railroad	#N/A	325	171	411	#N/A	507	549
1264	USE66D	SE40N_0	0	Sucker Ravine	Reach 1	16706	Culvert 5	#N/A	348	211	546	#N/A	568	580
264	USE66D	SE40N_0	14800	Sucker Ravine	Reach 1	16846	Bankhead Road	638	348	211	546	548	568	580
265	YSE66C	SE40N_0	15200	Sucker Ravine	Reach 1	17266	Sierra College Blvd.	619	336	204	537	533	555	566
266	USE66A	SE40N_0	19000	Sucker Ravine	Reach 1	20671	Saunders Avenue	606	602	272	900	754	695	703
267	SE65	SE40N_0	20200	Sucker Ravine	Reach 1	22546	King Road	618	481	244	746	776	481	484
Secret Ravine/Sucker Ravine/Loomis Tributary														
268	VSE60E	SE40N_0	0	0	0	NONE	Sucker Ravine Confluence	434	496	242	486	827	728	728
270	VE60D2	SE40N_0	4400	0	0	NONE	Sierra College Blvd.	238	425	196	419	456	557	557
Secret Ravine/Aguilar Road Tributary														
271	Y56AB2	SE40N_0	0	0	0	NONE	Secret Ravine Confluence	733	652	4003	629	994	997	997
272	Y56AB2	SE40N_0	700	0	0	NONE	Aguilar Road	706	652	607	629	950	997	997
273	YSE56B	SE40N_0	2400	0	0	NONE	Foothill Road	654	536	593	618	863	818	818
274	Y55MA2	SE40N_0	4100	0	0	NONE	El Don Road	614	395	414	420	798	535	535
275	UE56DB	SE40N_0	4100	0	0	NONE	El Don Detention Pond	605	393	410	394	786	506	506
276	VSE55L	SE40N_0	6100	0	0	NONE	Sierra College Blvd.	537	320	322	320	668	421	421
Secret Ravine / Loomis Tributary														
277	YSE40J	SE40N_0	0	0	0	NONE	Secret Ravine Confluence	565	490	3247	603	842	674	674
278	YSE40J	SE40N_0	1200	0	0	NONE	Interstate 80	522	490	246	603	778	674	674
279	VSE40I	SE40N_0	2800	0	0	NONE	Laird Street	492	431	207	534	732	557	557
280	VSE40F	SE40N_0	3600	0	0	NONE	King Road	461	319	158	398	686	402	402

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:	200-year 1989 JMM	200-year 1992 Corrected	January 1995	200-year 2007-Current	200-year Future JMM	200-year Future Unmitigated	200-year Build-out w/LID & Projects
Secret Ravine/King Road Tributary														
281	USE45W	SE40M_30	0	0	0	NONE	Secret Ravine Confluence	1584	1428	3247	1428	1727	1616	1616
282	YSE45Q	SE40M_30	3900	0	0	NONE	Rancho Verde Road	1471	697	422	697	1607	818	818
283	YSE45A	MR15J_30	5400	0	0	NONE	Val Verde Road	483	578	321	578	576	708	708
284	USE44B	MR15J_30	6300	0	0	NONE	King Road	435	510	277	510	518	647	647
Secret Ravine/Penryn Tributary														
285	YE15L2	SE40M_30	0	0	0	NONE	Secret Ravine Confluence	1151	2579	1205	2615	1603	3049	3049
286	USE7H2	SE40M_30	4700	0	0	NONE	Rock Springs Road	1203	2131	956	2171	1757	2543	2543
287	YSE5F2	SE40M_30	5600	0	0	NONE	East/West Forks Confluence	1046	1929	868	1971	1637	2341	2341
Secret Ravine/ E. Fork Penryn Tributary														
288	VSE5F2	SE40M_30	0	0	0	NONE	West Fork Confluence	293	678	324	705	403	831	831
289	YSE5F	SE40M_30	900	0	0	NONE	Fairview Lane	263	680	326	707	361	832	832
290	YE20BS	SE40M_30	3700	0	0	NONE	Gilardi Road	108	520	244	549	148	666	666
Secret Ravine/W. Fork Penryn Tributary														
291	YSE7D	SE40M_30	0	0	0	NONE	East Fork Confluence	700	1359	554	1380	1137	1654	1654
292	YSE10A	SE40M_30	200	0	0	NONE	Interstate 80	697	1345	548	1366	1131	1638	1638
293	YE10BB	SE40M_30	1400	0	0	NONE	Girardi Road	662	1292	538	1316	1159	1595	1595

Table G.3 100-YEAR EVENT

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:	100-year 1989 JMM	100-year 1992 Corrected	100-year 2007-Current	100-year Future JMM	100-year Future Unmitigated	100-year Build-out w/LID & Projects
DRY CREEK													
1	VC135B	SE40N_0	8900	Dry Creek	Below Cirby	NONE	Rio Linda Blvd(North and South)	14182	11852	12200	15642	12808	12808
2	Y130B2	SE40N_0	15000	Dry Creek	Below Cirby	NONE	Elkhorn Blvd. (North and South)	14183	11887	12241	15637	12852	12852
3	YC125B	SE40N_0	16600	Dry Creek	Below Cirby	NONE	Curved Bridge Road (North)	14173	11988	12352	15626	12971	12971
4	YC125A	SE40N_0	17400	Dry Creek	Below Cirby	NONE	Dry Creek Road (North and South)	14171	11960	12330	15623	12948	12948
5	YDC115	SE40N_0	24400	Dry Creek	Below Cirby	NONE	Q Street (North and South)	14228	12032	12411	15668	13033	13033
6	YDC90	SE40N_0	34900	Dry Creek	Below Cirby	NONE	Sierra Creek Confluence	14184	11975	12357	15612	12983	12983
7	YDC85	SE40N_0	35200	Dry Creek	Below Cirby	NONE	28th Street (South)	14051	12018	12403	15435	13028	13028
8	YDC85	SE40N_0	35400	Dry Creek	Below Cirby	NONE	Elverta Road	14028	12018	12403	15406	13028	13028
9	YDC71B	SE40N_0	36900	Dry Creek	Below Cirby	38733	Confluence with County Line Trib	14048	12622	12667	15414	13263	12653
11	YDC75C	SE40N_0	41400	Dry Creek	Below Cirby	41634	Watt Avenue	14007	12630	12659	15531	13263	12652
13	YC65I2	SE40N_0	47700	Dry Creek	Below Cirby	47754	Confluence with DC65 Trib	14029	12605	12598	15348	13224	12616
14	YDC60A	SE40N_0	50300	Dry Creek	Below Cirby	50025	Walerga Road	13973	12642	12623	15278	13262	12646
1015	YDC50A	SE40N_0	0	Dry Creek	Below Cirby	55005	Morgan Creek Ped Crossing	#N/A	12653	12652	#N/A	13315	12682
16	YDC35C	SE40N_0	58800	Dry Creek	Below Cirby	58560	Cook Riolo Road	13950	12713	12714	15208	13479	12755
17	YDC25A	CC5G_90	67000	Dry Creek	Below Cirby	67583.80	S.P. Railroad Bridge	13767	9933	9996	14932	10587	9818
18	YDC10D	SE40N_0	67400	Dry Creek	Below Cirby	67641.80	Atkinson Blvd.	13767	12784	12974	14932	13840	13085
20	YDC20A	SE40N_0	68900	Dry Creek	Below Cirby	69138.40	S.P. Railroad Culverts (now bridge)	13764	12774	12983	14916	13843	13096
21	YDC10D	SE40N_0	69900	Dry Creek	Below Cirby	70071.60	Vernon Street	13706	12792	13039	14830	13865	13166
22	YDC10B	SE40N_0	72600	Dry Creek	Below Cirby	72702.60	Riverside Avenue	13825	9371	8762	15181	8931	8706
23	YDCCC	SE40N_0	73000	Dry Creek	Below Cirby	72982	Cirby Creek Confluence	13825	9433	8792	15181	8930	8734
24	YDC5A	SE40M_30	73800	Dry Creek	Above Cirby	73943.30	Darling Way	10370	10778	10451	11272	11007	10607
25	YDC5C	SE40M_30	77000	Dry Creek	Above Cirby	77218.89	Douglas Blvd.	10365	10782	10454	11262	10990	10667
26	UDC5B	SE40M_30	77500	Dry Creek	Above Cirby	77606.49	Royer Park Footbridge	10476	10782	10454	11358	10989	10658
27	YDC5B	SE40M_30	79100	Dry Creek	Above Cirby	79166.05	Lincoln Street	10474	10782	10460	11354	10962	10610
28	YDC4C	SE40M_30	79400	Dry Creek	Above Cirby	79816.70	Folsom Road	10479	10785	10464	11349	10963	10609
30	YACMR	SE40M_30	84100	Dry Creek	Above Cirby	84214.40	Antelope Creek/ Miners Ravine Confluence	10462	10776	10478	11312	10990	10715
DRY CREEK - ELVERTA TRIB													
31	UDC90	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	344	180	180	467	200	200
DRY CREEK - SIERRA CREEK													
32	YC100B	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	1575	802	823	1984	955	955
33	YC100A	CC5G_90	1400	0	0	NONE	28th Street	1539	816	839	1942	970	970
34	YC100A	CC5G_90	3700	0	0	NONE	Scotland Drive	1456	816	839	1843	970	970
35	VC96B2	CC5G_90	5400	0	0	NONE	Delaney Drive	1419	737	760	1816	879	879
36	YDC96A	CC5G_90	6800	0	0	NONE	Watt Avenue	1350	630	649	1774	764	764

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:	100-year 1989 JMM	100-year 1992 Corrected	100-year 2007-Current	100-year Future JMM	100-year Future Unmitigated	100-year Build-out w/LID & Projects
37	VDC96C	CC5G_90	10300	0	0	NONE	Navaho Way	831	448	468	1041	570	570
38	YDC96C	CC5G_90	11400	0	0	NONE	Elverta Road	714	449	470	884	574	574
39	DC95A	CC5G_90	13500	0	0	NONE	Walerga Road	596	69	69	727	103	103
DRY CREEK/County Line Trib. (Note: Riolo Vineyards project determined this tributary does not drain as previously modeled - corrected in 2009 study)													
40	YDC75B	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	671	532	544	982	630	630
41	N/A	#N/A	3200	0	0	NONE	Watt Avenue	630471	#N/A	#N/A	960	#N/A	#N/A
42	VDC68B	CC5G_90	8200	0	0	NONE	PFE Road	0	469	483	762	532	532
Dry Creek DC-65 Tributary													
43	YDC65I	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	484	393	448	524	482	482
44	YDC65K	CC5G_90	3000	0	0	NONE	Walerga Road	387	362	426	419	446	446
Cirby Creek													
45	YCC45G	LC40L_30	0	Cirby Creek	below Linda	0	Dry Creek Confluence	4126	3041	3255	4613	3360	3338
46	YCC45A	LC40L_30	3000	Cirby Creek	below Linda	2969.699	Interstate 80	4106	3125	3311	4592	3402	3371
48	UCC45E	LC40L_30	4600	Cirby Creek	below Linda	4580.699	Wanda Lee Court Footbridge	4118	3110	3299	4614	3398	3358
49	YCC45E	LC40L_30	6100	Cirby Creek	Above Linda	6009.699	Linda Creek Confluence	4113	3107	3294	4614	3402	3353
50	YCC40A	CC5G_90	7400	Cirby Creek	Above Linda	7262.099	Sunrise Blvd.	793	679	887	1098	903	904
51	YCC40C	CC5G_90	8100	Cirby Creek	Above Linda	8038.899	Coloma Way - Gage 1635	842	762	935	1113	953	956
52	YC40G2	CC5G_90	9100	Cirby Creek	Above Linda	9004.399	Oak Ridge Drive	866	709	885	1138	902	902
53	UCC35D	CC5G_90	10000	Cirby Creek	Above Linda	9873.999	Sierra Gardens Footbridge	860	762	980	1132	993	994
54	YCC15B	CC5G_90	11800	Cirby Creek	Above Linda	11679.19	Loretto Drive	851	801	1102	1135	1118	1119
55	YCC252	CC5G_90	12000	Cirby Creek	Above Linda	12228.79	Sierra Gardens Trib. Confluence	867	574	870	1135	886	888
56	YCC15C	CC5G_90	12500	Cirby Creek	Above Linda	12377.29	Sierra Gardens Drive	696	575	878	969	891	894
57	YCC10E	CC5G_90	13900	Cirby Creek	Above Linda	13765.49	Huntington Drive	659	467	486	984	491	490
58	UCC10H	CC5G_90	14500	Cirby Creek	Above Linda	14420.19	Rocky Ridge Drive	409	332	504	565	520	520
60	YCC5B	CC5G_90	16400	Cirby Creek	Above Linda	15748.19	Winchester Way	356	251	395	505	400	400
61	YCC5D	CC5G_90	17200	Cirby Creek	Above Linda	16312.19	Eureka Road	357	172	308	557	312	312
62	YCC1A	CC5G_90	19700	Cirby Creek	Above Linda	17753.79	Douglas Blvd.	215	126	259	435	269	269
Cirby Creek/Sierra Gardens Trib.													
63	VCC25	CC5G_90	0	0	0	NONE	Cirby Creek Confluence	141	264	277	172	280	280
65	YCC20G	CC5G_90	1000	0	0	NONE	Douglas Blvd.	147	182	200	150	204	204
66	YCC20K	CC5G_90	1400	0	0	NONE	Sierra Gardens Ret. Basin	140	212	318	143	337	337
Linda Creek													
67	ULC95C	LC40L_30	0	Linda Creek	Below Strap	0.	Cirby Creek Confluence	3972	2684	2738	4464	2769	2750
68	ULC95D	LC40L_30	1000	Linda Creek	Below Strap	565.1000	Sunrise Avenue	3970	2687	2741	4461	2771	2753
70	YLC90A	LC40L_30	2600	Linda Creek	Below Strap	2125.000	Oak Ridge Drive	3991	3147	3250	4565	3438	3377
72	ULC90B	LC40L_30	4300	Linda Creek	Below Strap	3843.300	Sierra Gardens Footbridge	3985	3149	3429	4555	3678	3520

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73	YLC85C	LC40L_30	8400	Linda Creek	Below Strap	8257.900	Rocky Ridge Dirve	4159	3528	3758	4624	4007	3858
74	ULC85B	LC40L_30	10000	Linda Creek	Below Strap	9810.000	Strap Ravine Confluence	4097	3543	3796	4538	4073	3905
76	ULC80I	LC40L_30	11500	Linda Creek	Below S Branch	136	Champion Oaks Drive/Samoa Way (Gage 1626/1628)	3297	2165	2232	3612	2221	2205
78	ULC80A	LC40L_30	14300	Linda Creek	Below S Branch	157	Auburn Road	3343	2674	2957	3649	3208	3046
79	UC45J3	LC40L_30	15700	Linda Creek	Below S Branch	176	Old Auburn Road/City Limits	3285	2151	2430	3577	2665	2534
1079	ULC45J	LC40L_30	0	Linda Creek	Below S Branch	181	Ped Bridge over Creek in Park	#N/A	2058	2341	#N/A	2576	2442
Treelake Tributary Confluence													
80	ULC45J	LC40L_30	15900	Linda Creek	Below S Branch	181	Treelake Tributary Confluence	3285	2058	2341	3577	2576	2442
82	UC45J2	LC40L_30	19800	Linda Creek	Below S Branch	188	Indian Creek Drive	2489	2042	2334	2774	2573	2441
1082	ULC45D	LC40L_30	0	Linda Creek	Below S Branch	207	Private Bridge Near Hazel	#N/A	1838	2147	#N/A	2453	2308
83	ULC45D	LC40L_30	25300	Linda Creek	Below S Branch	211	Hazel Avenue	2220	1843	2148	2465	2455	2316
84	UC35Q3	LC40L_30	25500	Linda Creek	Below S Branch	212	Orangevale Tributary Confluence	2220	1843	2148	2465	2455	2316
1084	ULC40A	LC40L_30	0	Linda Creek	Above S Branch	3.075	BDG 17 2-24" CMPS	#N/A	1298	1438	#N/A	1670	1572
85	UC15N2	LC40L_30	31300	Linda Creek	Above S Branch	4.239	Granite Road Bridge	1251	1092	1233	1380	1441	1357
86	ULC15N	LC40L_30	32600	Linda Creek	Above S Branch	4.407	Cherry Avenue	1230	1060	1194	1351	1408	1325
1086	ULC15J	LC5A_0	0	Linda Creek	Above S Branch	5.22	Private Driveway Concrete Box Type	#N/A	779	783	#N/A	825	671
1087	YLC15J	LC5A_0	0	Linda Creek	Above S Branch	5.264	Driveway Bridge	#N/A	779	785	#N/A	825	671
1088	YLC15J	LC5A_0	0	Linda Creek	Above S Branch	5.526	Granite Glen Court (Private)	#N/A	781	788	#N/A	827	672
88	YLC15J	LC5A_0	38600	Linda Creek	Above S Branch	5.715	Wedgewood Drive	887	811	814	1031	851	685
1089	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.039	Golf Cart Bridge #5	#N/A	739	750	#N/A	793	741
1090	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.12	Golf Cart Bridge #4	#N/A	741	751	#N/A	793	743
1091	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.197	Golf Cart Bridge #3	#N/A	741	752	#N/A	793	744
1092	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.241	Golf Cart Bridge #2	#N/A	741	752	#N/A	792	744
1093	ULC5F2	LC5A_0	0	Linda Creek	Above S Branch	6.515	Golf Cart Bridge #1	#N/A	743	756	#N/A	786	703
89	ULC5F2	LC5A_0	42300	Linda Creek	Above S Branch	6.53	East Roaseville Parkway	809	743	756	995	775	703
90	ULC5F	LC5A_0	43100	Linda Creek	Above S Branch	6.759	Barton Road	762	720	738	943	778	687
91	YLC5E	LC5A_0	44600	Linda Creek	Above S Branch	7.140	Shadow Brook Place	642	631	648	797	680	494
92	ULC5B	LC5A_0	46500	Linda Creek	Above S Branch	7.479	Troy Purdy Lane	473	545	560	640	594	412
1094	ULC5C	LC5A_0	0	Linda Creek	Above S Branch	7.609	Muir Way	#N/A	439	456	#N/A	491	355
93	YLC5C	LC5A_0	48100	Linda Creek	Above S Branch	7.77	Country Court (Private)	390	442	451	553	488	380
1095	ULC1A	LC5A_0	0	Linda Creek	Above S Branch	7.839	Country Court	#N/A	900	1188	#N/A	1231	1243
94	YLC1A	LC5A_0	48700	Linda Creek	Above S Branch	8.011	Auburn Folsom Road	349	453	466	510	499	388
Linda Creek/Strap Ravine													
95	USR25C	CC5G_90	0	Strap Ravine	Reach 1	0.	Linda Creek Confluence	915	866	1156	1050	1196	1211
1095	YSR25A	CC5G_90	300	Strap Ravine	Reach 1	276	Foot Bridge in Park	#N/A	900	1188	#N/A	1231	1243
96	UR20A4	CC5G_90	1500	Strap Ravine	Reach 1	1136.900	McClaren Drive (Gage 1611)	920	921	1191	1054	1253	1273
97	UXR20A	CC5G_90	5900	Strap Ravine	Reach 1	5539.100	Johnson Ranch Drive	916	851	1200	1053	1213	1215
98	USR152	CC5G_90	6800	Strap Ravine	Reach 1	6380.600	Eureka Road	915	852	1205	1053	1214	1215

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99	USR82	CC5G_90	8600	Strap Ravine	Reach 1	8201.500	East Roseville Parkway	905	727	852	1060	938	984
100	USR5C2	LC5A_0	11800	Strap Ravine	Reach 1	11366.10	Sierra College Blvd.	854	499	684	1112	752	789
101	USR1A	LC5A_0	23000	0	0	NONE	Barton Road	652	556	1061	1020	989	989
Linda Creek/Treelake Tributary													
102	ULC60B	LC40L_30	0	0	0	NONE	Linda Creek Confluence	847	540	636	958	718	718
103	YLC60B	LC40L_30	3200	0	0	NONE	Petite Way (approximated)	793	558	662	888	751	751
104	YLC60A	LC40L_30	5700	0	0	NONE	Old Auburn Road	802	501	620	982	706	706
105	YC55H3	LC40L_30	6000	0	0	NONE	Sierra College Blvd.	797	546	695	985	797	797
106	YLC55F	LC40L_30	9600	0	0	NONE	Swan Lake Drive	579	478	673	699	772	772
107	UC55L2	LC40L_30	9600	0	0	NONE	Swan Lake	579	446	650	699	746	746
108	UPC55L	LC40L_30	10800	0	0	NONE	Waterbury Way	496	466	676	589	773	773
109	YLC55L	LC40L_30	10800	0	0	NONE	Waterbury Lake	496	518	724	589	823	823
110	ULC50E	LC40L_30	11400	0	0	NONE	East Roaseville Parkway	429	415	544	503	638	638
111	YLC50E	LC40L_30	11400	0	0	NONE	East Roseville Parkway Pond	429	437	604	503	701	701
112	ULC50F	LC40L_30	11700	0	0	NONE	Treelake office Lane	429	381	471	503	557	557
113	ULC50F	LC40L_30	11700	0	0	NONE	Treelake office Lane Pond	429	381	471	503	557	557
Linda Creek/Hazel Avenue Tributary (Sac County)													
114	YC35Q2	LC40L_30	0	0	0	NONE	Linda Creek Confluence	708	583	760	879	817	817
115	UC35Q2	LC40L_30	400	0	0	NONE	Oak Avenue	708	583	760	879	817	817
Linda Creek/Orangevale Tributary (Sac County)													
116	YC35Q2	LC40L_30	0	Linda Creek	South Branch	.001	Linda Creek Confluence	1298	552	793	1393	894	885
1116	YLC35Q	LC40L_30	0	Linda Creek	South Branch	0.125	Private Bridge (Metal and Concrete)	#N/A	612	843	#N/A	948	919
117	ULC35Q	LC40L_30	900	Linda Creek	South Branch	0.196	Oak Avenue	664	613	852	711	949	936
1117	ULC30E	LC40L_30	0	Linda Creek	South Branch	1.022	Private Bridge in Park Area	#N/A	295	458	#N/A	505	512
118	ULC30E	LC40L_30	3300	Linda Creek	South Branch	1.035	Filbert Avenue	624	295	458	668	505	512
1118	ULC30B	LC40L_30	0	Linda Creek	South Branch	1.244	Private Bridge Near Chestnut	#N/A	278	428	#N/A	470	468
119	UC30C2	LC40L_30	4300	Linda Creek	South Branch	1.346	Chestnut Avenue	689	263	412	750	451	449
120	ULC30A	LC40L_30	5500	Linda Creek	South Branch	1.649	Walnut Avenue (North)	297	221	308	298	345	346
120	UC20E3	LC40L_30	5500	Linda Creek	South Branch	1.772	Walnut Avenue (South)	297	221	308	298	345	346
121	VLC25C	LC40L_30	6700	Linda Creek	South Branch	NONE	Main Avenue (North)	223	44	62	224	68	68
1121	VLC20E	LC40L_30	6700	Linda Creek	South Branch	NONE	Main Avenue (South)	#N/A	183	254	#N/A	281	281
Antelope Creek													
122	UDC4D	AC5I_60	0	Antelope Ck	AntelopeBlwClove	0.	Miners Ravine/Dry Creek	3075	3692	3708	3486	3932	3840
123	UC45B2	AC5I_60	1400	Antelope Ck	AntelopeBlwClove	1394.899	Harding Blvd.	3074	3699	3713	3485	3935	3844
124	UAC45B	AC5I_60	2300	Antelope Ck	AntelopeBlwClove	2349.499	Atlantic Street	3072	3699	3714	3483	4337	3882
1124	UAC45B	AC5I_60	0	Antelope Ck	AntelopeBlwClove	2455.599	Bridge #3	#N/A	3689	3706	#N/A	4011	3891
125	UAC45L	AC5I_60	5000	Antelope Ck	AntelopeBlwClove	5017.599	County Dump Road	3065	3705	3724	3477	4097	4055

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126	UC41E4	AC5I_60	9600	Antelope Ck	AntelopeBlwClove	10909.49	Highway 65 - non ras (Gage 1583)	3086	3728	3744	3500	4163	4275
127	UC41E3	AC5I_60	10300	Antelope Ck	AntelopeBlwClove	11383.53	Springview Drive	3176	3710	3727	3612	4146	4254
128	YC41E2	AC5I_60	10800	Antelope Ck	AntelopeBlwClove	11418.53	Rocklin City Tributary Confluence	3161	3705	3719	3592	4140	4245
130	UC40K2	AC5I_60	15800	Antelope Ck	AntelopeBlwClove	16930.03	Sunset Blvd.	3104	3666	3702	3519	4098	4098
133	UV10B2	AC5I_60	22800	Antelope Ck	AntelopeBlwClove	24722.3	Clover Valley Creek Confluence	3165	3699	3785	3593	4223	4229
134	UC35G3	AC5I_60	23600	Antelope Ck	Reach 1	25350.71	Midas Avenue	2330	2974	2914	2703	3025	3024
135	UAC35C	AC5I_60	25700	Antelope Ck	Reach 1	27696.03	Southern Pacific Railroad (UPRR) - non ras	2310	2970	2900	2683	3032	3031
136	VAC35I	AC5I_60	26500	Antelope Ck	Reach 1	28434.67	Yankee Hill Road	2303	2961	2895	2676	3024	3024
137	YAC30C	AC5I_60	27600	Antelope Ck	Reach 1	34226	Atkinson Dairy Dam	2283	2864	2809	2655	2957	2957
138	YAC30B	AC5I_60	28900	Antelope Ck	Reach 1	34691	Unnamed Road - no ras - no find aerial	2262	2807	2753	2634	2908	2908
139	YAC30B	AC5I_60	31800	Antelope Ck	Reach 1	35656	Delmar Avenue - no ras	2242	2811	2756	2607	2911	2911
140	YAC30B	AC5I_60	34300	Antelope Ck	Reach 1	36964	Sierra College Blvd. (Gage 1573)	2180	2813	2842	2541	2912	2912
141	U30AC4	AC5I_60	37000	Antelope Ck	Reach 1	39726	King Road	2137	2909	2990	2485	3059	3059
Antelope Creek / Clark Tunnel Road Tributary													
142	U30AC2	AC5I_60	0	Antelope Ck	Reach 1	40906	Antelope Creek Confluence	2132	2860	2938	2496	3007	3007
143	UC25BC	AC5I_60	100	0	0	NONE	Barker Road	1268	915	930	1603	947	947
144	VAC20C	AC5I_60	1300	0	0	NONE	Humphrey Road	1155	617	626	1537	654	654
145	YC16EB	AC5I_60	1700	0	0	NONE	Humphrey Tributary Confluence	1136	507	515	1510	546	546
148	UC15CB	AC5I_60	7000	0	0	NONE	Colwell Road	811	308	313	1174	328	328
149	YC15BC	AC5I_60	10000	0	0	NONE	English Colony Way	759	259	263	1152	262	262
150	AC15AD	AC5I_60	12800	0	0	NONE	Clark Tunnel Road	297	187	189	515	189	189
Antelope Creek/Rocklin City Tributary													
151	VAC41E	CC5G_90	0	0	0	NONE	Antelope Creek Confluence	190	548	548	243	604	604
152	VAC41F	SE40M_30	2700	0	0	NONE	Taylor Road	142	212	212	182	262	262
153	VAC41F	SE40M_30	2800	0	0	NONE	Taylor Road	119	212	212	152	262	262
154	UAC41A	SE40M_30	4500	0	0	NONE	Sunset Blvd.	71	117	117	91	161	161
Antelope Creek/Clover Valley Creek													
155	UCV10B	AC5I_60	0	Clover Valley	Clover Valley1	.1	Antelope Creek Confluence	857	1348	1010	934	1207	1210
1155	UCV10B	AC5I_60	0	Clover Valley	Clover Valley1	155	Golf Course Ped Bridge	#N/A	1339	1005	#N/A	1209	1212
156	UCV10B	AC5I_60	400	Clover Valley	Clover Valley1	445	Argonaut Avenue	855	1454	1002	931	1212	1213
157	YCV10B	AC5I_60	2200	Clover Valley	Clover Valley1	2785	Footbridge and Weir	842	996	1005	915	1214	1216
158	UXV10A	AC5I_60	4300	Clover Valley	Clover Valley1	4090	Midas Avenue	837	980	991	908	1190	1191
159	YCV10A	AC5I_60	4700	Clover Valley	Clover Valley1	4430	Abandoned Stone Bridge	837	979	991	908	1190	1191
160	YCV10A	AC5I_60	5600	Clover Valley	Clover Valley1	5400	Unnamed Bridge	829	936	956	898	1155	1156
1160	UV6CB2	AC5I_60	0	Clover Valley	Clover Valley1	6365	Gazebo Crossing	#N/A	936	957	#N/A	1162	1156
161	UCV6CB	AC5I_60	6500	Clover Valley	Clover Valley1	6505	Clover Valley Detention Pond	825	936	957	892	1151	1157
162	YV6CB2	AC5I_60	7700	Clover Valley	Clover Valley1	7815	Creekwood Drive	817	937	958	882	1153	1158

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163	UCV6BC	AC5I_60	12000	Clover Valley	Clover Valley1	12015	Rawhide Road	744	871	863	819	1030	1035
164	UCV6BC	AC5I_60	12500	Clover Valley	Clover Valley1	12550	Rowhide Road Det. Pond	734	875	867	810	1032	1037
165	UCV5C	AC5I_60	25600	Clover Valley	Clover Valley1	NONE	Unnamed Road	478	758	762	576	956	956
166	UCV1T	AC5I_60	28000	Clover Valley	Clover Valley1	NONE	Sierra College Blvd.	422	502	505	519	607	607
167	VCV1T	AC5I_60	28500	Clover Valley	Clover Valley1	NONE	English Colony Way	422	399	402	519	873	873
Antelope Creek Continued (West Branch)													
169	UC25BC	AC5I_60	38700	0	0	NONE	Clark Tunnel Road Tributary Confluence	864	915	930	893	947	947
170	U25AD2	AC5I_60	40600	0	0	NONE	Barker Road	770	855	868	819	888	888
171	Y25AD2	AC5I_60	42500	0	0	NONE	Citrus Colony Road	732	881	893	800	919	919
172	YAC16A	AC5I_60	47900	0	0	NONE	English Colony Road	380	373	379	484	398	398
Antelope Creek/Humphrey Tributary													
173	UPAC5K	AC5I_60	0	0	0	NONE	Clark Tunnel Road Tributary Confluence	364	311	318	462	313	313
174	VAC5J2	AC5I_60	1700	0	0	NONE	Sandy Road	255	328	333	323	330	330
175	VAC5O	AC5I_60	3300	0	0	NONE	Mardell Lane	218	53	54	277	53	53
176	UPAC5G	AC5I_60	3700	0	0	NONE	Colwell Road	182	235	237	231	238	238
177	YAC5E	AC5I_60	6300	0	0	NONE	English Colony Way	109	202	204	138	206	206
Miners Ravine													
178	UMR40E	SE40M_30	0	Miners Ravine	Below Secret	10.	Antelope Creek/Dry Creek	7844	7498	7194	8428	7364	7184
179	UMR40E	SE40M_30	200	Miners Ravine	Below Secret	94.	Harding Blvd.	7843	7498	7194	8424	7364	7184
180	YMR40E	SE40M_30	1500	Miners Ravine	Below Secret	659.8999	Interstate 80 - no ras	7837	7503	7200	8412	7352	7198
181	YMR40B	SE40M_30	2800	Miners Ravine	Below Secret	1422.400	Eureka Way	7842	7494	7192	8409	7336	7190
182	YSEMR	SE40M_30	3800	Miners Ravine	Below Secret	3734.100	Secret Ravine Confluence	7815	7486	7184	8344	7324	7183
183	YMR37D	MR15J_30	5300	Miners Ravine	BET SECRET-FALSE	5674.100	Sunrise Avenue - no ras	6149	2726	2508	6642	2767	2683
184	UR37D4	MR15J_30	7000	Miners Ravine	BET SECRET-FALSE	7319.900	Boardman Tributary	1594	2725	2507	1814	2766	2682
185	UR36N2	MR15J_30	9000	Miners Ravine	Above False	9828.100	East Roseville Parkway	3885	2650	2453	4468	2664	2619
186	UMR31Q	MR15J_30	18200	Miners Ravine	Above False	18310.19	Sierra College Blvd.	3847	2608	2409	4465	2588	2572
187	YR31Q2	MR15J_30	18300	Miners Ravine	Above False	18610	Cavitt Stallman Tributary - no ras	3847	2711	2598	4465	2810	2843
188	UMR31G	MR15J_30	18600	Miners Ravine	Above False	18685	Cavitt (&) Stallman Road	3241	2530	2399	3823	2594	2635
190	UR31P2	MR15J_30	23400	Miners Ravine	Above False	23390	Shadow Oaks Lane	3171	2368	2355	3745	2524	2561
1190	YMR31D	MR15J_30	0	Miners Ravine	Above False	27990.	Hardy Lane	#N/A	2343	2335	#N/A	2490	2548
191	UMR31D	MR15J_30	28900	Miners Ravine	Above False	28826	Barton Road	3101	2343	2336	3671	2486	2546
192	UMR30R	MR15J_30	31300	Miners Ravine	Above False	31379	TallPine Lane	3041	2334	2327	3603	2469	2542
193	UMR30Q	MR15J_30	33000	Miners Ravine	Above False	32984	Carolinda Drive	2982	2391	2328	3535	2468	2547
194	UMR30P	MR15J_30	34800	Miners Ravine	Above False	34813	Itchy Acres Road	2936	2308	2307	3484	2444	2530
196	UR30H2	MR15J_30	35500	Miners Ravine	Above False	35489	Miners Ravine Road	2909	2309	2308	3453	2447	2536
197	UR30H3	MR15J_30	36800	Miners Ravine	Above False	36790	Leibinger Lane	2881	2314	2320	3421	2447	2534

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199	UR29B2	MR15J_30	39700	Miners Ravine	Above False	39765	Auburn Folsom Road	2766	2324	2336	3278	2451	2560
200	UXR29H	MR15J_30	41700	Miners Ravine	Above False	40276	Oak Lane	2706	2327	2341	3206	2452	2566
201	UR29I2	MR15J_30	43000	Miners Ravine	Above False	44240	Old Bridge	2689	2380	2398	3210	2487	2544
202	YMR29I	MR15J_30	43200	Miners Ravine	Above False	44240	Cottonwood Lake	2680	2380	2398	3202	2487	2544
203	UMR21C	MR15J_30	44400	Miners Ravine	Above False	44368	Auburn Folsom Road	2694	2380	2398	3204	2488	2543
1203	YMR21C	MR15J_30	0	Miners Ravine	Above False	44523	Driveway opposite Twin Rocks Road	#N/A	2338	2354	#N/A	2446	2496
204	YMR21D	MR15J_30	45600	Miners Ravine	Above False	45593	Confluence with Lake Tributary (MR15)	2568	2355	2369	3061	2455	2504
1204	UXR20R	MR15J_30	0	Miners Ravine	Above False	52637	Bridge 15	#N/A	1928	1938	#N/A	2031	2050
1205	UXR20Q	MR15J_30	0	Miners Ravine	Above False	53992	Bridge 16	#N/A	1902	1909	#N/A	2009	2020
205	UR20P2	MR15J_30	56000	Miners Ravine	Above False	55052	Moss Lane	2468	1947	1955	2967	2031	2047
1206	YR20K2	MR15J_30	0	Miners Ravine	Above False	57194	Bridge 18 So of Willow Valley Place	#N/A	1888	1890	#N/A	1973	1983
1207	YR20K2	MR15J_30	0	Miners Ravine	Above False	57599	Willow Valley Place	#N/A	1886	1894	#N/A	1988	1989
1208	UR20C2	MR15J_30	0	Miners Ravine	Above False	57984	Bridge 20 North of Willow Valley Place	#N/A	1855	1858	#N/A	1971	1968
207	UR15K2	MR15J_30	59900	Miners Ravine	Above False	59894	Dick Cook Road	1787	1764	1763	2277	1853	1852
208	UXR15V	MR15J_30	61500	Miners Ravine	Above False	61470	Auburn Folsom Road	1691	1601	1590	2154	1665	1656
209	UR15W2	MR15J_30	62400	Miners Ravine	Above False	62487	Placer Canyon Parkway	1596	1571	1573	2031	1675	1666
1209	Y15AE2	MR15J_30	0	Miners Ravine	Above False	64347	Lominda Lane	#N/A	1523	1524	#N/A	1653	1645
210	UXR15Q	MR15J_30	67600	Miners Ravine	Above False	67574	Horseshoe Bar Road	1299	1460	1462	1645	1598	1604
1210	UMR10M	MR15J_30	0	Miners Ravine	Above False	70394	Bridge 26	#N/A	1405	1381	#N/A	1567	1618
1211	UMR10M	MR15J_30	0	Miners Ravine	Above False	70984	Bridge 27	#N/A	1448	1450	#N/A	1608	1597
1212	UMR10I	MR15J_30	0	Miners Ravine	Above False	73328	Whiskey Bar Road	#N/A	1240	1241	#N/A	1387	1382
1213	UXR10E	MR15J_30	0	Miners Ravine	Above False	75238	Bridge 30	#N/A	1221	1222	#N/A	1366	1364
1214	UMMR5S	MR15J_30	0	Miners Ravine	Above False	75448	Bridge 31	#N/A	1094	1094	#N/A	1226	1226
1215	YMR10E	MR15J_30	0	Miners Ravine	Above False	76148	Bridge 32	#N/A	1104	1103	#N/A	1221	1222
211	YMR10E	MR15J_30	71700	Miners Ravine	Above False	76613	Auburn Folsom Road	1008	1112	1112	1304	1232	1232
212	UPMR5R	MR15J_30	73300	Miners Ravine	Above False	78358	King Road	949	574	573	1234	605	611
213	YMR5W	MR15J_30	79400	Miners Ravine	Above False	79398	Penryn Rock Springs Road	277	482	482	376	542	535
214	YMR5P	MR15J_30	80200	Miners Ravine	Above False	80243	Newcastle Road	166	389	389	226	427	423
Miners Ravine/Boardman Tributary													
215	UR37D3	CC5G_90	0	0	0	NONE	Miners Ravine Confluence	414	421	771	530	811	811
216	UR35R6	CC5G_90	800	0	0	NONE	East Roseville Parkway	393	412	758	504	799	799
Miners Ravine/Cavitt & Stallman Tributary -													
217	UMR25L	SE40N_0	0	0	0	NONE	Miners Ravine Confluence	595	595	592	688	645	645
218	YR25M2	SE40N_0	2400	0	0	NONE	Hidden Valley Place	566	612	608	655	668	668
219	YMR25N	SE40N_0	3100	0	0	NONE	Baywood Road	537	604	601	621	659	659
220	YR25P2	SE40N_0	3700	0	0	NONE	S. Bar B Lane	508	592	588	588	648	648
221	YMR25D	SE40N_0	4500	0	0	NONE	Kokuia Lane	479	507	506	554	589	589
222	YMR25I	SE40N_0	5100	0	0	NONE	Crestview Lane	451	551	551	521	611	611
223	YMR24E	SE40N_0	9300	0	0	NONE	Barton Road	496	460	460	665	531	531

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Miners Ravine/Lake Tributary (MR21) -													
224	UMR21H	MR15J_30	0	0	0	NONE	Miners Ravine Confluence	314	180	180	404	289	289
225	UMR21H	MR15J_30	200	0	0	NONE	Auburn Folsom Road	353	180	180	454	289	289
226	YMR21H	MR15J_30	300	0	0	NONE	South Lake Circle	353	214	214	454	346	346
Secret Ravine													
227	YSE85Q	SE40M_30	0	Secret Ravine	Below Sucker	1	Miners Ravine Confluence	4197	5508	5415	4332	5443	5373
228	YE85Y2	SE40M_30	1400	Secret Ravine	Below Sucker	798.3000	East Roseville Parkway	4196	5503	5412	4331	5439	5369
229	YE76A2	SE40M_30	13500	Secret Ravine	Below Sucker	14280.	Sucker Ravine Confluence	4151	5439	5322	4320	5385	5330
230	Y56AB3	SE40M_30	16200	Secret Ravine	Reach 1	17396	Aguiar Road Tributary Confluence	3706	4787	4577	4045	4746	4582
231	USE52D	SE40M_30	17600	Secret Ravine	Reach 1	18595.9	Rocklin Road - China Gardens	3374	4795	4577	3820	4764	4582
232	YSE51K	SE40M_30	23300	Secret Ravine	Reach 1	24526	Sierra College Blvd.	3375	5226	4838	3814	5095	4975
233	UE50Q2	SE40M_30	28800	Secret Ravine	Reach 1	30371	Private Road - Diaz	3183	4830	4404	3714	4836	4761
234	UE50P2	SE40M_30	29200	Secret Ravine	Reach 1	30801	Private Road	3171	4830	4404	3705	4843	4757
235	YE50F2	SE40M_30	30800	Secret Ravine	Reach 1	32256	Brace Road	3090	4754	4344	3649	4807	4733
236	YE50A2	SE40M_30	32600	Secret Ravine	Reach 1	34081	Horseshoe Bar Road	3088	4663	4259	3648	4724	4665
237	YE50A2	SE40M_30	33400	Secret Ravine	Reach 1	34081	Loomis Tributary Confluence	3078	4663	4259	3676	4724	4665
238	YE35B2	SE40M_30	33500	Secret Ravine	Reach 1	34866	King Road Tributary Confluence	2853	4579	4470	3481	4811	4763
239	USE35A	SE40M_30	38600	Secret Ravine	Reach 1	38066	King Road-no ras	2358	3691	3724	2877	4212	4144
241	YE35B2	SE40M_30	40000	Secret Ravine	Reach 1	40346	Penryn Road	2337	3587	3624	2856	4293	4155
242	YSE30E	SE40M_30	40500	Secret Ravine	Reach 1	NONE	Harris/Boulder Creek Road.	2331	3359	3387	2850	3776	3776
243	VSE26I	SE40M_30	40700	Secret Ravine	Reach 1	NONE	Penryn Tributary Confluence	2346	3196	3225	2852	3613	3613
244	VSE26H	SE40M_30	43300	Secret Ravine	Reach 1	NONE	Boulder Creek Road	1961	1089	1089	2371	1199	1199
245	VE26N2	SE40M_30	48500	Secret Ravine	Reach 1	NONE	Brennans Road	1146	1026	1026	1369	1139	1139
246	VE26N2	SE40M_30	48900	Secret Ravine	Reach 1	NONE	Rock Springs Road	1118	1026	1026	1340	1139	1139
247	USE26E	SE40M_30	50400	Secret Ravine	Reach 1	NONE	Meadow Lane	1032	848	848	1254	946	946
248	UE26BB	SE40M_30	51300	Secret Ravine	Reach 1	NONE	Los Puentes Road	1058	809	809	1394	905	905
249	VE25IA	SE40M_30	55300	Secret Ravine	Reach 1	NONE	Newcastle Road	927	824	824	1297	926	926
250	UE25AB	SE40M_30	57700	Secret Ravine	Reach 1	NONE	Powerhouse Road	649	731	731	908	828	828
Secret Ravine/Sucker Ravine													
251	UXE70I	SE40N_0	0	Sucker Ravine	Reach 1	0	Secret Ravine Confluence	1144	494	513	1330	666	675
252	USE76A	SE40N_0	1000	Sucker Ravine	Reach 1	840	China Garden Road	1140	518	534	1326	686	684
253	YSE76B	SE40N_0	1200	Sucker Ravine	Reach 1	1305	Interstate 80	1138	518	534	1324	686	684
254	YSE76B	SE40N_0	2200	Sucker Ravine	Reach 1	1860	Oakridge Street	1138	526	541	1324	721	722
255	YSE76B	SE40N_0	2600	Sucker Ravine	Reach 1	2750	Lakeside Drive	1157	532	542	1358	750	727
256	USE70I	SE40N_0	3950	Sucker Ravine	Reach 1	4110	Rocklin Road	1169	559	560	1385	722	720
257	USE70H	SE40N_0	4300	Sucker Ravine	Reach 1	4580	Quary Lake	1160	496	510	1377	699	697
258	YSE70H	SE40N_0	4700	Sucker Ravine	Reach 1	4840	Super Span	1151	496	510	1369	699	697
259	USE70F	SE40N_0	7450	Sucker Ravine	Reach 1	7605	Sierra Meadows Drive	1125	477	494	1344	680	678

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1259	YSE70B	SE40N_0	0	Sucker Ravine	Reach 1	9955	Culvert 1	#N/A	418	486	#N/A	620	616
1260	YSE70D	SE40N_0	0	Sucker Ravine	Reach 1	10565	Driveway Below Dominguez Road	#N/A	421	434	#N/A	627	624
260	YSE70C	SE40N_0	10800	Sucker Ravine	Reach 1	10935	Dominguez Road	1065	427	435	1363	639	672
261	UE60E2	SE40N_0	11000	Sucker Ravine	Reach 1	10935	Loomis Tributary Confluence	1085	427	435	1366	639	672
263	YSE66J	SE40N_0	13400	Sucker Ravine	Reach 1	14525	Pacific Street	607	175	292	514	367	364
1263	USE66J	SE40N_0	0	Sucker Ravine	Reach 1	14756	Railroad	#N/A	175	499	#N/A	368	365
1264	USE66D	SE40N_0	0	Sucker Ravine	Reach 1	16706	Culvert 5	#N/A	239	382	#N/A	442	437
264	USE66D	SE40N_0	14800	Sucker Ravine	Reach 1	16846	Bankhead Road	556	239	382	476	441	437
265	YSE66C	SE40N_0	15200	Sucker Ravine	Reach 1	17266	Sierra College Blvd.	540	229	373	463	432	428
266	USE66A	SE40N_0	19000	Sucker Ravine	Reach 1	20671	Saunders Avenue	531	509	786	651	591	592
267	SE65	SE40N_0	20200	Sucker Ravine	Reach 1	22546	King Road	541	416	648	669	416	416
Secret Ravine/Sucker Ravine/Loomis Tributary													
268	VSE60E	SE40N_0	0	0	0	NONE	Sucker Ravine Confluence	380	432	418	730	629	629
270	VE60D2	SE40N_0	4400	0	0	NONE	Sierra College Blvd.	209	376	362	402	484	484
Secret Ravine/Aguilar Road Tributary													
271	Y56AB2	SE40N_0	0	0	0	NONE	Secret Ravine Confluence	566	506	511	744	763	763
272	Y56AB2	SE40N_0	700	0	0	NONE	Aguilar Road	549	506	511	718	763	763
273	YSE56B	SE40N_0	2400	0	0	NONE	Foothill Road	516	428	502	666	630	630
274	Y55MA2	SE40N_0	4100	0	0	NONE	El Don Road	491	320	329	627	402	402
275	UE56DB	SE40N_0	4100	0	0	NONE	El Don Detention Pond	491	319	319	630	377	377
276	VSE55L	SE40N_0	6100	0	0	NONE	Sierra College Blvd.	462	261	260	583	309	309
Secret Ravine / Loomis Tributary													
277	YSE40J	SE40N_0	0	0	0	NONE	Secret Ravine Confluence	473	422	520	710	578	578
278	YSE40J	SE40N_0	1200	0	0	NONE	Interstate 80	437	422	520	656	578	578
279	VSE40I	SE40N_0	2800	0	0	NONE	Laird Street	411	373	460	618	484	484
280	VSE40F	SE40N_0	3600	0	0	NONE	King Road	386	279	351	579	350	350
Secret Ravine/King Road Tributary													
281	USE45W	SE40M_30	0	0	0	NONE	Secret Ravine Confluence	1367	1182	1183	1500	1305	1305
282	YSE45Q	SE40M_30	3900	0	0	NONE	Rancho Verde Road	1270	578	578	1395	665	665
283	YSE45A	MR15J_30	5400	0	0	NONE	Val Verde Road	419	474	474	505	572	572
284	USE44B	MR15J_30	6300	0	0	NONE	King Road	377	422	422	455	519	519
Secret Ravine/Penryn Tributary													
285	YE15L2	SE40M_30	0	0	0	NONE	Secret Ravine Confluence	999	2140	2168	1410	2470	2470
286	USE7H2	SE40M_30	4700	0	0	NONE	Rock Springs Road	1024	1761	1794	1528	2060	2060
287	YSE5F2	SE40M_30	5600	0	0	NONE	East/West Forks Confluence	881	1589	1625	1421	1897	1897

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:	100-year 1989 JMM	100-year 1992 Corrected	100-year 2007-Current	100-year Future JMM	100-year Future Unmitigated	100-year Build-out w/LID & Projects
Secret Ravine/ E. Fork Penryn Tributary													
288	VSE5F2	SE40M_30	0	0	0	NONE	West Fork Confluence	255	554	576	356	669	669
289	YSE5F	SE40M_30	900	0	0	NONE	Fairview Lane	228	556	577	319	670	670
290	YE20BS	SE40M_30	3700	0	0	NONE	Gilardi Road	94	417	438	131	531	531
Secret Ravine/W. Fork Penryn Tributary													
291	YSE7D	SE40M_30	0	0	0	NONE	East Fork Confluence	595	1119	1132	999	1338	1338
292	YSE10A	SE40M_30	200	0	0	NONE	Interstate 80	593	1107	1119	994	1326	1326
293	YE10BB	SE40M_30	1400	0	0	NONE	Girardi Road	567	1055	1069	1024	1285	1285

Table G.4 50-YEAR EVENT

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:		50-year 1992 Corrected	50-year 2007-Current		50-year Future Unmitigated	50-year Build-out w/LID & Projects
DRY CREEK													
1	VC135B	SE40N_0	8900	Dry Creek	Below Cirby	NONE	Rio Linda Blvd(North and South)		9393	9659		10986	10986
2	Y130B2	SE40N_0	15000	Dry Creek	Below Cirby	NONE	Elkhorn Blvd. (North and South)		9414	9682		11010	11010
3	YC125B	SE40N_0	16600	Dry Creek	Below Cirby	NONE	Curved Bridge Road (North)		9468	9736		11067	11067
4	YC125A	SE40N_0	17400	Dry Creek	Below Cirby	NONE	Dry Creek Road (North and South)		9446	9719		11045	11045
5	YDC115	SE40N_0	24400	Dry Creek	Below Cirby	NONE	Q Street (North and South)		9481	9755		11083	11083
6	YDC90	SE40N_0	34900	Dry Creek	Below Cirby	NONE	Sierra Creek Confluence		9415	9687		11011	11011
7	YDC85	SE40N_0	35200	Dry Creek	Below Cirby	NONE	28th Street (South)		9429	9700		11024	11024
8	YDC85	SE40N_0	35400	Dry Creek	Below Cirby	NONE	Elverta Road		9429	9700		11024	11024
9	YDC71B	SE40N_0	36900	Dry Creek	Below Cirby	38733	Confluence with County Line Trib		9730	9967		10777	10915
11	YDC75C	SE40N_0	41400	Dry Creek	Below Cirby	41634	Watt Avenue		9812	10045		10805	10937
13	YC65I2	SE40N_0	47700	Dry Creek	Below Cirby	47754	Confluence with DC65 Trib		9890	10197		10868	10926
14	YDC60A	SE40N_0	50300	Dry Creek	Below Cirby	50025	Walerga Road		9916	10246		10898	10954
1015	YDC50A	SE40N_0	0	Dry Creek	Below Cirby	55005	Morgan Creek Ped Crossing		9911	10275		10912	10965
16	YDC35C	SE40N_0	58800	Dry Creek	Below Cirby	58560	Cook Riolo Road		9935	10308		10966	11015
17	YDC25A	CC5G_90	67000	Dry Creek	Below Cirby	67583.80	S.P. Railroad Bridge		8197	8006		8567	8021
18	YDC10D	SE40N_0	67400	Dry Creek	Below Cirby	67641.80	Atkinson Blvd.		9960	10355		10986	10941
20	YDC20A	SE40N_0	68900	Dry Creek	Below Cirby	69138.40	S.P. Railroad Culverts (now bridge)		9955	10349		10980	10933
21	YDC10D	SE40N_0	69900	Dry Creek	Below Cirby	70071.60	Vernon Street		9961	10353		10982	10929
22	YDC10B	SE40N_0	72600	Dry Creek	Below Cirby	72702.60	Riverside Avenue		8883	8468		8581	8560
23	YDCCC	SE40N_0	73000	Dry Creek	Below Cirby	72982	Cirby Creek Confluence		8919	8483		8596	8572
24	YDC5A	SE40M_30	73800	Dry Creek	Above Cirby	73943.30	Darling Way		8594	8590		9600	8964
25	YDC5C	SE40M_30	77000	Dry Creek	Above Cirby	77218.89	Douglas Blvd.		8607	8602		9615	8949
26	UDC5B	SE40M_30	77500	Dry Creek	Above Cirby	77606.49	Royer Park Footbridge		8724	8601		9617	8994
27	YDC5B	SE40M_30	79100	Dry Creek	Above Cirby	79166.05	Lincoln Street		8707	8596		9599	8945
28	YDC4C	SE40M_30	79400	Dry Creek	Above Cirby	79816.70	Folsom Road		8708	8601		9599	8948
30	YACMR	SE40M_30	84100	Dry Creek	Above Cirby	84214.40	Antelope Creek/ Miners Ravine Confluence		8803	8653		9914	9049
DRY CREEK - ELVERTA TRIB													
31	UDC90	CC5G_90	0	0	0	NONE	Confluence with Dry Creek		135	135		150	150
DRY CREEK - SIERRA CREEK													
32	YC100B	CC5G_90	0	0	0	NONE	Confluence with Dry Creek		593	607		702	702
33	YC100A	CC5G_90	1400	0	0	NONE	28th Street		596	612		706	706
34	YC100A	CC5G_90	3700	0	0	NONE	Scotland Drive		596	612		706	706
35	VC96B2	CC5G_90	5400	0	0	NONE	Delaney Drive		536	551		635	635
36	YDC96A	CC5G_90	6800	0	0	NONE	Watt Avenue		456	470		550	550

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:		50-year 1992 Corrected	50-year 2007-Current		50-year Future Unmitigated	50-year Build-out w/LID & Projects
37	VDC96C	CC5G_90	10300	0	0	NONE	Navaho Way		326	340		411	411
38	YDC96C	CC5G_90	11400	0	0	NONE	Elverta Road		327	341		412	412
39	DC95A	CC5G_90	13500	0	0	NONE	Walerga Road		52	52		75	75
DRY CREEK/County Line Trib. (Note: Riolo Vineyards project determined this tributary does not drain as previously modeled - corrected in 2009 study)													
40	YDC75B	CC5G_90	0	0	0	NONE	Confluence with Dry Creek		388	396		458	458
41	N/A	#N/A	3200	0	0	NONE	Watt Avenue		#N/A	#N/A		#N/A	#N/A
42	VDC68B	CC5G_90	8200	0	0	NONE	PFE Road		334	343		378	378
Dry Creek DC-65 Tributary													
43	YDC65I	CC5G_90	0	0	0	NONE	Confluence with Dry Creek		290	299		356	356
44	YDC65K	CC5G_90	3000	0	0	NONE	Walerga Road		266	315		329	329
Cirby Creek													
45	YCC45G	LC40L_30	0	Cirby Creek	below Linda	0	Dry Creek Confluence		2550	2685		3041	2958
46	YCC45A	LC40L_30	3000	Cirby Creek	below Linda	2969.699	Interstate 80		2583	2764		3088	3003
48	UCC45E	LC40L_30	4600	Cirby Creek	below Linda	4580.699	Wanda Lee Court Footbridge		2571	2750		3071	2990
49	YCC45E	LC40L_30	6100	Cirby Creek	Above Linda	6009.699	Linda Creek Confluence		2559	2738		3068	2989
50	YCC40A	CC5G_90	7400	Cirby Creek	Above Linda	7262.099	Sunrise Blvd.		614	743		753	753
51	YCC40C	CC5G_90	8100	Cirby Creek	Above Linda	8038.899	Coloma Way - Gage 1635		692	828		840	839
52	YC40G2	CC5G_90	9100	Cirby Creek	Above Linda	9004.399	Oak Ridge Drive		645	788		800	799
53	UCC35D	CC5G_90	10000	Cirby Creek	Above Linda	9873.999	Sierra Gardens Footbridge		674	863		877	876
54	YCC15B	CC5G_90	11800	Cirby Creek	Above Linda	11679.19	Loretto Drive		718	969		986	985
55	YCC252	CC5G_90	12000	Cirby Creek	Above Linda	12228.79	Sierra Gardens Trib. Confluence		502	757		770	770
56	YCC15C	CC5G_90	12500	Cirby Creek	Above Linda	12377.29	Sierra Gardens Drive		505	756		769	769
57	YCC10E	CC5G_90	13900	Cirby Creek	Above Linda	13765.49	Huntington Drive		446	457		464	464
58	UCC10H	CC5G_90	14500	Cirby Creek	Above Linda	14420.19	Rocky Ridge Drive		281	433		446	446
60	YCC5B	CC5G_90	16400	Cirby Creek	Above Linda	15748.19	Winchester Way		215	337		341	341
61	YCC5D	CC5G_90	17200	Cirby Creek	Above Linda	16312.19	Eureka Road		147	260		263	263
62	YCC1A	CC5G_90	19700	Cirby Creek	Above Linda	17753.79	Douglas Blvd.		107	222		229	229
Cirby Creek/Sierra Gardens Trib.													
63	VCC25	CC5G_90	0	0	0	NONE	Cirby Creek Confluence		232	245		248	248
65	YCC20G	CC5G_90	1000	0	0	NONE	Douglas Blvd.		163	179		183	183
66	YCC20K	CC5G_90	1400	0	0	NONE	Sierra Gardens Ret. Basin		181	270		281	281
Linda Creek													
67	ULC95C	LC40L_30	0	Linda Creek	Below Strap	0.	Cirby Creek Confluence		2416	2548		2679	2652
68	ULC95D	LC40L_30	1000	Linda Creek	Below Strap	565.1000	Sunrise Avenue		2416	2548		2682	2654
70	YLC90A	LC40L_30	2600	Linda Creek	Below Strap	2125.000	Oak Ridge Drive		2421	2463		2932	2803
72	ULC90B	LC40L_30	4300	Linda Creek	Below Strap	3843.300	Sierra Gardens Footbridge		2457	2683		3152	3029

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:		50-year 1992 Corrected	50-year 2007-Current		50-year Future Unmitigated	50-year Build-out w/LID & Projects
73	YLC85C	LC40L_30	8400	Linda Creek	Below Strap	8257.900	Rocky Ridge Dirve		2847	3153		3556	3423
74	ULC85B	LC40L_30	10000	Linda Creek	Below Strap	9810.000	Strap Ravine Confluence		2844	3147		3590	3433
76	ULC80I	LC40L_30	11500	Linda Creek	Below S Branch	136	Champion Oaks Drive/Samoa Way (Gage 1626/1628)		1928	2057		2190	2131
78	ULC80A	LC40L_30	14300	Linda Creek	Below S Branch	157	Auburn Road		2173	2423		2793	2631
79	UC45J3	LC40L_30	15700	Linda Creek	Below S Branch	176	Old Auburn Road/City Limits		1755	1989		2308	2226
1079	ULC45J	LC40L_30	0	Linda Creek	Below S Branch	181	Ped Bridge over Creek in Park		1678	1913		2228	2144
Treelake Tributary Confluence													
80	ULC45J	LC40L_30	15900	Linda Creek	Below S Branch	181	Treelake Tributary Confluence		1678	1913		2228	2144
82	UC45J2	LC40L_30	19800	Linda Creek	Below S Branch	188	Indian Creek Drive		1662	1902		2224	2141
1082	ULC45D	LC40L_30	0	Linda Creek	Below S Branch	207	Private Bridge Near Hazel		1487	1727		2068	1982
83	ULC45D	LC40L_30	25300	Linda Creek	Below S Branch	211	Hazel Avenue		1490	1728		2069	1986
84	UC35Q3	LC40L_30	25500	Linda Creek	Below S Branch	212	Orangevale Tributary Confluence		1490	1729		2069	1986
1084	ULC40A	LC40L_30	0	Linda Creek	Above S Branch	3.075	BDG 17 2-24" CMPS		1061	1204		1449	1399
85	UC15N2	LC40L_30	31300	Linda Creek	Above S Branch	4.239	Granite Road Bridge		919	1022		1285	1225
86	ULC15N	LC40L_30	32600	Linda Creek	Above S Branch	4.407	Cherry Avenue		860	1001		1276	1199
1086	ULC15J	LC5A_0	0	Linda Creek	Above S Branch	5.22	Private Driveway Concrete Box Type		642	696		743	572
1087	YLC15J	LC5A_0	0	Linda Creek	Above S Branch	5.264	Driveway Bridge		642	696		743	572
1088	YLC15J	LC5A_0	0	Linda Creek	Above S Branch	5.526	Granite Glen Court (Private)		643	699		745	572
88	YLC15J	LC5A_0	38600	Linda Creek	Above S Branch	5.715	Wedgewood Drive		661	723		769	575
1089	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.039	Golf Cart Bridge #5		602	665		708	638
1090	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.12	Golf Cart Bridge #4		622	664		708	637
1091	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.197	Golf Cart Bridge #3		603	665		708	640
1092	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.241	Golf Cart Bridge #2		603	665		708	641
1093	ULC5F2	LC5A_0	0	Linda Creek	Above S Branch	6.515	Golf Cart Bridge #1		617	625		674	615
89	ULC5F2	LC5A_0	42300	Linda Creek	Above S Branch	6.53	East Roaseville Parkway		617	625		660	615
90	ULC5F	LC5A_0	43100	Linda Creek	Above S Branch	6.759	Barton Road		584	598		635	582
91	YLC5E	LC5A_0	44600	Linda Creek	Above S Branch	7.140	Shadow Brook Place		493	515		550	430
92	ULC5B	LC5A_0	46500	Linda Creek	Above S Branch	7.479	Troy Purdy Lane		417	435		469	333
1094	ULC5C	LC5A_0	0	Linda Creek	Above S Branch	7.609	Muir Way		342	356		384	287
93	YLC5C	LC5A_0	48100	Linda Creek	Above S Branch	7.77	Country Court (Private)		347	363		387	289
1095	ULC1A	LC5A_0	0	Linda Creek	Above S Branch	7.839	Country Court		746	1015		1066	1069
94	YLC1A	LC5A_0	48700	Linda Creek	Above S Branch	8.011	Auburn Folsom Road		351	367		398	296
Linda Creek/Strap Ravine													
95	USR25C	CC5G_90	0	Strap Ravine	Reach 1	0.	Linda Creek Confluence		728	993		1048	1049
1095	YSR25A	CC5G_90	300	Strap Ravine	Reach 1	276	Foot Bridge in Park		746	1015		1066	1069
96	UR20A4	CC5G_90	1500	Strap Ravine	Reach 1	1136.900	McClaren Drive (Gage 1611)		745	1017		1069	1073
97	UXR20A	CC5G_90	5900	Strap Ravine	Reach 1	5539.100	Johnson Ranch Drive		682	1001		1036	1038
98	USR152	CC5G_90	6800	Strap Ravine	Reach 1	6380.600	Eureka Road		683	1009		1037	1039

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99	USR82	CC5G_90	8600	Strap Ravine	Reach 1	8201.500	East Roseville Parkway		580	678		750	793
100	USR5C2	LC5A_0	11800	Strap Ravine	Reach 1	11366.10	Sierra College Blvd.		406	536		593	668
101	USR1A	LC5A_0	23000	0	0	NONE	Barton Road		465	860		822	822
Linda Creek/Treelake Tributary													
102	ULC60B	LC40L_30	0	0	0	NONE	Linda Creek Confluence		423	499		608	608
103	YLC60B	LC40L_30	3200	0	0	NONE	Petite Way (approximated)		436	521		635	635
104	YLC60A	LC40L_30	5700	0	0	NONE	Old Auburn Road		392	487		596	596
105	YC55H3	LC40L_30	6000	0	0	NONE	Sierra College Blvd.		423	550		672	672
106	YLC55F	LC40L_30	9600	0	0	NONE	Swan Lake Drive		359	539		653	653
107	UC55L2	LC40L_30	9600	0	0	NONE	Swan Lake		333	519		632	632
108	UPC55L	LC40L_30	10800	0	0	NONE	Waterbury Way		360	543		654	654
109	YLC55L	LC40L_30	10800	0	0	NONE	Waterbury Lake		412	604		703	703
110	ULC50E	LC40L_30	11400	0	0	NONE	East Roaseville Parkway		327	442		534	534
111	YLC50E	LC40L_30	11400	0	0	NONE	East Roseville Parkway Pond		344	490		579	579
112	ULC50F	LC40L_30	11700	0	0	NONE	Treelake office Lane		301	384		461	461
113	ULC50F	LC40L_30	11700	0	0	NONE	Treelake office Lane Pond		301	384		461	461
Linda Creek/Hazel Avenue Tributary (Sac County)													
114	YC35Q2	LC40L_30	0	0	0	NONE	Linda Creek Confluence		469	615		698	698
115	UC35Q2	LC40L_30	400	0	0	NONE	Oak Avenue		469	615		698	698
Linda Creek/Orangevale Tributary (Sac County)													
116	YC35Q2	LC40L_30	0	Linda Creek	South Branch	.001	Linda Creek Confluence		446	625		741	755
1116	YLC35Q	LC40L_30	0	Linda Creek	South Branch	0.125	Private Bridge (Metal and Concrete)		449	665		768	767
117	ULC35Q	LC40L_30	900	Linda Creek	South Branch	0.196	Oak Avenue		451	666		772	771
1117	ULC30E	LC40L_30	0	Linda Creek	South Branch	1.022	Private Bridge in Park Area		229	372		417	435
118	ULC30E	LC40L_30	3300	Linda Creek	South Branch	1.035	Filbert Avenue		229	372		417	435
1118	ULC30B	LC40L_30	0	Linda Creek	South Branch	1.244	Private Bridge Near Chestnut		217	346		398	398
119	UC30C2	LC40L_30	4300	Linda Creek	South Branch	1.346	Chestnut Avenue		204	329		381	382
120	ULC30A	LC40L_30	5500	Linda Creek	South Branch	1.649	Walnut Avenue (North)		180	255		290	290
120	UC20E3	LC40L_30	5500	Linda Creek	South Branch	1.772	Walnut Avenue (South)		180	255		290	290
121	VLC25C	LC40L_30	6700	Linda Creek	South Branch	NONE	Main Avenue (North)		37	52		59	59
1121	VLC20E	LC40L_30	6700	Linda Creek	South Branch	NONE	Main Avenue (South)		148	210		232	232
Antelope Creek													
122	UDC4D	AC5I_60	0	Antelope Ck	AntelopeBlwClove	0.	Miners Ravine/Dry Creek		3013	3182		3510	3093
123	UC45B2	AC5I_60	1400	Antelope Ck	AntelopeBlwClove	1394.899	Harding Blvd.		3018	3184		3528	3093
124	UAC45B	AC5I_60	2300	Antelope Ck	AntelopeBlwClove	2349.499	Atlantic Street		3036	3213		3441	3114
1124	UAC45B	AC5I_60	0	Antelope Ck	AntelopeBlwClove	2455.599	Bridge #3		3029	3208		3438	3112
125	UAC45L	AC5I_60	5000	Antelope Ck	AntelopeBlwClove	5017.599	County Dump Road		3062	3239		3478	3340

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126	UC41E4	AC5I_60	9600	Antelope Ck	AntelopeBlwClove	10909.49	Highway 65 - non ras (Gage 1583)		3078	3249		3515	3504
127	UC41E3	AC5I_60	10300	Antelope Ck	AntelopeBlwClove	11383.53	Springview Drive		3062	3232		3500	3490
128	YC41E2	AC5I_60	10800	Antelope Ck	AntelopeBlwClove	11418.53	Rocklin City Tributary Confluence		3056	3226		3495	3486
130	UC40K2	AC5I_60	15800	Antelope Ck	AntelopeBlwClove	16930.03	Sunset Blvd.		2990	3156		3453	3456
133	UV10B2	AC5I_60	22800	Antelope Ck	AntelopeBlwClove	24722.3	Clover Valley Creek Confluence		2988	3179		3565	3570
134	UC35G3	AC5I_60	23600	Antelope Ck	Reach 1	25350.71	Midas Avenue		2463	2619		2547	2546
135	UAC35C	AC5I_60	25700	Antelope Ck	Reach 1	27696.03	Southern Pacific Railroad (UPRR) - non ras		2514	2657		2602	2601
136	VAC35I	AC5I_60	26500	Antelope Ck	Reach 1	28434.67	Yankee Hill Road		2510	2650		2596	2596
137	YAC30C	AC5I_60	27600	Antelope Ck	Reach 1	34226	Atkinson Dairy Dam		2434	2569		2540	2541
138	YAC30B	AC5I_60	28900	Antelope Ck	Reach 1	34691	Unnamed Road - no ras - no find aerial		2388	2520		2496	2496
139	YAC30B	AC5I_60	31800	Antelope Ck	Reach 1	35656	Delmar Avenue - no ras		2394	2524		2501	2501
140	YAC30B	AC5I_60	34300	Antelope Ck	Reach 1	36964	Sierra College Blvd. (Gage 1573)		2397	2526		2503	2503
141	U30AC4	AC5I_60	37000	Antelope Ck	Reach 1	39726	King Road		2411	2544		2531	2531
Antelope Creek / Clark Tunnel Road Tributary													
142	U30AC2	AC5I_60	0	Antelope Ck	Reach 1	40906	Antelope Creek Confluence		2364	2491		2482	2482
143	UC25BC	AC5I_60	100	0	0	NONE	Barker Road		748	788		777	777
144	VAC20C	AC5I_60	1300	0	0	NONE	Humphrey Road		504	527		540	540
145	YC16EB	AC5I_60	1700	0	0	NONE	Humphrey Tributary Confluence		415	434		450	450
148	UC15CB	AC5I_60	7000	0	0	NONE	Colwell Road		253	261		272	272
149	YC15BC	AC5I_60	10000	0	0	NONE	English Colony Way		220	223		223	223
150	AC15AD	AC5I_60	12800	0	0	NONE	Clark Tunnel Road		161	162		163	163
Antelope Creek/Rocklin City Tributary													
151	VAC41E	CC5G_90	0	0	0	NONE	Antelope Creek Confluence		408	408		444	444
152	VAC41F	SE40M_30	2700	0	0	NONE	Taylor Road		157	157		191	191
153	VAC41F	SE40M_30	2800	0	0	NONE	Taylor Road		157	157		191	191
154	UAC41A	SE40M_30	4500	0	0	NONE	Sunset Blvd.		84	84		115	115
Antelope Creek/Clover Valley Creek													
155	UCV10B	AC5I_60	0	Clover Valley	Clover Valley1	.1	Antelope Creek Confluence		1007	906		1026	1031
1155	UCV10B	AC5I_60	0	Clover Valley	Clover Valley1	155	Golf Course Ped Bridge		1022	903		1025	1031
156	UCV10B	AC5I_60	400	Clover Valley	Clover Valley1	445	Argonaut Avenue		1237	901		1025	1031
157	YCV10B	AC5I_60	2200	Clover Valley	Clover Valley1	2785	Footbridge and Weir		809	885		1031	1038
158	UXV10A	AC5I_60	4300	Clover Valley	Clover Valley1	4090	Midas Avenue		796	870		1012	1018
159	YCV10A	AC5I_60	4700	Clover Valley	Clover Valley1	4430	Abandoned Stone Bridge		796	870		1012	1018
160	YCV10A	AC5I_60	5600	Clover Valley	Clover Valley1	5400	Unnamed Bridge		763	836		979	986
1160	UV6CB2	AC5I_60	0	Clover Valley	Clover Valley1	6365	Gazebo Crossing		765	836		983	990
161	UCV6CB	AC5I_60	6500	Clover Valley	Clover Valley1	6505	Clover Valley Detention Pond		765	836		983	990
162	YV6CB2	AC5I_60	7700	Clover Valley	Clover Valley1	7815	Creekwood Drive		768	837		984	990

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163	UCV6BC	AC5I_60	12000	Clover Valley	Clover Valley1	12015	Rawhide Road		716	745		891	897
164	UCV6BC	AC5I_60	12500	Clover Valley	Clover Valley1	12550	Rowhide Road Det. Pond		720	752		894	900
165	UCV5C	AC5I_60	25600	Clover Valley	Clover Valley1	NONE	Unnamed Road		629	661		808	808
166	UCV1T	AC5I_60	28000	Clover Valley	Clover Valley1	NONE	Sierra College Blvd.		423	442		577	577
167	VCV1T	AC5I_60	28500	Clover Valley	Clover Valley1	NONE	English Colony Way		324	337		705	705
Antelope Creek Continued (West Branch)													
169	UC25BC	AC5I_60	38700	0	0	NONE	Clark Tunnel Road Tributary Confluence		748	788		777	777
170	U25AD2	AC5I_60	40600	0	0	NONE	Barker Road		699	736		728	728
171	Y25AD2	AC5I_60	42500	0	0	NONE	Citrus Colony Road		720	758		751	751
172	YAC16A	AC5I_60	47900	0	0	NONE	English Colony Road		308	319		332	332
Antelope Creek/Humphrey Tributary													
173	UPAC5K	AC5I_60	0	0	0	NONE	Clark Tunnel Road Tributary Confluence		255	269		256	256
174	VAC5J2	AC5I_60	1700	0	0	NONE	Sandy Road		267	277		270	270
175	VAC5O	AC5I_60	3300	0	0	NONE	Mardell Lane		44	45		44	44
176	UPAC5G	AC5I_60	3700	0	0	NONE	Colwell Road		195	200		199	199
177	YAC5E	AC5I_60	6300	0	0	NONE	English Colony Way		170	172		174	174
Miners Ravine													
178	UMR40E	SE40M_30	0	Miners Ravine	Below Secret	10.	Antelope Creek/Dry Creek		6134	6009		6785	6516
179	UMR40E	SE40M_30	200	Miners Ravine	Below Secret	94.	Harding Blvd.		6134	6009		6785	6516
180	YMR40E	SE40M_30	1500	Miners Ravine	Below Secret	659.8999	Interstate 80 - no ras		6141	6013		6789	6528
181	YMR40B	SE40M_30	2800	Miners Ravine	Below Secret	1422.400	Eureka Way		6132	6005		6783	6517
182	YSEMR	SE40M_30	3800	Miners Ravine	Below Secret	3734.100	Secret Ravine Confluence		6129	6000		6784	6525
183	YMR37D	MR15J_30	5300	Miners Ravine	BET SECRET-FALSE	5674.100	Sunrise Avenue - no ras		2134	1963		2219	2249
184	UR37D4	MR15J_30	7000	Miners Ravine	BET SECRET-FALSE	7319.900	Boardman Tributary		2133	1962		2218	2249
185	UR36N2	MR15J_30	9000	Miners Ravine	Above False	9828.100	East Roseville Parkway		2074	1919		2169	2197
186	UMR31Q	MR15J_30	18200	Miners Ravine	Above False	18310.19	Sierra College Blvd.		2040	1876		2124	2153
187	YR31Q2	MR15J_30	18300	Miners Ravine	Above False	18610	Cavitt Stallman Tributary - no ras		2039	2056		2252	2292
188	UMR31G	MR15J_30	18600	Miners Ravine	Above False	18685	Cavitt (&) Stallman Road		1873	1892		2086	2114
190	UR31P2	MR15J_30	23400	Miners Ravine	Above False	23390	Shadow Oaks Lane		1834	1812		2080	2159
1190	YMR31D	MR15J_30	0	Miners Ravine	Above False	27990.	Hardy Lane		1818	1797		2065	2154
191	UMR31D	MR15J_30	28900	Miners Ravine	Above False	28826	Barton Road		1804	1795		2064	2176
192	UMR30R	MR15J_30	31300	Miners Ravine	Above False	31379	TallPine Lane		1796	1789		2070	2203
193	UMR30Q	MR15J_30	33000	Miners Ravine	Above False	32984	Carolinda Drive		1794	1789		2070	2272
194	UMR30P	MR15J_30	34800	Miners Ravine	Above False	34813	Itchy Acres Road		1774	1773		2078	2086
196	UR30H2	MR15J_30	35500	Miners Ravine	Above False	35489	Miners Ravine Road		1775	1773		2079	2087

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197	UR30H3	MR15J_30	36800	Miners Ravine	Above False	36790	Leibinger Lane		1767	1775		2091	2100
199	UR29B2	MR15J_30	39700	Miners Ravine	Above False	39765	Auburn Folsom Road		1813	1827		2108	2118
200	UXR29H	MR15J_30	41700	Miners Ravine	Above False	40276	Oak Lane		1816	1829		2111	2121
201	UR29I2	MR15J_30	43000	Miners Ravine	Above False	44240	Old Bridge		1837	1854		2118	2131
202	YMR29I	MR15J_30	43200	Miners Ravine	Above False	44240	Cottonwood Lake		1837	1854		2118	2131
203	UMR21C	MR15J_30	44400	Miners Ravine	Above False	44368	Auburn Folsom Road		1838	1855		2119	2132
1203	YMR21C	MR15J_30	0	Miners Ravine	Above False	44523	Driveway opposite Twin Rocks Road		1809	1824		2081	2093
204	YMR21D	MR15J_30	45600	Miners Ravine	Above False	45593	Confluence with Lake Tributary (MR15)		1815	1832		2086	2099
1204	UXR20R	MR15J_30	0	Miners Ravine	Above False	52637	Bridge 15		1485	1495		1706	1718
1205	UXR20Q	MR15J_30	0	Miners Ravine	Above False	53992	Bridge 16		1465	1474		1682	1695
205	UR20P2	MR15J_30	56000	Miners Ravine	Above False	55052	Moss Lane		1471	1485		1727	1741
1206	YR20K2	MR15J_30	0	Miners Ravine	Above False	57194	Bridge 18 So of Willow Valley Place		1415	1442		1704	1716
1207	YR20K2	MR15J_30	0	Miners Ravine	Above False	57599	Willow Valley Place		1432	1441		1708	1723
1208	UR20C2	MR15J_30	0	Miners Ravine	Above False	57984	Bridge 20 North of Willow Valley Place		1406	1416		1694	1709
207	UR15K2	MR15J_30	59900	Miners Ravine	Above False	59894	Dick Cook Road		1336	1338		1637	1647
208	UXR15V	MR15J_30	61500	Miners Ravine	Above False	61470	Auburn Folsom Road		1176	1187		1511	1579
209	UR15W2	MR15J_30	62400	Miners Ravine	Above False	62487	Placer Canyon Parkway		1240	1246		1402	1411
1209	Y15AE2	MR15J_30	0	Miners Ravine	Above False	64347	Lominda Lane		1214	1218		1382	1389
210	UXR15Q	MR15J_30	67600	Miners Ravine	Above False	67574	Horseshoe Bar Road		1158	1165		1326	1336
1210	UMR10M	MR15J_30	0	Miners Ravine	Above False	70394	Bridge 26		1134	1273		1294	1322
1211	UMR10M	MR15J_30	0	Miners Ravine	Above False	70984	Bridge 27		1163	1168		1342	1342
1212	UMR10I	MR15J_30	0	Miners Ravine	Above False	73328	Whiskey Bar Road		997	998		1137	1138
1213	UXR10E	MR15J_30	0	Miners Ravine	Above False	75238	Bridge 30		987	987		1107	1107
1214	UMMR5S	MR15J_30	0	Miners Ravine	Above False	75448	Bridge 31		881	881		1001	1001
1215	YMR10E	MR15J_30	0	Miners Ravine	Above False	76148	Bridge 32		883	883		1005	1005
211	YMR10E	MR15J_30	71700	Miners Ravine	Above False	76613	Auburn Folsom Road		882	882		1004	1004
212	UPMR5R	MR15J_30	73300	Miners Ravine	Above False	78358	King Road		467	467		521	521
213	YMR5W	MR15J_30	79400	Miners Ravine	Above False	79398	Penryn Rock Springs Road		405	405		452	452
214	YMR5P	MR15J_30	80200	Miners Ravine	Above False	80243	Newcastle Road		316	316		355	356
Miners Ravine/Boardman Tributary													
215	UR37D3	CC5G_90	0	0	0	NONE	Miners Ravine Confluence		319	594		624	624
216	UR35R6	CC5G_90	800	0	0	NONE	East Roseville Parkway		312	582		611	611
Miners Ravine/Cavitt & Stallman Tributary													
217	UMR25L	SE40N_0	0	0	0	NONE	Miners Ravine Confluence		444	441		529	529
218	YR25M2	SE40N_0	2400	0	0	NONE	Hidden Valley Place		455	453		545	545
219	YMR25N	SE40N_0	3100	0	0	NONE	Baywood Road		448	446		539	539
220	YR25P2	SE40N_0	3700	0	0	NONE	S. Bar B Lane		439	436		529	529
221	YMR25D	SE40N_0	4500	0	0	NONE	Kokuia Lane		375	375		476	476
222	YMR25I	SE40N_0	5100	0	0	NONE	Crestview Lane		407	407		499	499

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223	YMR24E	SE40N_0	9300	0	0	NONE	Barton Road		341	341		428	428
Miners Ravine/Lake Tributary (MR21)													
224	UMR21H	MR15J_30	0	0	0	NONE	Miners Ravine Confluence		133	133		234	234
225	UMR21H	MR15J_30	200	0	0	NONE	Auburn Folsom Road		133	133		234	234
226	YMR21H	MR15J_30	300	0	0	NONE	South Lake Circle		168	168		274	274
Secret Ravine													
227	YSE85Q	SE40M_30	0	Secret Ravine	Below Sucker	1	Miners Ravine Confluence		4623	4649		5242	4995
228	YE85Y2	SE40M_30	1400	Secret Ravine	Below Sucker	798.3000	East Roseville Parkway		4621	4648		5244	4996
229	YE76A2	SE40M_30	13500	Secret Ravine	Below Sucker	14280.	Sucker Ravine Confluence		4555	4596		5213	5037
230	Y56AB3	SE40M_30	16200	Secret Ravine	Reach 1	17396	Aguiar Road Tributary Confluence		3994	4010		4548	4416
231	USE52D	SE40M_30	17600	Secret Ravine	Reach 1	18595.9	Rocklin Road - China Gardens		3995	4012		4549	4426
232	YSE51K	SE40M_30	23300	Secret Ravine	Reach 1	24526	Sierra College Blvd.		4069	4096		4588	4523
233	UE50Q2	SE40M_30	28800	Secret Ravine	Reach 1	30371	Private Road - Diaz		3868	3897		4294	4293
234	UE50P2	SE40M_30	29200	Secret Ravine	Reach 1	30801	Private Road		3852	3910		4294	4294
235	YE50F2	SE40M_30	30800	Secret Ravine	Reach 1	32256	Brace Road		3809	3857		4238	4238
236	YE50A2	SE40M_30	32600	Secret Ravine	Reach 1	34081	Horseshoe Bar Road		3792	3805		4159	4159
237	YE50A2	SE40M_30	33400	Secret Ravine	Reach 1	34081	Loomis Tributary Confluence		3792	3805		4159	4159
238	YE35B2	SE40M_30	33500	Secret Ravine	Reach 1	34866	King Road Tributary Confluence		3697	3735		4200	4197
239	USE35A	SE40M_30	38600	Secret Ravine	Reach 1	38066	King Road-no ras		2993	3025		3413	3410
241	YE35B2	SE40M_30	40000	Secret Ravine	Reach 1	40346	Penryn Road		2921	2952		3329	3327
242	YSE30E	SE40M_30	40500	Secret Ravine	Reach 1	NONE	Harris/Boulder Creek Road.		2695	2718		3111	3111
243	VSE26I	SE40M_30	40700	Secret Ravine	Reach 1	NONE	Penryn Tributary Confluence		2558	2582		2971	2971
244	VSE26H	SE40M_30	43300	Secret Ravine	Reach 1	NONE	Boulder Creek Road		855	855		968	968
245	VE26N2	SE40M_30	48500	Secret Ravine	Reach 1	NONE	Brennans Road		802	802		917	917
246	VE26N2	SE40M_30	48900	Secret Ravine	Reach 1	NONE	Rock Springs Road		802	802		917	917
247	USE26E	SE40M_30	50400	Secret Ravine	Reach 1	NONE	Meadow Lane		660	660		759	759
248	UE26BB	SE40M_30	51300	Secret Ravine	Reach 1	NONE	Los Puentes Road		628	628		725	725
249	VE25IA	SE40M_30	55300	Secret Ravine	Reach 1	NONE	Newcastle Road		636	636		738	738
250	UE25AB	SE40M_30	57700	Secret Ravine	Reach 1	NONE	Powerhouse Road		562	562		654	654
Secret Ravine/Sucker Ravine													
251	UXE70I	SE40N_0	0	Sucker Ravine	Reach 1	0	Secret Ravine Confluence		421	439		581	609
252	USE76A	SE40N_0	1000	Sucker Ravine	Reach 1	840	China Garden Road		436	451		595	614
253	YSE76B	SE40N_0	1200	Sucker Ravine	Reach 1	1305	Interstate 80		436	451		595	615
254	YSE76B	SE40N_0	2200	Sucker Ravine	Reach 1	1860	Oakridge Street		440	455		616	638
255	YSE76B	SE40N_0	2600	Sucker Ravine	Reach 1	2750	Lakeside Drive		440	455		621	643
256	USE70I	SE40N_0	3950	Sucker Ravine	Reach 1	4110	Rocklin Road		433	449		616	637
257	USE70H	SE40N_0	4300	Sucker Ravine	Reach 1	4580	Quary Lake		417	431		597	617
258	YSE70H	SE40N_0	4700	Sucker Ravine	Reach 1	4840	Super Span		417	431		597	617

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259	USE70F	SE40N_0	7450	Sucker Ravine	Reach 1	7605	Sierra Meadows Drive		416	427		588	604
1259	YSE70B	SE40N_0	0	Sucker Ravine	Reach 1	9955	Culvert 1		364	375		525	540
1260	YSE70D	SE40N_0	0	Sucker Ravine	Reach 1	10565	Driveway Below Dominguez Road		369	377		526	543
260	YSE70C	SE40N_0	10800	Sucker Ravine	Reach 1	10935	Dominguez Road		371	377		530	551
261	UE60E2	SE40N_0	11000	Sucker Ravine	Reach 1	10935	Loomis Tributary Confluence		371	377		530	551
263	YSE66J	SE40N_0	13400	Sucker Ravine	Reach 1	14525	Pacific Street		147	164		201	231
1263	USE66J	SE40N_0	0	Sucker Ravine	Reach 1	14756	Railroad		147	164		202	232
1264	USE66D	SE40N_0	0	Sucker Ravine	Reach 1	16706	Culvert 5		160	247		337	348
264	USE66D	SE40N_0	14800	Sucker Ravine	Reach 1	16846	Bankhead Road		160	247		337	348
265	YSE66C	SE40N_0	15200	Sucker Ravine	Reach 1	17266	Sierra College Blvd.		153	239		333	340
266	USE66A	SE40N_0	19000	Sucker Ravine	Reach 1	20671	Saunders Avenue		430	649		491	499
267	SE65	SE40N_0	20200	Sucker Ravine	Reach 1	22546	King Road		358	535		358	362
Secret Ravine/Sucker Ravine/Loomis Tributary													
268	VSE60E	SE40N_0	0	0	0	NONE	Sucker Ravine Confluence		358	347		534	534
270	VE60D2	SE40N_0	4400	0	0	NONE	Sierra College Blvd.		313	307		416	416
Secret Ravine/Aguilar Road Tributary													
271	Y56AB2	SE40N_0	0	0	0	NONE	Secret Ravine Confluence		383	396		587	587
272	Y56AB2	SE40N_0	700	0	0	NONE	Aguilar Road		383	396		587	587
273	YSE56B	SE40N_0	2400	0	0	NONE	Foothill Road		326	384		501	501
274	Y55MA2	SE40N_0	4100	0	0	NONE	El Don Road		244	255		317	317
275	UE56DB	SE40N_0	4100	0	0	NONE	El Don Detention Pond		243	244		316	316
276	VSE55L	SE40N_0	6100	0	0	NONE	Sierra College Blvd.		199	199		259	259
Secret Ravine / Loomis Tributary													
277	YSE40J	SE40N_0	0	0	0	NONE	Secret Ravine Confluence		366	449		504	504
278	YSE40J	SE40N_0	1200	0	0	NONE	Interstate 80		366	449		504	504
279	VSE40I	SE40N_0	2800	0	0	NONE	Laird Street		325	399		424	424
280	VSE40F	SE40N_0	3600	0	0	NONE	King Road		241	305		308	308
Secret Ravine/King Road Tributary													
281	USE45W	SE40M_30	0	0	0	NONE	Secret Ravine Confluence		926	926		1072	1072
282	YSE45Q	SE40M_30	3900	0	0	NONE	Rancho Verde Road		456	456		546	546
283	YSE45A	MR15J_30	5400	0	0	NONE	Val Verde Road		370	370		463	463
284	USE44B	MR15J_30	6300	0	0	NONE	King Road		330	330		423	423
Secret Ravine/Penryn Tributary													
285	YE15L2	SE40M_30	0	0	0	NONE	Secret Ravine Confluence		1734	1754		2038	2038
286	USE7H2	SE40M_30	4700	0	0	NONE	Rock Springs Road		1412	1439		1686	1686
287	YSE5F2	SE40M_30	5600	0	0	NONE	East/West Forks Confluence		1265	1295		1544	1544

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Secret Ravine/ E. Fork Penryn Tributary													
288	VSE5F2	SE40M_30	0	0	0	NONE	West Fork Confluence		444	459		538	538
289	YSE5F	SE40M_30	900	0	0	NONE	Fairview Lane		444	460		538	538
290	YE20BS	SE40M_30	3700	0	0	NONE	Gilardi Road		331	346		412	412
Secret Ravine/W. Fork Penryn Tributary													
291	YSE7D	SE40M_30	0	0	0	NONE	East Fork Confluence		897	905		1080	1080
292	YSE10A	SE40M_30	200	0	0	NONE	Interstate 80		886	894		1070	1070
293	YE10BB	SE40M_30	1400	0	0	NONE	Girardi Road		842	852		1027	1027

Table G.5 25-YEAR EVENT

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:	25-year 1989 JMM	25-year 1992 Corrected	25-year 2007-Current	25-year Future JMM	25-year Future Unmitigated	25-year Build-out w/LID & Projects
DRY CREEK													
1	VC135B	SE40N_0	8900	Dry Creek	Below Cirby	NONE	Rio Linda Blvd(North and South)	9382	7067	7313	10376	8523	8523
2	Y130B2	SE40N_0	15000	Dry Creek	Below Cirby	NONE	Elkhorn Blvd. (North and South)	9386	7096	7327	10374	8543	8543
3	YC125B	SE40N_0	16600	Dry Creek	Below Cirby	NONE	Curved Bridge Road (North)	9380	7126	7360	10367	8590	8590
4	YC125A	SE40N_0	17400	Dry Creek	Below Cirby	NONE	Dry Creek Road (North and South)	9378	7108	7346	10365	8572	8572
5	YDC115	SE40N_0	24400	Dry Creek	Below Cirby	NONE	Q Street (North and South)	9423	7128	7370	10409	8600	8600
6	YDC90	SE40N_0	34900	Dry Creek	Below Cirby	NONE	Sierra Creek Confluence	9398	7068	7310	10379	8536	8536
7	YDC85	SE40N_0	35200	Dry Creek	Below Cirby	NONE	28th Street (South)	9305	7073	7318	10254	8545	8545
8	YDC85	SE40N_0	35400	Dry Creek	Below Cirby	NONE	Elverta Road	9288	7073	7318	10233	8545	8545
9	YDC71B	SE40N_0	36900	Dry Creek	Below Cirby	38733	Confluence with County Line Trib	9308	7275	7484	10233	8146	8232
11	YDC75C	SE40N_0	41400	Dry Creek	Below Cirby	41634	Watt Avenue	9300	7374	7598	10209	8280	8311
13	YC65I2	SE40N_0	47700	Dry Creek	Below Cirby	47754	Confluence with DC65 Trib	9313	7556	7726	10225	8403	8356
14	YDC60A	SE40N_0	50300	Dry Creek	Below Cirby	50025	Walerga Road	9273	7601	7760	10175	8441	8375
1015	YDC50A	SE40N_0	0	Dry Creek	Below Cirby	55005	Morgan Creek Ped Crossing	#N/A	7670	7816	#N/A	8486	8388
16	YDC35C	SE40N_0	58800	Dry Creek	Below Cirby	58560	Cook Riolo Road	9261	7703	7845	10139	8495	8384
17	YDC25A	CC5G_90	67000	Dry Creek	Below Cirby	67583.80	S.P. Railroad Bridge	9125	6314	6253	9940	6822	6537
18	YDC10D	SE40N_0	67400	Dry Creek	Below Cirby	67641.80	Atkinson Blvd.	9125	7780	7873	9940	8556	8332
20	YDC20A	SE40N_0	68900	Dry Creek	Below Cirby	69138.40	S.P. Railroad Culverts (now bridge)	9127	7775	7867	9935	8551	8324
21	YDC10D	SE40N_0	69900	Dry Creek	Below Cirby	70071.60	Vernon Street	9084	7779	7864	9871	8553	8321
22	YDC10B	SE40N_0	72600	Dry Creek	Below Cirby	72702.60	Riverside Avenue	9147	7807	7768	9925	8092	7985
23	YDCCC	SE40N_0	73000	Dry Creek	Below Cirby	72982	Cirby Creek Confluence	9147	7811	7773	9925	8116	7991
24	YDC5A	SE40M_30	73800	Dry Creek	Above Cirby	73943.30	Darling Way	6943	6539	6503	7551	7676	6920
25	YDC5C	SE40M_30	77000	Dry Creek	Above Cirby	77218.89	Douglas Blvd.	6941	6544	6509	7544	7696	6922
26	UDC5B	SE40M_30	77500	Dry Creek	Above Cirby	77606.49	Royer Park Footbridge	6938	6544	6526	7538	7697	6924
27	YDC5B	SE40M_30	79100	Dry Creek	Above Cirby	79166.05	Lincoln Street	6937	6564	6588	7536	7683	6916
28	YDC4C	SE40M_30	79400	Dry Creek	Above Cirby	79816.70	Folsom Road	6948	6570	6598	7525	7686	6917
30	YACMR	SE40M_30	84100	Dry Creek	Above Cirby	84214.40	Antelope Creek/ Miners Ravine Confluence	6938	6691	6632	7501	7719	6928
DRY CREEK - ELVERTA TRIB													
31	UDC90	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	251	102	102	344	114	114
DRY CREEK - SIERRA CREEK													
32	YC100B	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	1121	444	455	1421	529	529
33	YC100A	CC5G_90	1400	0	0	NONE	28th Street	1095	445	456	1390	528	528
34	YC100A	CC5G_90	3700	0	0	NONE	Scotland Drive	1033	445	456	1318	528	528
35	VC96B2	CC5G_90	5400	0	0	NONE	Delaney Drive	1006	398	408	1299	472	472
36	YDC96A	CC5G_90	6800	0	0	NONE	Watt Avenue	977	337	347	1269	407	407

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37	VDC96C	CC5G_90	10300	0	0	NONE	Navaho Way	568	241	251	718	304	304
38	YDC96C	CC5G_90	11400	0	0	NONE	Elverta Road	481	242	251	600	305	305
39	DC95A	CC5G_90	13500	0	0	NONE	Walerga Road	438	39	39	537	55	55
DRY CREEK/County Line Trib. (Note: Riolo Vineyards project determined this tributary does not drain as previously modeled - corrected in 2009 study)													
40	YDC75B	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	346	287	292	558	339	339
41	N/A	#N/A	3200	0	0	NONE	Watt Avenue	346	#N/A	#N/A	558	#N/A	#N/A
42	VDC68B	CC5G_90	8200	0	0	NONE	PFE Road	346	244	250	558	276	276
Dry Creek DC-65 Tributary													
43	YDC65I	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	352	208	213	380	264	264
44	YDC65K	CC5G_90	3000	0	0	NONE	Walerga Road	382	192	233	304	244	244
Cirby Creek													
45	YCC45G	LC40L_30	0	Cirby Creek	below Linda	0	Dry Creek Confluence	2617	2025	2165	2853	2451	2405
46	YCC45A	LC40L_30	3000	Cirby Creek	below Linda	2969.699	Interstate 80	2602	2073	2233	2838	2517	2461
48	UCC45E	LC40L_30	4600	Cirby Creek	below Linda	4580.699	Wanda Lee Court Footbridge	2595	2061	2221	2834	2503	2447
49	YCC45E	LC40L_30	6100	Cirby Creek	Above Linda	6009.699	Linda Creek Confluence	2581	2051	2211	2822	2491	2435
50	YCC40A	CC5G_90	7400	Cirby Creek	Above Linda	7262.099	Sunrise Blvd.	625	564	647	774	655	655
51	YCC40C	CC5G_90	8100	Cirby Creek	Above Linda	8038.899	Coloma Way - Gage 1635	640	622	735	819	745	746
52	YC40G2	CC5G_90	9100	Cirby Creek	Above Linda	9004.399	Oak Ridge Drive	629	581	702	824	711	712
53	UCC35D	CC5G_90	10000	Cirby Creek	Above Linda	9873.999	Sierra Gardens Footbridge	625	591	753	821	766	766
54	YCC15B	CC5G_90	11800	Cirby Creek	Above Linda	11679.19	Loretto Drive	627	639	804	838	816	817
55	YCC252	CC5G_90	12000	Cirby Creek	Above Linda	12228.79	Sierra Gardens Trib. Confluence	646	444	618	854	627	628
56	YCC15C	CC5G_90	12500	Cirby Creek	Above Linda	12377.29	Sierra Gardens Drive	298	447	620	636	629	630
57	YCC10E	CC5G_90	13900	Cirby Creek	Above Linda	13765.49	Huntington Drive	485	394	469	730	473	473
58	UCC10H	CC5G_90	14500	Cirby Creek	Above Linda	14420.19	Rocky Ridge Drive	301	232	364	416	377	377
60	YCC5B	CC5G_90	16400	Cirby Creek	Above Linda	15748.19	Winchester Way	262	178	282	370	287	286
61	YCC5D	CC5G_90	17200	Cirby Creek	Above Linda	16312.19	Eureka Road	261	122	217	407	221	221
62	YCC1A	CC5G_90	19700	Cirby Creek	Above Linda	17753.79	Douglas Blvd.	158	88	186	325	194	194
Cirby Creek/Sierra Gardens Trib.													
63	VCC25	CC5G_90	0	0	0	NONE	Cirby Creek Confluence	109	205	217	132	220	220
65	YCC20G	CC5G_90	1000	0	0	NONE	Douglas Blvd.	129	146	161	146	164	164
66	YCC20K	CC5G_90	1400	0	0	NONE	Sierra Gardens Ret. Basin	123	152	230	139	247	247
Linda Creek													
67	ULC95C	LC40L_30	0	Linda Creek	Below Strap	0.	Cirby Creek Confluence	2538	1930	2099	2751	2364	2307
68	ULC95D	LC40L_30	1000	Linda Creek	Below Strap	565.1000	Sunrise Avenue	2537	1930	2099	2749	2364	2307
70	YLC90A	LC40L_30	2600	Linda Creek	Below Strap	2125.000	Oak Ridge Drive	3116	1928	1929	3266	2202	2143
72	ULC90B	LC40L_30	4300	Linda Creek	Below Strap	3843.300	Sierra Gardens Footbridge	3094	1938	2121	3244	2415	2337

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73	YLC85C	LC40L_30	8400	Linda Creek	Below Strap	8257.900	Rocky Ridge Dirve	3045	2144	2309	3194	2828	2709
74	ULC85B	LC40L_30	10000	Linda Creek	Below Strap	9810.000	Strap Ravine Confluence	3004	2179	2395	3153	2830	2716
76	ULC80I	LC40L_30	11500	Linda Creek	Below S Branch	136	Champion Oaks Drive/Samoa Way (Gage 1626/1628)	2338	1631	1734	2476	1924	1853
78	ULC80A	LC40L_30	14300	Linda Creek	Below S Branch	157	Auburn Road	2199	1712	1900	2335	2227	2102
79	UC45J3	LC40L_30	15700	Linda Creek	Below S Branch	176	Old Auburn Road/City Limits	2239	1407	1559	2381	1841	1805
1079	ULC45J	LC40L_30	0	Linda Creek	Below S Branch	181	Ped Bridge over Creek in Park	#N/A	1344	1495	#N/A	1776	1738
Treelake Tributary Confluence													
80	ULC45J	LC40L_30	15900	Linda Creek	Below S Branch	181	Treelake Tributary Confluence	2239	1344	1495	2381	1776	1738
82	UC45J2	LC40L_30	19800	Linda Creek	Below S Branch	188	Indian Creek Drive	1716	1330	1482	1839	1769	1731
1082	ULC45D	LC40L_30	0	Linda Creek	Below S Branch	207	Private Bridge Near Hazel	#N/A	1181	1328	#N/A	1622	1580
83	ULC45D	LC40L_30	25300	Linda Creek	Below S Branch	211	Hazel Avenue	1505	1184	1329	1696	1623	1587
84	UC35Q3	LC40L_30	25500	Linda Creek	Below S Branch	212	Orangevale Tributary Confluence	1505	1184	1329	1696	1623	1587
1084	ULC40A	LC40L_30	0	Linda Creek	Above S Branch	3.075	BDG 17 2-24" CMPS	#N/A	826	971	#N/A	1189	1164
85	UC15N2	LC40L_30	31300	Linda Creek	Above S Branch	4.239	Granite Road Bridge	775	690	854	852	1045	1020
86	ULC15N	LC40L_30	32600	Linda Creek	Above S Branch	4.407	Cherry Avenue	870	669	825	949	1024	1000
1086	ULC15J	LC5A_0	0	Linda Creek	Above S Branch	5.22	Private Driveway Concrete Box Type	#N/A	513	558	#N/A	606	504
1087	YLC15J	LC5A_0	0	Linda Creek	Above S Branch	5.264	Driveway Bridge	#N/A	513	558	#N/A	606	504
1088	YLC15J	LC5A_0	0	Linda Creek	Above S Branch	5.526	Granite Glen Court (Private)	#N/A	513	559	#N/A	606	504
88	YLC15J	LC5A_0	38600	Linda Creek	Above S Branch	5.715	Wedgewood Drive	637	521	571	738	623	508
1089	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.039	Golf Cart Bridge #5	#N/A	476	521	#N/A	570	513
1090	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.12	Golf Cart Bridge #4	#N/A	476	521	#N/A	569	514
1091	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.197	Golf Cart Bridge #3	#N/A	475	523	#N/A	569	515
1092	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.241	Golf Cart Bridge #2	#N/A	476	523	#N/A	569	515
1093	ULC5F2	LC5A_0	0	Linda Creek	Above S Branch	6.515	Golf Cart Bridge #1	#N/A	489	494	#N/A	526	484
89	ULC5F2	LC5A_0	42300	Linda Creek	Above S Branch	6.53	East Roaseville Parkway	480	489	494	539	526	483
90	ULC5F	LC5A_0	43100	Linda Creek	Above S Branch	6.759	Barton Road	470	465	468	529	502	462
91	YLC5E	LC5A_0	44600	Linda Creek	Above S Branch	7.140	Shadow Brook Place	410	377	392	463	427	359
92	ULC5B	LC5A_0	46500	Linda Creek	Above S Branch	7.479	Troy Purdy Lane	298	318	333	341	364	236
1094	ULC5C	LC5A_0	0	Linda Creek	Above S Branch	7.609	Muir Way	#N/A	259	265	#N/A	295	198
93	YLC5C	LC5A_0	48100	Linda Creek	Above S Branch	7.77	Country Court (Private)	244	256	277	281	294	198
1095	ULC1A	LC5A_0	0	Linda Creek	Above S Branch	7.839	Country Court	#N/A	568	842	#N/A	892	891
94	YLC1A	LC5A_0	48700	Linda Creek	Above S Branch	8.011	Auburn Folsom Road	255	275	280	377	300	198
Linda Creek/Strap Ravine													
95	USR25C	CC5G_90	0	Strap Ravine	Reach 1	0.	Linda Creek Confluence	674	556	836	766	878	877
1095	YSR25A	CC5G_90	300	Strap Ravine	Reach 1	276	Foot Bridge in Park	#N/A	568	842	#N/A	892	891
96	UR20A4	CC5G_90	1500	Strap Ravine	Reach 1	1136.900	McClaren Drive (Gage 1611)	674	566	841	767	890	889
97	UXR20A	CC5G_90	5900	Strap Ravine	Reach 1	5539.100	Johnson Ranch Drive	671	516	815	770	854	850
98	USR152	CC5G_90	6800	Strap Ravine	Reach 1	6380.600	Eureka Road	629	517	822	721	855	852

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99	USR82	CC5G_90	8600	Strap Ravine	Reach 1	8201.500	East Roseville Parkway	664	436	546	781	574	606
100	USR5C2	LC5A_0	11800	Strap Ravine	Reach 1	11366.10	Sierra College Blvd.	586	305	415	758	456	518
101	USR1A	LC5A_0	23000	0	0	NONE	Barton Road	476	378	660	751	652	652
Linda Creek/Treelake Tributary													
102	ULC60B	LC40L_30	0	0	0	NONE	Linda Creek Confluence	691	310	366	766	456	456
103	YLC60B	LC40L_30	3200	0	0	NONE	Petite Way (approximated)	625	321	381	696	478	478
104	YLC60A	LC40L_30	5700	0	0	NONE	Old Auburn Road	538	289	357	602	447	447
105	YC55H3	LC40L_30	6000	0	0	NONE	Sierra College Blvd.	521	313	401	584	511	511
106	YLC55F	LC40L_30	9600	0	0	NONE	Swan Lake Drive	376	265	392	427	506	506
107	UC55L2	LC40L_30	9600	0	0	NONE	Swan Lake	376	246	377	427	488	488
108	UPC55L	LC40L_30	10800	0	0	NONE	Waterbury Way	317	261	415	362	511	511
109	YLC55L	LC40L_30	10800	0	0	NONE	Waterbury Lake	317	311	482	362	566	566
110	ULC50E	LC40L_30	11400	0	0	NONE	East Roaseville Parkway	314	244	345	368	419	419
111	YLC50E	LC40L_30	11400	0	0	NONE	East Roseville Parkway Pond	314	266	383	368	455	455
112	ULC50F	LC40L_30	11700	0	0	NONE	Treelake office Lane	314	234	300	368	358	358
113	ULC50F	LC40L_30	11700	0	0	NONE	Treelake office Lane Pond	314	234	300	368	358	358
Linda Creek/Hazel Avenue Tributary (Sac County)													
114	YC35Q2	LC40L_30	0	0	0	NONE	Linda Creek Confluence	519	355	475	646	546	546
115	UC35Q2	LC40L_30	400	0	0	NONE	Oak Avenue	519	355	475	646	546	546
Linda Creek/Orangevale Tributary (Sac County)													
116	YC35Q2	LC40L_30	0	Linda Creek	South Branch	.001	Linda Creek Confluence	655	368	459	727	552	556
1116	YLC35Q	LC40L_30	0	Linda Creek	South Branch	0.125	Private Bridge (Metal and Concrete)	#N/A	366	455	#N/A	565	564
117	ULC35Q	LC40L_30	900	Linda Creek	South Branch	0.196	Oak Avenue	376	366	455	427	566	564
1117	ULC30E	LC40L_30	0	Linda Creek	South Branch	1.022	Private Bridge in Park Area	#N/A	178	275	#N/A	329	329
118	ULC30E	LC40L_30	3300	Linda Creek	South Branch	1.035	Filbert Avenue	358	178	275	406	329	329
1118	ULC30B	LC40L_30	0	Linda Creek	South Branch	1.244	Private Bridge Near Chestnut	#N/A	161	265	#N/A	315	314
119	UC30C2	LC40L_30	4300	Linda Creek	South Branch	1.346	Chestnut Avenue	336	151	250	383	298	298
120	ULC30A	LC40L_30	5500	Linda Creek	South Branch	1.649	Walnut Avenue (North)	219	139	199	220	233	233
120	UC20E3	LC40L_30	5500	Linda Creek	South Branch	1.772	Walnut Avenue (South)	219	139	199	220	233	233
121	VLC25C	LC40L_30	6700	Linda Creek	South Branch	NONE	Main Avenue (North)	164	30	43	165	48	48
1121	VLC20E	LC40L_30	6700	Linda Creek	South Branch	NONE	Main Avenue (South)	#N/A	114	163	#N/A	185	185
Antelope Creek													
122	UDC4D	AC5I_60	0	Antelope Ck	AntelopeBlwClove	0.	Miners Ravine/Dry Creek	1979	2384	2531	2244	2779	2287
123	UC45B2	AC5I_60	1400	Antelope Ck	AntelopeBlwClove	1394.899	Harding Blvd.	1978	2385	2535	2243	2784	2283
124	UAC45B	AC5I_60	2300	Antelope Ck	AntelopeBlwClove	2349.499	Atlantic Street	1977	2391	2542	2242	2790	2287
1124	UAC45B	AC5I_60	0	Antelope Ck	AntelopeBlwClove	2455.599	Bridge #3	#N/A	2384	2537	#N/A	2787	2284
125	UAC45L	AC5I_60	5000	Antelope Ck	AntelopeBlwClove	5017.599	County Dump Road	1973	2442	2575	2236	2829	2606

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126	UC41E4	AC5I_60	9600	Antelope Ck	AntelopeBlwClove	10909.49	Highway 65 - non ras (Gage 1583)	1982	2480	2600	2243	2866	2864
127	UC41E3	AC5I_60	10300	Antelope Ck	AntelopeBlwClove	11383.53	Springview Drive	2526	2467	2586	2653	2855	2851
128	YC41E2	AC5I_60	10800	Antelope Ck	AntelopeBlwClove	11418.53	Rocklin City Tributary Confluence	2483	2463	2580	2618	2851	2846
130	UC40K2	AC5I_60	15800	Antelope Ck	AntelopeBlwClove	16930.03	Sunset Blvd.	2425	2409	2520	2570	2811	2814
133	UV10B2	AC5I_60	22800	Antelope Ck	AntelopeBlwClove	24722.3	Clover Valley Creek Confluence	2135	2400	2518	2401	2878	2881
134	UC35G3	AC5I_60	23600	Antelope Ck	Reach 1	25350.71	Midas Avenue	1544	1923	2028	1779	2000	1999
135	UAC35C	AC5I_60	25700	Antelope Ck	Reach 1	27696.03	Southern Pacific Railroad (UPRR) - non ras	1528	1969	2063	1763	2045	2045
136	VAC35I	AC5I_60	26500	Antelope Ck	Reach 1	28434.67	Yankee Hill Road	1523	1962	2049	1757	2039	2039
137	YAC30C	AC5I_60	27600	Antelope Ck	Reach 1	34226	Atkinson Dairy Dam	1507	1910	2050	1741	2050	2050
138	YAC30B	AC5I_60	28900	Antelope Ck	Reach 1	34691	Unnamed Road - no ras - no find aerial	1492	1878	2015	1725	2014	2014
139	YAC30B	AC5I_60	31800	Antelope Ck	Reach 1	35656	Delmar Avenue - no ras	1505	1882	2019	1761	2019	2019
140	YAC30B	AC5I_60	34300	Antelope Ck	Reach 1	36964	Sierra College Blvd. (Gage 1573)	1477	1885	2020	1728	2023	2023
141	U30AC4	AC5I_60	37000	Antelope Ck	Reach 1	39726	King Road	1465	1878	2021	1715	2014	2014
Antelope Creek / Clark Tunnel Road Tributary													
142	U30AC2	AC5I_60	0	Antelope Ck	Reach 1	40906	Antelope Creek Confluence	1506	1873	1980	1763	1973	1973
143	UC25BC	AC5I_60	100	0	0	NONE	Barker Road	883	579	613	1115	604	604
144	VAC20C	AC5I_60	1300	0	0	NONE	Humphrey Road	934	396	416	1218	425	425
145	YC16EB	AC5I_60	1700	0	0	NONE	Humphrey Tributary Confluence	913	325	341	1197	356	356
148	UC15CB	AC5I_60	7000	0	0	NONE	Colwell Road	599	196	203	870	212	212
149	YC15BC	AC5I_60	10000	0	0	NONE	English Colony Way	520	174	178	770	176	176
150	AC15AD	AC5I_60	12800	0	0	NONE	Clark Tunnel Road	218	129	131	382	130	130
Antelope Creek/Rocklin City Tributary													
151	VAC41E	CC5G_90	0	0	0	NONE	Antelope Creek Confluence	140	299	299	180	327	327
152	VAC41F	SE40M_30	2700	0	0	NONE	Taylor Road	105	117	117	135	143	143
153	VAC41F	SE40M_30	2800	0	0	NONE	Taylor Road	88	117	117	113	143	143
154	UAC41A	SE40M_30	4500	0	0	NONE	Sunset Blvd.	52	62	62	67	83	83
Antelope Creek/Clover Valley Creek													
155	UCV10B	AC5I_60	0	Clover Valley	Clover Valley1	.1	Antelope Creek Confluence	592	604	683	640	891	896
1155	UCV10B	AC5I_60	0	Clover Valley	Clover Valley1	155	Golf Course Ped Bridge	#N/A	602	680	#N/A	898	901
156	UCV10B	AC5I_60	400	Clover Valley	Clover Valley1	445	Argonaut Avenue	590	601	678	638	907	903
157	YCV10B	AC5I_60	2200	Clover Valley	Clover Valley1	2785	Footbridge and Weir	582	604	694	627	864	870
158	UXV10A	AC5I_60	4300	Clover Valley	Clover Valley1	4090	Midas Avenue	578	595	683	623	849	855
159	YCV10A	AC5I_60	4700	Clover Valley	Clover Valley1	4430	Abandoned Stone Bridge	578	596	683	623	849	855
160	YCV10A	AC5I_60	5600	Clover Valley	Clover Valley1	5400	Unnamed Bridge	572	595	658	616	823	828
1160	UV6CB2	AC5I_60	0	Clover Valley	Clover Valley1	6365	Gazebo Crossing	#N/A	597	659	#N/A	824	829
161	UCV6CB	AC5I_60	6500	Clover Valley	Clover Valley1	6505	Clover Valley Detention Pond	570	597	659	612	824	829
162	YV6CB2	AC5I_60	7700	Clover Valley	Clover Valley1	7815	Creekwood Drive	564	598	659	605	824	829

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163	UCV6BC	AC5I_60	12000	Clover Valley	Clover Valley1	12015	Rawhide Road	516	555	586	566	753	759
164	UCV6BC	AC5I_60	12500	Clover Valley	Clover Valley1	12550	Rowhide Road Det. Pond	509	556	588	560	764	770
165	UCV5C	AC5I_60	25600	Clover Valley	Clover Valley1	NONE	Unnamed Road	322	493	521	386	700	700
166	UCV1T	AC5I_60	28000	Clover Valley	Clover Valley1	NONE	Sierra College Blvd.	307	329	347	378	536	536
167	VCV1T	AC5I_60	28500	Clover Valley	Clover Valley1	NONE	English Colony Way	307	252	264	378	560	560
Antelope Creek Continued (West Branch) -													
169	UC25BC	AC5I_60	38700	0	0	NONE	Clark Tunnel Road Tributary Confluence	624	579	613	648	604	604
170	U25AD2	AC5I_60	40600	0	0	NONE	Barker Road	556	544	575	592	569	569
171	Y25AD2	AC5I_60	42500	0	0	NONE	Citrus Colony Road	506	564	596	755	592	592
172	YAC16A	AC5I_60	47900	0	0	NONE	English Colony Road	279	239	247	358	258	258
Antelope Creek/Humphrey Tributary -													
173	UPAC5K	AC5I_60	0	0	0	NONE	Clark Tunnel Road Tributary Confluence	264	196	208	337	197	197
174	VAC5J2	AC5I_60	1700	0	0	NONE	Sandy Road	185	206	216	236	209	209
175	VAC5O	AC5I_60	3300	0	0	NONE	Mardell Lane	158	35	36	202	35	35
176	UPAC5G	AC5I_60	3700	0	0	NONE	Colwell Road	132	159	164	168	162	162
177	YAC5E	AC5I_60	6300	0	0	NONE	English Colony Way	79	141	143	101	145	145
Miners Ravine													
178	UMR40E	SE40M_30	0	Miners Ravine	Below Secret	10.	Antelope Creek/Dry Creek	5282	4666	4635	5644	5320	4970
179	UMR40E	SE40M_30	200	Miners Ravine	Below Secret	94.	Harding Blvd.	5281	4666	4635	5642	5320	4970
180	YMR40E	SE40M_30	1500	Miners Ravine	Below Secret	659.8999	Interstate 80 - no ras	5278	4667	4639	5634	5324	4974
181	YMR40B	SE40M_30	2800	Miners Ravine	Below Secret	1422.400	Eureka Way	5291	4658	4630	5641	5315	4964
182	YSEMR	SE40M_30	3800	Miners Ravine	Below Secret	3734.100	Secret Ravine Confluence	4343	4652	4626	4755	5311	4958
183	YMR37D	MR15J_30	5300	Miners Ravine	BET SECRET-FALSE	5674.100	Sunrise Avenue - no ras	3753	1641	1532	4170	1701	1702
184	UR37D4	MR15J_30	7000	Miners Ravine	BET SECRET-FALSE	7319.900	Boardman Tributary	1130	1639	1531	1266	1700	1701
185	UR36N2	MR15J_30	9000	Miners Ravine	Above False	9828.100	East Roseville Parkway	2630	1586	1492	3028	1654	1655
186	UMR31Q	MR15J_30	18200	Miners Ravine	Above False	18310.19	Sierra College Blvd.	2577	1556	1453	2973	1614	1615
187	YR31Q2	MR15J_30	18300	Miners Ravine	Above False	18610	Cavitt Stallman Tributary - no ras	2577	1552	1561	2973	1727	1729
188	UMR31G	MR15J_30	18600	Miners Ravine	Above False	18685	Cavitt (&) Stallman Road	2276	1419	1419	2681	1592	1594
190	UR31P2	MR15J_30	23400	Miners Ravine	Above False	23390	Shadow Oaks Lane	2215	1397	1390	2619	1573	1577
1190	YMR31D	MR15J_30	0	Miners Ravine	Above False	27990.	Hardy Lane	#N/A	1383	1378	#N/A	1561	1566
191	UMR31D	MR15J_30	28900	Miners Ravine	Above False	28826	Barton Road	2147	1381	1377	2557	1563	1566
192	UMR30R	MR15J_30	31300	Miners Ravine	Above False	31379	TallPine Lane	2105	1374	1370	2510	1603	1558
193	UMR30Q	MR15J_30	33000	Miners Ravine	Above False	32984	Carolinda Drive	2063	1373	1378	2462	1554	1558
194	UMR30P	MR15J_30	34800	Miners Ravine	Above False	34813	Itchy Acres Road	2029	1357	1365	2426	1541	1544
196	UR30H2	MR15J_30	35500	Miners Ravine	Above False	35489	Miners Ravine Road	2009	1357	1365	2404	1542	1545
197	UR30H3	MR15J_30	36800	Miners Ravine	Above False	36790	Leibinger Lane	1989	1354	1368	2383	1544	1548

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199	UR29B2	MR15J_30	39700	Miners Ravine	Above False	39765	Auburn Folsom Road	2000	1355	1375	2366	1560	1566
200	UXR29H	MR15J_30	41700	Miners Ravine	Above False	40276	Oak Lane	1947	1355	1376	2310	1561	1567
201	UR29I2	MR15J_30	43000	Miners Ravine	Above False	44240	Old Bridge	1893	1338	1363	2252	1546	1553
202	YMR29I	MR15J_30	43200	Miners Ravine	Above False	44240	Cottonwood Lake	1880	1338	1363	2238	1546	1553
203	UMR21C	MR15J_30	44400	Miners Ravine	Above False	44368	Auburn Folsom Road	1866	1338	1363	2223	1546	1553
1203	YMR21C	MR15J_30	0	Miners Ravine	Above False	44523	Driveway opposite Twin Rocks Road	#N/A	1317	1340	#N/A	1521	1529
204	YMR21D	MR15J_30	45600	Miners Ravine	Above False	45593	Confluence with Lake Tributary (MR15)	1789	1317	1340	2141	1540	1547
1204	UXR20R	MR15J_30	0	Miners Ravine	Above False	52637	Bridge 15	#N/A	1083	1101	#N/A	1270	1275
1205	UXR20Q	MR15J_30	0	Miners Ravine	Above False	53992	Bridge 16	#N/A	1070	1089	#N/A	1257	1262
205	UR20P2	MR15J_30	56000	Miners Ravine	Above False	55052	Moss Lane	1710	1099	1115	2055	1263	1269
1206	YR20K2	MR15J_30	0	Miners Ravine	Above False	57194	Bridge 18 So of Willow Valley Place	#N/A	1067	1068	#N/A	1237	1243
1207	YR20K2	MR15J_30	0	Miners Ravine	Above False	57599	Willow Valley Place	#N/A	1080	1094	#N/A	1238	1243
1208	UR20C2	MR15J_30	0	Miners Ravine	Above False	57984	Bridge 20 North of Willow Valley Place	#N/A	1062	1075	#N/A	1229	1235
207	UR15K2	MR15J_30	59900	Miners Ravine	Above False	59894	Dick Cook Road	1227	1001	1012	1525	1152	1157
208	UXR15V	MR15J_30	61500	Miners Ravine	Above False	61470	Auburn Folsom Road	1181	883	897	1473	1028	1027
209	UR15W2	MR15J_30	62400	Miners Ravine	Above False	62487	Placer Canyon Parkway	1133	929	938	1419	1052	1055
1209	Y15AE2	MR15J_30	0	Miners Ravine	Above False	64347	Lominda Lane	#N/A	928	935	#N/A	1070	1128
210	UXR15Q	MR15J_30	67600	Miners Ravine	Above False	67574	Horseshoe Bar Road	890	908	871	1142	1021	1027
1210	UMR10M	MR15J_30	0	Miners Ravine	Above False	70394	Bridge 26	#N/A	833	837	#N/A	1002	1010
1211	UMR10M	MR15J_30	0	Miners Ravine	Above False	70984	Bridge 27	#N/A	840	850	#N/A	1028	1028
1212	UMR10I	MR15J_30	0	Miners Ravine	Above False	73328	Whiskey Bar Road	#N/A	706	706	#N/A	883	883
1213	UXR10E	MR15J_30	0	Miners Ravine	Above False	75238	Bridge 30	#N/A	765	765	#N/A	875	875
1214	UMMR5S	MR15J_30	0	Miners Ravine	Above False	75448	Bridge 31	#N/A	675	675	#N/A	780	780
1215	YMR10E	MR15J_30	0	Miners Ravine	Above False	76148	Bridge 32	#N/A	678	678	#N/A	782	782
211	YMR10E	MR15J_30	71700	Miners Ravine	Above False	76613	Auburn Folsom Road	730	680	681	955	786	786
212	UPMR5R	MR15J_30	73300	Miners Ravine	Above False	78358	King Road	694	355	355	910	405	405
213	YMR5W	MR15J_30	79400	Miners Ravine	Above False	79398	Penryn Rock Springs Road	199	318	318	275	364	364
214	YMR5P	MR15J_30	80200	Miners Ravine	Above False	80243	Newcastle Road	119	249	249	165	284	284
Miners Ravine/Boardman Tributary													
215	UR37D3	CC5G_90	0	0	0	NONE	Miners Ravine Confluence	302	234	449	387	471	471
216	UR35R6	CC5G_90	800	0	0	NONE	East Roseville Parkway	287	228	439	368	460	460
Miners Ravine/Cavitt & Stallman Tributary													
217	UMR25L	SE40N_0	0	0	0	NONE	Miners Ravine Confluence	539	300	298	648	370	370
218	YR25M2	SE40N_0	2400	0	0	NONE	Hidden Valley Place	508	306	304	610	381	381
219	YMR25N	SE40N_0	3100	0	0	NONE	Baywood Road	477	300	298	573	376	376
220	YR25P2	SE40N_0	3700	0	0	NONE	S. Bar B Lane	446	294	291	535	368	368
221	YMR25D	SE40N_0	4500	0	0	NONE	Kokuia Lane	415	250	250	497	337	337
222	YMR25I	SE40N_0	5100	0	0	NONE	Crestview Lane	384	270	270	460	347	347
223	YMR24E	SE40N_0	9300	0	0	NONE	Barton Road	360	232	232	486	303	303

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Miners Ravine/Lake Tributary (MR21)													
224	UMR21H	MR15J_30	0	0	0	NONE	Miners Ravine Confluence	230	90	90	298	174	174
225	UMR21H	MR15J_30	200	0	0	NONE	Auburn Folsom Road	258	90	90	335	174	174
226	YMR21H	MR15J_30	300	0	0	NONE	South Lake Circle	258	126	126	335	208	208
Secret Ravine													
227	YSE85Q	SE40M_30	0	Secret Ravine	Below Sucker	1	Miners Ravine Confluence	2865	3587	3623	2954	4133	3766
228	YE85Y2	SE40M_30	1400	Secret Ravine	Below Sucker	798.3000	East Roseville Parkway	2864	3587	3623	2953	4130	3763
229	YE76A2	SE40M_30	13500	Secret Ravine	Below Sucker	14280.	Sucker Ravine Confluence	2774	3520	3566	2991	4097	3719
230	Y56AB3	SE40M_30	16200	Secret Ravine	Reach 1	17396	Aguiar Road Tributary Confluence	2495	3090	3120	2729	3558	3254
231	USE52D	SE40M_30	17600	Secret Ravine	Reach 1	18595.9	Rocklin Road - China Gardens	2304	3091	3121	2611	3560	3256
232	YSE51K	SE40M_30	23300	Secret Ravine	Reach 1	24526	Sierra College Blvd.	2263	3097	3111	2577	3591	3266
233	UE50Q2	SE40M_30	28800	Secret Ravine	Reach 1	30371	Private Road - Diaz	2115	2919	2898	2452	3492	3503
234	UE50P2	SE40M_30	29200	Secret Ravine	Reach 1	30801	Private Road	2106	2920	2898	2445	3502	3499
235	YE50F2	SE40M_30	30800	Secret Ravine	Reach 1	32256	Brace Road	2031	2874	2852	2381	3453	3449
236	YE50A2	SE40M_30	32600	Secret Ravine	Reach 1	34081	Horseshoe Bar Road	1974	2817	2794	2332	3385	3382
237	YE50A2	SE40M_30	33400	Secret Ravine	Reach 1	34081	Loomis Tributary Confluence	1967	2817	2794	2326	3385	3382
238	YE35B2	SE40M_30	33500	Secret Ravine	Reach 1	34866	King Road Tributary Confluence	1853	2812	2868	2226	3334	3332
239	USE35A	SE40M_30	38600	Secret Ravine	Reach 1	38066	King Road-no ras	1580	2317	2341	1965	2706	2705
241	YE35B2	SE40M_30	40000	Secret Ravine	Reach 1	40346	Penryn Road	1564	2267	2293	1957	2665	2663
242	YSE30E	SE40M_30	40500	Secret Ravine	Reach 1	NONE	Harris/Boulder Creek Road.	1559	2096	2116	1955	2459	2459
243	VSE26I	SE40M_30	40700	Secret Ravine	Reach 1	NONE	Penryn Tributary Confluence	1368	1986	2007	1784	2344	2344
244	VSE26H	SE40M_30	43300	Secret Ravine	Reach 1	NONE	Boulder Creek Road	1196	657	657	1617	747	747
245	VE26N2	SE40M_30	48500	Secret Ravine	Reach 1	NONE	Brennans Road	731	616	616	1128	707	707
246	VE26N2	SE40M_30	48900	Secret Ravine	Reach 1	NONE	Rock Springs Road	718	616	616	1113	707	707
247	USE26E	SE40M_30	50400	Secret Ravine	Reach 1	NONE	Meadow Lane	672	504	504	1061	583	583
248	UE26BB	SE40M_30	51300	Secret Ravine	Reach 1	NONE	Los Puentes Road	643	479	479	1027	556	556
249	VE25IA	SE40M_30	55300	Secret Ravine	Reach 1	NONE	Newcastle Road	666	484	484	943	565	565
250	UE25AB	SE40M_30	57700	Secret Ravine	Reach 1	NONE	Powerhouse Road	466	423	423	660	499	499
Secret Ravine/Sucker Ravine													
251	UXE70I	SE40N_0	0	Sucker Ravine	Reach 1	0	Secret Ravine Confluence	753	368	379	115	512	527
252	USE76A	SE40N_0	1000	Sucker Ravine	Reach 1	840	China Garden Road	748	375	385	1147	518	531
253	YSE76B	SE40N_0	1200	Sucker Ravine	Reach 1	1305	Interstate 80	747	375	385	1145	518	531
254	YSE76B	SE40N_0	2200	Sucker Ravine	Reach 1	1860	Oakridge Street	745	377	387	1143	529	541
255	YSE76B	SE40N_0	2600	Sucker Ravine	Reach 1	2750	Lakeside Drive	735	378	388	1132	531	543
256	USE70I	SE40N_0	3950	Sucker Ravine	Reach 1	4110	Rocklin Road	716	371	381	1111	557	553
257	USE70H	SE40N_0	4300	Sucker Ravine	Reach 1	4580	Quary Lake	711	358	366	1105	508	519
258	YSE70H	SE40N_0	4700	Sucker Ravine	Reach 1	4840	Super Span	704	358	366	1097	508	519
259	USE70F	SE40N_0	7450	Sucker Ravine	Reach 1	7605	Sierra Meadows Drive	686	351	358	1077	501	512

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1259	YSE70B	SE40N_0	0	Sucker Ravine	Reach 1	9955	Culvert 1	#N/A	307	338	#N/A	445	454
1260	YSE70D	SE40N_0	0	Sucker Ravine	Reach 1	10565	Driveway Below Dominguez Road	#N/A	310	317	#N/A	449	457
260	YSE70C	SE40N_0	10800	Sucker Ravine	Reach 1	10935	Dominguez Road	597	314	319	973	450	458
261	UE60E2	SE40N_0	11000	Sucker Ravine	Reach 1	10935	Loomis Tributary Confluence	589	314	319	963	450	458
263	YSE66J	SE40N_0	13400	Sucker Ravine	Reach 1	14525	Pacific Street	553	132	140	919	147	150
1263	USE66J	SE40N_0	0	Sucker Ravine	Reach 1	14756	Railroad	#N/A	132	140	#N/A	147	150
1264	USE66D	SE40N_0	0	Sucker Ravine	Reach 1	16706	Culvert 5	#N/A	140	160	#N/A	186	220
264	USE66D	SE40N_0	14800	Sucker Ravine	Reach 1	16846	Bankhead Road	523	140	160	883	186	220
265	YSE66C	SE40N_0	15200	Sucker Ravine	Reach 1	17266	Sierra College Blvd.	513	135	155	870	181	214
266	USE66A	SE40N_0	19000	Sucker Ravine	Reach 1	20671	Saunders Avenue	211	350	489	455	394	401
267	SE65	SE40N_0	20200	Sucker Ravine	Reach 1	22546	King Road	211	283	405	455	283	288
Secret Ravine/Sucker Ravine/Loomis Tributary													
268	VSE60E	SE40N_0	0	0	0	NONE	Sucker Ravine Confluence	278	285	280	542	431	431
270	VE60D2	SE40N_0	4400	0	0	NONE	Sierra College Blvd.	153	254	251	298	334	334
Secret Ravine/Aguilar Road Tributary													
271	Y56AB2	SE40N_0	0	0	0	NONE	Secret Ravine Confluence	543	280	293	907	433	433
272	Y56AB2	SE40N_0	700	0	0	NONE	Aguilar Road	529	280	293	890	433	433
273	YSE56B	SE40N_0	2400	0	0	NONE	Foothill Road	499	242	282	852	368	368
274	Y55MA2	SE40N_0	4100	0	0	NONE	El Don Road	476	172	185	824	230	230
275	UE56DB	SE40N_0	4100	0	0	NONE	El Don Detention Pond	461	172	174	805	230	230
276	VSE55L	SE40N_0	6100	0	0	NONE	Sierra College Blvd.	334	141	141	423	188	188
Secret Ravine / Loomis Tributary													
277	YSE40J	SE40N_0	0	0	0	NONE	Secret Ravine Confluence	373	295	373	689	424	424
278	YSE40J	SE40N_0	1200	0	0	NONE	Interstate 80	354	295	373	663	424	424
279	VSE40I	SE40N_0	2800	0	0	NONE	Laird Street	339	263	331	643	354	354
280	VSE40F	SE40N_0	3600	0	0	NONE	King Road	326	200	257	625	260	260
Secret Ravine/King Road Tributary													
281	USE45W	SE40M_30	0	0	0	NONE	Secret Ravine Confluence	782	692	693	1184	817	817
282	YSE45Q	SE40M_30	3900	0	0	NONE	Rancho Verde Road	743	342	342	1142	421	421
283	YSE45A	MR15J_30	5400	0	0	NONE	Val Verde Road	303	276	276	368	355	355
284	USE44B	MR15J_30	6300	0	0	NONE	King Road	273	248	248	331	326	326
Secret Ravine/Penryn Tributary -													
285	YE15L2	SE40M_30	0	0	0	NONE	Secret Ravine Confluence	580	1359	1377	952	1620	1620
286	USE7H2	SE40M_30	4700	0	0	NONE	Rock Springs Road	729	1100	1122	1116	1331	1331
287	YSE5F2	SE40M_30	5600	0	0	NONE	East/West Forks Confluence	647	982	1005	1042	1210	1210

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Secret Ravine/ E. Fork Penryn Tributary													
288	VSE5F2	SE40M_30	0	0	0	NONE	West Fork Confluence	185	343	357	262	425	425
289	YSE5F	SE40M_30	900	0	0	NONE	Fairview Lane	166	344	357	235	425	425
290	YE20BS	SE40M_30	3700	0	0	NONE	Gilardi Road	68	255	268	97	323	323
Secret Ravine/W. Fork Penryn Tributary													
291	YSE7D	SE40M_30	0	0	0	NONE	East Fork Confluence	440	706	712	738	850	850
292	YSE10A	SE40M_30	200	0	0	NONE	Interstate 80	438	698	704	735	842	842
293	YE10BB	SE40M_30	1400	0	0	NONE	Girardi Road	416	660	666	757	805	805

Table G.6 10-YEAR EVENT

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:	10-year 1989 JMM	10-year 1992 Corrected	January 1995	10-year 2007-Current	10-year Future JMM	10-year Future Unmitigated	10-year Build-out w/LID & Projects
DRY CREEK														
1	VC135B	SE40N_0	8900	Dry Creek	Below Cirby	NONE	Rio Linda Blvd(North and South)	6085	4223	8157	4555	6915	5581	5581
2	Y130B2	SE40N_0	15000	Dry Creek	Below Cirby	NONE	Elkhorn Blvd. (North and South)	6126	4288	8166	4598	6920	5595	5595
3	YC125B	SE40N_0	16600	Dry Creek	Below Cirby	NONE	Curved Bridge Road (North)	6131	4450	8174	4677	6916	5612	5612
4	YC125A	SE40N_0	17400	Dry Creek	Below Cirby	NONE	Dry Creek Road (North and South)	6130	4436	8146	4665	6914	5599	5599
5	YDC115	SE40N_0	24400	Dry Creek	Below Cirby	NONE	Q Street (North and South)	6157	4464	8152	4673	6944	5611	5611
6	YDC90	SE40N_0	34900	Dry Creek	Below Cirby	NONE	Sierra Creek Confluence	6132	4407	8124	4611	6921	5548	5548
7	YDC85	SE40N_0	35200	Dry Creek	Below Cirby	NONE	28th Street (South)	6060	4404	8132	4609	6826	5547	5547
8	YDC85	SE40N_0	35400	Dry Creek	Below Cirby	NONE	Elverta Road	6048	4404	8132	4609	6810	5547	5547
9	YDC71B	SE40N_0	36900	Dry Creek	Below Cirby	38733	Confluence with County Line Trib	6055	4647	8441	4805	6817	5303	5490
11	YDC75C	SE40N_0	41400	Dry Creek	Below Cirby	41634	Watt Avenue	6038	4644	8470	4800	6786	5306	5489
13	YC65I2	SE40N_0	47700	Dry Creek	Below Cirby	47754	Confluence with DC65 Trib	6040	4627	8430	4775	6790	5338	5580
14	YDC60A	SE40N_0	50300	Dry Creek	Below Cirby	50025	Walerga Road	6011	4659	8428	4814	6753	5405	5673
1015	YDC50A	SE40N_0	0	Dry Creek	Below Cirby	55005	Morgan Creek Ped Crossing	#N/A	4723	8422	4867	#N/A	5482	5731
16	YDC35C	SE40N_0	58800	Dry Creek	Below Cirby	58560	Cook Riolo Road	5996	4744	8429	4884	6723	5508	5747
17	YDC25A	CC5G_90	67000	Dry Creek	Below Cirby	67583.80	S.P. Railroad Bridge	5883	4057	8392	4119	6569	4692	4559
18	YDC10D	SE40N_0	67400	Dry Creek	Below Cirby	67641.80	Atkinson Blvd.	5883	4715	8392	4837	6569	5489	5693
20	YDC20A	SE40N_0	68900	Dry Creek	Below Cirby	69138.40	S.P. Railroad Culverts (now bridge)	5894	4711	8391	4831	6569	5485	5687
21	YDC10D	SE40N_0	69900	Dry Creek	Below Cirby	70071.60	Vernon Street	5860	4709	8388	4828	6818	5482	5683
22	YDC10B	SE40N_0	72600	Dry Creek	Below Cirby	72702.60	Riverside Avenue	5868	4749	8223	4849	6536	5508	5694
23	YDCCC	SE40N_0	73000	Dry Creek	Below Cirby	72982	Cirby Creek Confluence	5868	4750	8226	4850	6536	5510	5695
24	YDC5A	SE40M_30	73800	Dry Creek	Above Cirby	73943.30	Darling Way	4361	4026	6195	4009	4849	4979	4590
25	YDC5C	SE40M_30	77000	Dry Creek	Above Cirby	77218.89	Douglas Blvd.	4359	4033	6205	4011	4844	4995	4578
26	UDC5B	SE40M_30	77500	Dry Creek	Above Cirby	77606.49	Royer Park Footbridge	4357	4034	6207	4011	4840	4987	4578
27	YDC5B	SE40M_30	79100	Dry Creek	Above Cirby	79166.05	Lincoln Street	4356	4024	6226	4000	4839	4974	4566
28	YDC4C	SE40M_30	79400	Dry Creek	Above Cirby	79816.70	Folsom Road	429	4025	6227	4001	4926	4977	4567
30	YACMR	SE40M_30	84100	Dry Creek	Above Cirby	84214.40	Antelope Creek/ Miners Ravine Confluence	4425	4020	6219	3994	4913	4975	4543
DRY CREEK - ELVERTA TRIB														
31	UDC90	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	187	72	129	72	263	82	82
DRY CREEK - SIERRA CREEK														
32	YC100B	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	833	301	536	308	1067	361	361
33	YC100A	CC5G_90	1400	0	0	NONE	28th Street	813	300	529	308	1043	358	358
34	YC100A	CC5G_90	3700	0	0	NONE	Scotland Drive	767	300	529	308	988	358	358

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:	10-year 1989 JMM	10-year 1992 Corrected	January 1995	10-year 2007-Current	10-year Future JMM	10-year Future Unmitigated	10-year Build-out w/LID & Projects
35	VC96B2	CC5G_90	5400	0	0	NONE	Delaney Drive	747	267	474	274	974	316	316
36	YDC96A	CC5G_90	6800	0	0	NONE	Watt Avenue	726	224	404	230	951	269	269
37	VDC96C	CC5G_90	10300	0	0	NONE	Navaho Way	452	158	287	164	575	198	198
38	YDC96C	CC5G_90	11400	0	0	NONE	Elverta Road	393	158	290	164	495	198	198
39	DC95A	CC5G_90	13500	0	0	NONE	Walerga Road	334	24	44	24	414	34	34
DRY CREEK/County Line Trib. (Note: Riolo Vineyards project determined this tributary does not drain as previously modeled - corrected in 2009 study)														
40	YDC75B	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	247	179	326	182	421	209	209
41	N/A	#N/A	3200	0	0	NONE	Watt Avenue	247	#N/A	#N/A	#N/A	421	#N/A	#N/A
42	VDC68B	CC5G_90	8200	0	0	NONE	PFE Road	247	154	274	158	421	172	172
Dry Creek DC-65 Tributary														
43	YDC65I	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	253	109	206	112	277	150	150
44	YDC65K	CC5G_90	3000	0	0	NONE	Walerga Road	202	100	188	131	222	138	138
Cirby Creek														
45	YCC45G	LC40L_30	0	Cirby Creek	below Linda	0	Dry Creek Confluence	1930	1359	2308	1549	2148	1764	1770
46	YCC45A	LC40L_30	3000	Cirby Creek	below Linda	2969.699	Interstate 80	1920	1386	2260	1590	2138	1817	1814
48	UCC45E	LC40L_30	4600	Cirby Creek	below Linda	4580.699	Wanda Lee Court Footbridge	1922	1377	2252	1580	2143	1806	1803
49	YCC45E	LC40L_30	6100	Cirby Creek	Above Linda	6009.699	Linda Creek Confluence	1957	1368	311	1572	2174	1797	1793
50	YCC40A	CC5G_90	7400	Cirby Creek	Above Linda	7262.099	Sunrise Blvd.	454	484	314	560	603	564	564
51	YCC40C	CC5G_90	8100	Cirby Creek	Above Linda	8038.899	Coloma Way - Gage 1635	456	493	293	614	604	619	619
52	YC40G2	CC5G_90	9100	Cirby Creek	Above Linda	9004.399	Oak Ridge Drive	466	466	274	586	616	592	592
53	UCC35D	CC5G_90	10000	Cirby Creek	Above Linda	9873.999	Sierra Gardens Footbridge	463	475	271	600	613	607	607
54	YCC15B	CC5G_90	11800	Cirby Creek	Above Linda	11679.19	Loretto Drive	479	504	258	642	658	648	648
55	YCC252	CC5G_90	12000	Cirby Creek	Above Linda	12228.79	Sierra Gardens Trib. Confluence	463	345	167	478	669	482	482
56	YCC15C	CC5G_90	12500	Cirby Creek	Above Linda	12377.29	Sierra Gardens Drive	231	345	167	478	499	482	482
57	YCC10E	CC5G_90	13900	Cirby Creek	Above Linda	13765.49	Huntington Drive	346	306	151	447	566	451	451
58	UCC10H	CC5G_90	14500	Cirby Creek	Above Linda	14420.19	Rocky Ridge Drive	212	176	92	267	319	276	276
60	YCC5B	CC5G_90	16400	Cirby Creek	Above Linda	15748.19	Winchester Way	186	132	67	211	284	214	214
61	YCC5D	CC5G_90	17200	Cirby Creek	Above Linda	16312.19	Eureka Road	189	90	52	163	317	166	166
62	YCC1A	CC5G_90	19700	Cirby Creek	Above Linda	17753.79	Douglas Blvd.	117	65	41	140	254	146	146
Cirby Creek/Sierra Gardens Trib.														
63	VCC25	CC5G_90	0	0	0	NONE	Cirby Creek Confluence	95	168	92	176	107	178	178
65	YCC20G	CC5G_90	1000	0	0	NONE	Douglas Blvd.	108	124	79	134	131	136	136
66	YCC20K	CC5G_90	1400	0	0	NONE	Sierra Gardens Ret. Basin	103	113	52	167	124	179	179
Linda Creek														
67	ULC95C	LC40L_30	0	Linda Creek	Below Strap	0.	Cirby Creek Confluence	1816	1276	2180	1486	2022	1704	1699

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68	ULC95D	LC40L_30	1000	Linda Creek	Below Strap	565.1000	Sunrise Avenue	1815	1276	2180	1486	2021	1703	1699
70	YLC90A	LC40L_30	2600	Linda Creek	Below Strap	2125.000	Oak Ridge Drive	2051	1271	2179	1315	2325	1531	1527
72	ULC90B	LC40L_30	4300	Linda Creek	Below Strap	3843.300	Sierra Gardens Footbridge	2037	1270	2183	1488	2309	1706	1703
73	YLC85C	LC40L_30	8400	Linda Creek	Below Strap	8257.900	Rocky Ridge Dirve	2007	1322	2254	1563	2275	1818	1816
74	ULC85B	LC40L_30	10000	Linda Creek	Below Strap	9810.000	Strap Ravine Confluence	1982	1351	2245	1642	2246	1936	1939
76	ULC80I	LC40L_30	11500	Linda Creek	Below S Branch	136	Champion Oaks Drive/Samoa Way (Gage 1626/1628)	1566	1081	1581	1331	1775	1516	1503
78	ULC80A	LC40L_30	14300	Linda Creek	Below S Branch	157	Auburn Road	1479	1076	1573	1343	1677	1585	1571
79	UC45J3	LC40L_30	15700	Linda Creek	Below S Branch	176	Old Auburn Road/City Limits	1579	979	1241	1146	1741	1334	1325
1079	ULC45J	LC40L_30	0	Linda Creek	Below S Branch	181	Ped Bridge over Creek in Park	#N/A	936	1193	1099	#N/A	1285	1276
Treelake Tributary Confluence														
80	ULC45J	LC40L_30	15900	Linda Creek	Below S Branch	181	Treelake Tributary Confluence	1579	936	1193	1099	1741	1285	1276
82	UC45J2	LC40L_30	19800	Linda Creek	Below S Branch	188	Indian Creek Drive	1172	924	1181	1089	1329	1276	1268
1082	ULC45D	LC40L_30	0	Linda Creek	Below S Branch	207	Private Bridge Near Hazel	#N/A	815	1082	964	#N/A	1148	1141
83	ULC45D	LC40L_30	25300	Linda Creek	Below S Branch	211	Hazel Avenue	1034	816	1084	966	1201	1152	1146
84	UC35Q3	LC40L_30	25500	Linda Creek	Below S Branch	212	Orangevale Tributary Confluence	1034	816	1084	966	1201	1152	1147
1084	ULC40A	LC40L_30	0	Linda Creek	Above S Branch	3.075	BDG 17 2-24" CMPS	#N/A	543	763	651	#N/A	838	825
85	UC15N2	LC40L_30	31300	Linda Creek	Above S Branch	4.239	Granite Road Bridge	644	447	671	624	730	774	761
86	ULC15N	LC40L_30	32600	Linda Creek	Above S Branch	4.407	Cherry Avenue	623	433	638	610	691	769	762
1086	ULC15J	LC5A_0	0	Linda Creek	Above S Branch	5.22	Private Driveway Concrete Box Type	#N/A	348	407	377	#N/A	423	391
1087	YLC15J	LC5A_0	0	Linda Creek	Above S Branch	5.264	Driveway Bridge	#N/A	349	406	377	#N/A	423	391
1088	YLC15J	LC5A_0	0	Linda Creek	Above S Branch	5.526	Granite Glen Court (Private)	#N/A	349	403	378	#N/A	423	392
88	YLC15J	LC5A_0	38600	Linda Creek	Above S Branch	5.715	Wedgewood Drive	464	350	407	381	545	427	395
1089	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.039	Golf Cart Bridge #5	#N/A	319	361	346	#N/A	388	355
1090	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.12	Golf Cart Bridge #4	#N/A	319	362	346	#N/A	388	355
1091	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.197	Golf Cart Bridge #3	#N/A	319	363	346	#N/A	388	355
1092	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.241	Golf Cart Bridge #2	#N/A	319	363	346	#N/A	388	355
1093	ULC5F2	LC5A_0	0	Linda Creek	Above S Branch	6.515	Golf Cart Bridge #1	#N/A	345	324	347	#N/A	361	342
89	ULC5F2	LC5A_0	42300	Linda Creek	Above S Branch	6.53	East Roaseville Parkway	355	344	324	347	402	361	342
90	ULC5F	LC5A_0	43100	Linda Creek	Above S Branch	6.759	Barton Road	348	321	301	323	395	338	315
91	YLC5E	LC5A_0	44600	Linda Creek	Above S Branch	7.140	Shadow Brook Place	306	273	201	276	347	283	267
92	ULC5B	LC5A_0	46500	Linda Creek	Above S Branch	7.479	Troy Purdy Lane	227	188	156	197	257	223	174
1094	ULC5C	LC5A_0	0	Linda Creek	Above S Branch	7.609	Muir Way	#N/A	152	124	158	#N/A	179	109
93	YLC5C	LC5A_0	48100	Linda Creek	Above S Branch	7.77	Country Court (Private)	188	154	124	159	213	180	109
1095	ULC1A	LC5A_0	0	Linda Creek	Above S Branch	7.839	Country Court	#N/A	354	587	600	#N/A	650	649
94	YLC1A	LC5A_0	48700	Linda Creek	Above S Branch	8.011	Auburn Folsom Road	193	162	135	168	291	181	123
Linda Creek/Strap Ravine														
95	USR25C	CC5G_90	0	Strap Ravine	Reach 1	0.	Linda Creek Confluence	488	356	586	592	572	644	642

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1095	YSR25A	CC5G_90	300	Strap Ravine	Reach 1	276	Foot Bridge in Park	#N/A	354	587	600	#N/A	650	649
96	UR20A4	CC5G_90	1500	Strap Ravine	Reach 1	1136.900	McClaren Drive (Gage 1611)	489	350	583	601	575	651	650
97	UXR20A	CC5G_90	5900	Strap Ravine	Reach 1	5539.100	Johnson Ranch Drive	487	314	571	575	577	629	625
98	USR152	CC5G_90	6800	Strap Ravine	Reach 1	6380.600	Eureka Road	485	314	541	580	577	629	627
99	USR82	CC5G_90	8600	Strap Ravine	Reach 1	8201.500	East Roseville Parkway	483	258	456	369	587	412	415
100	USR5C2	LC5A_0	11800	Strap Ravine	Reach 1	11366.10	Sierra College Blvd.	426	175	306	260	567	295	342
101	USR1A	LC5A_0	23000	0	0	NONE	Barton Road	356	251	207	388	578	447	447
Linda Creek/Treelake Tributary														
102	ULC60B	LC40L_30	0	0	0	NONE	Linda Creek Confluence	499	170	333	205	566	264	264
103	YLC60B	LC40L_30	3200	0	0	NONE	Petite Way (approximated)	455	178	333	213	515	276	276
104	YLC60A	LC40L_30	5700	0	0	NONE	Old Auburn Road	395	160	303	199	448	258	258
105	YC55H3	LC40L_30	6000	0	0	NONE	Sierra College Blvd.	384	176	301	225	435	294	294
106	YLC55F	LC40L_30	9600	0	0	NONE	Swan Lake Drive	282	150	248	222	320	288	288
107	UC55L2	LC40L_30	9600	0	0	NONE	Swan Lake	282	139	234	212	320	276	276
108	UPC55L	LC40L_30	10800	0	0	NONE	Waterbury Way	241	150	239	236	273	307	307
109	YLC55L	LC40L_30	10800	0	0	NONE	Waterbury Lake	241	189	242	280	273	353	353
110	ULC50E	LC40L_30	11400	0	0	NONE	East Roaseville Parkway	231	147	181	204	276	260	260
111	YLC50E	LC40L_30	11400	0	0	NONE	East Roseville Parkway Pond	231	168	196	237	276	287	287
112	ULC50F	LC40L_30	11700	0	0	NONE	Treelake office Lane	231	149	157	187	276	226	226
113	ULC50F	LC40L_30	11700	0	0	NONE	Treelake office Lane Pond	231	149	157	187	276	226	226
Linda Creek/Hazel Avenue Tributary (Sac County)														
114	YC35Q2	LC40L_30	0	0	0	NONE	Linda Creek Confluence	391	220	1069	306	494	355	355
115	UC35Q2	LC40L_30	400	0	0	NONE	Oak Avenue	391	220	331	306	494	355	355
Linda Creek/Orangevale Tributary (Sac County)														
116	YC35Q2	LC40L_30	0	Linda Creek	South Branch	.001	Linda Creek Confluence	475	269	333	350	538	390	392
1116	YLC35Q	LC40L_30	0	Linda Creek	South Branch	0.125	Private Bridge (Metal and Concrete)	#N/A	285	328	347	#N/A	374	374
117	ULC35Q	LC40L_30	900	Linda Creek	South Branch	0.196	Oak Avenue	282	285	329	347	320	374	374
1117	ULC30E	LC40L_30	0	Linda Creek	South Branch	1.022	Private Bridge in Park Area	#N/A	130	163	186	#N/A	214	214
118	ULC30E	LC40L_30	3300	Linda Creek	South Branch	1.035	Filbert Avenue	269	130	163	186	305	214	214
1118	ULC30B	LC40L_30	0	Linda Creek	South Branch	1.244	Private Bridge Near Chestnut	#N/A	119	147	167	#N/A	199	199
119	UC30C2	LC40L_30	4300	Linda Creek	South Branch	1.346	Chestnut Avenue	254	113	138	156	288	186	185
120	ULC30A	LC40L_30	5500	Linda Creek	South Branch	1.649	Walnut Avenue (North)	167	89	97	134	167	156	156
120	UC20E3	LC40L_30	5500	Linda Creek	South Branch	1.772	Walnut Avenue (South)	167	89	97	134	167	156	156
121	VLC25C	LC40L_30	6700	Linda Creek	South Branch	NONE	Main Avenue (North)	125	21	27	31	125	36	36
1121	VLC20E	LC40L_30	6700	Linda Creek	South Branch	NONE	Main Avenue (South)	#N/A	73	79	107	#N/A	123	123
Antelope Creek														

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122	UDC4D	AC5I_60	0	Antelope Ck	AntelopeBlwClove	0.	Miners Ravine/Dry Creek	1242	1616	1782	1744	1426	1939	1642
123	UC45B2	AC5I_60	1400	Antelope Ck	AntelopeBlwClove	1394.899	Harding Blvd.	1241	1615	1780	1744	1425	1940	1638
124	UAC45B	AC5I_60	2300	Antelope Ck	AntelopeBlwClove	2349.499	Atlantic Street	1241	1617	1781	1748	1425	1943	1639
1124	UAC45B	AC5I_60	0	Antelope Ck	AntelopeBlwClove	2455.599	Bridge #3	#N/A	1613	1775	1744	#N/A	1940	1636
125	UAC45L	AC5I_60	5000	Antelope Ck	AntelopeBlwClove	5017.599	County Dump Road	1238	1668	1784	1780	1421	1965	1754
126	UC41E4	AC5I_60	9600	Antelope Ck	AntelopeBlwClove	10909.49	Highway 65 - non ras (Gage 1583)	1243	1681	1767	1790	1425	1979	1978
127	UC41E3	AC5I_60	10300	Antelope Ck	AntelopeBlwClove	11383.53	Springview Drive	1620	1671	1755	1780	1721	1971	1969
128	YC41E2	AC5I_60	10800	Antelope Ck	AntelopeBlwClove	11418.53	Rocklin City Tributary Confluence	1594	1668	1754	1777	1701	1967	1966
130	UC40K2	AC5I_60	15800	Antelope Ck	AntelopeBlwClove	16930.03	Sunset Blvd.	1559	1622	1697	1728	1673	1922	1924
133	UV10B2	AC5I_60	22800	Antelope Ck	AntelopeBlwClove	24722.3	Clover Valley Creek Confluence	1400	1575	1610	1677	1587	1887	1891
134	UC35G3	AC5I_60	23600	Antelope Ck	Reach 1	25350.71	Midas Avenue	1018	1255	1111	1340	1186	1309	1309
135	UAC35C	AC5I_60	25700	Antelope Ck	Reach 1	27696.03	Southern Pacific Railroad (UPRR) - non ras	1008	1295	1086	1360	1175	1351	1350
136	VAC35I	AC5I_60	26500	Antelope Ck	Reach 1	28434.67	Yankee Hill Road	1004	1291	1079	1355	1171	1346	1345
137	YAC30C	AC5I_60	27600	Antelope Ck	Reach 1	34226	Atkinson Dairy Dam	993	1261	1012	1320	1160	1314	1314
138	YAC30B	AC5I_60	28900	Antelope Ck	Reach 1	34691	Unnamed Road - no ras - no find aerial	983	1245	985	1302	1148	1295	1295
139	YAC30B	AC5I_60	31800	Antelope Ck	Reach 1	35656	Delmar Avenue - no ras	1018	1247	984	1303	1196	1296	1296
140	YAC30B	AC5I_60	34300	Antelope Ck	Reach 1	36964	Sierra College Blvd. (Gage 1573)	986	1248	987	1303	1165	1296	1296
141	U30AC4	AC5I_60	37000	Antelope Ck	Reach 1	39726	King Road	962	1239	958	1292	1137	1283	1283
Antelope Creek / Clark Tunnel Road Tributary														
142	U30AC2	AC5I_60	0	Antelope Ck	Reach 1	40906	Antelope Creek Confluence	1004	1224	929	1304	1200	1293	1293
143	UC25BC	AC5I_60	100	0	0	NONE	Barker Road	567	384	283	408	745	403	403
144	VAC20C	AC5I_60	1300	0	0	NONE	Humphrey Road	638	261	157	275	864	281	281
145	YC16EB	AC5I_60	1700	0	0	NONE	Humphrey Tributary Confluence	625	214	130	224	851	234	234
148	UC15CB	AC5I_60	7000	0	0	NONE	Colwell Road	423	132	76	136	643	141	141
149	YC15BC	AC5I_60	10000	0	0	NONE	English Colony Way	369	114	56	116	576	116	116
150	AC15AD	AC5I_60	12800	0	0	NONE	Clark Tunnel Road	158	87	41	89	293	87	87
Antelope Creek/Rocklin City Tributary														
151	VAC41E	CC5G_90	0	0	0	NONE	Antelope Creek Confluence	108	165	201	165	140	183	183
152	VAC41F	SE40M_30	2700	0	0	NONE	Taylor Road	81	67	93	67	105	81	81
153	VAC41F	SE40M_30	2800	0	0	NONE	Taylor Road	67	67	93	67	87	81	81
154	UAC41A	SE40M_30	4500	0	0	NONE	Sunset Blvd.	40	35	52	35	52	46	46
Antelope Creek/Clover Valley Creek														
155	UCV10B	AC5I_60	0	Clover Valley	Clover Valley1	.1	Antelope Creek Confluence	398	402	493	448	432	577	582
1155	UCV10B	AC5I_60	0	Clover Valley	Clover Valley1	155	Golf Course Ped Bridge	#N/A	400	493	446	#N/A	577	582
156	UCV10B	AC5I_60	400	Clover Valley	Clover Valley1	445	Argonaut Avenue	397	399	493	445	431	577	582

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157	YCV10B	AC5I_60	2200	Clover Valley	Clover Valley1	2785	Footbridge and Weir	391	400	494	446	423	580	585
158	UXV10A	AC5I_60	4300	Clover Valley	Clover Valley1	4090	Midas Avenue	388	392	478	438	420	570	575
159	YCV10A	AC5I_60	4700	Clover Valley	Clover Valley1	4430	Abandoned Stone Bridge	389	392	479	438	420	571	577
160	YCV10A	AC5I_60	5600	Clover Valley	Clover Valley1	5400	Unnamed Bridge	385	375	435	421	415	582	592
1160	UV6CB2	AC5I_60	0	Clover Valley	Clover Valley1	6365	Gazebo Crossing	#N/A	376	436	423	#N/A	592	599
161	UCV6CB	AC5I_60	6500	Clover Valley	Clover Valley1	6505	Clover Valley Detention Pond	384	376	436	423	412	592	600
162	YV6CB2	AC5I_60	7700	Clover Valley	Clover Valley1	7815	Creekwood Drive	380	376	437	423	407	592	600
163	UCV6BC	AC5I_60	12000	Clover Valley	Clover Valley1	12015	Rawhide Road	346	349	387	375	380	537	545
164	UCV6BC	AC5I_60	12500	Clover Valley	Clover Valley1	12550	Rowhide Road Det. Pond	342	349	387	375	377	538	547
165	UCV5C	AC5I_60	25600	Clover Valley	Clover Valley1	NONE	Unnamed Road	243	314	311	337	298	520	520
166	UCV1T	AC5I_60	28000	Clover Valley	Clover Valley1	NONE	Sierra College Blvd.	218	207	191	220	273	414	414
167	VCV1T	AC5I_60	28500	Clover Valley	Clover Valley1	NONE	English Colony Way	218	158	138	168	273	358	358
Antelope Creek Continued (West Branch)														
169	UC25BC	AC5I_60	38700	0	0	NONE	Clark Tunnel Road Tributary Confluence	437	384	938	408	455	403	403
170	U25AD2	AC5I_60	40600	0	0	NONE	Barker Road	390	360	656	383	419	380	380
171	Y25AD2	AC5I_60	42500	0	0	NONE	Citrus Colony Road	360	371	261	394	566	392	392
172	YAC16A	AC5I_60	47900	0	0	NONE	English Colony Road	210	161	90	167	274	174	174
Antelope Creek/Humphrey Tributary														
173	UPAC5K	AC5I_60	0	0	0	NONE	Clark Tunnel Road Tributary Confluence	194	131	630	140	251	133	133
174	VAC5J2	AC5I_60	1700	0	0	NONE	Sandy Road	135	135	115	144	176	137	137
175	VAC5O	AC5I_60	3300	0	0	NONE	Mardell Lane	116	24	530	25	151	24	24
176	UPAC5G	AC5I_60	3700	0	0	NONE	Colwell Road	97	114	60	118	126	117	117
177	YAC5E	AC5I_60	6300	0	0	NONE	English Colony Way	58	102	43	105	75	105	105
Miners Ravine														
178	UMR40E	SE40M_30	0	Miners Ravine	Below Secret	10.	Antelope Creek/Dry Creek	3384	2834	4437	2846	3697	3433	3143
179	UMR40E	SE40M_30	200	Miners Ravine	Below Secret	94.	Harding Blvd.	3383	2834	4437	2846	3696	3433	3143
180	YMR40E	SE40M_30	1500	Miners Ravine	Below Secret	659.8999	Interstate 80 - no ras	3381	2836	4436	2848	3691	3434	3142
181	YMR40B	SE40M_30	2800	Miners Ravine	Below Secret	1422.400	Eureka Way	3384	2828	4435	2840	3689	3426	3133
182	YSEMR	SE40M_30	3800	Miners Ravine	Below Secret	3734.100	Secret Ravine Confluence	2625	2823	4431	2835	2813	3421	3127
183	YMR37D	MR15J_30	5300	Miners Ravine	BET SECRET-FALSE	5674.100	Sunrise Avenue - no ras	2307	1119	1838	1106	2497	1226	1224
184	UR37D4	MR15J_30	7000	Miners Ravine	BET SECRET-FALSE	7319.900	Boardman Tributary	672	1118	1834	1106	775	1225	1223
185	UR36N2	MR15J_30	9000	Miners Ravine	Above False	9828.100	East Roseville Parkway	1685	1082	1718	1076	1867	1184	1183
186	UMR31Q	MR15J_30	18200	Miners Ravine	Above False	18310.19	Sierra College Blvd.	1656	1061	1658	1060	1837	1159	1159
187	YR31Q2	MR15J_30	18300	Miners Ravine	Above False	18610	Cavitt Stallman Tributary - no ras	1656	1058	1648	1058	1837	1200	1199

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188	UMR31G	MR15J_30	18600	Miners Ravine	Above False	18685	Cavitt (&) Stallman Road	1520	963	1279	964	1698	1092	1092
190	UR31P2	MR15J_30	23400	Miners Ravine	Above False	23390	Shadow Oaks Lane	1478	939	1217	942	1654	1075	1077
1190	YMR31D	MR15J_30	0	Miners Ravine	Above False	27990.	Hardy Lane	#N/A	928	1185	934	#N/A	1066	1069
191	UMR31D	MR15J_30	28900	Miners Ravine	Above False	28826	Barton Road	1485	926	1183	932	1770	1064	1067
192	UMR30R	MR15J_30	31300	Miners Ravine	Above False	31379	TallPine Lane	1457	922	1171	929	1740	1060	1064
193	UMR30Q	MR15J_30	33000	Miners Ravine	Above False	32984	Carolinda Drive	1429	923	1171	930	1710	1060	1064
194	UMR30P	MR15J_30	34800	Miners Ravine	Above False	34813	Itchy Acres Road	1409	911	1135	919	1694	1048	1051
196	UR30H2	MR15J_30	35500	Miners Ravine	Above False	35489	Miners Ravine Road	1397	912	1135	920	1682	1048	1052
197	UR30H3	MR15J_30	36800	Miners Ravine	Above False	36790	Leibinger Lane	1384	907	1112	916	1669	1044	1048
199	UR29B2	MR15J_30	39700	Miners Ravine	Above False	39765	Auburn Folsom Road	1323	899	1071	909	1493	1035	1038
200	UXR29H	MR15J_30	41700	Miners Ravine	Above False	40276	Oak Lane	1292	899	1072	909	1461	1035	1039
201	UR29I2	MR15J_30	43000	Miners Ravine	Above False	44240	Old Bridge	1260	888	991	898	1428	1011	1015
202	YMR29I	MR15J_30	43200	Miners Ravine	Above False	44240	Cottonwood Lake	1253	888	991	898	1420	1011	1015
203	UMR21C	MR15J_30	44400	Miners Ravine	Above False	44368	Auburn Folsom Road	1244	889	993	898	1411	1012	1015
1203	YMR21C	MR15J_30	0	Miners Ravine	Above False	44523	Driveway opposite Twin Rocks Road	#N/A	871	948	881	#N/A	993	996
204	YMR21D	MR15J_30	45600	Miners Ravine	Above False	45593	Confluence with Lake Tributary (MR15)	1199	874	948	884	1364	992	996
1204	UXR20R	MR15J_30	0	Miners Ravine	Above False	52637	Bridge 15	#N/A	709	633	718	#N/A	816	818
1205	UXR20Q	MR15J_30	0	Miners Ravine	Above False	53992	Bridge 16	#N/A	700	602	708	#N/A	809	810
205	UR20P2	MR15J_30	56000	Miners Ravine	Above False	55052	Moss Lane	1152	701	608	709	1314	810	811
1206	YR20K2	MR15J_30	0	Miners Ravine	Above False	57194	Bridge 18 So of Willow Valley Place	#N/A	661	521	669	#N/A	782	783
1207	YR20K2	MR15J_30	0	Miners Ravine	Above False	57599	Willow Valley Place	#N/A	661	522	670	#N/A	783	784
1208	UR20C2	MR15J_30	0	Miners Ravine	Above False	57984	Bridge 20 North of Willow Valley Place	#N/A	650	502	659	#N/A	779	779
207	UR15K2	MR15J_30	59900	Miners Ravine	Above False	59894	Dick Cook Road	860	601	431	609	1002	731	732
208	UXR15V	MR15J_30	61500	Miners Ravine	Above False	61470	Auburn Folsom Road	831	520	335	529	971	655	653
209	UR15W2	MR15J_30	62400	Miners Ravine	Above False	62487	Placer Canyon Parkway	801	598	338	606	939	702	700
1209	Y15AE2	MR15J_30	0	Miners Ravine	Above False	64347	Lominda Lane	#N/A	589	310	597	#N/A	717	716
210	UXR15Q	MR15J_30	67600	Miners Ravine	Above False	67574	Horseshoe Bar Road	647	575	273	581	771	687	682
1210	UMR10M	MR15J_30	0	Miners Ravine	Above False	70394	Bridge 26	#N/A	567	258	574	#N/A	673	665
1211	UMR10M	MR15J_30	0	Miners Ravine	Above False	70984	Bridge 27	#N/A	572	259	578	#N/A	678	678
1212	UMR10I	MR15J_30	0	Miners Ravine	Above False	73328	Whiskey Bar Road	#N/A	490	227	491	#N/A	567	566
1213	UXR10E	MR15J_30	0	Miners Ravine	Above False	75238	Bridge 30	#N/A	477	220	477	#N/A	548	548
1214	UMMR5S	MR15J_30	0	Miners Ravine	Above False	75448	Bridge 31	#N/A	416	200	416	#N/A	485	485
1215	YMR10E	MR15J_30	0	Miners Ravine	Above False	76148	Bridge 32	#N/A	417	199	417	#N/A	486	486
211	YMR10E	MR15J_30	71700	Miners Ravine	Above False	76613	Auburn Folsom Road	543	418	199	418	656	488	488
212	UPMR5R	MR15J_30	73300	Miners Ravine	Above False	78358	King Road	510	225	136	225	683	257	257
213	YMR5W	MR15J_30	79400	Miners Ravine	Above False	79398	Penryn Rock Springs Road	147	200	122	200	208	231	231
214	YMR5P	MR15J_30	80200	Miners Ravine	Above False	80243	Newcastle Road	88	155	97	155	125	181	181

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Miners Ravine/Boardman Tributary														
215	UR37D3	CC5G_90	0	0	0	NONE	Miners Ravine Confluence	217	134	1644	262	288	276	276
216	UR35R6	CC5G_90	800	0	0	NONE	East Roseville Parkway	206	130	173	255	274	268	268
Miners Ravine/Cavitt & Stallman Tributary														
217	UMR25L	SE40N_0	0	0	0	NONE	Miners Ravine Confluence	355	151	1446	151	425	188	188
218	YR25M2	SE40N_0	2400	0	0	NONE	Hidden Valley Place	335	156	375	155	402	194	194
219	YMR25N	SE40N_0	3100	0	0	NONE	Baywood Road	316	152	359	151	379	190	190
220	YR25P2	SE40N_0	3700	0	0	NONE	S. Bar B Lane	296	149	345	147	355	186	186
221	YMR25D	SE40N_0	4500	0	0	NONE	Kokuia Lane	277	125	241	125	332	165	165
222	YMR25I	SE40N_0	5100	0	0	NONE	Crestview Lane	257	135	300	135	309	173	173
223	YMR24E	SE40N_0	9300	0	0	NONE	Barton Road	260	121	204	121	360	159	159
Miners Ravine/Lake Tributary (MR21) -														
224	UMR21H	MR15J_30	0	0	0	NONE	Miners Ravine Confluence	170	51	893	51	226	92	92
225	UMR21H	MR15J_30	200	0	0	NONE	Auburn Folsom Road	192	51	55	51	254	92	92
226	YMR21H	MR15J_30	300	0	0	NONE	South Lake Circle	192	73	60	73	254	123	123
Secret Ravine														
227	YSE85Q	SE40M_30	0	Secret Ravine	Below Sucker	1	Miners Ravine Confluence	1890	2264	2591	2291	1967	2724	2394
228	YE85Y2	SE40M_30	1400	Secret Ravine	Below Sucker	798.3000	East Roseville Parkway	1889	2263	2587	2290	1967	2723	2393
229	YE76A2	SE40M_30	13500	Secret Ravine	Below Sucker	14280.	Sucker Ravine Confluence	1864	2212	2511	2244	1977	2688	2349
230	Y56AB3	SE40M_30	16200	Secret Ravine	Reach 1	17396	Aguiar Road Tributary Confluence	1659	1920	1983	1933	1762	2325	2006
231	USE52D	SE40M_30	17600	Secret Ravine	Reach 1	18595.9	Rocklin Road - China Gardens	1552	1921	1982	1933	1750	2325	2006
232	YSE51K	SE40M_30	23300	Secret Ravine	Reach 1	24526	Sierra College Blvd.	1525	1906	1946	1919	1729	2320	1985
233	UE50Q2	SE40M_30	28800	Secret Ravine	Reach 1	30371	Private Road - Diaz	1427	1798	1688	1808	1654	2214	2211
234	UE50P2	SE40M_30	29200	Secret Ravine	Reach 1	30801	Private Road	1421	1801	1688	1811	1649	2214	2211
235	YE50F2	SE40M_30	30800	Secret Ravine	Reach 1	32256	Brace Road	1371	1772	1650	1782	1611	2185	2181
236	YE50A2	SE40M_30	32600	Secret Ravine	Reach 1	34081	Horseshoe Bar Road	1333	1733	1606	1743	1581	2136	2133
237	YE50A2	SE40M_30	33400	Secret Ravine	Reach 1	34081	Loomis Tributary Confluence	1329	1733	1606	1743	1578	2136	2133
238	YE35B2	SE40M_30	33500	Secret Ravine	Reach 1	34866	King Road Tributary Confluence	1252	1685	1544	1705	1516	2104	2101
239	USE35A	SE40M_30	38600	Secret Ravine	Reach 1	38066	King Road-no ras	1071	1369	1180	1383	1370	1712	1710
241	YE35B2	SE40M_30	40000	Secret Ravine	Reach 1	40346	Penryn Road	1063	1331	1140	1346	1369	1672	1670
242	YSE30E	SE40M_30	40500	Secret Ravine	Reach 1	NONE	Harris/Boulder Creek Road.	1060	1237	1040	1251	1368	1550	1550
243	VSE26I	SE40M_30	40700	Secret Ravine	Reach 1	NONE	Penryn Tributary Confluence	929	1174	987	1187	1243	1476	1476
244	VSE26H	SE40M_30	43300	Secret Ravine	Reach 1	NONE	Boulder Creek Road	814	394	324	394	1138	460	460
245	VE26N2	SE40M_30	48500	Secret Ravine	Reach 1	NONE	Brennans Road	501	369	307	369	824	432	432
246	VE26N2	SE40M_30	48900	Secret Ravine	Reach 1	NONE	Rock Springs Road	492	369	307	369	813	432	432
247	USE26E	SE40M_30	50400	Secret Ravine	Reach 1	NONE	Meadow Lane	461	301	265	302	779	354	354
248	UE26BB	SE40M_30	51300	Secret Ravine	Reach 1	NONE	Los Puentes Road	442	284	257	284	757	335	335

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249	VE25IA	SE40M_30	55300	Secret Ravine	Reach 1	NONE	Newcastle Road	487	283	262	283	709	334	334
250	UE25AB	SE40M_30	57700	Secret Ravine	Reach 1	NONE	Powerhouse Road	341	241	242	241	496	287	287
Secret Ravine/Sucker Ravine														
251	UXE70I	SE40N_0	0	Sucker Ravine	Reach 1	0	Secret Ravine Confluence	516	287	356	302	840	392	403
252	USE76A	SE40N_0	1000	Sucker Ravine	Reach 1	840	China Garden Road	513	291	358	305	836	396	406
253	YSE76B	SE40N_0	1200	Sucker Ravine	Reach 1	1305	Interstate 80	512	291	358	305	835	396	406
254	YSE76B	SE40N_0	2200	Sucker Ravine	Reach 1	1860	Oakridge Street	510	293	359	308	834	398	409
255	YSE76B	SE40N_0	2600	Sucker Ravine	Reach 1	2750	Lakeside Drive	504	293	359	308	826	399	410
256	USE70I	SE40N_0	3950	Sucker Ravine	Reach 1	4110	Rocklin Road	491	289	349	304	812	394	405
257	USE70H	SE40N_0	4300	Sucker Ravine	Reach 1	4580	Quary Lake	487	277	330	291	808	382	392
258	YSE70H	SE40N_0	4700	Sucker Ravine	Reach 1	4840	Super Span	483	277	330	291	803	382	392
259	USE70F	SE40N_0	7450	Sucker Ravine	Reach 1	7605	Sierra Meadows Drive	471	265	305	278	790	385	394
1259	YSE70B	SE40N_0	0	Sucker Ravine	Reach 1	9955	Culvert 1	#N/A	232	249	240	#N/A	343	350
1260	YSE70D	SE40N_0	0	Sucker Ravine	Reach 1	10565	Driveway Below Dominguez Road	#N/A	228	249	241	#N/A	347	354
260	YSE70C	SE40N_0	10800	Sucker Ravine	Reach 1	10935	Dominguez Road	410	238	251	248	721	348	355
261	UE60E2	SE40N_0	11000	Sucker Ravine	Reach 1	10935	Loomis Tributary Confluence	405	238	251	248	715	348	355
263	YSE66J	SE40N_0	13400	Sucker Ravine	Reach 1	14525	Pacific Street	380	110	134	119	685	125	127
1263	USE66J	SE40N_0	0	Sucker Ravine	Reach 1	14756	Railroad	#N/A	110	135	119	#N/A	125	127
1264	USE66D	SE40N_0	0	Sucker Ravine	Reach 1	16706	Culvert 5	#N/A	120	117	132	#N/A	136	138
264	USE66D	SE40N_0	14800	Sucker Ravine	Reach 1	16846	Bankhead Road	360	120	117	132	661	136	138
265	YSE66C	SE40N_0	15200	Sucker Ravine	Reach 1	17266	Sierra College Blvd.	353	117	111	128	652	132	133
266	USE66A	SE40N_0	19000	Sucker Ravine	Reach 1	20671	Saunders Avenue	148	218	131	327	364	258	263
267	SE65	SE40N_0	20200	Sucker Ravine	Reach 1	22546	King Road	148	193	108	283	364	193	197
Secret Ravine/Sucker Ravine/Loomis Tributary														
268	VSE60E	SE40N_0	0	0	0	NONE	Sucker Ravine Confluence	210	198	132	196	422	303	303
270	VE60D2	SE40N_0	4400	0	0	NONE	Sierra College Blvd.	116	178	105	179	232	238	238
Secret Ravine/Aguilar Road Tributary														
271	Y56AB2	SE40N_0	0	0	0	NONE	Secret Ravine Confluence	374	156	2156	169	677	243	243
272	Y56AB2	SE40N_0	700	0	0	NONE	Aguilar Road	364	156	261	169	666	243	243
273	YSE56B	SE40N_0	2400	0	0	NONE	Foothill Road	344	140	242	164	640	214	214
274	Y55MA2	SE40N_0	4100	0	0	NONE	El Don Road	328	94	162	105	621	131	131
275	UE56DB	SE40N_0	4100	0	0	NONE	El Don Detention Pond	318	94	161	99	608	131	131
276	VSE55L	SE40N_0	6100	0	0	NONE	Sierra College Blvd.	242	76	123	76	316	105	105
Secret Ravine / Loomis Tributary														
277	YSE40J	SE40N_0	0	0	0	NONE	Secret Ravine Confluence	258	217	1599	273	529	320	320
278	YSE40J	SE40N_0	1200	0	0	NONE	Interstate 80	245	217	113	273	511	320	320
279	VSE40I	SE40N_0	2800	0	0	NONE	Laird Street	235	196	96	246	497	266	266

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:	10-year 1989 JMM	10-year 1992 Corrected	January 1995	10-year 2007-Current	10-year Future JMM	10-year Future Unmitigated	10-year Build-out w/LID & Projects
280	VSE40F	SE40N_0	3600	0	0	NONE	King Road	226	147	71	191	485	195	195
Secret Ravine/King Road Tributary														
281	USE45W	SE40M_30	0	0	0	NONE	Secret Ravine Confluence	535	395	1599	395	860	477	477
282	YSE45Q	SE40M_30	3900	0	0	NONE	Rancho Verde Road	509	196	153	196	832	248	248
283	YSE45A	MR15J_30	5400	0	0	NONE	Val Verde Road	221	153	113	153	274	207	207
284	USE44B	MR15J_30	6300	0	0	NONE	King Road	199	139	92	139	247	192	192
Secret Ravine/Penryn Tributary														
285	YE15L2	SE40M_30	0	0	0	NONE	Secret Ravine Confluence	399	862	685	876	707	1050	1050
286	USE7H2	SE40M_30	4700	0	0	NONE	Rock Springs Road	495	689	558	703	809	847	847
287	YSE5F2	SE40M_30	5600	0	0	NONE	East/West Forks Confluence	453	610	513	624	771	766	766
Secret Ravine/ E. Fork Penryn Tributary														
288	VSE5F2	SE40M_30	0	0	0	NONE	West Fork Confluence	135	202	179	212	198	264	264
289	YSE5F	SE40M_30	900	0	0	NONE	Fairview Lane	121	202	179	212	177	264	264
290	YE20BS	SE40M_30	3700	0	0	NONE	Gilardi Road	50	152	137	161	73	198	198
Secret Ravine/W. Fork Penryn Tributary														
291	YSE7D	SE40M_30	0	0	0	NONE	East Fork Confluence	315	444	342	450	560	549	549
292	YSE10A	SE40M_30	200	0	0	NONE	Interstate 80	314	438	338	444	557	542	542
293	YE10BB	SE40M_30	1400	0	0	NONE	Girardi Road	295	409	328	415	571	515	515

Table G.7 2-YEAR EVENT

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:	2-year 1989 JMM	2-year 1992 Corrected	Dec 2005 (<10 yr) (>2 yr)	2-year 2007-Current	2-year Future JMM	2-year Future Unmitigated	2-year Build-out w/LID & Projects
DRY CREEK														
1	VC135B	SE40N_0	8900	Dry Creek	Below Cirby	NONE	Rio Linda Blvd(North and South)	2715	1250	2660	1509	3000	1742	1742
2	Y130B2	SE40N_0	15000	Dry Creek	Below Cirby	NONE	Elkhorn Blvd. (North and South)	2758	1258	2665	1519	3040	1756	1756
3	YC125B	SE40N_0	16600	Dry Creek	Below Cirby	NONE	Curved Bridge Road (North)	2765	1288	2641	1548	3046	1798	1798
4	YC125A	SE40N_0	17400	Dry Creek	Below Cirby	NONE	Dry Creek Road (North and South)	2764	1277	2571	1539	3046	1789	1789
5	YDC115	SE40N_0	24400	Dry Creek	Below Cirby	NONE	Q Street (North and South)	2909	1296	2539	1551	3131	1806	1806
6	YDC90	SE40N_0	34900	Dry Creek	Below Cirby	NONE	Sierra Creek Confluence	2901	1266	2499	1513	3171	1774	1774
7	YDC85	SE40N_0	35200	Dry Creek	Below Cirby	NONE	28th Street (South)	2770	1271	2498	1512	3066	1774	1774
8	YDC85	SE40N_0	35400	Dry Creek	Below Cirby	NONE	Elverta Road	2748	1271	2498	1512	3043	1774	1774
9	YDC71B	SE40N_0	36900	Dry Creek	Below Cirby	38733	Confluence with County Line Trib	2761	1468	2701	1649	3060	1957	1938
11	YDC75C	SE40N_0	41400	Dry Creek	Below Cirby	41634	Watt Avenue	2828	1470	2694	1643	3039	1951	1932
13	YC65I2	SE40N_0	47700	Dry Creek	Below Cirby	47754	Confluence with DC65 Trib	2853	1443	2659	1604	3037	1906	1892
14	YDC60A	SE40N_0	50300	Dry Creek	Below Cirby	50025	Walerga Road	2829	1442	2657	1601	2975	1902	1888
1015	YDC50A	SE40N_0	0	Dry Creek	Below Cirby	55005	Morgan Creek Ped Crossing	#N/A	1436	2651	1593	#N/A	1895	1881
16	YDC35C	SE40N_0	58800	Dry Creek	Below Cirby	58560	Cook Riolo Road	3000	1434	2654	1590	3104	1890	1876
17	YDC25A	CC5G_90	67000	Dry Creek	Below Cirby	67583.80	S.P. Railroad Bridge	3135	1342	2574	1440	3185	1725	1724
18	YDC10D	SE40N_0	67400	Dry Creek	Below Cirby	67641.80	Atkinson Blvd.	3135	1358	2574	1491	3185	1777	1760
20	YDC20A	SE40N_0	68900	Dry Creek	Below Cirby	69138.40	S.P. Railroad Culverts (now bridge)	3459	1354	2572	1486	3503	1772	1755
21	YDC10D	SE40N_0	69900	Dry Creek	Below Cirby	70071.60	Vernon Street	3439	1351	2571	1482	3467	1767	1750
22	YDC10B	SE40N_0	72600	Dry Creek	Below Cirby	72702.60	Riverside Avenue	3980	1344	2576	1472	3980	1757	1740
23	YDCCC	SE40N_0	73000	Dry Creek	Below Cirby	72982	Cirby Creek Confluence	3980	1344	2576	1472	3980	1757	1740
24	YDC5A	SE40M_30	73800	Dry Creek	Above Cirby	73943.30	Darling Way	2760	1016	2064	1071	2761	1424	1314
25	YDC5C	SE40M_30	77000	Dry Creek	Above Cirby	77218.89	Douglas Blvd.	2599	1008	2066	1062	2601	1414	1304
26	UDC5B	SE40M_30	77500	Dry Creek	Above Cirby	77606.49	Royer Park Footbridge	2502	1008	2065	1062	2504	1414	1304
27	YDC5B	SE40M_30	79100	Dry Creek	Above Cirby	79166.05	Lincoln Street	2454	1003	2065	1056	2456	1407	1298
28	YDC4C	SE40M_30	79400	Dry Creek	Above Cirby	79816.70	Folsom Road	2438	1003	2065	1056	2440	1408	1298
30	YACMR	SE40M_30	84100	Dry Creek	Above Cirby	84214.40	Antelope Creek/ Miners Ravine Confluence	1378	989	2060	1041	1675	1391	1282
DRY CREEK - ELVERTA TRIB														
31	UDC90	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	72	38	88	38	113	45	45
DRY CREEK - SIERRA CREEK														
32	YC100B	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	208	165	382	170	273	204	204
33	YC100A	CC5G_90	1400	0	0	NONE	28th Street	159	166	388	171	212	204	204
34	YC100A	CC5G_90	3700	0	0	NONE	Scotland Drive	161	166	388	171	228	204	204
35	VC96B2	CC5G_90	5400	0	0	NONE	Delaney Drive	163	149	352	154	230	184	184

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:	2-year 1989 JMM	2-year 1992 Corrected	Dec 2005 (<10 yr) (>2 yr)	2-year 2007-Current	2-year Future JMM	2-year Future Unmitigated	2-year Build-out w/LID & Projects
36	YDC96A	CC5G_90	6800	0	0	NONE	Watt Avenue	172	125	310	130	229	157	157
37	VDC96C	CC5G_90	10300	0	0	NONE	Navaho Way	111	87	217	92	141	116	116
38	YDC96C	CC5G_90	11400	0	0	NONE	Elverta Road	98	87	223	92	122	116	116
39	DC95A	CC5G_90	13500	0	0	NONE	Walerga Road	141	11	31	11	180	20	20
DRY CREEK/County Line Trib. (Note: Riolo Vineyards project determined this tributary does not drain as previously modeled - corrected in 2009 study)														
40	YDC75B	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	90	93	215	96	150	115	115
41	N/A	#N/A	3200	0	0	NONE	Watt Avenue	68	#N/A	#N/A	#N/A	127	#N/A	#N/A
42	VDC68B	CC5G_90	8200	0	0	NONE	PFE Road	79	82	185	85	174	95	95
Dry Creek DC-65 Tributary														
43	YDC65I	CC5G_90	0	0	0	NONE	Confluence with Dry Creek	84	39	128	32	97	57	57
44	YDC65K	CC5G_90	3000	0	0	NONE	Walerga Road	67	36	118	50	78	53	53
Cirby Creek														
45	YCC45G	LC40L_30	0	Cirby Creek	below Linda	0	Dry Creek Confluence	1362	373	668	498	1367	609	561
46	YCC45A	LC40L_30	3000	Cirby Creek	below Linda	2969.699	Interstate 80	1350	381	672	498	1355	617	568
48	UCC45E	LC40L_30	4600	Cirby Creek	below Linda	4580.699	Wanda Lee Court Footbridge	1388	375	673	492	1390	614	564
49	YCC45E	LC40L_30	6100	Cirby Creek	Above Linda	6009.699	Linda Creek Confluence	1405	369	324	486	1406	608	559
50	YCC40A	CC5G_90	7400	Cirby Creek	Above Linda	7262.099	Sunrise Blvd.	325	230	325	312	325	318	318
51	YCC40C	CC5G_90	8100	Cirby Creek	Above Linda	8038.899	Coloma Way - Gage 1635	281	219	314	304	281	310	310
52	YC40G2	CC5G_90	9100	Cirby Creek	Above Linda	9004.399	Oak Ridge Drive	270	207	291	293	270	300	300
53	UCC35D	CC5G_90	10000	Cirby Creek	Above Linda	9873.999	Sierra Gardens Footbridge	270	209	299	297	270	303	303
54	YCC15B	CC5G_90	11800	Cirby Creek	Above Linda	11679.19	Loretto Drive	291	201	280	296	291	303	303
55	YCC252	CC5G_90	12000	Cirby Creek	Above Linda	12228.79	Sierra Gardens Trib. Confluence	134	143	182	221	228	225	225
56	YCC15C	CC5G_90	12500	Cirby Creek	Above Linda	12377.29	Sierra Gardens Drive	56	145	185	223	121	226	226
57	YCC10E	CC5G_90	13900	Cirby Creek	Above Linda	13765.49	Huntington Drive	75	132	166	210	165	214	214
58	UCC10H	CC5G_90	14500	Cirby Creek	Above Linda	14420.19	Rocky Ridge Drive	46	79	91	122	93	126	126
60	YCC5B	CC5G_90	16400	Cirby Creek	Above Linda	15748.19	Winchester Way	40	63	72	100	84	102	102
61	YCC5D	CC5G_90	17200	Cirby Creek	Above Linda	16312.19	Eureka Road	40	42	51	76	84	77	77
62	YCC1A	CC5G_90	19700	Cirby Creek	Above Linda	17753.79	Douglas Blvd.	41	29	37	62	119	63	63
Cirby Creek/Sierra Gardens Trib.														
63	VCC25	CC5G_90	0	0	0	NONE	Cirby Creek Confluence	90	67	104	81	125	84	84
65	YCC20G	CC5G_90	1000	0	0	NONE	Douglas Blvd.	62	55	89	70	90	73	73
66	YCC20K	CC5G_90	1400	0	0	NONE	Sierra Gardens Ret. Basin	59	37	61	54	86	57	57
Linda Creek														
67	ULC95C	LC40L_30	0	Linda Creek	Below Strap	0.	Cirby Creek Confluence	1133	321	597	431	1136	548	503
68	ULC95D	LC40L_30	1000	Linda Creek	Below Strap	565.1000	Sunrise Avenue	1132	321	597	430	1134	548	503

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70	YLC90A	LC40L_30	2600	Linda Creek	Below Strap	2125.000	Oak Ridge Drive	1198	318	593	312	1199	412	373
72	ULC90B	LC40L_30	4300	Linda Creek	Below Strap	3843.300	Sierra Gardens Footbridge	1198	315	588	425	1198	544	499
73	YLC85C	LC40L_30	8400	Linda Creek	Below Strap	8257.900	Rocky Ridge Dirve	1354	310	580	419	1355	543	496
74	ULC85B	LC40L_30	10000	Linda Creek	Below Strap	9810.000	Strap Ravine Confluence	1214	309	575	418	1214	548	497
76	ULC80I	LC40L_30	11500	Linda Creek	Below S Branch	136	Champion Oaks Drive/Samoa Way (Gage 1626/1628)	361	235	449	326	437	428	385
78	ULC80A	LC40L_30	14300	Linda Creek	Below S Branch	157	Auburn Road	357	216	412	311	429	413	371
79	UC45J3	LC40L_30	15700	Linda Creek	Below S Branch	176	Old Auburn Road/City Limits	356	207	376	292	427	390	350
1079	ULC45J	LC40L_30	0	Linda Creek	Below S Branch	181	Ped Bridge over Creek in Park	#N/A	204	353	286	#N/A	377	342
Treelake Tributary Confluence														
80	ULC45J	LC40L_30	15900	Linda Creek	Below S Branch	181	Treelake Tributary Confluence	356	204	353	286	427	377	342
82	UC45J2	LC40L_30	19800	Linda Creek	Below S Branch	188	Indian Creek Drive	274	199	347	282	321	374	338
1082	ULC45D	LC40L_30	0	Linda Creek	Below S Branch	207	Private Bridge Near Hazel	#N/A	169	333	247	#N/A	330	300
83	ULC45D	LC40L_30	25300	Linda Creek	Below S Branch	211	Hazel Avenue	241	169	334	247	284	331	300
84	UC35Q3	LC40L_30	25500	Linda Creek	Below S Branch	212	Orangevale Tributary Confluence	241	169	334	247	284	331	300
1084	ULC40A	LC40L_30	0	Linda Creek	Above S Branch	3.075	BDG 17 2-24" CMPS	#N/A	100	245	153	#N/A	209	190
85	UC15N2	LC40L_30	31300	Linda Creek	Above S Branch	4.239	Granite Road Bridge	119	124	205	181	145	237	222
86	ULC15N	LC40L_30	32600	Linda Creek	Above S Branch	4.407	Cherry Avenue	134	124	199	179	163	236	220
1086	ULC15J	LC5A_0	0	Linda Creek	Above S Branch	5.22	Private Driveway Concrete Box Type	#N/A	118	124	124	#N/A	145	143
1087	YLC15J	LC5A_0	0	Linda Creek	Above S Branch	5.264	Driveway Bridge	#N/A	118	124	124	#N/A	145	143
1088	YLC15J	LC5A_0	0	Linda Creek	Above S Branch	5.526	Granite Glen Court (Private)	#N/A	118	124	124	#N/A	145	143
88	YLC15J	LC5A_0	38600	Linda Creek	Above S Branch	5.715	Wedgewood Drive	111	118	124	124	134	145	143
1089	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.039	Golf Cart Bridge #5	#N/A	109	112	112	#N/A	130	128
1090	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.12	Golf Cart Bridge #4	#N/A	109	112	112	#N/A	130	128
1091	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.197	Golf Cart Bridge #3	#N/A	109	112	112	#N/A	130	128
1092	ULC102	LC5A_0	0	Linda Creek	Above S Branch	6.241	Golf Cart Bridge #2	#N/A	109	112	112	#N/A	130	128
1093	ULC5F2	LC5A_0	0	Linda Creek	Above S Branch	6.515	Golf Cart Bridge #1	#N/A	119	105	119	#N/A	122	121
89	ULC5F2	LC5A_0	42300	Linda Creek	Above S Branch	6.53	East Roaseville Parkway	102	119	105	119	126	122	121
90	ULC5F	LC5A_0	43100	Linda Creek	Above S Branch	6.759	Barton Road	101	110	100	111	125	113	112
91	YLC5E	LC5A_0	44600	Linda Creek	Above S Branch	7.140	Shadow Brook Place	86	89	89	90	106	92	90
92	ULC5B	LC5A_0	46500	Linda Creek	Above S Branch	7.479	Troy Purdy Lane	63	55	71	56	84	61	56
1094	ULC5C	LC5A_0	0	Linda Creek	Above S Branch	7.609	Muir Way	#N/A	51	53	51	#N/A	51	52
93	YLC5C	LC5A_0	48100	Linda Creek	Above S Branch	7.77	Country Court (Private)	52	37	53	37	73	37	52
1095	ULC1A	LC5A_0	0	Linda Creek	Above S Branch	7.839	Country Court	#N/A	121	130	206	#N/A	222	221
94	YLC1A	LC5A_0	48700	Linda Creek	Above S Branch	8.011	Auburn Folsom Road	79	31	53	32	125	36	31
Linda Creek/Strap Ravine														
95	USR25C	CC5G_90	0	Strap Ravine	Reach 1	0.	Linda Creek Confluence	133	120	129	205	194	221	220
1095	YSR25A	CC5G_90	300	Strap Ravine	Reach 1	276	Foot Bridge in Park	#N/A	121	130	206	#N/A	222	221

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96	UR20A4	CC5G_90	1500	Strap Ravine	Reach 1	1136.900	McClaren Drive (Gage 1611)	132	121	129	204	193	221	220
97	UXR20A	CC5G_90	5900	Strap Ravine	Reach 1	5539.100	Johnson Ranch Drive	128	114	106	187	186	202	201
98	USR152	CC5G_90	6800	Strap Ravine	Reach 1	6380.600	Eureka Road	127	118	107	193	185	203	202
99	USR82	CC5G_90	8600	Strap Ravine	Reach 1	8201.500	East Roseville Parkway	125	61	76	110	195	119	121
100	USR5C2	LC5A_0	11800	Strap Ravine	Reach 1	11366.10	Sierra College Blvd.	116	43	43	57	158	59	63
101	USR1A	LC5A_0	23000	0	0	NONE	Barton Road	135	54	78	68	240	87	87
Linda Creek/Treelake Tributary														
102	ULC60B	LC40L_30	0	0	0	NONE	Linda Creek Confluence	356	14	78	23	427	25	25
103	YLC60B	LC40L_30	3200	0	0	NONE	Petite Way (approximated)	242	20	80	37	293	43	43
104	YLC60A	LC40L_30	5700	0	0	NONE	Old Auburn Road	108	17	78	26	140	28	28
105	YC55H3	LC40L_30	6000	0	0	NONE	Sierra College Blvd.	80	18	84	30	108	33	33
106	YLC55F	LC40L_30	9600	0	0	NONE	Swan Lake Drive	65	15	84	22	77	24	24
107	UC55L2	LC40L_30	9600	0	0	NONE	Swan Lake	65	14	81	20	77	22	22
108	UPC55L	LC40L_30	10800	0	0	NONE	Waterbury Way	54	14	86	20	65	22	22
109	YLC55L	LC40L_30	10800	0	0	NONE	Waterbury Lake	54	31	91	64	65	75	75
110	ULC50E	LC40L_30	11400	0	0	NONE	East Roaseville Parkway	80	26	69	44	104	52	52
111	YLC50E	LC40L_30	11400	0	0	NONE	East Roseville Parkway Pond	80	33	74	48	104	56	56
112	ULC50F	LC40L_30	11700	0	0	NONE	Treelake office Lane	80	29	60	36	104	42	42
113	ULC50F	LC40L_30	11700	0	0	NONE	Treelake office Lane Pond	80	29	60	36	104	42	42
Linda Creek/Hazel Avenue Tributary (Sac County)														
114	YC35Q2	LC40L_30	0	0	0	NONE	Linda Creek Confluence	150	73	327	102	200	110	110
115	UC35Q2	LC40L_30	400	0	0	NONE	Oak Avenue	150	73	112	102	200	110	110
Linda Creek/Orangevale Tributary (Sac County)														
116	YC35Q2	LC40L_30	0	Linda Creek	South Branch	.001	Linda Creek Confluence	241	78	124	111	284	126	121
1116	YLC35Q	LC40L_30	0	Linda Creek	South Branch	0.125	Private Bridge (Metal and Concrete)	#N/A	78	125	112	#N/A	130	122
117	ULC35Q	LC40L_30	900	Linda Creek	South Branch	0.196	Oak Avenue	99	78	125	112	110	130	122
1117	ULC30E	LC40L_30	0	Linda Creek	South Branch	1.022	Private Bridge in Park Area	#N/A	36	53	54	#N/A	62	58
118	ULC30E	LC40L_30	3300	Linda Creek	South Branch	1.035	Filbert Avenue	90	36	53	54	100	62	58
1118	ULC30B	LC40L_30	0	Linda Creek	South Branch	1.244	Private Bridge Near Chestnut	#N/A	34	48	50	#N/A	57	54
119	UC30C2	LC40L_30	4300	Linda Creek	South Branch	1.346	Chestnut Avenue	92	32	45	48	101	54	51
120	ULC30A	LC40L_30	5500	Linda Creek	South Branch	1.649	Walnut Avenue (North)	66	17	30	25	67	29	28
120	UC20E3	LC40L_30	5500	Linda Creek	South Branch	1.772	Walnut Avenue (South)	66	17	30	25	67	29	28
121	VLC25C	LC40L_30	6700	Linda Creek	South Branch	NONE	Main Avenue (North)	50	6	10	10	50	11	11
1121	VLC20E	LC40L_30	6700	Linda Creek	South Branch	NONE	Main Avenue (South)	#N/A	15	30	23	#N/A	26	26
Antelope Creek														
122	UDC4D	AC5I_60	0	Antelope Ck	AntelopeBlwClove	0.	Miners Ravine/Dry Creek	320	429	766	467	399	570	563

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:	2-year 1989 JMM	2-year 1992 Corrected	Dec 2005 (<10 yr) (>2 yr)	2-year 2007-Current	2-year Future JMM	2-year Future Unmitigated	2-year Build-out w/LID & Projects
123	UC45B2	AC5I_60	1400	Antelope Ck	AntelopeBlwClove	1394.899	Harding Blvd.	320	428	765	466	399	569	562
124	UAC45B	AC5I_60	2300	Antelope Ck	AntelopeBlwClove	2349.499	Atlantic Street	320	428	765	467	399	569	562
1124	UAC45B	AC5I_60	0	Antelope Ck	AntelopeBlwClove	2455.599	Bridge #3	#N/A	426	763	465	#N/A	568	561
125	UAC45L	AC5I_60	5000	Antelope Ck	AntelopeBlwClove	5017.599	County Dump Road	319	429	765	469	397	574	568
126	UC41E4	AC5I_60	9600	Antelope Ck	AntelopeBlwClove	10909.49	Highway 65 - non ras (Gage 1583)	320	425	788	465	399	575	572
127	UC41E3	AC5I_60	10300	Antelope Ck	AntelopeBlwClove	11383.53	Springview Drive	320	421	784	460	399	570	567
128	YC41E2	AC5I_60	10800	Antelope Ck	AntelopeBlwClove	11418.53	Rocklin City Tributary Confluence	317	419	784	458	395	568	565
130	UC40K2	AC5I_60	15800	Antelope Ck	AntelopeBlwClove	16930.03	Sunset Blvd.	316	394	768	431	394	544	541
133	UV10B2	AC5I_60	22800	Antelope Ck	AntelopeBlwClove	24722.3	Clover Valley Creek Confluence	309	369	743	401	385	520	516
134	UC35G3	AC5I_60	23600	Antelope Ck	Reach 1	25350.71	Midas Avenue	225	328	605	355	293	364	363
135	UAC35C	AC5I_60	25700	Antelope Ck	Reach 1	27696.03	Southern Pacific Railroad (UPRR) - non ras	222	320	596	348	291	356	356
136	VAC35I	AC5I_60	26500	Antelope Ck	Reach 1	28434.67	Yankee Hill Road	220	318	594	345	290	353	353
137	YAC30C	AC5I_60	27600	Antelope Ck	Reach 1	34226	Atkinson Dairy Dam	217	312	576	337	287	340	340
138	YAC30B	AC5I_60	28900	Antelope Ck	Reach 1	34691	Unnamed Road - no ras - no find aerial	214	311	571	335	284	337	337
139	YAC30B	AC5I_60	31800	Antelope Ck	Reach 1	35656	Delmar Avenue - no ras	215	311	572	336	285	338	338
140	YAC30B	AC5I_60	34300	Antelope Ck	Reach 1	36964	Sierra College Blvd. (Gage 1573)	210	311	574	336	279	338	338
141	U30AC4	AC5I_60	37000	Antelope Ck	Reach 1	39726	King Road	207	309	567	333	275	335	335
Antelope Creek / Clark Tunnel Road Tributary														
142	U30AC2	AC5I_60	0	Antelope Ck	Reach 1	40906	Antelope Creek Confluence	205	304	558	328	273	330	330
143	UC25BC	AC5I_60	100	0	0	NONE	Barker Road	118	79	174	84	180	86	86
144	VAC20C	AC5I_60	1300	0	0	NONE	Humphrey Road	112	57	128	60	178	63	63
145	YC16EB	AC5I_60	1700	0	0	NONE	Humphrey Tributary Confluence	111	47	105	50	174	54	54
148	UC15CB	AC5I_60	7000	0	0	NONE	Colwell Road	81	28	69	30	143	30	30
149	YC15BC	AC5I_60	10000	0	0	NONE	English Colony Way	76	24	70	25	133	24	24
150	AC15AD	AC5I_60	12800	0	0	NONE	Clark Tunnel Road	51	19	51	19	112	19	19
Antelope Creek/Rocklin City Tributary														
151	VAC41E	CC5G_90	0	0	0	NONE	Antelope Creek Confluence	49	74	199	74	64	83	83
152	VAC41F	SE40M_30	2700	0	0	NONE	Taylor Road	37	30	70	30	48	36	36
153	VAC41F	SE40M_30	2800	0	0	NONE	Taylor Road	31	30	70	30	40	36	36
154	UAC41A	SE40M_30	4500	0	0	NONE	Sunset Blvd.	18	16	37	16	24	21	21
Antelope Creek/Clover Valley Creek														
155	UCV10B	AC5I_60	0	Clover Valley	Clover Valley1	.1	Antelope Creek Confluence	32	71	224	82	63	160	158
1155	UCV10B	AC5I_60	0	Clover Valley	Clover Valley1	155	Golf Course Ped Bridge	#N/A	71	223	82	#N/A	160	158
156	UCV10B	AC5I_60	400	Clover Valley	Clover Valley1	445	Argonaut Avenue	34	71	223	82	64	160	158
157	YCV10B	AC5I_60	2200	Clover Valley	Clover Valley1	2785	Footbridge and Weir	46	71	223	82	70	160	158

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158	UXV10A	AC5I_60	4300	Clover Valley	Clover Valley1	4090	Midas Avenue	50	69	220	80	72	156	154
159	YCV10A	AC5I_60	4700	Clover Valley	Clover Valley1	4430	Abandoned Stone Bridge	55	69	220	80	75	156	154
160	YCV10A	AC5I_60	5600	Clover Valley	Clover Valley1	5400	Unnamed Bridge	64	63	213	75	80	149	147
1160	UV6CB2	AC5I_60	0	Clover Valley	Clover Valley1	6365	Gazebo Crossing	#N/A	63	213	75	#N/A	149	147
161	UCV6CB	AC5I_60	6500	Clover Valley	Clover Valley1	6505	Clover Valley Detention Pond	69	63	213	75	82	149	147
162	YV6CB2	AC5I_60	7700	Clover Valley	Clover Valley1	7815	Creekwood Drive	78	63	214	75	87	151	149
163	UCV6BC	AC5I_60	12000	Clover Valley	Clover Valley1	12015	Rawhide Road	71	58	203	65	81	134	132
164	UCV6BC	AC5I_60	12500	Clover Valley	Clover Valley1	12550	Rowhide Road Det. Pond	70	58	203	65	80	134	132
165	UCV5C	AC5I_60	25600	Clover Valley	Clover Valley1	NONE	Unnamed Road	48	54	197	60	58	133	133
166	UCV1T	AC5I_60	28000	Clover Valley	Clover Valley1	NONE	Sierra College Blvd.	66	36	126	39	87	102	102
167	VCV1T	AC5I_60	28500	Clover Valley	Clover Valley1	NONE	English Colony Way	66	27	92	30	87	80	80
Antelope Creek Continued (West Branch)														
169	UC25BC	AC5I_60	38700	0	0	NONE	Clark Tunnel Road Tributary Confluence	87	79	561	84	93	86	86
170	U25AD2	AC5I_60	40600	0	0	NONE	Barker Road	80	76	390	81	88	83	83
171	Y25AD2	AC5I_60	42500	0	0	NONE	Citrus Colony Road	78	78	170	84	88	86	86
172	YAC16A	AC5I_60	47900	0	0	NONE	English Colony Road	76	35	84	37	103	39	39
Antelope Creek/Humphrey Tributary														
173	UPAC5K	AC5I_60	0	0	0	NONE	Clark Tunnel Road Tributary Confluence	68	35	371	37	94	36	36
174	VAC5J2	AC5I_60	1700	0	0	NONE	Sandy Road	47	37	68	40	65	37	37
175	VAC5O	AC5I_60	3300	0	0	NONE	Mardell Lane	41	8	308	8	56	8	8
176	UPAC5G	AC5I_60	3700	0	0	NONE	Colwell Road	34	39	48	41	47	40	40
177	YAC5E	AC5I_60	6300	0	0	NONE	English Colony Way	20	33	50	34	28	34	34
Miners Ravine														
178	UMR40E	SE40M_30	0	Miners Ravine	Below Secret	10.	Antelope Creek/Dry Creek	1261	736	1473	802	1346	1016	950
179	UMR40E	SE40M_30	200	Miners Ravine	Below Secret	94.	Harding Blvd.	1261	736	1473	802	1345	1016	950
180	YMR40E	SE40M_30	1500	Miners Ravine	Below Secret	659.8999	Interstate 80 - no ras	1261	734	1471	800	1342	1014	948
181	YMR40B	SE40M_30	2800	Miners Ravine	Below Secret	1422.400	Eureka Way	1121	729	1470	796	1340	1009	943
182	YSEMR	SE40M_30	3800	Miners Ravine	Below Secret	3734.100	Secret Ravine Confluence	1096	727	1469	792	1339	1005	939
183	YMR37D	MR15J_30	5300	Miners Ravine	BET SECRET-FALSE	5674.100	Sunrise Avenue - no ras	965	295	427	306	1141	374	353
184	UR37D4	MR15J_30	7000	Miners Ravine	BET SECRET-FALSE	7319.900	Boardman Tributary	770	294	426	306	843	374	352
185	UR36N2	MR15J_30	9000	Miners Ravine	Above False	9828.100	East Roseville Parkway	763	275	395	288	833	354	333
186	UMR31Q	MR15J_30	18200	Miners Ravine	Above False	18310.19	Sierra College Blvd.	730	264	381	270	801	334	315
187	YR31Q2	MR15J_30	18300	Miners Ravine	Above False	18610	Cavitt Stallman Tributary - no ras	730	262	381	268	801	332	314
188	UMR31G	MR15J_30	18600	Miners Ravine	Above False	18685	Cavitt (&) Stallman Road	730	249	376	255	801	315	298

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190	UR31P2	MR15J_30	23400	Miners Ravine	Above False	23390	Shadow Oaks Lane	723	239	375	245	347	304	289
1190	YMR31D	MR15J_30	0	Miners Ravine	Above False	27990.	Hardy Lane	#N/A	234	374	240	#N/A	298	284
191	UMR31D	MR15J_30	28900	Miners Ravine	Above False	28826	Barton Road	707	233	373	239	708	297	283
192	UMR30R	MR15J_30	31300	Miners Ravine	Above False	31379	TallPine Lane	706	230	373	236	707	294	280
193	UMR30Q	MR15J_30	33000	Miners Ravine	Above False	32984	Carolinda Drive	705	230	373	236	706	294	280
194	UMR30P	MR15J_30	34800	Miners Ravine	Above False	34813	Itchy Acres Road	641	226	373	231	643	288	274
196	UR30H2	MR15J_30	35500	Miners Ravine	Above False	35489	Miners Ravine Road	630	226	373	231	632	288	274
197	UR30H3	MR15J_30	36800	Miners Ravine	Above False	36790	Leibinger Lane	619	224	371	227	621	284	270
199	UR29B2	MR15J_30	39700	Miners Ravine	Above False	39765	Auburn Folsom Road	597	221	367	223	599	278	265
200	UXR29H	MR15J_30	41700	Miners Ravine	Above False	40276	Oak Lane	595	221	367	223	597	278	265
201	UR29I2	MR15J_30	43000	Miners Ravine	Above False	44240	Old Bridge	747	216	357	218	748	271	259
202	YMR29I	MR15J_30	43200	Miners Ravine	Above False	44240	Cottonwood Lake	765	216	357	218	766	271	259
203	UMR21C	MR15J_30	44400	Miners Ravine	Above False	44368	Auburn Folsom Road	784	216	357	218	785	271	259
1203	YMR21C	MR15J_30	0	Miners Ravine	Above False	44523	Driveway opposite Twin Rocks Road	#N/A	213	336	214	#N/A	267	255
204	YMR21D	MR15J_30	45600	Miners Ravine	Above False	45593	Confluence with Lake Tributary (MR15)	783	212	335	214	753	267	254
1204	UXR20R	MR15J_30	0	Miners Ravine	Above False	52637	Bridge 15	#N/A	189	244	191	#N/A	238	228
1205	UXR20Q	MR15J_30	0	Miners Ravine	Above False	53992	Bridge 16	#N/A	184	229	186	#N/A	233	222
205	UR20P2	MR15J_30	56000	Miners Ravine	Above False	55052	Moss Lane	538	184	233	186	429	234	223
1206	YR20K2	MR15J_30	0	Miners Ravine	Above False	57194	Bridge 18 So of Willow Valley Place	#N/A	168	218	169	#N/A	212	203
1207	YR20K2	MR15J_30	0	Miners Ravine	Above False	57599	Willow Valley Place	#N/A	168	218	169	#N/A	212	203
1208	UR20C2	MR15J_30	0	Miners Ravine	Above False	57984	Bridge 20 North of Willow Valley Place	#N/A	165	215	166	#N/A	209	200
207	UR15K2	MR15J_30	59900	Miners Ravine	Above False	59894	Dick Cook Road	543	144	195	145	544	184	176
208	UXR15V	MR15J_30	61500	Miners Ravine	Above False	61470	Auburn Folsom Road	542	118	173	119	543	153	144
209	UR15W2	MR15J_30	62400	Miners Ravine	Above False	62487	Placer Canyon Parkway	542	117	173	119	542	153	144
1209	Y15AE2	MR15J_30	0	Miners Ravine	Above False	64347	Lominda Lane	#N/A	114	170	115	#N/A	148	139
210	UXR15Q	MR15J_30	67600	Miners Ravine	Above False	67574	Horseshoe Bar Road	582	107	164	109	582	136	128
1210	UMR10M	MR15J_30	0	Miners Ravine	Above False	70394	Bridge 26	#N/A	101	158	102	#N/A	129	122
1211	UMR10M	MR15J_30	0	Miners Ravine	Above False	70984	Bridge 27	#N/A	101	158	102	#N/A	129	122
1212	UMR10I	MR15J_30	0	Miners Ravine	Above False	73328	Whiskey Bar Road	#N/A	91	144	91	#N/A	115	108
1213	UXR10E	MR15J_30	0	Miners Ravine	Above False	75238	Bridge 30	#N/A	88	141	88	#N/A	112	105
1214	UMMR5S	MR15J_30	0	Miners Ravine	Above False	75448	Bridge 31	#N/A	82	131	82	#N/A	103	98
1215	YMR10E	MR15J_30	0	Miners Ravine	Above False	76148	Bridge 32	#N/A	82	130	82	#N/A	103	98
211	YMR10E	MR15J_30	71700	Miners Ravine	Above False	76613	Auburn Folsom Road	186	82	130	82	214	104	98
212	UPMR5R	MR15J_30	73300	Miners Ravine	Above False	78358	King Road	87	57	85	57	122	68	64
213	YMR5W	MR15J_30	79400	Miners Ravine	Above False	79398	Penryn Rock Springs Road	50	51	76	51	77	61	58
214	YMR5P	MR15J_30	80200	Miners Ravine	Above False	80243	Newcastle Road	53	42	61	42	46	50	48

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Miners Ravine/Boardman Tributary														
215	UR37D3	CC5G_90	0	0	0	NONE	Miners Ravine Confluence	71	37	355	78	110	81	81
216	UR35R6	CC5G_90	800	0	0	NONE	East Roseville Parkway	67	36	108	76	105	79	79
Miners Ravine/Cavitt & Stallman Tributary														
217	UMR25L	SE40N_0	0	0	0	NONE	Miners Ravine Confluence	129	14	334	15	178	18	18
218	YR25M2	SE40N_0	2400	0	0	NONE	Hidden Valley Place	121	18	17	18	167	24	24
219	YMR25N	SE40N_0	3100	0	0	NONE	Baywood Road	113	17	17	17	155	21	21
220	YR25P2	SE40N_0	3700	0	0	NONE	S. Bar B Lane	106	17	17	16	144	19	19
221	YMR25D	SE40N_0	4500	0	0	NONE	Kokuia Lane	98	14	22	14	133	17	17
222	YMR25I	SE40N_0	5100	0	0	NONE	Crestview Lane	90	15	18	15	122	17	17
223	YMR24E	SE40N_0	9300	0	0	NONE	Barton Road	85	13	23	13	130	16	16
Miners Ravine/Lake Tributary (MR21)														
224	UMR21H	MR15J_30	0	0	0	NONE	Miners Ravine Confluence	61	3	304	3	86	6	6
225	UMR21H	MR15J_30	200	0	0	NONE	Auburn Folsom Road	68	3	34	3	96	6	6
226	YMR21H	MR15J_30	300	0	0	NONE	South Lake Circle	68	9	43	9	96	15	15
Secret Ravine														
227	YSE85Q	SE40M_30	0	Secret Ravine	Below Sucker	1	Miners Ravine Confluence	463	561	1153	591	595	772	721
228	YE85Y2	SE40M_30	1400	Secret Ravine	Below Sucker	798.3000	East Roseville Parkway	463	560	1151	590	595	770	720
229	YE76A2	SE40M_30	13500	Secret Ravine	Below Sucker	14280.	Sucker Ravine Confluence	457	539	1107	568	588	742	694
230	Y56AB3	SE40M_30	16200	Secret Ravine	Reach 1	17396	Aguiar Road Tributary Confluence	354	409	909	421	467	555	515
231	USE52D	SE40M_30	17600	Secret Ravine	Reach 1	18595.9	Rocklin Road - China Gardens	329	409	911	421	440	555	515
232	YSE51K	SE40M_30	23300	Secret Ravine	Reach 1	24526	Sierra College Blvd.	326	399	902	411	437	536	498
233	UE50Q2	SE40M_30	28800	Secret Ravine	Reach 1	30371	Private Road - Diaz	312	381	801	388	422	495	460
234	UE50P2	SE40M_30	29200	Secret Ravine	Reach 1	30801	Private Road	310	381	802	388	421	496	461
235	YE50F2	SE40M_30	30800	Secret Ravine	Reach 1	32256	Brace Road	304	377	784	383	412	489	455
236	YE50A2	SE40M_30	32600	Secret Ravine	Reach 1	34081	Horseshoe Bar Road	297	370	761	380	405	480	446
237	YE50A2	SE40M_30	33400	Secret Ravine	Reach 1	34081	Loomis Tributary Confluence	295	370	761	380	404	480	446
238	YE35B2	SE40M_30	33500	Secret Ravine	Reach 1	34866	King Road Tributary Confluence	248	349	743	356	378	458	426
239	USE35A	SE40M_30	38600	Secret Ravine	Reach 1	38066	King Road-no ras	209	283	551	291	322	364	339
241	YE35B2	SE40M_30	40000	Secret Ravine	Reach 1	40346	Penryn Road	207	266	534	273	321	346	322
242	YSE30E	SE40M_30	40500	Secret Ravine	Reach 1	NONE	Harris/Boulder Creek Road.	206	229	472	231	320	286	286
243	VSE26I	SE40M_30	40700	Secret Ravine	Reach 1	NONE	Penryn Tributary Confluence	206	211	446	214	320	268	268
244	VSE26H	SE40M_30	43300	Secret Ravine	Reach 1	NONE	Boulder Creek Road	172	25	146	25	262	42	42
245	VE26N2	SE40M_30	48500	Secret Ravine	Reach 1	NONE	Brennans Road	98	24	140	24	142	41	41
246	VE26N2	SE40M_30	48900	Secret Ravine	Reach 1	NONE	Rock Springs Road	96	24	140	24	139	41	41
247	USE26E	SE40M_30	50400	Secret Ravine	Reach 1	NONE	Meadow Lane	88	92	150	92	129	109	109
248	UE26BB	SE40M_30	51300	Secret Ravine	Reach 1	NONE	Los Puentes Road	91	88	143	88	141	105	105
249	VE25IA	SE40M_30	55300	Secret Ravine	Reach 1	NONE	Newcastle Road	163	90	142	90	268	107	107

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250	UE25AB	SE40M_30	57700	Secret Ravine	Reach 1	NONE	Powerhouse Road	114	81	126	81	188	98	98
Secret Ravine/Sucker Ravine														
251	UXE70I	SE40N_0	0	Sucker Ravine	Reach 1	0	Secret Ravine Confluence	457	120	201	125	588	186	184
252	USE76A	SE40N_0	1000	Sucker Ravine	Reach 1	840	China Garden Road	414	120	201	125	535	187	184
253	YSE76B	SE40N_0	1200	Sucker Ravine	Reach 1	1305	Interstate 80	40	120	201	125	517	187	184
254	YSE76B	SE40N_0	2200	Sucker Ravine	Reach 1	1860	Oakridge Street	395	120	204	125	510	187	185
255	YSE76B	SE40N_0	2600	Sucker Ravine	Reach 1	2750	Lakeside Drive	318	121	204	125	418	187	185
256	USE70I	SE40N_0	3950	Sucker Ravine	Reach 1	4110	Rocklin Road	179	119	196	122	247	184	182
257	USE70H	SE40N_0	4300	Sucker Ravine	Reach 1	4580	Quary Lake	177	112	182	115	244	176	174
258	YSE70H	SE40N_0	4700	Sucker Ravine	Reach 1	4840	Super Span	174	112	182	115	241	176	174
259	USE70F	SE40N_0	7450	Sucker Ravine	Reach 1	7605	Sierra Meadows Drive	167	104	176	107	232	167	165
1259	YSE70B	SE40N_0	0	Sucker Ravine	Reach 1	9955	Culvert 1	#N/A	85	166	89	#N/A	143	141
1260	YSE70D	SE40N_0	0	Sucker Ravine	Reach 1	10565	Driveway Below Dominguez Road	#N/A	90	168	108	#N/A	143	141
260	YSE70C	SE40N_0	10800	Sucker Ravine	Reach 1	10935	Dominguez Road	142	90	169	96	202	143	141
261	UE60E2	SE40N_0	11000	Sucker Ravine	Reach 1	10935	Loomis Tributary Confluence	140	90	169	96	200	143	141
263	YSE66J	SE40N_0	13400	Sucker Ravine	Reach 1	14525	Pacific Street	79	49	85	58	81	65	64
1263	USE66J	SE40N_0	0	Sucker Ravine	Reach 1	14756	Railroad	#N/A	55	96	65	#N/A	70	69
1264	USE66D	SE40N_0	0	Sucker Ravine	Reach 1	16706	Culvert 5	#N/A	54	107	66	#N/A	69	90
264	USE66D	SE40N_0	14800	Sucker Ravine	Reach 1	16846	Bankhead Road	74	54	107	65	74	69	67
265	YSE66C	SE40N_0	15200	Sucker Ravine	Reach 1	17266	Sierra College Blvd.	72	54	104	64	72	66	65
266	USE66A	SE40N_0	19000	Sucker Ravine	Reach 1	20671	Saunders Avenue	69	52	116	61	72	56	56
267	SE65	SE40N_0	20200	Sucker Ravine	Reach 1	22546	King Road	70	45	104	50	73	45	45
Secret Ravine/Sucker Ravine/Loomis Tributary														
268	VSE60E	SE40N_0	0	0	0	NONE	Sucker Ravine Confluence	88	57	110	59	202	91	91
270	VE60D2	SE40N_0	4400	0	0	NONE	Sierra College Blvd.	48	52	96	54	111	69	69
Secret Ravine/Aguilar Road Tributary														
271	Y56AB2	SE40N_0	0	0	0	NONE	Secret Ravine Confluence	23	42	934	48	49	62	62
272	Y56AB2	SE40N_0	700	0	0	NONE	Aguilar Road	23	42	113	48	50	62	62
273	YSE56B	SE40N_0	2400	0	0	NONE	Foothill Road	23	37	113	44	53	54	54
274	Y55MA2	SE40N_0	4100	0	0	NONE	El Don Road	22	18	66	22	55	26	26
275	UE56DB	SE40N_0	4100	0	0	NONE	El Don Detention Pond	22	18	63	22	61	26	26
276	VSE55L	SE40N_0	6100	0	0	NONE	Sierra College Blvd.	79	9	43	11	121	13	13
Secret Ravine / Loomis Tributary														
277	YSE40J	SE40N_0	0	0	0	NONE	Secret Ravine Confluence	64	68	762	86	99	103	103
278	YSE40J	SE40N_0	1200	0	0	NONE	Interstate 80	60	68	98	86	92	103	103
279	VSE40I	SE40N_0	2800	0	0	NONE	Laird Street	56	60	87	74	86	82	82
280	VSE40F	SE40N_0	3600	0	0	NONE	King Road	53	41	64	54	81	54	54

1992 No. (1000+ are 2009 Assigned)	2009 Shed Label	2009 Storm Center	Distance From Mouth 1992	HEC-RAS Stream	HEC-RAS Segment	HEC-RAS Section ID	Location Description:	2-year 1989 JMM	2-year 1992 Corrected	Dec 2005 (<10 yr) (>2 yr)	2-year 2007-Current	2-year Future JMM	2-year Future Unmitigated	2-year Build-out w/LID & Projects
Secret Ravine/King Road Tributary														
281	USE45W	SE40M_30	0	0	0	NONE	Secret Ravine Confluence	41	69	762	69	378	82	82
282	YSE45Q	SE40M_30	3900	0	0	NONE	Rancho Verde Road	41	35	89	35	345	44	44
283	YSE45A	MR15J_30	5400	0	0	NONE	Val Verde Road	73	31	69	31	99	40	40
284	USE44B	MR15J_30	6300	0	0	NONE	King Road	66	29	58	29	89	38	38
Secret Ravine/Penryn Tributary														
285	YE15L2	SE40M_30	0	0	0	NONE	Secret Ravine Confluence	87	194	375	196	140	246	246
286	USE7H2	SE40M_30	4700	0	0	NONE	Rock Springs Road	96	149	301	152	176	203	203
287	YSE5F2	SE40M_30	5600	0	0	NONE	East/West Forks Confluence	88	132	276	140	170	189	189
Secret Ravine/ E. Fork Penryn Tributary														
288	VSE5F2	SE40M_30	0	0	0	NONE	West Fork Confluence	46	51	101	55	75	73	73
289	YSE5F	SE40M_30	900	0	0	NONE	Fairview Lane	41	51	101	55	67	73	73
290	YE20BS	SE40M_30	3700	0	0	NONE	Gilardi Road	17	41	78	44	28	58	58
Secret Ravine/W. Fork Penryn Tributary														
291	YSE7D	SE40M_30	0	0	0	NONE	East Fork Confluence	58	97	190	97	119	124	124
292	YSE10A	SE40M_30	200	0	0	NONE	Interstate 80	58	95	187	95	118	122	122
293	YE10BB	SE40M_30	1400	0	0	NONE	Girardi Road	90	87	180	88	217	116	116

Appendix H - Evaluation of Potential Projects

H.1 Introduction

Ten potential projects were analyzed in HEC-RAS based on hydrology using General Plan build-out land use with the current hydraulic system geometry, including the Miners Ravine Off-Channel Detention Basin. The locations of the ten potential projects are shown on Plate H.1. The hydraulic modeling analyzed seven storm centerings that caused peak flows at key locations in the watershed. Of the seven storm centerings that were analyzed, the SE40N@0 storm centering caused the highest peak flow rate at Vernon Street. Each of the potential projects listed below was modeled with the 100-year SE40N@0 storm centering to determine the impact on peak flow rates at Vernon Street. Additionally, each potential project was modeled with the 100-year storm centering from the set of seven that produced the highest local peak flow rate to determine the local impact of the project. Because only seven centerings were used in the analysis, the local centering is not necessarily the 100-year flow, which may be higher.

The projects increase flood storage volume through excavation, off-channel detention, or in-channel weirs that would increase water surface elevation.

Most of the potential projects are based on the use of an in-channel weir that will clear-span an opening across the low flow channel. The objective of this concept is to minimize the environmental impacts of a system that would allow unimpeded passage of frequent flows while detaining high flows. The proposed approach would not restrict fish passage and would minimize the need for grading and clearing of vegetation due to the small footprint of a weir compared to a dam. Table H.1 summarizes calculated peak flow reduction and is provided below.

Table H.1 Summary of peak flow reductions near the potential project location and at Vernon Street for SE40N@0 centering and the local centering causing the highest local peak flow.

			Baseline SE40N@0 Centering		Local Centering		
	Stream	Project Name	Local Peak Flow Reduction (cfs)	Peak Flow Reduction at Vernon (cfs)	Local Centering	Local Peak Flow Reduction (cfs)	Peak Flow Reduction at Vernon (cfs)
1	Antelope Creek	Atlantic Street	178	418	AC5I60	124	335
2	Linda Creek	Auburn-Folsom Road	119	14	LC5A	182	34
3	Linda Creek	Wedgewood Drive	78	22	LC5A	5	47
4	Linda Creek	Old Auburn Road	79	36	LC40L	37	33
5	Linda Creek	West of Rocky Ridge Drive	27	9	LC40L		
6	Miners Ravine	WWTP near Dick Cook Road	308	-6	MR15J	130	-6
7	Miners Ravine	East of Roseville Parkway	Project not feasible				
8	Secret Ravine	Sierra College Boulevard impact of proposed weir only	53	150	SE40M	90	105
9	Strap Ravine	McLaren Drive at Maidu Park	156	-35	CC5G_90	148	-35
10	Secret Ravine	Vista Oaks	103	0	SE40M	288	62
*	Secret Ravine	Sierra College Boulevard recent roadway construction	49	49	SE40M	20	14

H.2 Dick Cook Wastewater Treatment Plant Decommissioning

The wastewater treatment plant near Dick Cook Road on Miners Ravine is scheduled to be decommissioned. Significant flooding problems occur about five miles downstream in the Joe Rodgers area. A potential flood control project at the wastewater treatment plant site was analyzed to determine its effectiveness for reducing peak flow rates in the Joe Rodgers area and at Vernon Street.

Including the adjacent parcels, approximately 12 acres of surface area could be available for a flood control project. Conceptually, a potential project could include a berm adjacent to Miners Ravine on the north and west sides of the project site that would allow for increased water levels on the project site, as well as culverts or inlet boxes to control the flows entering the project site. The potential flood control project at

the decommissioned wastewater plant site would allow low flows to pass through and detain peak flows. Plate H.2 shows a map of the potential project area.

For the SE40N@0 centering, the analyzed configuration would reduce peak flows at the Joe Rodgers area by only 21 cubic feet per second (cfs), and would cause a net increase of six cfs at Vernon Street. Because the peak flow on Miners Ravine occurs after the peak flow at Vernon Street, the elimination of floodplain storage at the project site for the lower flows would cause an early increase in flow rates downstream. Adjacent to the project site, the potential project may increase the maximum water surface elevation which would cause increased flooding of the development on the right (west) bank. Table H.2 summarizes the FEMA FIS (2001), pre- and post-potential project conditions from the model used for project analysis.

Table H.2 Water Surface Elevations (feet) for Locations Impacted by Potential Project at the Wastewater Treatment Plant Site Near Dick Cook Road on Miners Ravine

		SE40N0			MR15J@30		
Location	FEMA (2001)	No Project	With Project	Project Delta	No Project	With Project	Project Delta
Downstream from Leibinger Lane	362.0	360.51	360.48	-0.03	360.97	360.87	-0.1
Adjacent to potential project	488.0	487.7	488.25	0.55	488.41	489.44	1.03

Note: The FEMA water surface elevation is provided for reference and was not used in the analysis. It may be different from the current study model due to flow rate difference or other issues.

Chart H.1 and Chart H.2 show the flow hydrographs at Leibinger Lane in the Joe Rodgers area and at Vernon Street for the SE40N@0 storm centering.

Chart H.1 Flow Hydrograph at Leibinger Lane in the Joe Rodgers Area With and Without a Potential Project at the Wasterwater Treatment Plant near Dick Cook Road

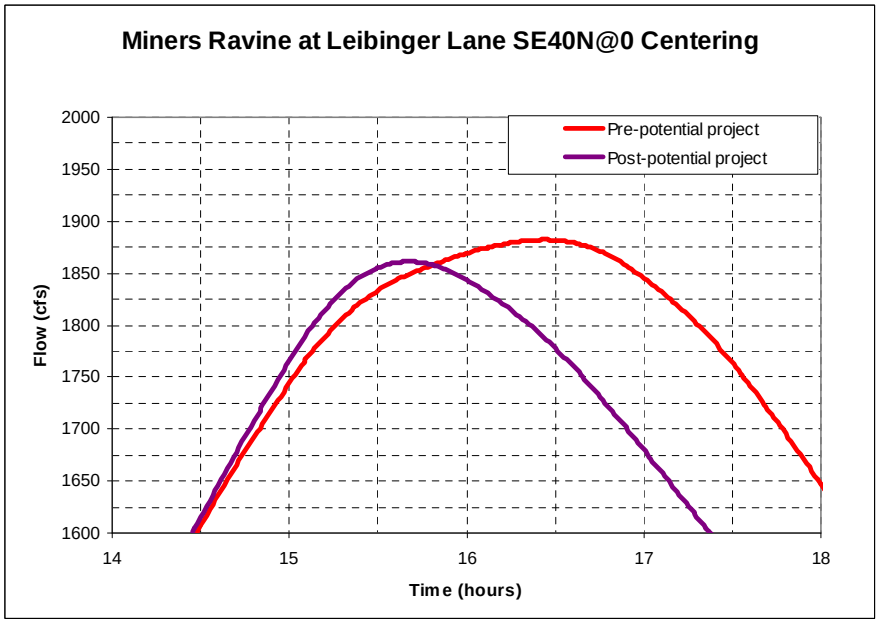
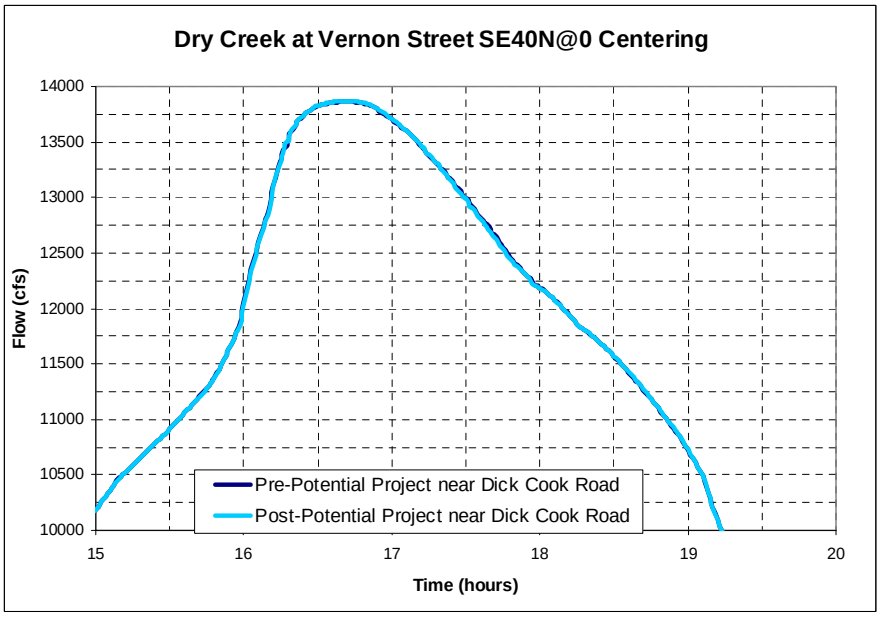


Chart H.2 Flow Hydrograph at Vernon Street With and Without a Potential Project at the Wastewater Treatment Plant near Dick Cook Road



Although the project site may provide a small flow and stage reduction in the Joe Rodgers area, the project is infeasible because of the net increase of peak flow rate at Vernon Street. The reduction in early floodplain storage causes acceleration in the peak flow rate for the project condition. The site is too small to effectively detain

enough flow for a long enough duration to significantly reduce peak flow rates at both the Joe Rodgers area and at Vernon Street. No further action is recommended for this project site.

H.3 Auburn-Folsom Road on Linda Creek

Another potential project site is located on the upper portion of Linda Creek, upstream from Auburn-Folsom Road, adjacent to Cavitt Junior High School. The project site is approximately 6.5 acres and currently is undeveloped open space with some tree coverage. Plate H.3 shows the layout of the potential project site. The potential project site is within the preliminary FEMA floodplain. The project concept would add a berm on the right bank of Linda Creek, creating an off-channel detention basin to divert and attenuate peak flows. Table H.3 summarizes the preliminary FEMA FIS, pre- and post-potential project conditions from the model used for project analysis. There is currently no effective FIS for the potential project area.

Table H.3 Water Surface Elevations (feet) for Locations Impacted by Potential Project at the Auburn-Folsom Road Site on Linda Creek

		SE40N0			LC5A0		
Location	FEMA (Nolte)	No Project	With Project	Project Delta	No Project	With Project	Project Delta
Downstream from Troy/ Purdy Lane	357.5	357.45	357.10	-0.35	357.79	357.55	-0.24

Flooding problems exist about one half mile downstream in the Troy/Purdy Lane area. The potential project could be designed to provide peak flow attenuation at Vernon as well as peak flow and water surface elevation reduction at the Troy/Purdy Lane area.

For the SE40N@0 centering, the potential project would reduce peak flows at the Auburn-Folsom Road by approximately 80 cfs and at the Troy/Purdy Lane area by 119 cfs. This would result in a decrease of approximately three to six inches of peak water surface elevation. Additionally, the project would cause a 14 cfs reduction in peak flow rate at Vernon Street. Chart H.3, Chart H.4, Chart H.5, and Chart H.6 show flow hydrographs for the SE40N@0 Centering for Auburn-Folsom Road, Troy/Purdy Lane, and Vernon Street with and without the potential project.

Chart H.3 Flow Hydrograph at Auburn-Folsom With and Without Potential Project Above Auburn-Folsom Road

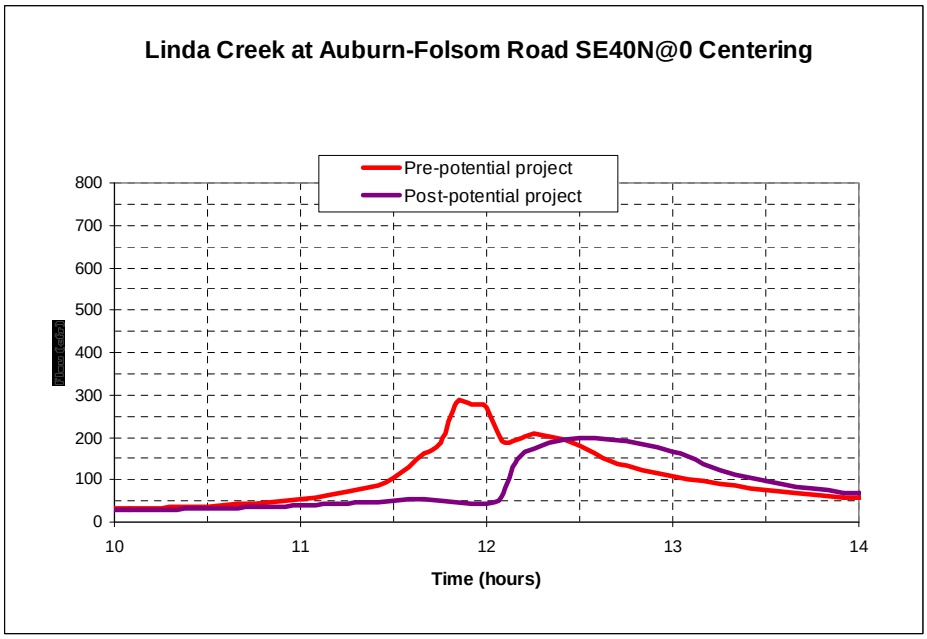


Chart H.4 Flow Hydrograph Just Downstream from Troy/Purdy With and Without Potential Project Upstream From Auburn-Folsom Road

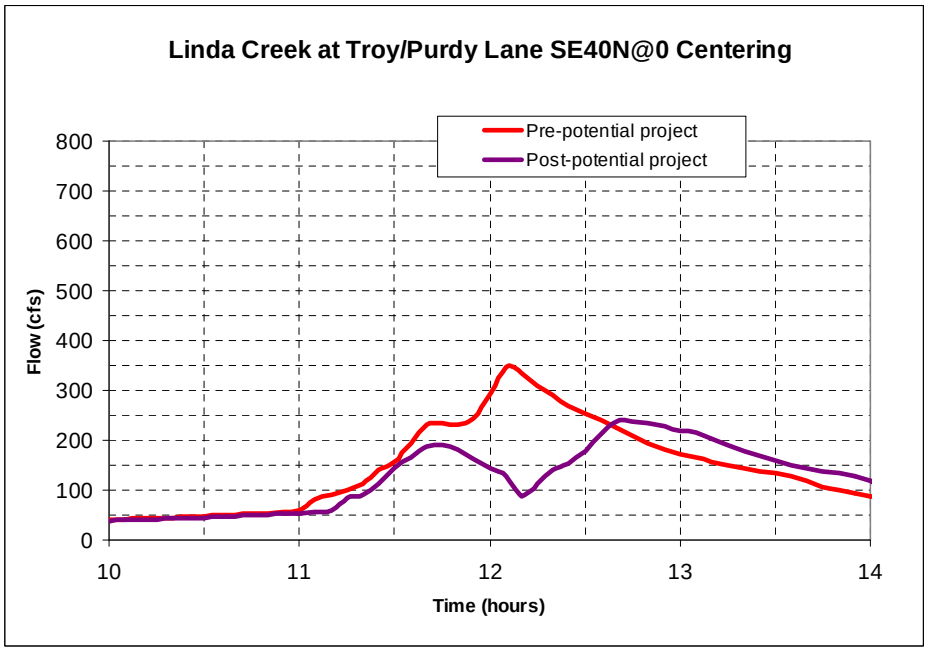
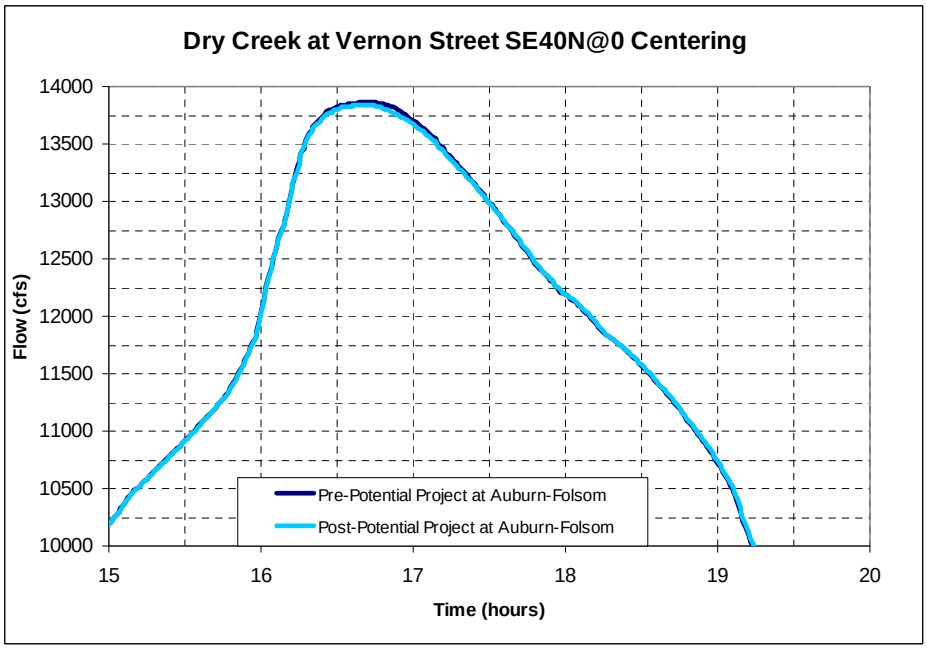


Chart H.5 Flow Hydrograph at Vernon Street With and Without Potential Project Upstream From Auburn-Folsom Road



For the LC5A@0 centering, the potential project would reduce peak flow rates Auburn-Folsom Road by 110 cfs, the Troy/Purdy Lane area by 182 cfs, and the water surface elevation by 3-6 inches. Based on the LC5A@0 centering, the peak flow rate at Vernon Street would be reduced by 34 cfs. Chart H.6, Chart H.7, and Chart H.8 show flow hydrographs for the LC5A@0 centering at Auburn-Folsom Road, Troy/Purdy Lane and at Vernon Street.

The double peak in the flow hydrograph at Troy/Purdy Lane for the post-potential project scenario is due to a separate inflow hydrograph introducing flow into the system below the potential project site. The potential project delays the peak above Auburn-Folsom Road, as seen in Chart H.3 and Chart H.6. The inflow below Auburn-Folsom road produces a separate, earlier peak as shown in Chart H.4 and Chart H.8.

Chart H.6 Flow Hydrograph at Auburn-Folsom Road With and Without Potential Project Upstream From Auburn Folsom-Road

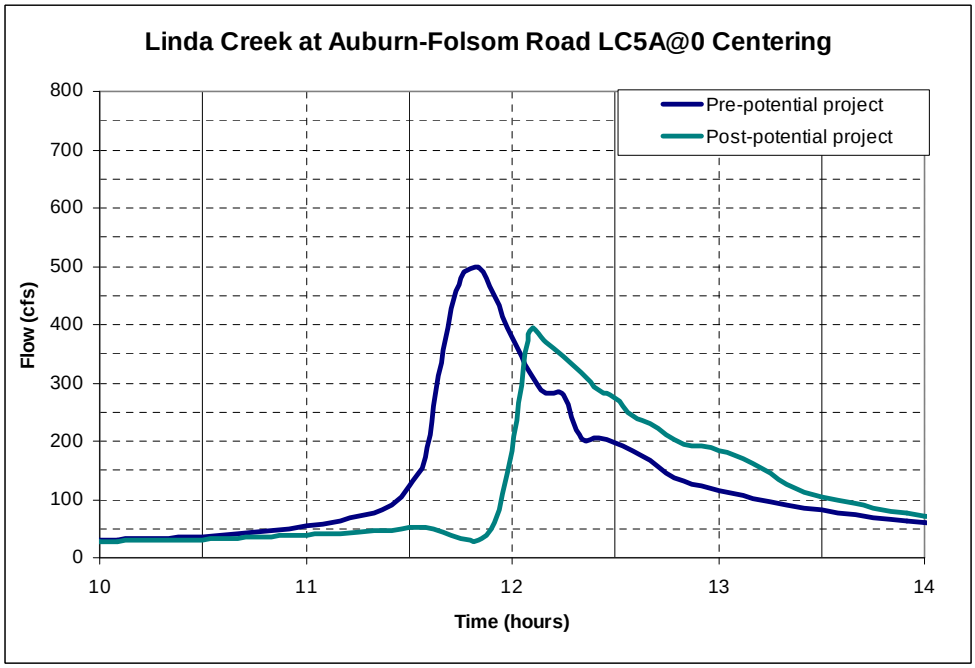


Chart H.7 Flow Hydrograph at Troy/Purdy Lane With and Without Potential Project Above Auburn-Folsom Road

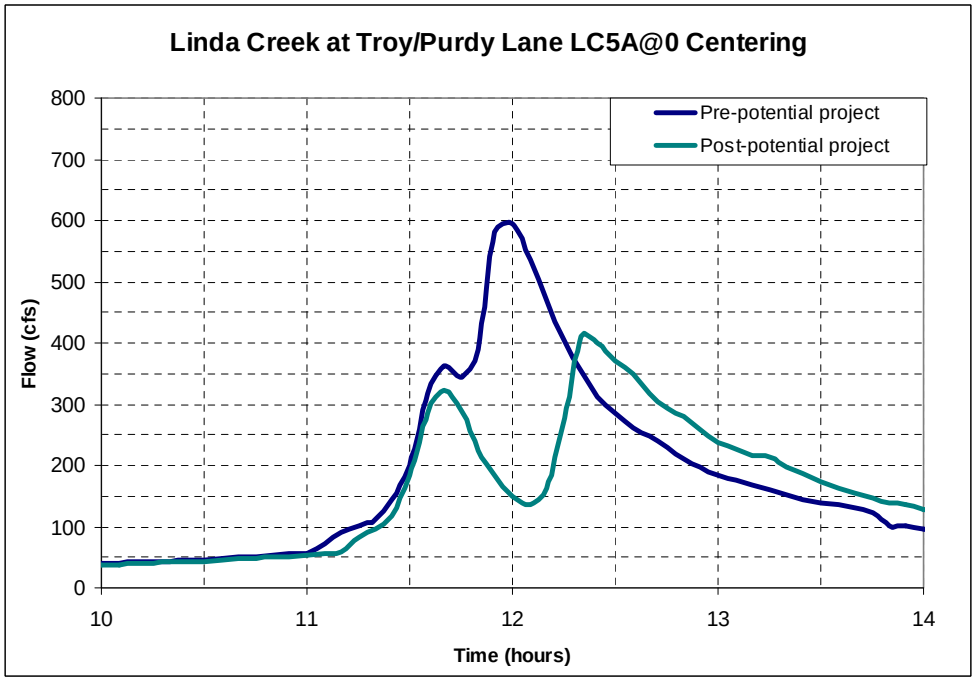
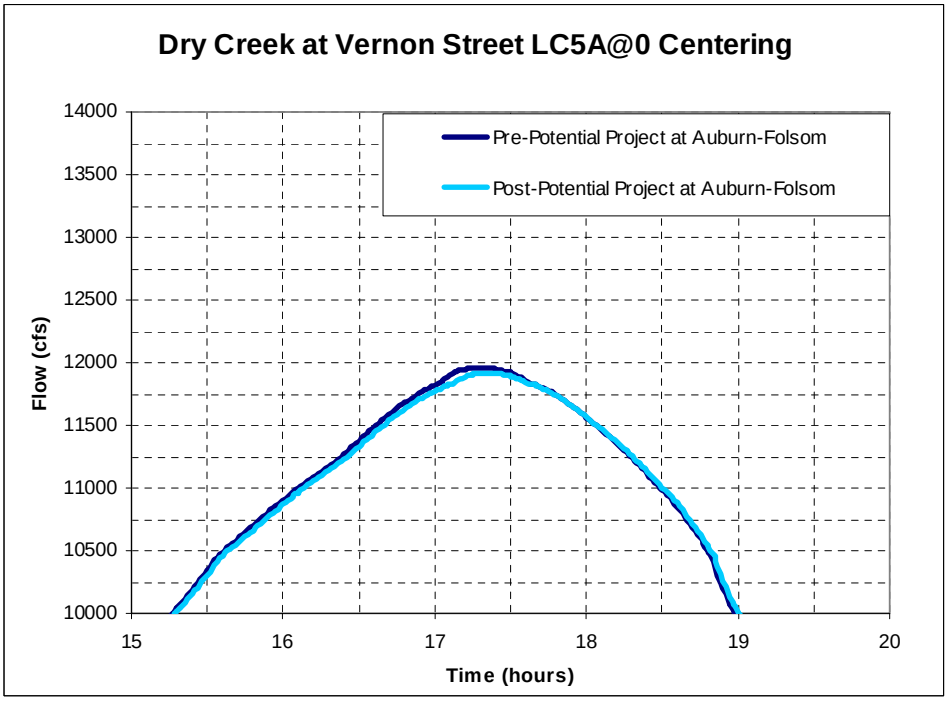


Chart H.8 Flow Hydrograph at Vernon Street With and Without Potential Above Auburn-Folsom Road



The project would require a berm of approximately 1,000 feet in length and 2-12 feet in height to create the off-channel detention basin. Additional storage volume may be created by excavating the potential project site; however, due to existing vegetation, excavation may be infeasible and was not considered for this analysis. The potential storage volume is approximately 20 acre-feet. Any project with less than 50 acre-feet of storage is not within the jurisdiction of the Division of Safety of Dams (DSOD). The area that would be inundated by the potential project located in an existing floodplain.

The project analysis assumes that a one-foot diameter culvert would slowly drain the detained volume. The detained volume would drain slowly over a period of about 24 hours.

The potential project site above Auburn-Folsom Road on Linda Creek near Cavitt Junior High has potential to decrease peak flow rates and water surface elevations in the Troy/Purdy Lane area, where some flood prone properties are located, and to reduce peak flow rates at Vernon Street. More analysis is recommended for this potential project site.

H.4 Wedgewood Drive on Linda Creek

Just upstream from Wedgewood Drive on Linda Creek is a steep, narrow ravine between residential developments that could potentially be used as a flood detention project site. The surface area of the potential project site is approximately 2.5 acres that is covered by riparian vegetation and trees. The project concept would be to

construct an in-channel weir, allowing low flow passage, but detaining the peak flows by increasing the water surface elevation. Plate H.4 shows a map of the potential project area.

Based on the evaluated configuration and the SE40N@0 centering, the maximum water surface elevation would increase by 10 feet just upstream from Wedgewood Drive. This scenario would decrease peak flow 78 cfs just downstream from Wedgewood Drive and decrease peak flows 22 cfs at Vernon Street. Table H.4 summarizes the FEMA FIS, pre- and post-potential project conditions from the model used for project analysis.

Table H.4 Water Surface Elevations (feet) for Locations Impacted by Potential Wedgewood Drive Project

		SE40N0			LC5A0		
Location	FEMA (Nolte)	No Project	With Project	Project Delta	No Project	With Project	Project Delta
Upstream from Wedgewood Drive	281.76	280.32	290.83	10.51	282.10	295.13	13.03
Downstream from Wedgewood Drive	279.61	278.38	278.02	-0.36	279.94	279.5	-0.44

Note: The FEMA water surface elevation is provided for reference and was not used in the analysis. It may be different from the current study model due to flow rate difference or other issues.

Chart H.9 and Chart H.10 show the flow hydrographs for the SE40N@0 centering at Wedgewood Drive and Vernon Street with and without the potential project at Wedgewood Drive.

Chart H.9 Flow Hydrograph Just Downstream from Wedgewood Drive With and Without Potential Wedgewood Drive Project

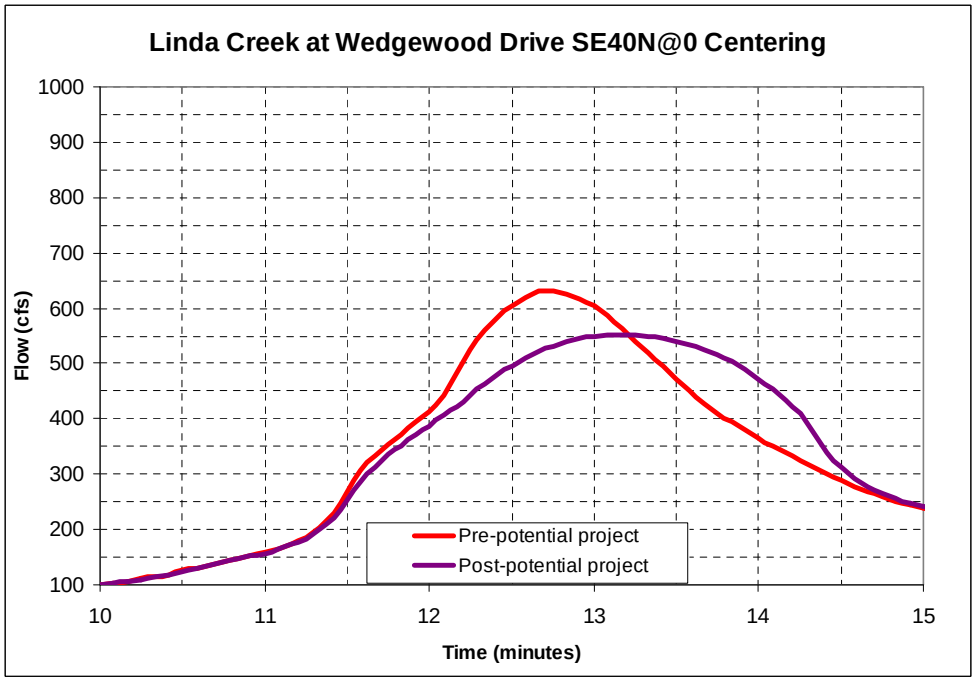
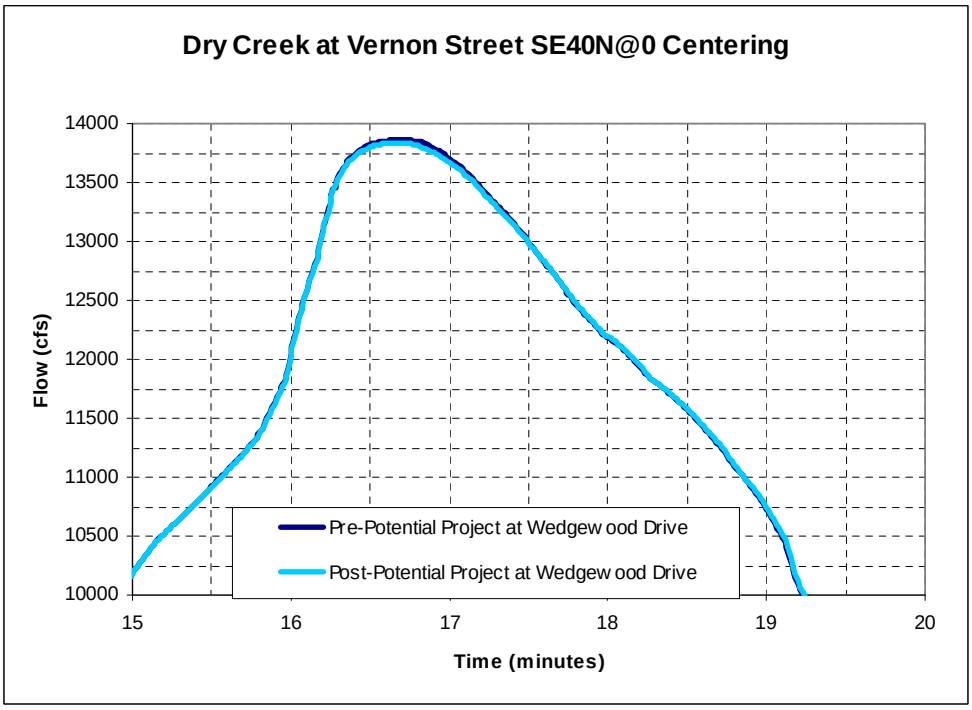


Chart H.10 Flow Hydrograph at Vernon Street With and Without Potential Wedgewood Drive Project



For the LC5A@0 centering, the project may cause the water surface elevation to

increase by 13 feet just upstream from Wedgewood Drive. This scenario would reduce peak flows by 50 cfs just downstream from Wedgewood Drive and 47 cfs at Vernon Street. The 100-year water surface elevation may be able to increase by 20 feet at this location without impacting the adjacent properties. Chart H.11 and Chart H.12 show the flow hydrographs for the LC5A@0 centering at Wedgewood Drive and Vernon Street with and without the potential project.

Chart H.11 Flow Hydrograph Just Downstream from Wedgewood Drive With and Without Potential Project

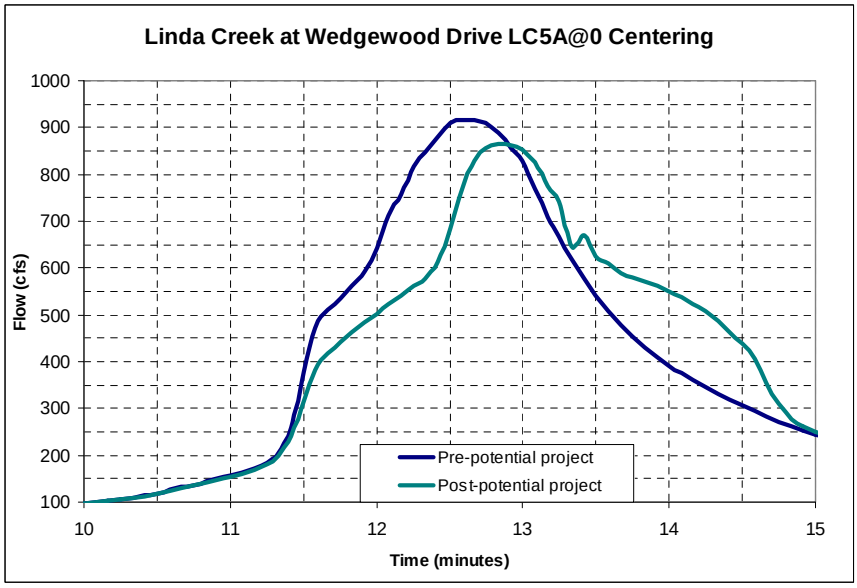
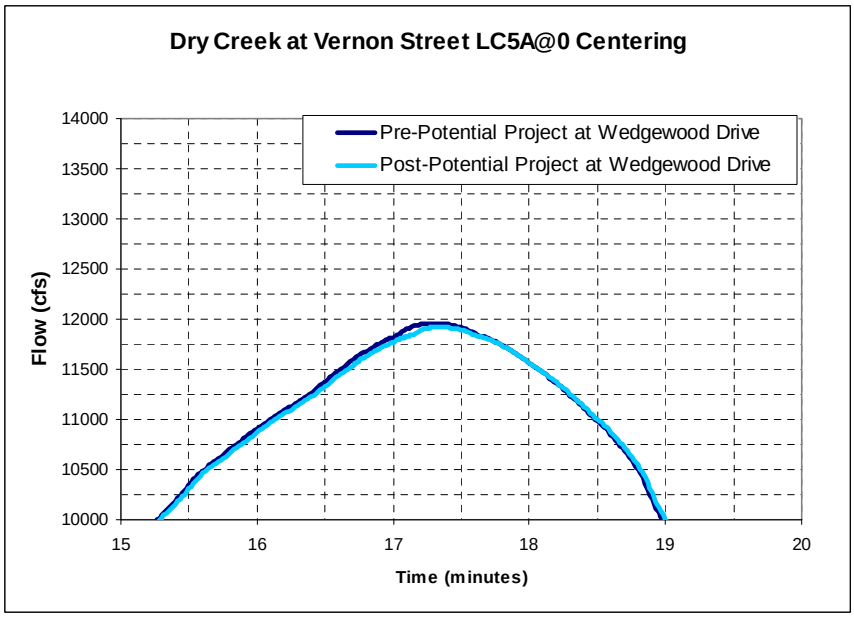


Chart H.12 Flow Hydrograph at Vernon Street With and Without Potential Project



The total weir length would be approximately 150 feet. The weir would vary in height from 0 to 16 feet and would require erosion control measures on the downstream side. The extent of the area impacted by the increased water surface extends 1,300 feet upstream from the potential weir, just downstream from the Granite Bay Golf Course. Most of the area impacted by the project site is currently floodplain.

The potential project just upstream from Wedgewood Drive on Linda Creek may provide peak flow reduction at Vernon Street. Other alternatives such as installing flow control gates on the potential weir may also be analyzed to reduce overall project costs. It is recommended that this potential project site be investigated further for a flood control project.

H.5 Atlantic Street on Antelope Creek

One potential project site is located adjacent to westbound Interstate-80, north of Atlantic Street on Antelope Creek. The potential flood detention project consists of constructing two weirs spanning the main channel to allow passage of low flows while detaining higher flows. This concept was evaluated with one weir just upstream from the railroad bridge that runs adjacent to Atlantic Street and a second weir just upstream from the bicycle path bridge. Though the project could involve either or both weirs, the analysis presented here represents construction of both weirs. Plate H.5 shows a map of the potential project location.

For the SE40N@0 centering, the combined effect of the weirs would reduce the calculated peak Antelope Creek flows just downstream from Atlantic Street by 177 cfs, and would reduce the peak Dry Creek flow at Vernon Street by 418 cfs. Table H.5 summarizes water surface elevations from FEMA FIS (2001), and pre- and post-potential project conditions from the model used for project analysis.

Table H.5 Water Surface Elevations (feet) for Locations Impacted by Potential Project at Atlantic Street

		SE40N0			AC5I60		
Location	FEMA (2001)	No Project	With Project	Project Delta	No Project	With Project	Project Delta
Upstream from weir near bicycle bridge	173.0	174.63	179.16	4.53	175.04	179.43	4.39
Upstream from weir near railroad bridge	165.2	165.37	171.56	6.19	166.24	171.92	5.68
Downstream from Atlantic Street	162.0	162.84	162.78	-0.04	163.36	163.03	-0.33

Note: The FEMA water surface elevation is provided for reference and was not used in the analysis. It may be different from the current study model due to flow rate difference or other issues including peak flow rates that are considerably higher in the current model than the flow rates used in the FEMA FIS.

Chart H.13 and Chart H.14 show the flow hydrographs just downstream from Atlantic

Street and at Vernon Street with and without the potential project. The project would require increasing the 100-year water surface elevation upstream from Atlantic Street and upstream from the bicycle path bridge to achieve the indicated benefit.

Chart H.13 Flow Hydrograph Just Downstream from Atlantic Street With and Without Potential Project

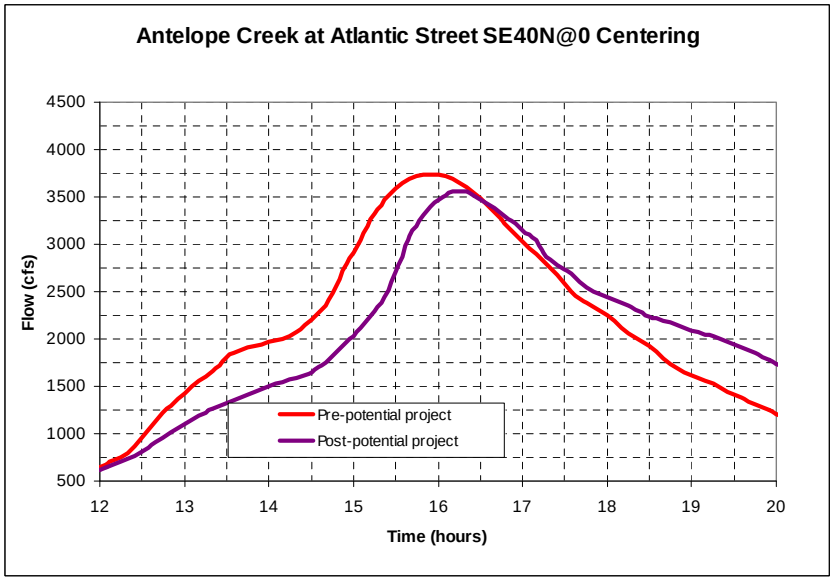
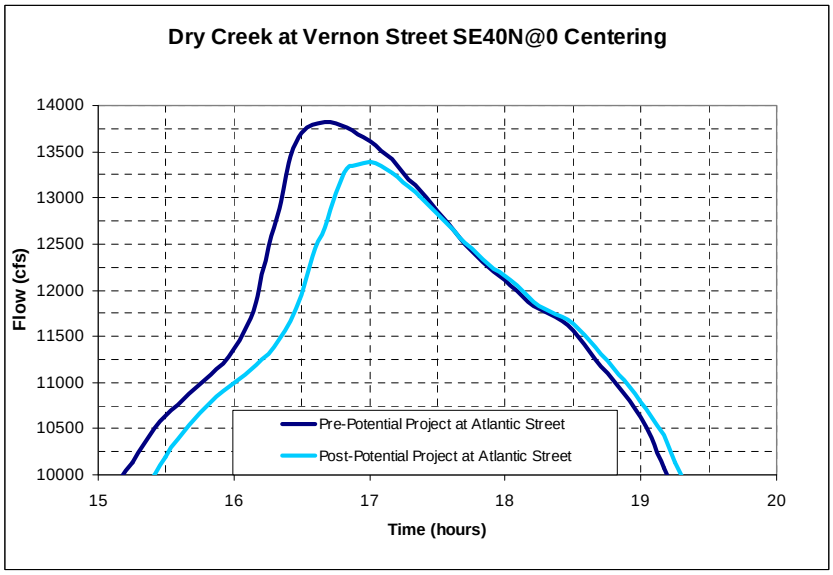


Chart H.14 Flow Hydrograph at Vernon Street With and Without Potential Atlantic Street Project



Based on the seven storm centering locations used in the analysis that cause the highest flows, the project could reduce the peak flow generated by the AC5I@60 by 124 cfs at Atlantic Street and 335 cfs at Vernon Street. Chart H.15 and Chart H.16 show the flow hydrographs just downstream from Atlantic Street and at Vernon Street with and without the potential project based on the AC5I@60 centering.

Chart H.15 Flow Hydrograph Just Downstream from Atlantic Street With and Without Potential Project

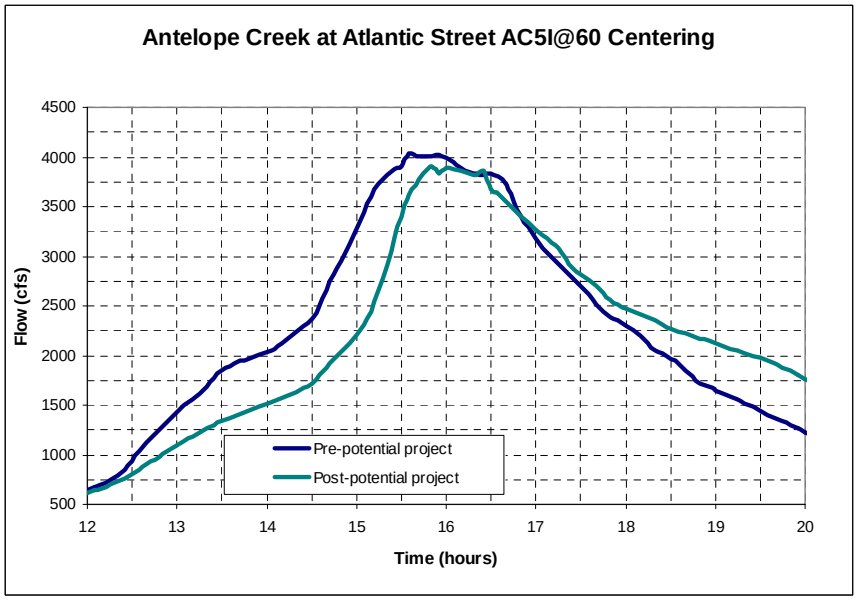
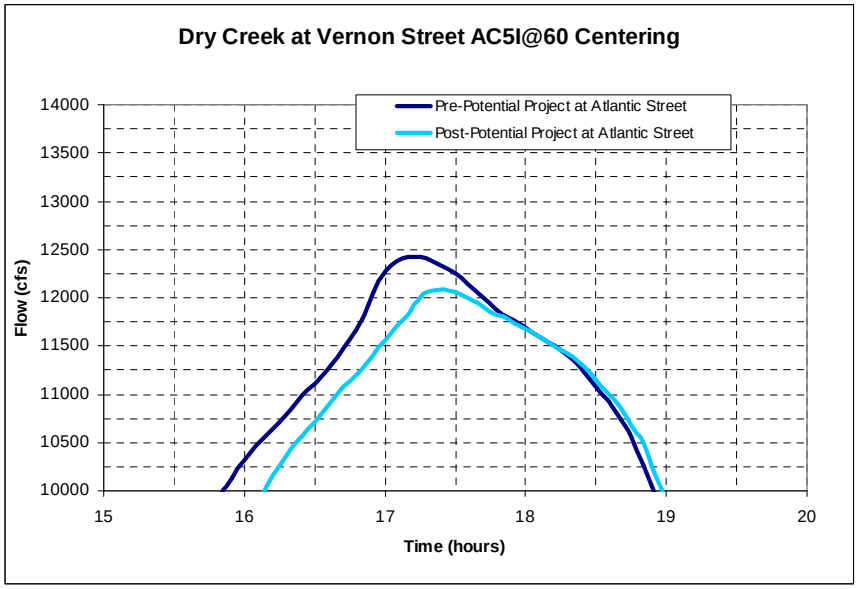


Chart H.16 Flow Hydrograph at Vernon Street With and Without Potential Atlantic Street Project



It is estimated that this project would cause an increase in the 100-year water surface elevation and floodplain area by approximately nine acres.

The total weir length would be approximately 200 feet for the downstream weir near Atlantic Street and 300 feet for the upstream weir near the bicycle bridge. The weirs would vary in height from 0 to 12 feet and would require erosion control measures on the downstream side.

The lower portion of the site had been a landfill. The majority of the project site is owned by the City of Roseville. A flood easement may be negotiated with the City of Roseville for areas impacted by the potential project. Part of the project site is an old dump that has been capped. A potential project on this site, such as the weir, would require reviewing the environmental and geotechnical feasibility of construction within this area. The extent of the area impacted by the increased water surface would extend from the weir near the bicycle bridge upstream about 5,000 feet to approximately the Highway 65 crossing.

The potential project upstream from Atlantic Street on Antelope Creek demonstrates potential for reducing peak flows at Vernon Street. Further study is recommended to explore the feasibility and impact of this project.

H.6 Old Auburn Road on Linda Creek

Another potential project site just upstream (south) of Old Auburn Road on Linda Creek was previously studied by the City of Roseville for possible future development. Plate H.6 shows a map of the potential project. A portion of the site was found to be infeasible for development purposes due to the current extent of the floodplain. However, this portion of the site may be used for detention purposes by excavating additional storage volume on the left bank. This evaluation is based on excavating approximately 5,000 cubic yards of cut, and depositing it on the right bank, above the existing floodplain. This potential project would include a berm constructed along the left (west) bank to increase effective detention volume in the off-channel detention basin.

For the SE40N@0 centering, the peak flows would be reduced by 37 cfs just downstream from Old Auburn Road and 36 cfs at Vernon Street. The analysis indicates that the potential project may increase water surface elevation by six inches just upstream from the project location. Table H.6 summarizes the FEMA FIS (2001), pre- and post-potential project conditions from the model used for project analysis.

Table H.6 Water Surface Elevations (feet) for Locations Impacted by Potential Project at Old Auburn Road

		SE40N0			LC40L@30		
Location	FEMA (Nolte)	No Project	With Project	Project Delta	No Project	With Project	Project Delta
Downstream from Old Auburn	169.0	163.07	162.97	-0.10	164.32	164.28	-0.04
Upstream from Potential Project Site	169.2	166.75	166.88	0.13	167.83	168.14	0.31

Note: The FEMA water surface elevation is provided for reference and was not used in the analysis. It may be different from the current study model due to flow rate difference or other issues. In this case, it is likely that the LC40L@30 centering does not produce the peak 100-year flow rate. Future analysis of this project site would need to consider the centering the causes the 100-year flow rate.

Chart H.17 and Chart H.18 show the flow hydrographs for the SE40N@0 centering at Old Auburn Road and Vernon Street with and without the potential project.

Chart H.17 Flow Hydrograph Just Downstream from Old Auburn Road With and Without Potential Project

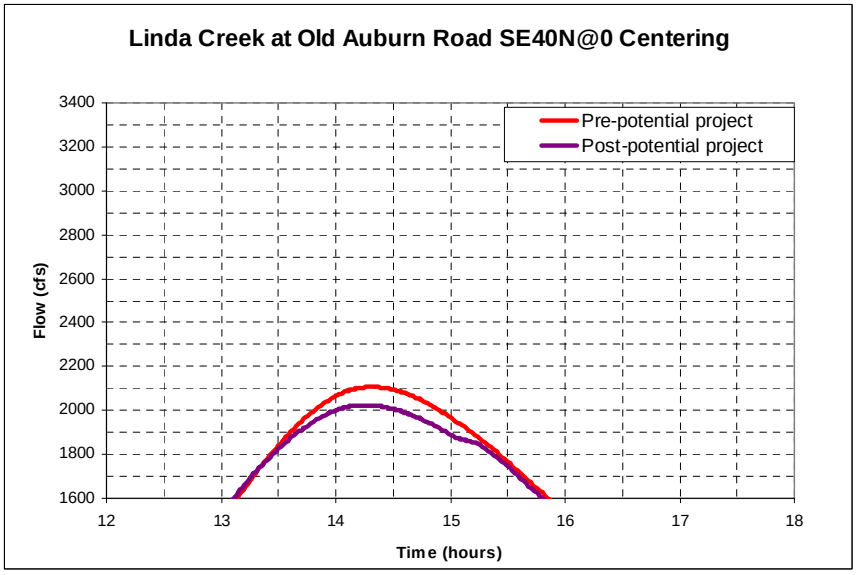
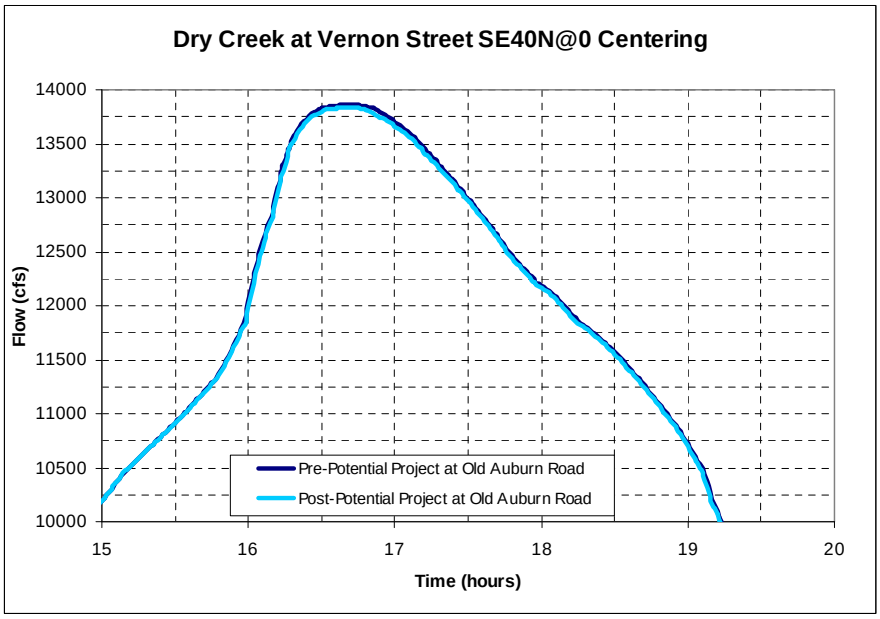


Chart H.18 Flow Hydrograph at Vernon Street With and Without Potential Project at Old Auburn Road



For the LC40L@30 centering, the peak flow reductions would be 37 cfs at Old Auburn Road and 34 cfs at Vernon Street. The analysis indicates the maximum water surface elevation increasing between nine and 10 inches, just upstream from the project site. Chart H.19 and Chart H.20 show the flow hydrographs for Linda Creek at Old Auburn Road and Dry Creek at Vernon Street for the LC40L@30 centering with and without the potential project at Old Auburn Road.

Chart H.19 Flow Hydrograph Just Downstream from Old Auburn Road With and Without Potential Project

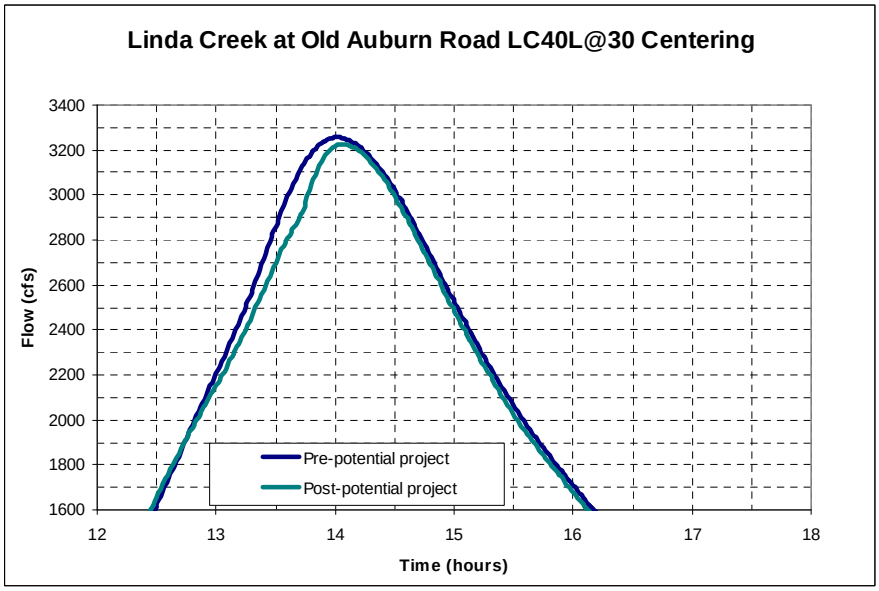
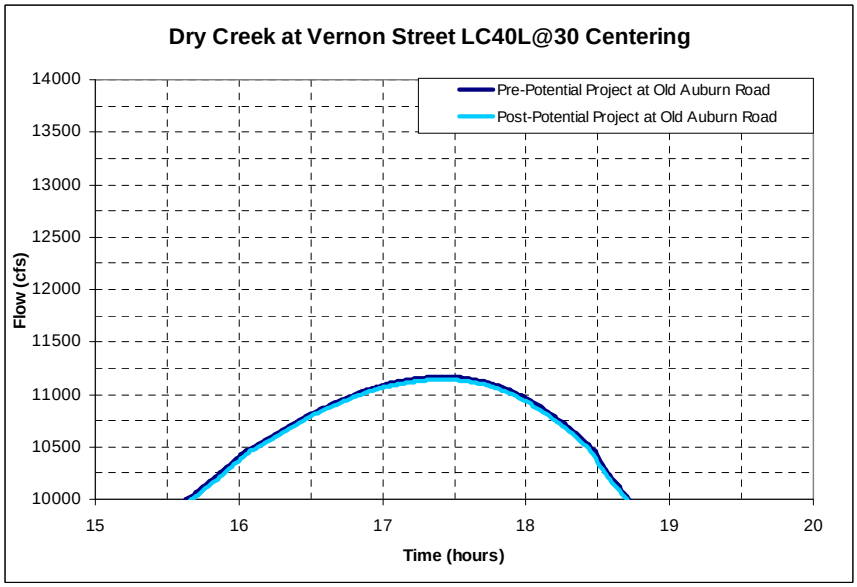


Chart H.20 Flow Hydrograph at Vernon Street With and Without Potential Project at Old Auburn Road



The project would require a berm approximately 1,000 feet in length that is approximately four to eight feet high, depending on the natural ground. Additionally, an opening of approximately 30 feet at the upstream end of the detention basin would allow flow to enter, and a culvert with a flap gate at the downstream end of the detention basin would allow the flow to return to Linda Creek.

The potential project that was evaluated has a maximum volume of 15 acre-feet, which is less than the 50-acre-feet threshold cause it to be within DSOD jurisdiction.

More excavation may yield more peak flow reduction benefit. Also, the project may be designed to reduce potential upstream increases in water surface elevation with in-channel modifications or a different configuration of the project site.

Since the potential project site is owned by the City of Roseville, a flood easement may be negotiated for areas impacted by increased flood depths.

The Old Auburn Road on Linda Creek project site has some potential for decreasing peak flow rates at Vernon Street. It is recommended that the site be further analyzed.

H.7 West of Rocky Ridge on Linda Drive

A potential eight-acre project site is located near Sierra Gardens Drive, downstream (west) of Rocky Ridge Drive. This potential project site is already within the existing floodplain. Plate H.7 shows a map of the potential project. Existing storage volume may be added using a berm to create an off-channel detention basin, allowing higher water surface elevations within the detention basin, or by excavation. Because of the

vegetative cover and the existing trees on-site, it may be difficult to create significant storage volume by excavation. The potential project only evaluated an off-channel detention basin configuration with berms.

Based on the SE40N@0 centering, peak flows immediately downstream from the project site would be decreased by 27 cfs and peak flows at Vernon Street would be decreased by nine cfs. Chart H.21 and Chart H.22 show the flow hydrographs for the SE40N@0 centering just downstream from the project site and at Vernon Street.

The site does not afford enough storage volume to effectively attenuate the large peak flows that occur lower in the watershed. This project is deemed in feasible due to potential environmental constraints and lack of peak flow reduction benefit. No further action is recommended on this project site.

Chart H.21 Flow Hydrograph Just Downstream From the Potential Project Site Near Rocky Ridge Road With and Without the Potential Project

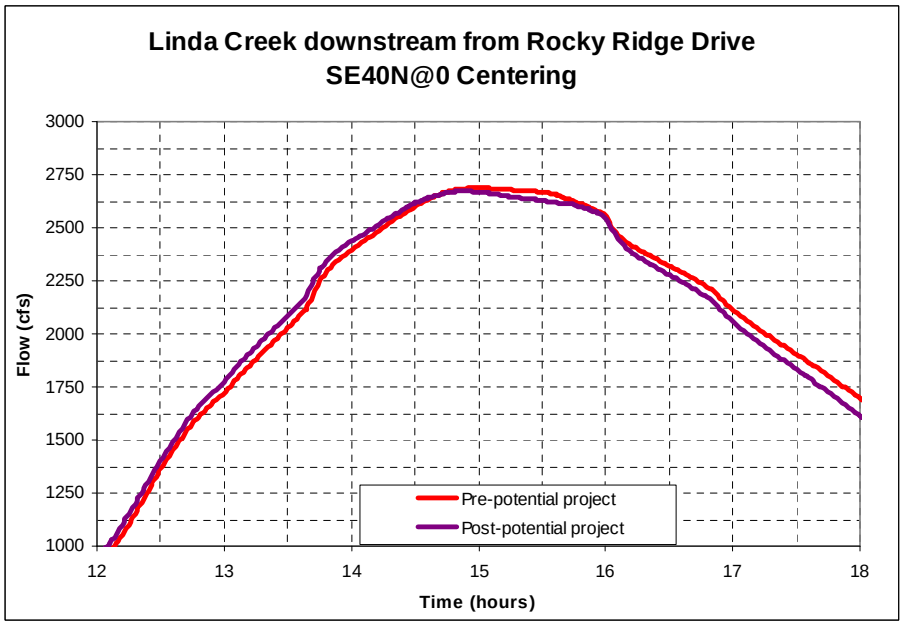
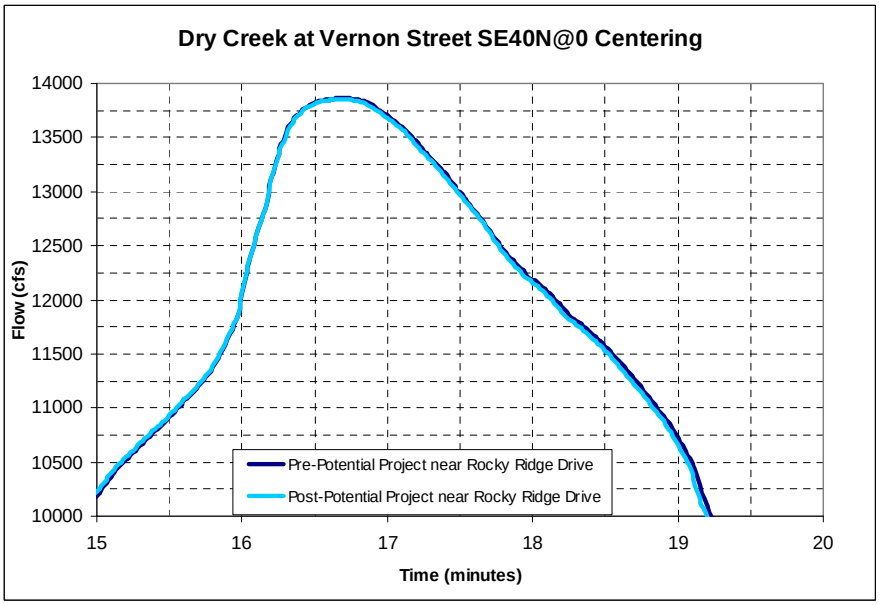


Chart H.22 Flow Hydrograph at Vernon Street With and Without Potential Project Near Rocky ridge Road



H.8 East Roseville Parkway on Miners Ravine

A potential project site exists upstream (east) from Roseville Parkway on Miners Ravine, just downstream from the Miners Ravine Off-Channel Detention Basin. Plate H.8 shows the potential project area. The ground on the site is approximately 15 to 30 feet higher than the existing floodplain. In order for additional flood storage volume to be added to the floodplain, at least 130,000 cubic yards of cut would have to be excavated and removed from the site before additional storage volume could be added. Due to the high costs of excavation and soil removal, this project site was deemed infeasible and not analyzed with the hydraulic model. No further action is recommended for this project site.

H.9 Sierra College Boulevard on Secret Ravine

Another potential project site is located upstream (east) from Sierra College Boulevard on Secret Ravine. Plate H.9 shows a map of the potential project location. This potential project involves construction of an in-channel weir just upstream from Sierra College Boulevard that would allow the low flows to pass, but detain the high flows. The potential project site is approximately 20 acres, of which approximately 15 acres are located within the existing floodplain. This project was evaluated for construction in 2007 using a Department of Water Resources (DWR) grant. It was determined that in order for the project to achieve the desired flood control benefit, it would require additional flood control easements and was not consistent with the terms of the available funding. Therefore, the project could not be constructed at that time. The previously proposed weir configuration was used for this analysis. Plate H.10 shows renderings of the potential weir that were created in 2007 for the feasibility study.

Recent construction on Sierra College Boulevard has raised the elevation at which the water would overtop the roadway by approximately 1.5 feet. Prior to construction, the peak flows overtopped Sierra College Boulevard. By increasing the top elevation, the maximum water surface elevation is increased and additional storage volume is created.

The current study SE40N@0 centering includes much higher Secret Ravine flows than considered in the 2007 project evaluation. Based on the 2007 project configuration for the SE40N@0 centering, the water surface elevation just upstream from the potential project weir would increase by 5-6 feet. The peak flow just downstream from Sierra College Boulevard would decrease by 53 cfs and the peak flow at Vernon Street would decrease by 150 cfs. The change in roadway elevation itself caused a net decrease of peak flow just downstream from Sierra College Boulevard of 49 cfs and a peak flow reduction at Vernon Street of 49 cfs. The upstream water surface elevation increases by 1.6 feet. Table H.7 summarizes the FEMA FIS (2001), pre- potential project condition, the increase in Sierra College Boulevard roadway overtopping elevation condition, and the post-potential project conditions from the model used for project analysis.

Table H.7 Water Surface Elevations (feet) Just Upstream From Potential Project Weir Near Sierra College Boulevard

		SE40N@0			SE40M@30		
Location	FEMA (2001)	No Project	Increase in SCB Elevation	With Project	No Project	Increase in SCB Elevation	With Project
Upstream from Potential Project Weir	299.4	298.67	300.06	304.78	298.78	300.85	304.99

Note: The FEMA water surface elevation is provided for reference and was not used in the analysis. It may be different from the current study model due to flow rate difference or other issues. The Secret Ravine centerings cause higher flow rates than those used in the FEMA FIS.

Chart H.23 and Chart H.24 show the flow hydrographs for the SE40N@0 centering for Sierra College Boulevard and Vernon Street without the potential project, with the increase in overtopping elevation of Sierra College Boulevard, and with the increase in overtopping elevation and the potential project.

Chart H.23 Flow Hydrographs for Secret Ravine at Sierra College Blvd. before and after Sierra College Blvd. Modifications and with Potential Project – Vernon Peak Flow Centering

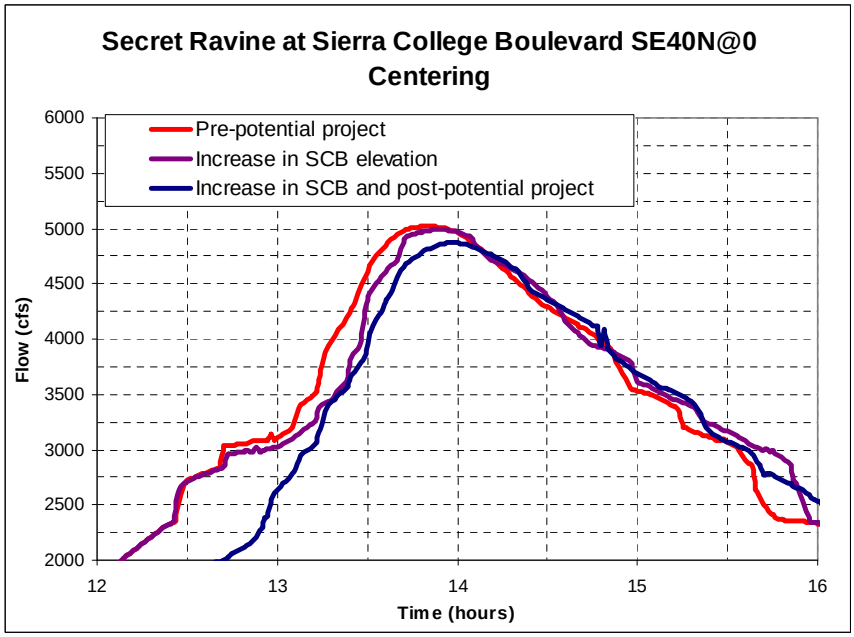
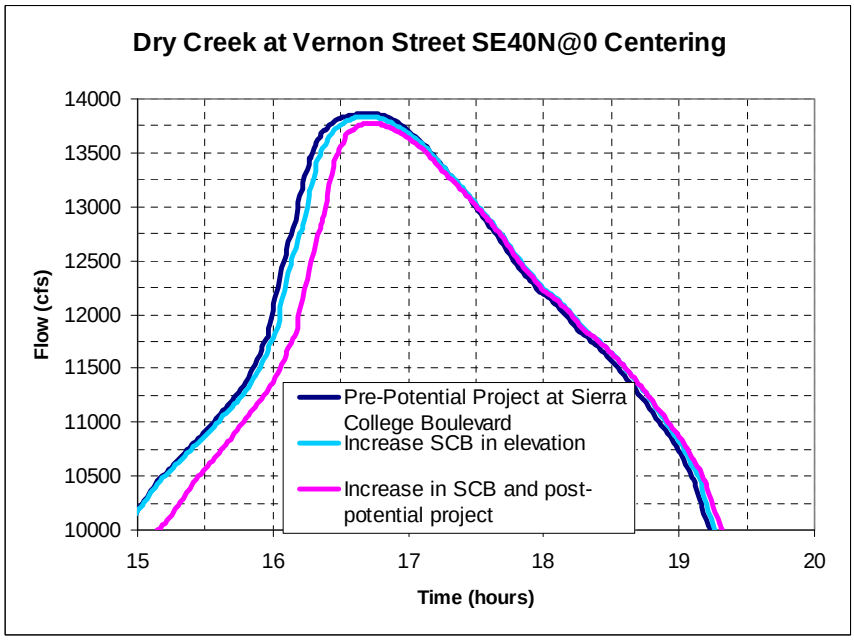


Chart H.24 Flow Hydrographs at Vernon Street before and after Sierra College Blvd. Modifications and with Potential Project – Vernon Peak Flow Centering



For the SE40M30 centering, the peak flow rates at Sierra College Boulevard and Vernon Street would be decreased by 90 cfs and 105 cfs, respectively, considering the new roadway elevation and the potential in-channel weir. The change in the Sierra College Boulevard elevation alone accounts for an increase of 1.6 feet, and the peak flow rate reduction at Sierra College Boulevard and Vernon Street of 20 cfs and 14 cfs, respectively. Chart H.25 and Chart H.26 show the flow hydrographs for the SE40M@0 centering for Sierra College Boulevard and Vernon Street without the potential project, with the increase in overtopping elevation of Sierra College Boulevard, and with the increase in overtopping elevation and the potential project.

Chart H.25 Flow Hydrographs for Secret Ravine at Sierra College Blvd. before and after Sierra College Blvd. Modifications and with Potential Project – Local Peak Flow Centering

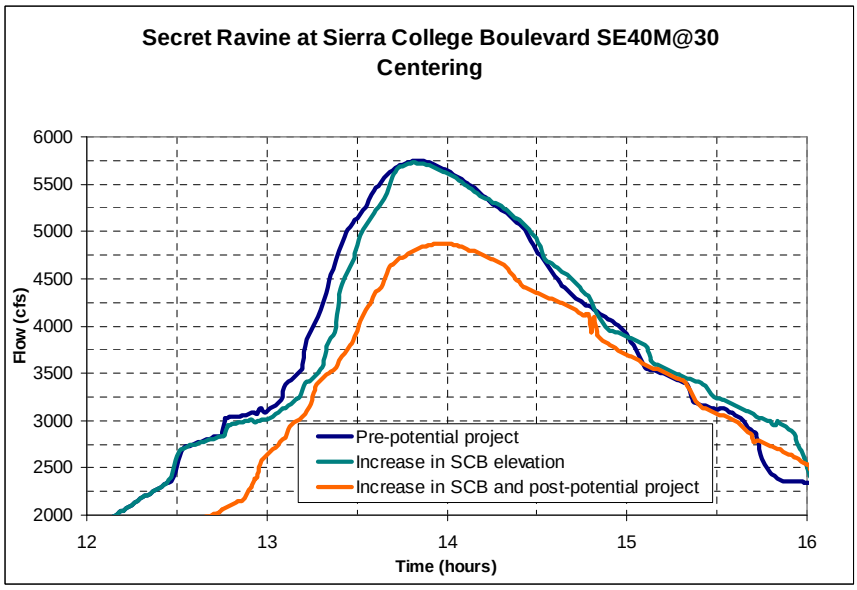
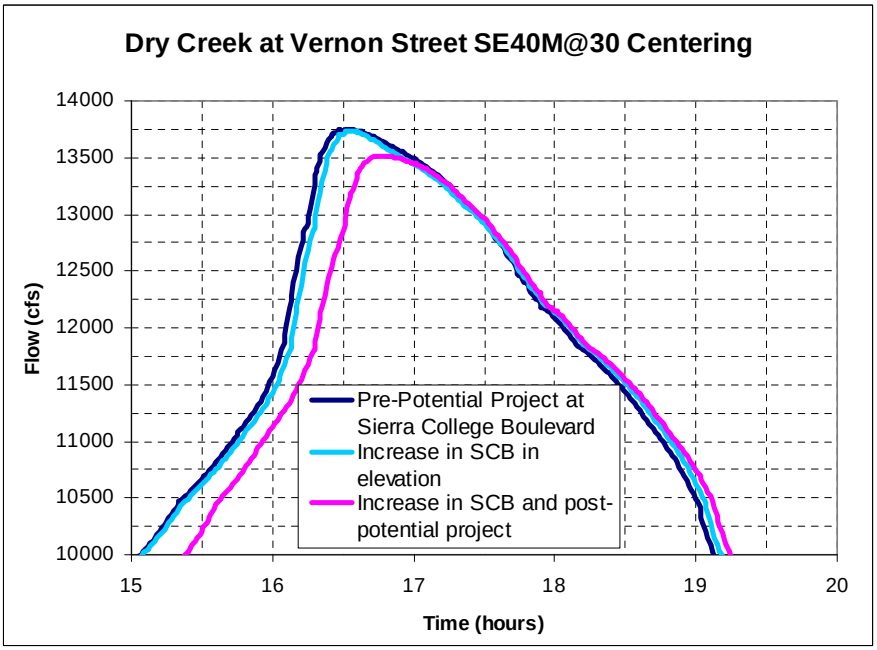


Chart H.26 Flow Hydrographs at Vernon Street before and after Sierra College Blvd. Modifications and with Potential Project – Local Peak Flow Centering



The impact of the project extends about 3,000 feet upstream. The potential project weir would be approximately 450 feet wide and 0 to 15 feet tall, depending on the natural ground height. About five acres of developable land (outside of the existing floodplain) would need to be acquired for the potential project. The other 15 acres impacted by the project are in the existing floodplain and would also require a flood easement or fee title.

This project has the potential for reducing peak flow rates at Vernon Street. Further study is recommended for this project site.

H.10 McLaren Drive at Maidu Park on Strap Ravine

One potential project site is located in Maidu Park on Strap Ravine, just upstream (north) of McLaren Drive. The potential project would involve constructing an in-channel structure that allows low flow passage, but detains higher flows, increasing the upstream water surface elevation for the peak flows, and attenuating the peak flow from the project site. Plate H.11 shows a map of the potential project site.

Based on the SE40N@0 centering, the maximum water surface elevation in Maidu Park would increase by three feet. The peak flow just downstream from McLaren Drive would be reduced by 156 cfs. However, the peak flow at Vernon Street would be increased by 35 cfs. Without the project, the peak flow on Strap Ravine occurs about one hour before the peak flow on Linda Creek, just upstream from the Strap-Linda confluence. Delaying the peak on Strap Ravine would cause the peak to align with the

peak Linda Creek flow, producing a net increase in peak flow rate downstream from the confluence and at Vernon Street. Chart H.27 and Chart H.28 show the flow hydrographs for SE40N@0 centering at McLaren Drive and Vernon Street.

Chart H.27 Flow Hydrograph at McLaren Drive With and Without a Potential Project Upstream from McLaren Drive

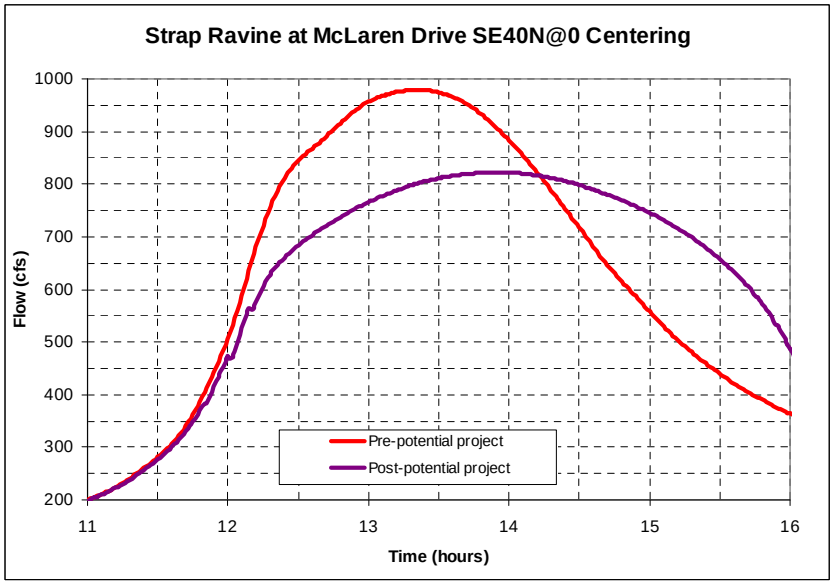
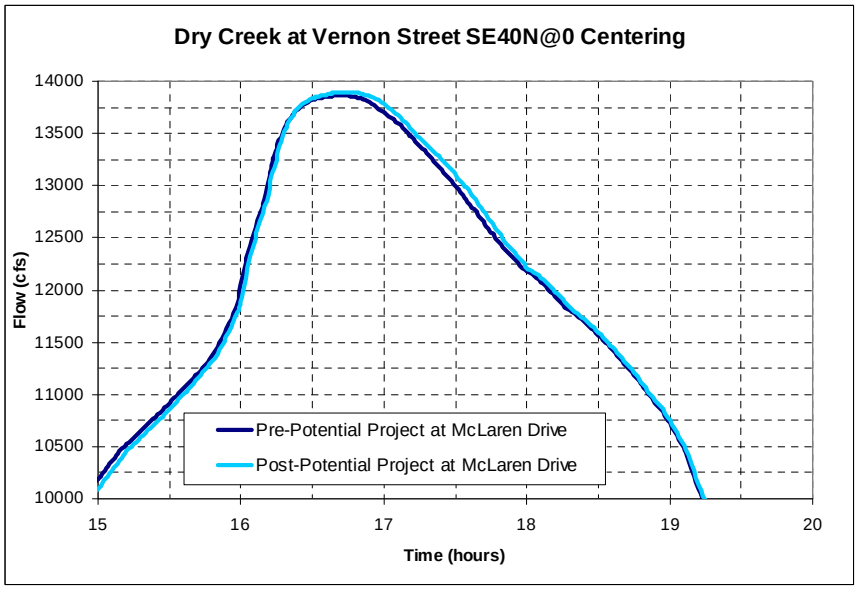


Chart H.28 Flow Hydrograph at Vernon Street With and Without a Potential Project Upstream from McLaren Drive



The project is deemed infeasible due to the net increase of peak flows at Vernon Street. No further action is recommended for this potential project site.

H.11 Vista Oaks Area on Secret Ravine

As part of the development plan for the Vista Oaks area, downstream (south) of China Garden on Secret Ravine, an opportunity exists for a potential flood control and creek restoration project as part of the development. The potential project implements an in-channel weir with low flow passage and detains high flows. Plate H.12 shows a map of the potential project area.

For the SE40N@0 centering, the evaluated potential project would decrease local peak flows by 103 cfs, but would not cause any net change at Vernon Street. Any decrease and delay in peak flow on Secret Ravine is counteracted by the rising limb of the Miners Ravine hydrograph, causing no net impact at Vernon Street. Chart H.29 and Chart H.30 show the flow hydrographs for downstream from the potential Vista Oaks project site and Vernon Street with and without the potential project.

Chart H.29 Flow Hydrograph Just Downstream from Vista Oaks With and Without a Potential Project at Vista Oaks

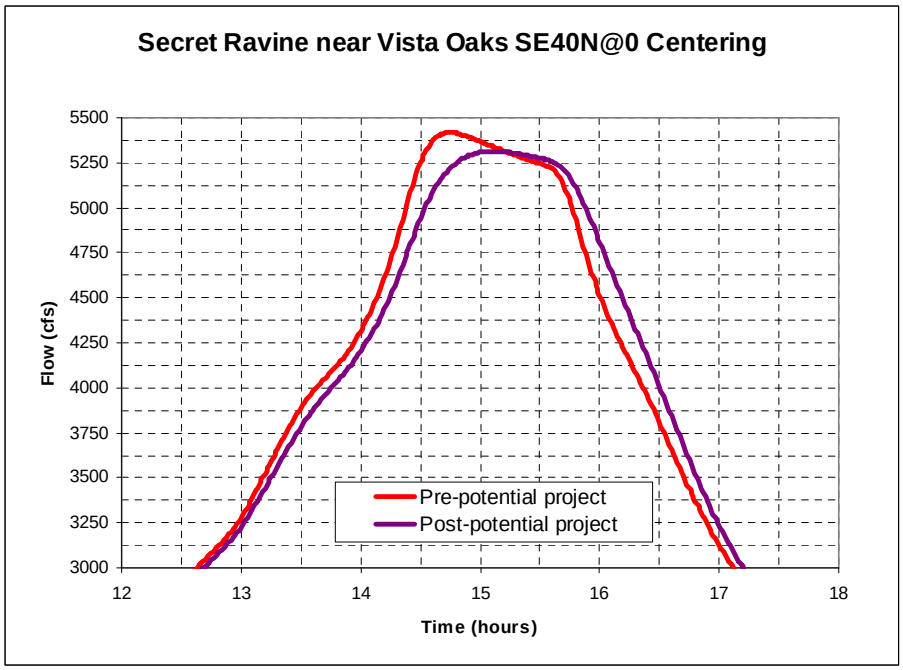
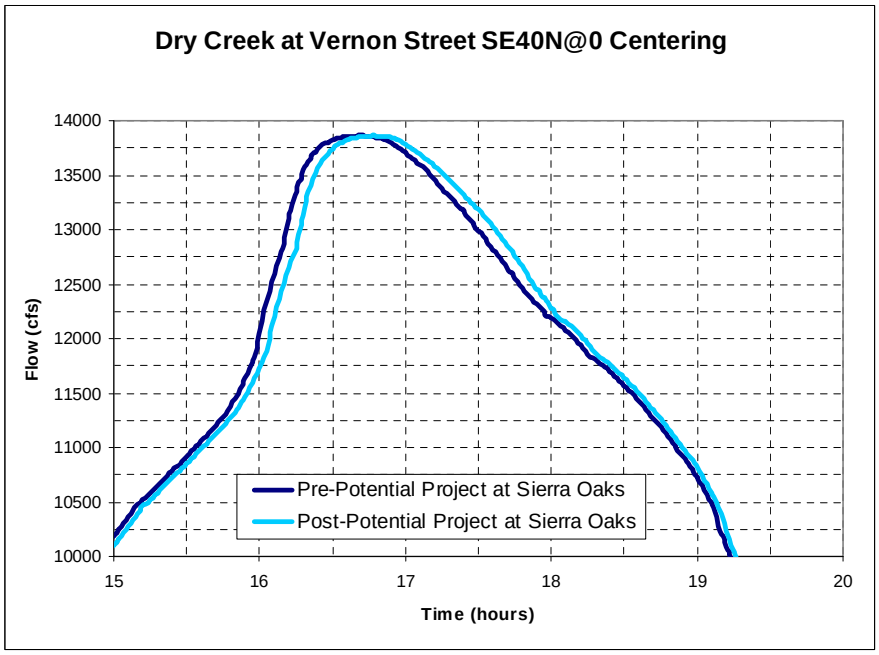


Chart H.30 Flow Hydrograph at Vernon Street with and without a Potential Project at Vista Oaks



A local stream restoration project may be feasible but would offer no additional regional flood control benefits beyond local peak flow reduction, based on the SE40N@0 centering. No further action is recommended for this potential project site.

H.12 Potential Project Cost Estimates

The cost estimates for the five recommended potential projects (Antelope Creek at Atlantic Street, Linda Creek near Auburn-Folsom Road, Linda Creek near Wedgewood Drive, Linda Creek at Old Auburn Road, and Secret Ravine at Sierra College Boulevard) are included in Tables H.8-H.12.

Table H.8 Cost Estimate for Project on Antelope Creek at Atlantic Street

Project 1 :	Antelope Creek at Atlantic Street			
Item	Quantity	Unit	Unit Cost	Total Cost
Land Acquisition (Flood Easement)	30	AC	$ 10,000.00	$ 300,000.00
Wall Excavation	950	CY	$ 90.00	$ 85,500.00
Hauling	950	CY	$ 15.00	$ 14,250.00
Grading	1,000	CY	$ 25.00	$ 25,000.00
Reinforced Concrete Weirs (or Embankment Culvert Option)	500	LF	$ 2,000.00	$ 1,000,000.00
Rip-rap	250	CY	$ 100.00	$ 25,000.00
Subtotal Base Construction				$ 1,449,750.00
Mobilization (10%)				$ 144,975.00
Restoration Component (20%)				$ 289,950.00
Geotechnical (15%)				$ 144,975.00
Construction Management (10%)				$ 144,975.00
Contingency (25%)				$ 362,437.50
Administration (10%)				$ 144,975.00
Engineering				
Hydraulic Design Calculations				$ 50,000.00
Structural Design				$ 50,000.00
Civil Plans and Specifications				$ 100,000.00
Mitigation and Permitting				$ 132,200.00
Total				$ 3,014,000

Table H.9 Cost Estimate for Project on Linda Creek near Auburn-Folsom Road

Project 2 :	Linda Creek near Auburn-Folsom Road			
Item	Quantity	Unit	Unit Cost	Total Cost
Land Acquisition (Fee Title for area already within floodplain)	7	AC	$ 20,000.00	$ 140,000.00
Excavation	0	CY	$ 10.00	$ -
Hauling	0	CY	$ 15.00	$ -
Fill for Berms	2,700	CY	$ 10.00	$ 27,000.00
Grading for Berms	2,700	CY	$ 25.00	$ 67,500.00
Erosion Control for Berms	16,000	SY	$ 5.00	$ 80,000.00
Outlet	1	LS	$ 15,000.00	$ 15,000.00
Subtotal Base Construction				$ 329,500.00
Mobilization (10%)				$ 32,950.00
Restoration Component (20%)				$ 65,900.00
Geotechnical (15%)				$ 49,425.00
Construction Management (10%)				$ 32,950.00
Contingency (25%)				$ 82,375.00
Administration (10%)				$ 32,950.00
Engineering				
Hydraulic Design Calculations				$ 45,000.00
Structural Design				$ -
Civil Plans and Specifications				$ 90,000.00
Mitigation and Permitting				$ 171,500.00
Total				$ 933,000

Table H.10 Cost Estimate for Project on Linda Creek at Wedgewood Drive

Project 3 :	Linda Creek at Wedgewood Drive			
Item	Quantity	Unit	Unit Cost	Total Cost
Land Acquisition (Fee Title for area already within floodplain)	3	AC	$ 20,000.00	$ 60,000.00
Wall Excavation	480	CY	$ 90.00	$ 43,200.00
Hauling	480	CY	$ 15.00	$ 7,200.00
Grading	300	CY	$ 25.00	$ 7,500.00
Reinforced Concrete Weir	150	LF	$ 2,000.00	$ 300,000.00
Rip-rap	38	CY	$ 100.00	$ 3,750.00
Subtotal Base Construction				$ 421,650.00
Mobilization (10%)				$ 42,165.00
Restoration Component (20%)				$ 84,330.00
Geotechnical (15%)				$ 62,685.00
Construction Management (10%)				$ 42,165.00
Contingency (25%)				$ 104,475.00
Administration (10%)				$ 42,165.00
Engineering				
Hydraulic Design Calculations				$ 40,000.00
Structural Design				$ 40,000.00
Civil Plans and Specifications				$ 80,000.00
Mitigation and Permitting				$ 59,700.00
Total				$ 1,019,000

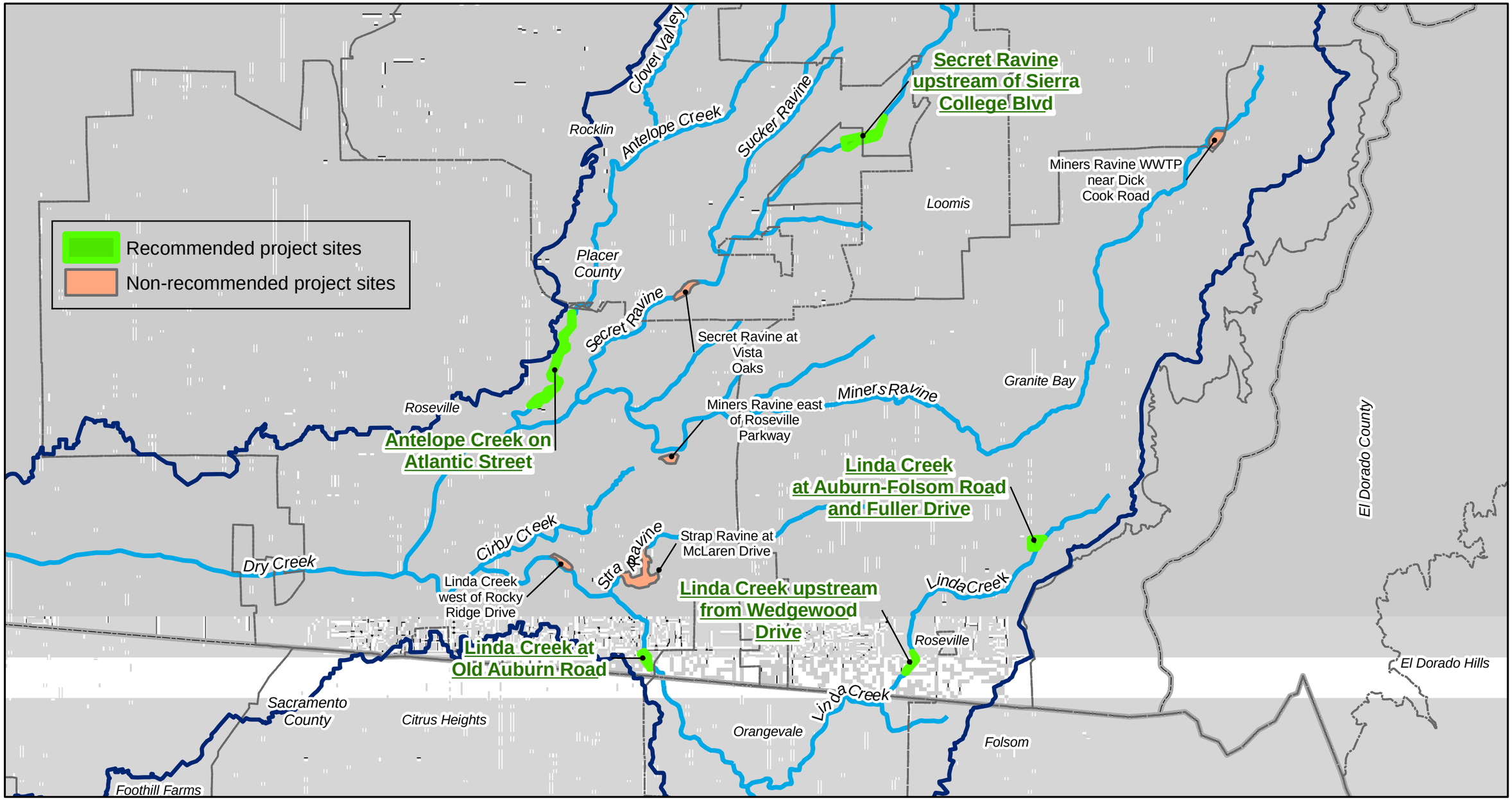
Table H.11 Cost Estimate for Project on Linda Creek at Old Auburn Road

Project 4 :	Linda Creek at Old Auburn Road			
Item	Quantity	Unit	Unit Cost	Total Cost
Land Acquisition (Flood Easement)	5	AC	$ 10,000.00	$ 50,000.00
Excavation	1,900	CY	$ 10.00	$ 19,000.00
Hauling	600	CY	$ 15.00	$ 9,000.00
Grading for Berms	2,500	CY	$ 25.00	$ 62,500.00
Erosion Control for Berms	16,800	SY	$ 5.00	$ 84,000.00
Outlet	1	LS	$ 15,000.00	$ 15,000.00
Subtotal Base Construction				$ 239,500.00
Mobilization (10%)				$ 23,950.00
Restoration Component (20%)				$ 47,900.00
Geotechnical (15%)				$ 35,925.00
Construction Management (10%)				$ 23,950.00
Contingency (25%)				$ 59,875.00
Administration (10%)				$ 23,950.00
Engineering				
Hydraulic Design Calculations				$ 40,000.00
Structural Design				$ -
Civil Plans and Specifications				$ 90,000.00
Mitigation and Permitting				$ 199,900.00
Total				$ 785,000

Table H.12 Cost Estimate for Project on Secret Ravine at Sierra College Boulevard

Project 8 :	Secret Ravine at Sierra College Boulevard			
Item	Quantity	Unit	Unit Cost	Total Cost
Land Acquisition (Fee Title for developable area)	5	AC	$ 100,000.00	$ 500,000.00
Land Acquisition (Fee Title for area already within floodplain)	15	AC	$ 20,000.00	$ 300,000.00
Wall Excavation	760	CY	$ 90.00	$ 68,400.00
Hauling	760	CY	$ 15.00	$ 11,400.00
Grading	100	CY	$ 25.00	$ 2,500.00
Reinforced Concrete Weir	400	LF	$ 2,000.00	$ 800,000.00
Rip-rap	100	CY	$ 100.00	$ 10,000.00
Subtotal Base Construction				$ 1,692,300.00
Mobilization (10%)				$ 169,230.00
Restoration Component (20%)				$ 338,460.00
Geotechnical (15%)				$ 253,845.00
Construction Management (10%)				$ 169,230.00
Contingency (25%)				$ 423,075.00
Administration (10%)				$ 169,230.00
Engineering				
Hydraulic Design Calculations				$ 50,000.00
Structural Design				$ 40,000.00
Civil Plans and Specifications				$ 100,000.00
Mitigation and Permitting				$ 100,800.00
Total				$ 3,506,000

DRY CREEK WATERSHED POTENTIAL REGIONAL DETENTION PROJECTS



PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DRAFT: 2 DATE: July 2010

RBF CONSULTING

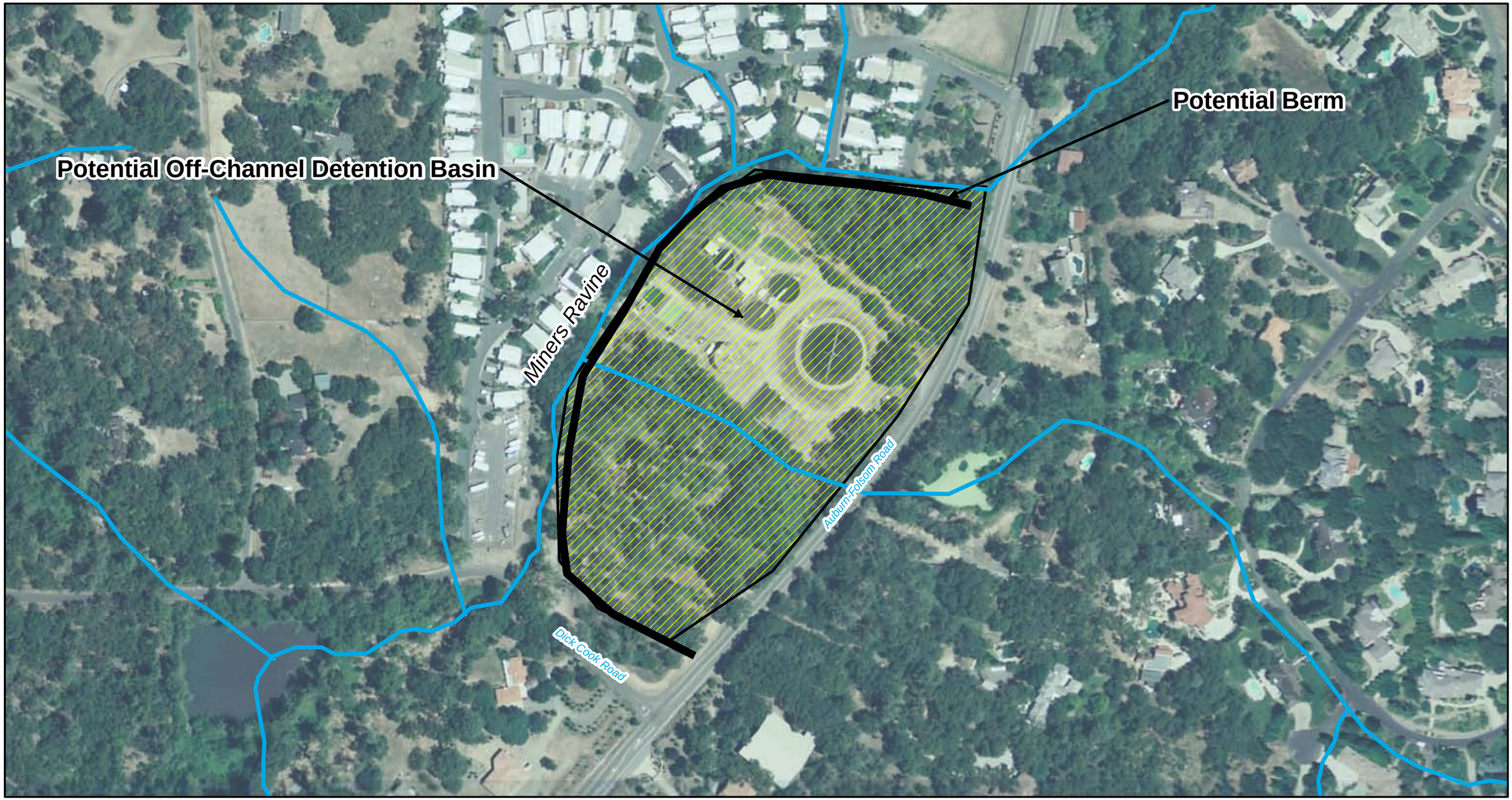
CIVIL ENGINEERING SOLUTIONS, INC.

0 0.5 1 Miles

1 inch = 1 mile

PLATE H1

MINERS RAVINE UPSTREAM FROM DICK COOK ROAD



PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DRAFT: 2 DATE: July 2010

RBF CONSULTING

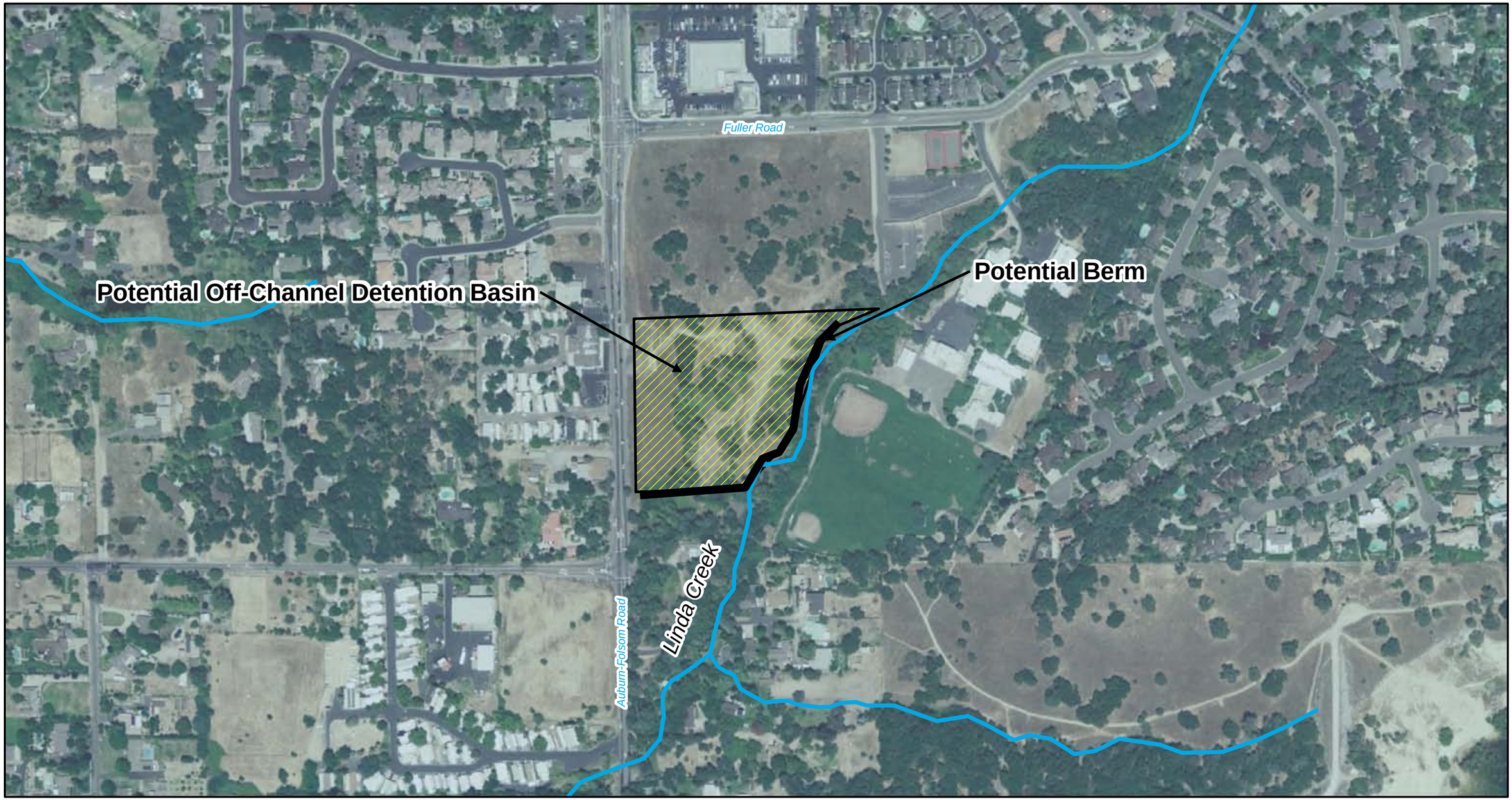
CIVIL ENGINEERING SOLUTIONS, INC.

0 50 100 200 Feet

1 inch = 200 feet

PLATE H2

LINDA CREEK UPSTREAM FROM AUBURN-FOLSOM ROAD



PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DRAFT: 2 DATE: July 2010

RBF CONSULTING

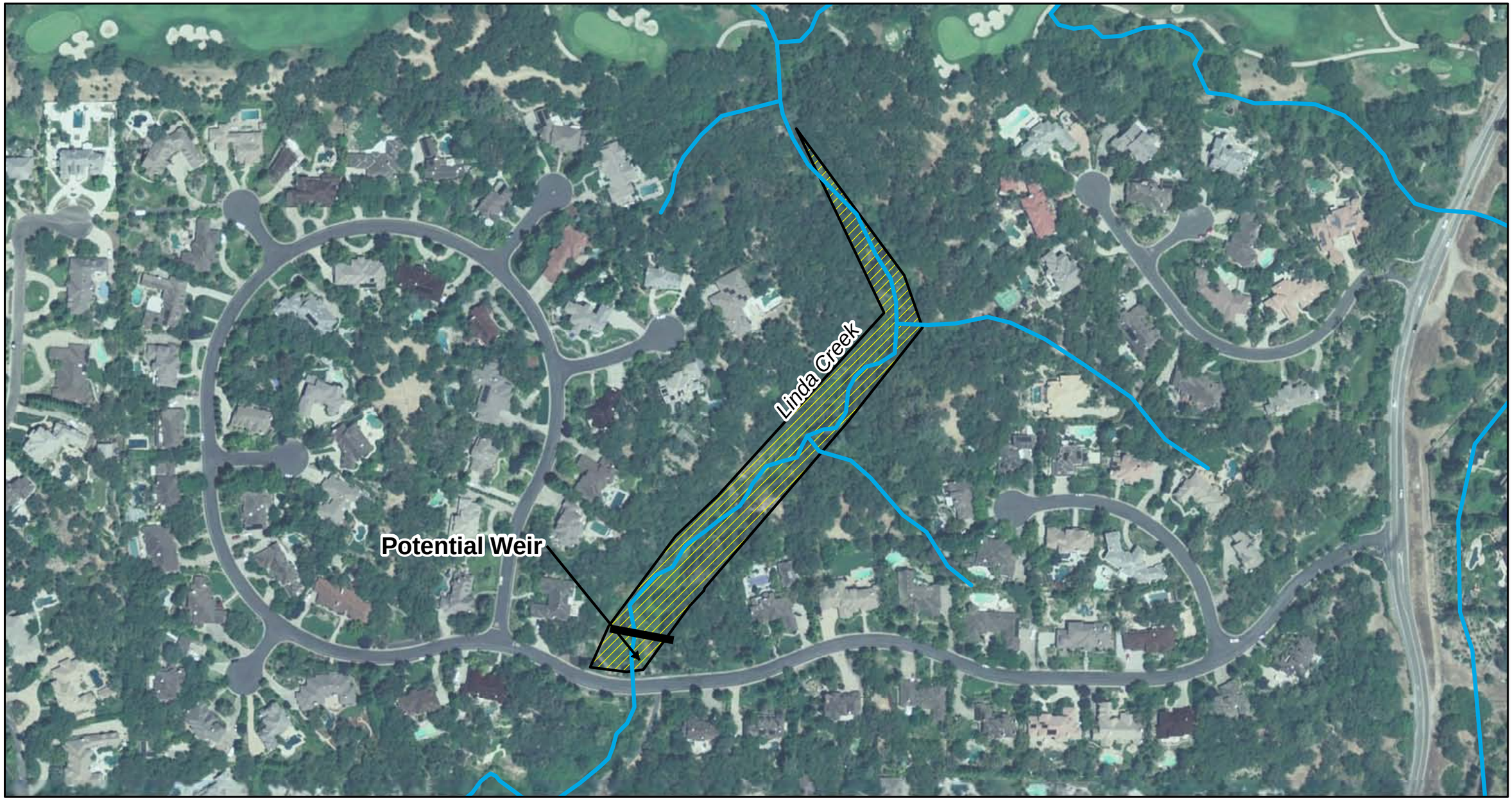
CIVIL ENGINEERING SOLUTIONS, INC.

0 100 200 300 Feet

1 inch = 300 feet

PLATE H3

LINDA CREEK UPSTREAM FROM WEDGEWOOD DRIVE



PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DRAFT: 2 DATE: July 2010

RBF CONSULTING

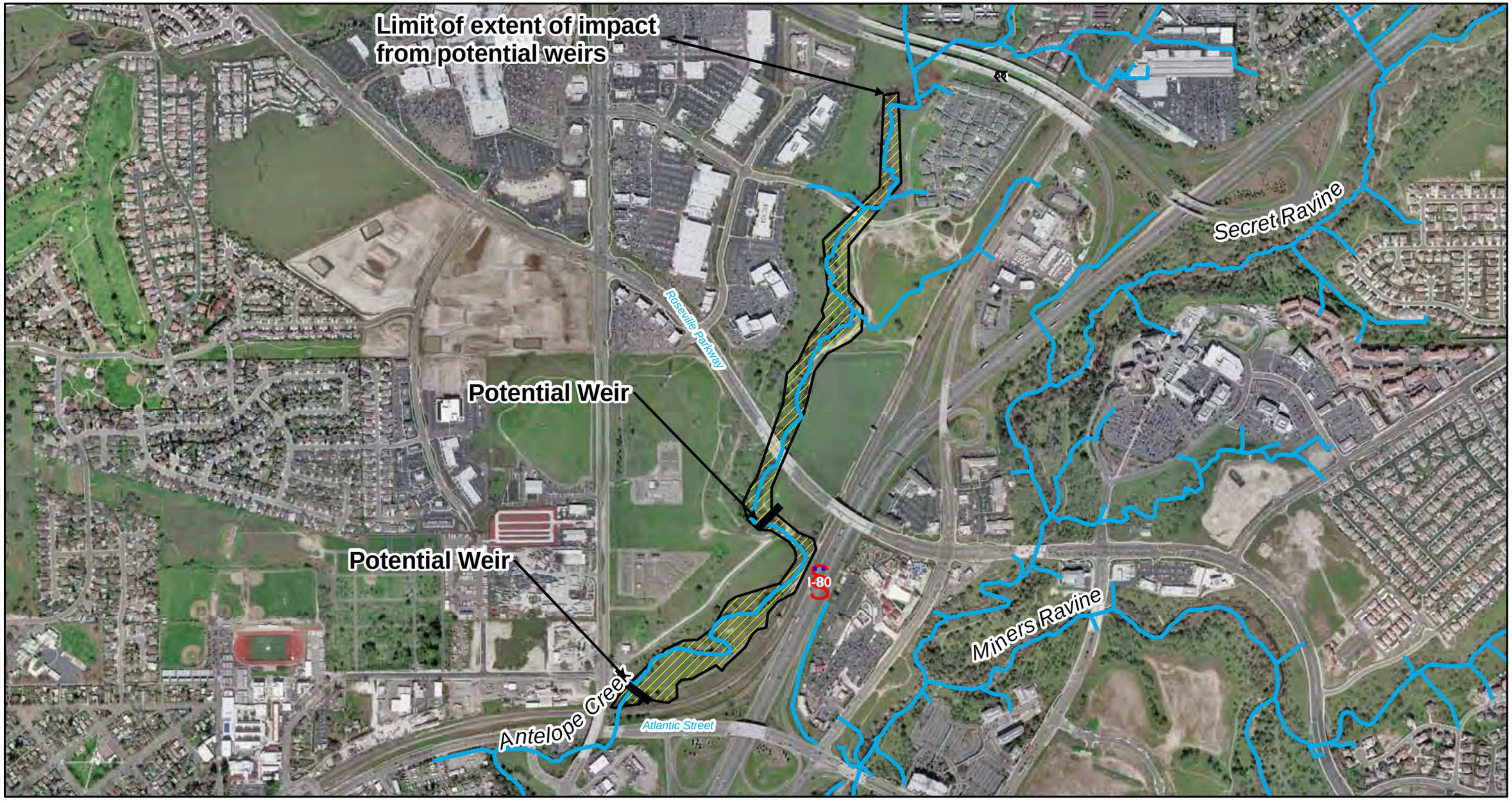
CIVIL ENGINEERING SOLUTIONS, INC.

0 100 200 Feet

1 inch = 200 feet

PLATE H4

ANTELOPE CREEK UPSTREAM FROM ATLANTIC STREET



PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DRAFT: 2 DATE: July 2010

RBF CONSULTING

CIVIL ENGINEERING SOLUTIONS, INC.

0 400 800
Feet
1 inch = 800 feet

PLATE H5

LINDA CREEK UPSTREM FROM OLD AUBURN ROAD

PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DRAFT: 2 DATE: July 2010

RBF CONSULTING

CIVIL ENGINEERING SOLUTIONS, INC.

0 150 300 Feet

1 inch = 150 feet

PLATE H6

LINDA CREEK NEAR ROCKY RIDGE DRIVE

PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DRAFT: 2 DATE: July 2010

RBF CONSULTING

CIVIL ENGINEERING SOLUTIONS, INC.

0 150 300 Feet

1 inch = 300 feet

PLATE H7

MINERS RAVINE UPSTREAM FROM EAST ROSEVILLE PARKWAY

PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DRAFT: 2 DATE: July 2010

RBF CONSULTING

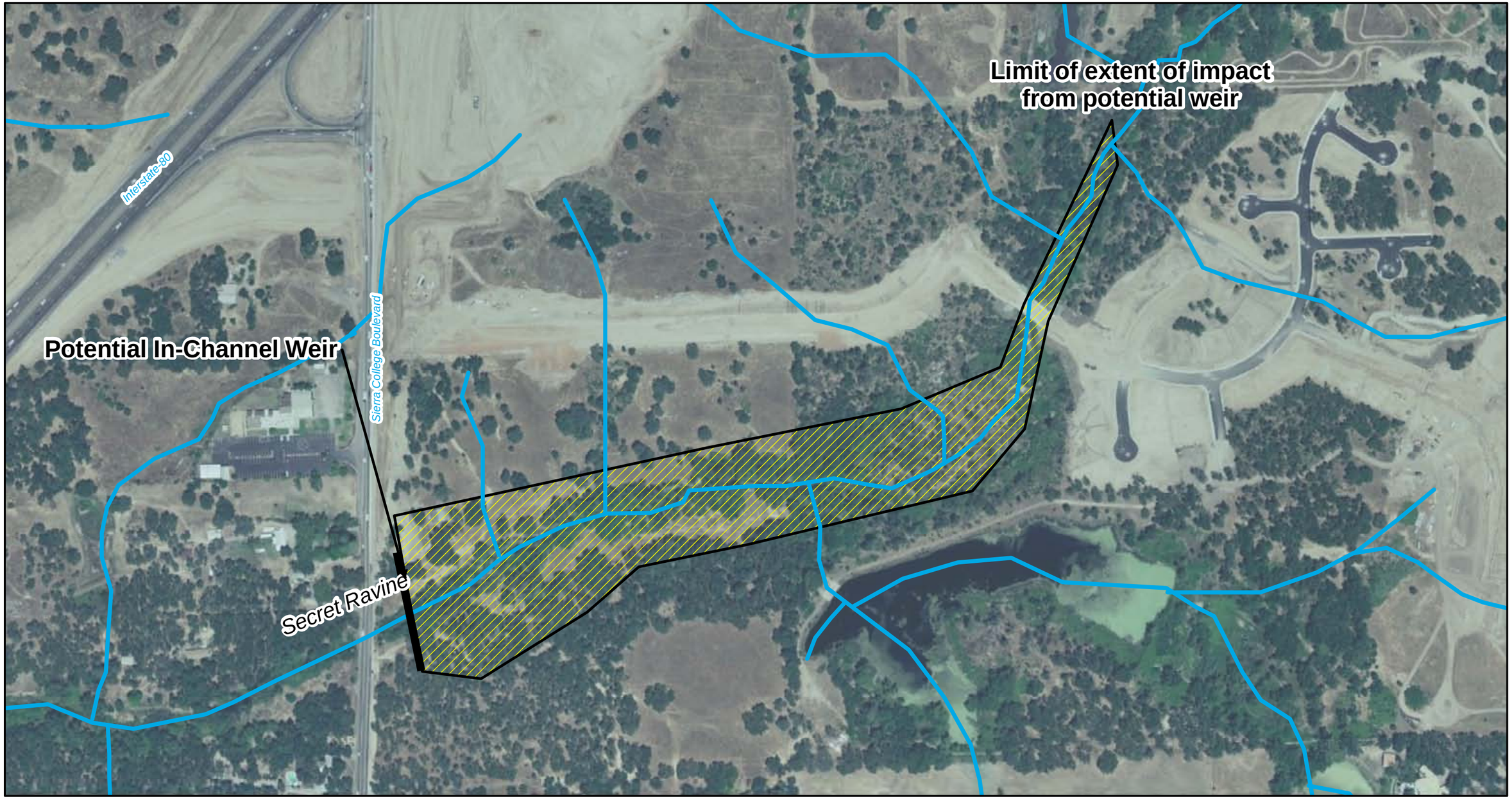
CIVIL ENGINEERING SOLUTIONS, INC.

0 150 300 Feet

1 inch = 300 feet

PLATE H8

SECRET RAVINE UPSTREAM FROM SIERRA COLLEGE BOULEVARD



PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DRAFT: 2 DATE: July 2010

RBF CONSULTING

CIVIL ENGINEERING SOLUTIONS, INC.

0 300 600 Feet

1 inch = 300 feet

PLATE H9

RENDERINGS OF POTENTIAL WEIR AT SIERRA COLLEGE BOULEVARD ON SECRET RAVINE

PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DRAFT: 2 DATE: July 2010

RBF CONSULTING

CIVIL ENGINEERING SOLUTIONS, INC.

0 100 200 Feet

1 inch = 200 feet

PLATE H10

STRAP RAVINE UPSTREAM FROM MCLAREN DRIVE AT MAIDU PARK

PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DRAFT: 2 DATE: July 2010

RBF CONSULTING

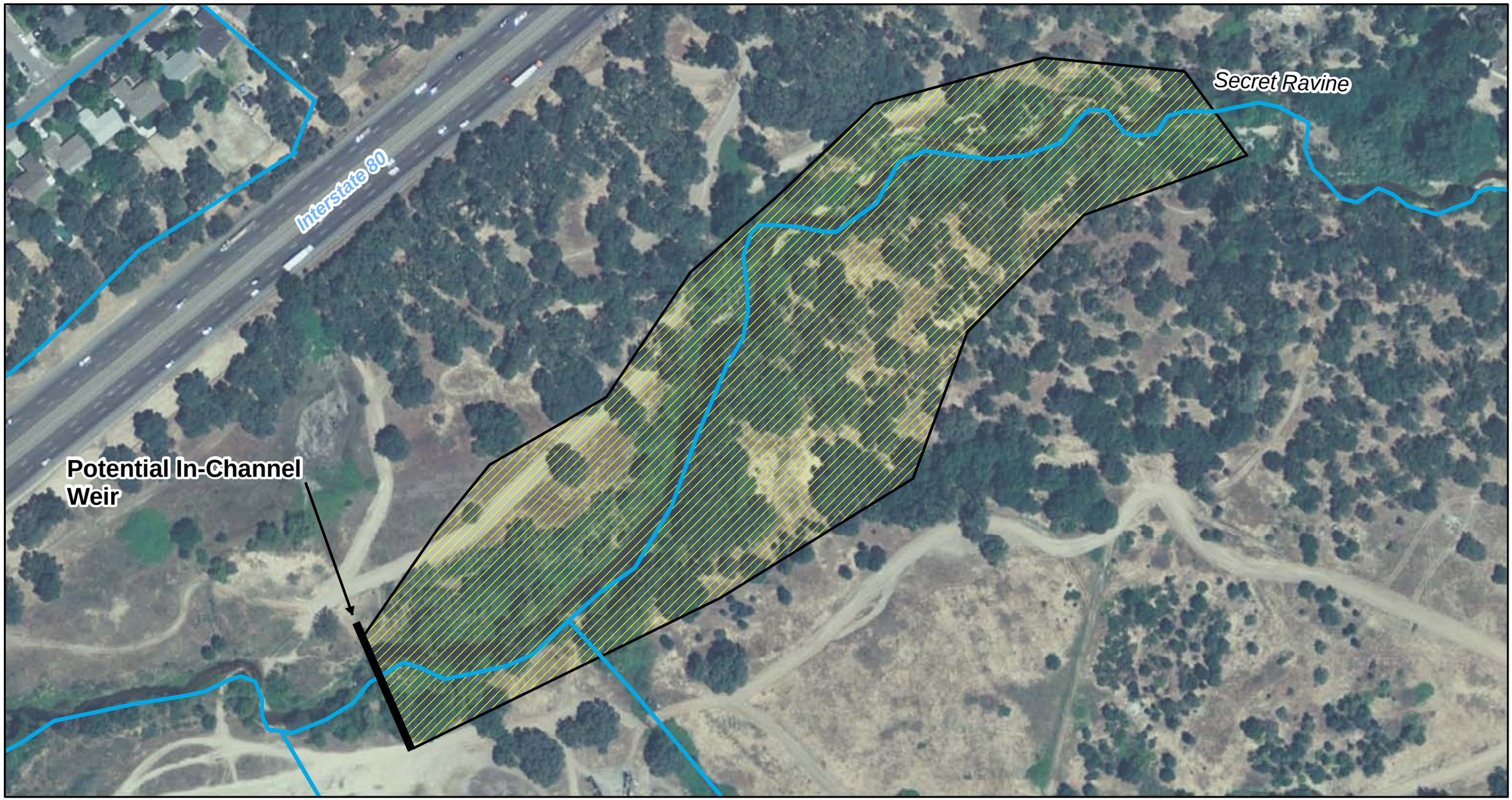
CIVIL ENGINEERING SOLUTIONS, INC.

0 400 800 Feet

1 inch = 400 feet

PLATE H11

SECRET RAVINE IN VISTA OAKS AREA



PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DRAFT: 2 DATE: July 2010

RBF CONSULTING

CIVIL ENGINEERING SOLUTIONS, INC.

0 150 300 Feet

1 inch = 150 feet

PLATE H12

Appendix I - Existing Detention Basins

I.1 Introduction

Various local detention basins have been constructed to mitigate the increase of runoff flows due to development. A summary of the local detention basins constructed in the Dry Creek watershed is listed in Table I.1. Plate I1 shows the locations of the basins.

Table I.1 Local Detention Basins in the Dry Creek Watershed

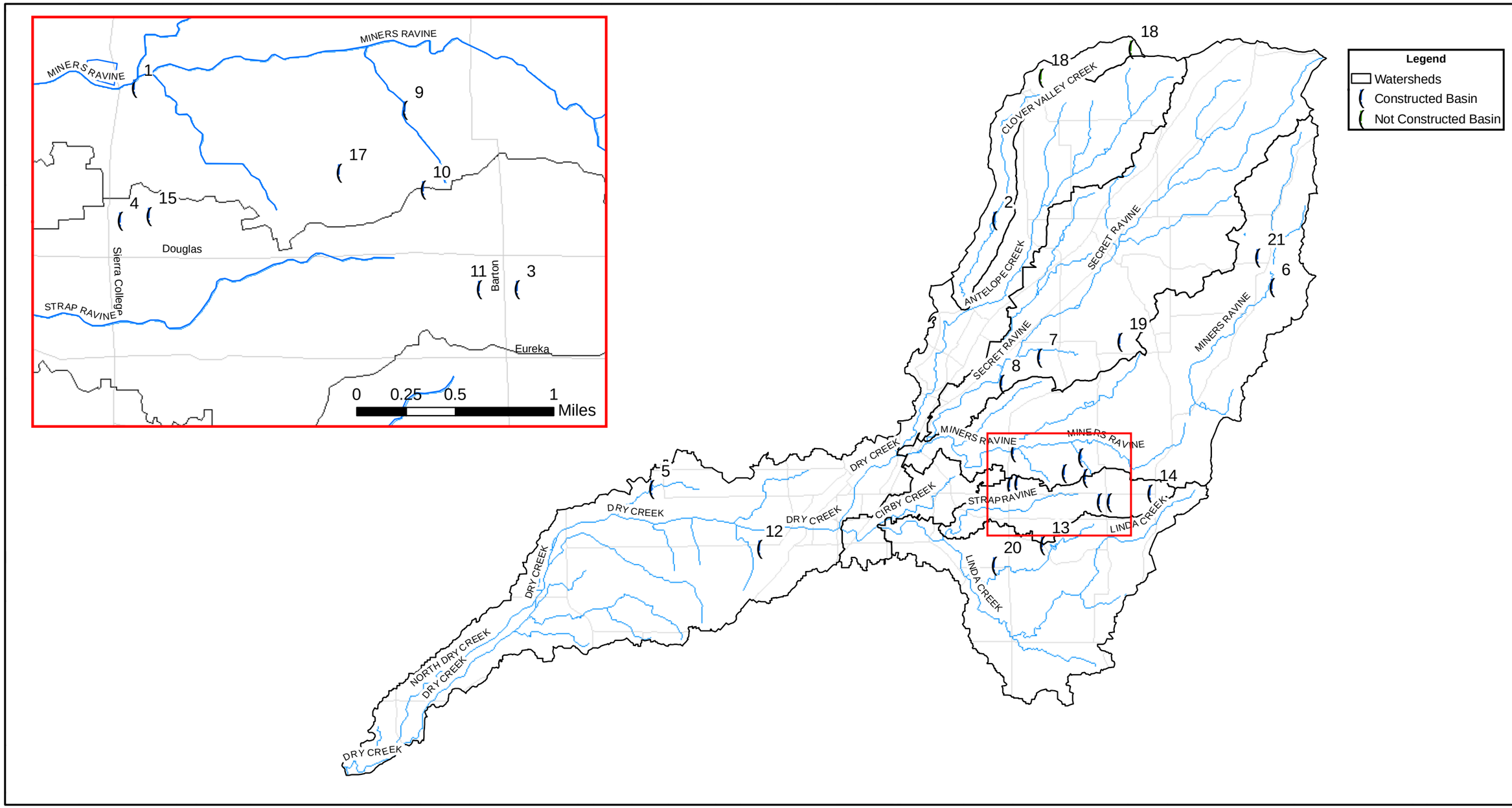
I.D.	PROJECT NAME	LOCATION	JURISDICTION	SUB-WATERSHED	100-YEAR STORAGE (ac-ft)	100-yr PEAK FLOW REDUCTION (cfs)[1]	COMMENTS
1A	Bayside Covenant Church	Sierra College Blvd	Placer	Strap Ravine	0.078	5	Peak flow reduction at project boundary
1B	Bayside Covenant Church	Olympus Drive	Placer	Miners Ravine	1.160	0	Peak flow reduction at SCB
2	Clover Valley Lakes	Private property	Rocklin	Clover Valley Creek	47.700	106	Peak flow reduction at project boundary
3	Alexandria Estates	Douglas Blvd/Barton Rd	Placer	Strap Ravine		12	Peak flow reduction at Douglas Blvd.
4	Granite Rose	APN 048-030-063	Placer	Strap Ravine	0.012	1	Peak flow reduction at project boundary
5	Woodcreek West	Baseline Road/Crowder	Roseville	Dry Creek	4.000	16	
6	Miners Creek	036-085-043	Placer	Miners Ravine	1.000	15	Peak flow reduction at project boundary

I.D.	PROJECT NAME	LOCATION	JURISDICTION	SUB-WATERSHED	100-YEAR STORAGE (ac-ft)	100-yr PEAK FLOW REDUCTION (cfs)[1]	COMMENTS
7	Sasaki Subdivision		Rocklin	Secret Ravine	1.780	34	Peak flow reduction at project boundary
8	Granite Lakes Estates		Rocklin	Secret Ravine	3.200	104	Peak flow reduction at Secret Ravine
9	Winterhawk Subdivision	046-131-001	Placer	Miners Ravine	3.700	94	Peak flow reduction at project boundary
10	Stonebrook Subdivision	048-301-045	Placer	Miners Ravine	0.200	18	Not found
11	Bella Terra Subdivision	Barton Rd	Placer	Strap Ravine	0.6	12	Peak flow reduction at project boundary
12	Folsom Ready Mix	Del Road	Placer	Dry Creek	0.206	8	Peak flow reduction at project boundary
13	East Parkway Bible Church	East Roseville Pkwy	Placer	Dry Creek	0.195	5	Peak flow reduction at project boundary
14	Granite Bay Kovar Karate	Douglas Blvd	Placer	Dry Creek	0.044	3	Peak flow reduction at project boundary
15	Seymour Ranch	Cavitt-Stallman Rd	Placer	Strap Ravine	0.534	12	Peak flow reduction at project boundary
16	(not used)						

I.D.	PROJECT NAME	LOCATION	JURISDICTION	SUB-WATERSHED	100-YEAR STORAGE (ac-ft)	100-yr PEAK FLOW REDUCTION (cfs)[1]	COMMENTS
17	Douglas Ranch	460-210-001	Placer	Strap Ravine	8.300	89	Peak flow reduction at project boundary
18	Bickford Ranch	Sierra College Blvd / Hwy 193	Placer	Clover Valley Creek	11.150	22 (planned)	Peak flow reduction at Caperton Res.
19	Loomis Hills Estates		Loomis	Secret Ravine		52	Peak flow reduction at project boundary
20	Woodbridge Estates	Martella Lane	Placer	Linda Creek	0.230	7	Peak flow reduction at project boundary
21	Maggi Country Estates	Auburn Folsom Road	Placer	Miners Ravine	2.000	36	Peak flow reduction at project boundary
	Total Peak Flow Reduction:[2]				86.089	651	

[1]Peak flow reduction values are based on reported values and have not been verified.
[2]The 1992 Plan included a flow reduction goal at build-out of 1,124cfs at project boundaries.

DRY CREEK WATERSHED LOCAL DETENTION BASINS



PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RBF CONSULTING

CIVIL ENGINEERING SOLUTIONS, INC.

0 1 2 4 Miles

1 inch = 2 miles

PLATE I1

Appendix J - Dry Creek Toolbox Users Guide & Tutorials

Use of DCDesktop.exe

DCDesktop.exe is freeware developed by Civil Engineering Solutions, Inc. for the Dry Creek Watershed Update Plan, that:
Creates HEC-1 input setup files from a spreadsheet format
Creates HEC-1 input files using Placer County Flood Control and Water Conservation District Stormwater Management Manual procedures and modified Placer County Design Precipitation Program (pdp).
Performs batch processing operations
Converts HEC-1 files to HEC-HMS

Step 1: Program Setup

Follow instructions in READ_ME_FIRST.txt and README.txt files in the DCDesktop\PDP folder. Follow "dll instructions.txt" in "DCDesktop\dll files."

To create HMS file set, do the following:

Step 2: Create or Edit "eltroid.dat"

Junction, ZCOORD, XCOORD, YCOORD
Reach, ZCOORD, XCOORD, YCOORD
Watershed, ZCOORD, XCOORD, YCOORD
Etc...

Only the elevations of the watersheds matter in the process; dummy elevations can be used for other features. Coordinate locations of the watersheds and other features are also necessary to GEO-RECTIFY the HMS models.

Step 3: Create "*Connect_Order*.csv"

The Connect-Order file consolidates the data from the various GIS files and spreadsheets into a single master spreadsheet file containing all of the hydrologic data which will be used in the hydrology models. The 1st sheet of this spreadsheet is the connect_order sheet, in which the user specifies a linear order to the elements per HEC-1 protocols, with watersheds, routing segments, connection nodes, PULS Routing, etc… Only the Element name needs to be specified by the user, the spreadsheet automatically retrieves the other data from the sheets that follow. Once the connection order is correctly entered, save the spreadsheet, then highlight the "connect_order" tab and save it again in ".csv" format. This will only save the "connect_order" tab in comma separated format, as text. This is used on the next steps.

See file: ???

Step 4: Create “.INP” file

Run the toolbox, and execute the "Assemble HEC-1 "INP" file from CSV DATA". Identify the connect-order.csv file and the eltroid.dat files. Specify the desired storm centers and events. Execute the "Go! make INP from CSV" and exit this dialog.

Step 5: Execute HEC-1 files

In the directory of your original csv file, will be the base files. Execute the "RunIT.bat" file to make "dat" and out files for the spectrum you requested. This creates one HEC-1 “*.dat” file and one HEC-1 “*.out” file for each recurrence interval/duration/center/angle combination selected. Each pair of files will be named according to the selected options. If you specify all, it can take some time to complete. See lower left button for batch process summary file creation.

Step 6: Create HEC-HMS files

Now for any of the ones you want to make a HMS data set for, go into the PG desktop and run the 4th button in the middle row "Convert HEC-1 "INPUT.DAT file...." Running this creates the HMS data set, and a batch file called "RunMe.bat" (Requires HMS 3.3). Running the batch file saves considerable time in HMS loading.

Step 7: Moving Data and Preparing to Run Hydraulic Routing Model

Step 8: Running Hydraulic Routing Model Scenarios

Step 9: Retrieving Results – Automated process.

Appendix K - Project and Condition Assessments

RESTORATION
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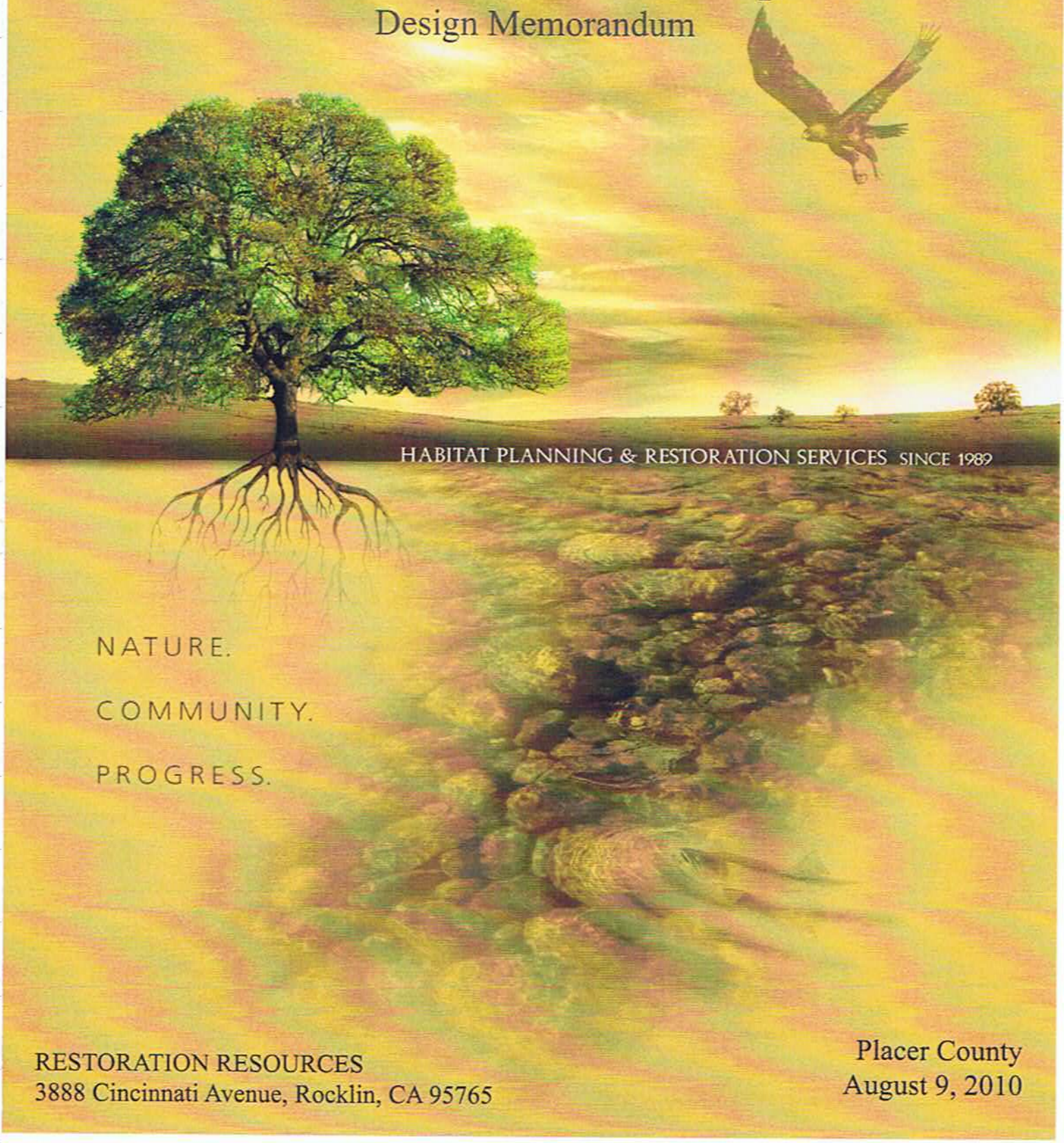
Dry Creek Watershed Plan Update

Design Memorandum



RESTORATION RESOURCES
3888 Cincinnati Avenue, Rocklin, CA 95765

Placer County
August 9, 2010

RESTORATION
RESOURCES

August 9, 2010

Mr. Thomas Plummer, P.E.
Civil Engineering Solutions, Inc.
1325 Howe Avenue, Suite 202
Sacramento, CA 95825

RE: Dry Creek Watershed Plan Update

Dear Tom:

Restoration Resources entered a contract with Civil Solutions on June 6, 2010 to provide our professional opinion with regard to potential biological and regulatory constraints to construction of proposed flood water management structures at five different locations within the Dry Creek Watershed in Roseville and Granite Bay California. Restoration Resources staff visited each of the five sites and attempted to discern likely regulatory problems associated with each proposed structure. We also viewed each site with an eye towards habitat mitigation opportunities that could be incorporated in final storm water management planning efforts. We feel that providing mitigation plans along with proposed construction plans will greatly facilitate ultimate project approval and permit acquisition from state and federal regulatory agencies.

In the following pages our "Design Memorandum" presents our best professional opinion of the biological constraints and opportunities for each of the five sites. We believe that two of the sites, Site A – Antelope Creek Upstream of Atlantic Street and Site B – Secret Ravine Upstream of Sierra College Boulevard, are well suited to the proposed flood flow constriction structures and that each could potentially provide opportunities to mitigate unavoidable impacts to protected natural resources lost due to construction of flood management facilities within the Dry Creek Watershed. The other three sites under consideration, Site C – Linda Creek Upstream of Auburn-Folsom Road, Site D – Linda Creek Upstream of Wedgewood Drive, and Site E – Linda Creek Upstream of Old Auburn Road have constraints that, in our opinion, render each of them unusable for the proposed purpose.

We welcome your review of and comment on our Design Memorandum and look forward to providing additional input at some point in the future should you proceed with proposed project design.

Sincerely,

Riley Swift,
President

3868 Cincinnati Avenue Rocklin, CA 95765
Phone 916-408-2990 / Fax 916-408-2999 / Lic. #429252 / www.restoration-resources.net

Dry Creek Watershed Plan Update
Design Memorandum

Placer County,
California

August 9, 2010

Prepared for:

Civil Engineering Solutions, Inc.
1325 Howe Avenue, Suite 202
Sacramento, California 95825
Contact: Mr. Thomas Plummer, P.E.

Prepared by:

Restoration Resources
3888 Cincinnati Avenue
Rocklin, CA 95765
(916) 408-2990
Riley Swift

RESTORATION
RESOURCES

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C Site C Maps
D Site D Maps
E Site E Maps
F Site Locations Map

August 9, 2010

DRAFT
DESIGN MEMORANDUM

Project Name and Number: 29001 Dry Creek Watershed Project
Client Name: Civil Engineering Solutions, Inc.
Contact Person: Thomas Plummer, Jr., P.E.
Email Address: Thomasplummer@civilsolutions.org
Phone Number: (916) 563-7300 **Fax:** (916) 563-7362

Introduction

Restoration Resources completed ground surveys for the five sites in Roseville and Granite Bay, Placer County, California included under the above named contract with its client, Civil Engineering Solutions, Inc (Client). The location of each of the sites can be found on the map in Appendix F at the end of this report. The sites were surveyed in June and July 2010 to determine if there were obvious biological or other resources that might constrain the construction of proposed storm water management structures. While no formal wetland delineations were attempted, the surveyors are well versed in the protocols and clearly understand the parameters that define jurisdictional habitat for the purposes of Department of the Army, Corp of Engineers (ACOE) Clean Water Act (CWA), section 404 wetland fill permits, as well as those used by the California Department of Fish and Game (CDFG) to define their area of jurisdiction for Fish and Game Code section 1600 Streambed Alteration Agreements.

Virtually all work proposed for the Dry Creek Watershed Project will take place in areas that fall under the jurisdiction of CDFG and each proposed structure will necessitate a CWA section 404 permit from ACOE. Completion of the CWA section 404 permits will require Biological Opinions from the National Marine Fisheries Service and the U.S. Fish and Wildlife Service because of potential impacts to listed species of anadromous fish and one insect. Additionally, the final permit will require a review and approval of the project by the state Water Resources Control Board under CWA section 401 and clearance by the State Historic Preservation Office (SHPO) under CWA section 106 related to archeological and historic resources. Therefore, the five sites were surveyed specifically for potential negative effects to critical habitat for state and federally listed species which are protected under the federal Endangered Species Act and state endangered species regulations from proposed construction activities which can in turn negatively influence the permitting process. Restoration Resources prepared maps showing listed plant and animal species recorded within five miles of each site as archived in the CDFG Natural Diversity Data Base (CNDDB) prior to field visits to better inform surveyors of potential occurrences of species of special concern and enable them to look for specific biological resources.

In the future, the proposed work will be further reviewed by local permitting entities where it will need to meet the requirements under the California Environmental Quality Act (CEQA) and, if federal money is provided for construction, the National Environmental Protection Act (NEPA). Under CEQA, certain restrictions to the construction period will be applied to protect nesting raptors and very likely, all migratory birds; therefore, surveys should be conducted for raptors and other birds. Because each of the sites proposed work will be done in relatively mature riparian woodland habitats it can be assumed that no heavy equipment work will be allowed during February through July 15th in order to protect nesting birds from disturbance. Also, it should be expected that conditions imposed upon the project by CDFG in its section 1600 Streambed Alteration Agreement will further restrict the construction season by stating that no work shall be done after October 15th, though in some years it may be possible to extend this date by a month. Furthermore, under CEQA and local permits, as well as the CWA section 401 review, erosion and water quality issues, especially turbidity in receiving streams, will be of primary concern and will require a Storm Water Pollution Prevention Plan (SWPPP) containing a myriad of appropriate Best Management Practices (BMPs) to be carried out and maintained by the contractor during the course of construction.

The following accounts of data gathered during site surveys are generally limited to findings that will likely impinge upon the proposed work. The more generally applicable constraints to the project including the need for formal wetland delineations and protocol level surveys for listed species prior to permit applications are left unsaid. While surveyors examined all exposed soils at cut banks and elsewhere within the sites the NRCS soils maps and descriptions were considered adequate to assess site suitability for proposed structures and for Restoration Resources' conceptual proposals for habitat mitigation (enhancement, restoration, and creation) opportunities which, if developed appropriately, could be used to offset project impacts to important resources and garner agency and public support for the project. Appendices including various maps of each site prepared by Restoration Resources are found at the end of this report.

Site A – Antelope Creek Upstream of Atlantic Street

Site A encompasses the Antelope Creek floodway paralleling I-80 on its west side and extending upstream approximately 1.3 miles from roughly from the Galleria/N. Harding Blvd. creek overcrossing, under the Roseville Parkway overcrossing and nearly reaching the SR-65 overcrossing. The proposed project envisions two storm water detention weir structures located (#1) upstream of the railroad overcrossing and Galleria/N. Harding Blvd. and (2) upstream of the landfill service road overcrossing below Roseville Parkway. During our site visit we first confirmed the proposed weir locations and then determined likely impediments to weir construction and biological impacts resulting from construction and periodic flooding upstream of each weir. Our findings are presented below for each of the proposed structures separately.

Weir #1

Site Constraints: The proposed location for Weir #1 is constrained by an existing underground gas line and a sewer line. We believe that the location of the weir should be moved upstream of the gas line and sewer line access manhole and downstream of the existing storm drain outfall bringing runoff from the base of the railroad grade and adjacent capped landfill site to Antelope Creek. The weir should tie into the existing berm covering the sewer line and be constructed in a manner to allow room on the downstream side of the proposed weir for access to the sewer line where it crosses under the creek or railroad grade for future maintenance needs. The weir should also be constructed so that the spillway elevation is below the sewer line elevation to avoid flooding into the manhole. On the downstream side of the proposed weir we recommend that the earthen fill covering the existing gas line be provided with rock armor over geotextile fabric to provide erosion protection from peak flows, especially those that overtop the proposed weir. The existing maintenance road for the sewer line and landfill site could provide excellent all weather vehicular access to the weir for construction and on-going maintenance operations.

Impacts to existing vegetation from Weir #1 construction at the adjusted location will likely be limited to an approximately 14" diameter at breast height (dbh) Oregon ash and a 12" dbh valley oak with some impacts to minor woody and herbaceous riparian habitat. Fill of protected waters of the U.S. will occur during construction and some impact to waters will likely result from proposed rock armor installation at the weir outfall(s). Impacts to waters of the U.S. and wetlands will require a permit which in turn will require suitable mitigation. Upstream flooding effects to existing protected habitat will be limited to the relatively mature but narrow band of riparian habitat. This zone include numerous oaks, most of which are valley oak, and we do not think that decline in health and vigor or death of these trees will be significant, however, we believe that some oak tree or woodland mitigation is advisable from the outset. A very few elderberries exist on higher ground upstream of the Weir #1 location, but are not likely to be a significant issue.

Since this reach of Antelope Creek is accompanied by several capped landfill areas any proposed construction work and enhanced flood-up zones need to be reviewed in detail with the landfill managers. Numerous ground water monitoring wells exist in the existing and proposed floodplain areas and the potential effects of flooding these facilities are unknown to us. Management activities of landfill managers including vegetation management would necessarily be addressed in any mitigation planning efforts for the site.

Habitat Restoration Opportunities: As can be seen in our Opportunities and Constraints map in Appendix A, we propose an "Oxbow Channel" be constructed in the open area east of Antelope creek just upstream of Weir #1 and identified by RBF Consultants as being within the area of inundation during storm water detention periods. This portion of the existing Antelope Creek floodplain does not currently support wetlands nor oak or riparian habitat likely a result of capping the adjacent landfill site. The created "Oxbow"

should be designed and constructed to allow for multiple overbank flooding and backwatering events during every winter season, but should not allow for juvenile anadromous fish to become stranded during out-migrations. The "Oxbow" concept could allow for creation of fish rearing habitat, as well as seasonal wetland, freshwater emergent marsh edge, willow riparian, oak riparian, and oak woodland for potential mitigation requirements from weir construction in numerous locations in the Dry Creek Watershed. The resultant wetland-related habitats will provide value to many additional wildlife species including western pond turtle and numerous passerine birds.

The excess material generated by the excavation of the "Oxbow" could be used to create mounds or upland habitat islands within the floodplain, as well as providing additional fill for existing creek-bank levees. Upland components within riparian zones and floodplains provide hydrologic and soil conditions suitable for establishment of valley oak and elderberry plantings. If excess fill were generated that needed to be removed from the floodplain for capacity reasons then perhaps it could be used as additional cover for the adjacent petroleum and sewer lines, the landfill cap, and potentially as backfill against the downstream side of the proposed Weir #1.

Moving upstream from the "Oxbow" floodplain lays another, smaller relatively open area on the east side of Antelope Creek that currently supports shrubs and non-native herbaceous cover. This upper terrace floodplain area would be a good candidate for additional oak woodland tree plantings and herbaceous cover enhancement plantings for potential oak tree and oak woodland habitat mitigation. No grading is necessary for this site to be usable for such mitigation; however, some pre- and post-planting weed control efforts are warranted.

Still further upstream and across the creek on the west side there is an area on the lower floodplain terrace that appears to have been used for oak tree mitigation. The relatively recently installed oaks, primarily valley and interior live with occasional blue oaks, are planted in rows and spaced roughly 10-feet on-center. There are areas to the north and south of this plantation that are open and could be used for additional planting, but we suggest in a more ecologically appropriate manner to provide a more diverse and appropriate habitat condition for the area. The existing "oak orchard" seems to have been created to provide the most "bang-for-the-buck" on the smallest patch of dirt possible and it is our belief that as these container oaks mature the more dominate ones will out-compete others and shade out their competitors.

A small cluster of elderberry shrubs was also found in this area between the creek and the "oak orchard". These shrubs may be at risk of mortality if they are flooded with any frequency or for any duration as a result of the construction of Weir #1. The elevation of the root crowns of these plants should be determined and the potential flood regime established during final resource assessments if the project is to proceed. Transplantation of these shrubs may be possible, but we recommend against it in order to protect the existing stream bank and propose instead planting additional elderberry shrubs on the upland islands created as a part of the "Oxbow" downstream.

If resource agencies require additional fish habitat enhancements as mitigation for project impacts beyond that available from our proposed "Oxbow" creation, we suggest that some work could be done from existing high banks to remove existing concrete rip rap exposed along mostly the left bank of Antelope Creek. And some additional work could be done with the same excavator after concrete slab and rubble removal to create small benches on which native riparian plantings could easily be installed. One of the many potential benefits to the stream environment will be to reduce warming of waters due to the increase of shading provided by streamside plantings of woody species on these steeper banks.

As a general habitat enhancement operation that would carry weight in discussions of mitigation options with regulatory agencies, an invasive exotic weed removal program is recommended. This reach of the creek currently supports some small populations of the particularly pernicious aquatic and riparian weeds. We identified red sesbania, black locust, and perennial pepperweed in riparian zones and parrot's feather in slow-water sections of the creek channel. Each of these species should be controlled or eradicated, if possible. The more ubiquitous Himalayan blackberry extends throughout the riparian zone and in some cases up into adjacent oak woodland habitat. Management of this species is recommended even though eradication is not feasible. Weed control can be done with chemicals in some instances and by manual or mechanical methods in others. Himalayan blackberry can be managed with goat grazing, mechanical means, and correctly timed spraying with appropriately labeled herbicides.

Weir #2

Site Constraints: The proposed location for Weir #2 across Antelope Creek appears to be upstream of the existing service road overcrossing and approximately at or near the location of an existing stream monitoring gage. This location is problematic for two primary reasons. First, construction of the weir at the proposed location would have significant impacts to well developed stream-zone waters of the U.S. and wetlands along with valuable riparian habitat components up and downstream of the weir which developed as a result of beavers damming the stream at the service road overcrossing. And second, much of the work would necessarily be in the water and mucky sediment accumulated on the bottom of the beaver pond and a small willow-covered island would have to be removed, raising the cost of the venture.

Another potential constraint to construction of Weir #2 is the prescribed overflow elevation. Just upstream of the beaver pond and between the pond edge and the post and cable fence separating the creek habitat area from the bike trail is a sewer manhole and other infrastructure facilities placed underground. Based upon our assumption of the proposed weir location it appears that the new weir could not raise water levels much without flooding the manhole and, in some spots even the bike trail making this structure likely not worth the cost in terms of volume detained per dollar.

Opportunities: We believe that Weir #2 should be created by simply removing the beaver dam at the service road/bike trail overcrossing and lowering the existing static

water level to create additional storage volume upstream of the existing barrier. Obviously, removal of the beaver dam is a temporary fix and therefore it would have to be followed by a well designed beaver proof inlet to existing culverts passing stream flows under the service road/bike trail overcrossing. Furthermore, beavers in this reach must be controlled through trapping by experts under a CDFG depredation permit. The City of Roseville currently works with trappers from the Placer County Agricultural Department to remove beavers from the Dry Creek Watershed and this site could be made one of critical importance to all concerned in order to ensure the storm water detention value of the existing structure. We feel that this alternative to a new weir structure could provide significant detention at minimal cost.

Site B - Secret Ravine Upstream of Sierra College Boulevard

Prior to our visit to Site B, draft base maps including aerial photos, property boundaries, potential jurisdictional wetland features, elderberry shrub locations, and a conceptual design of the proposed flood wall along with draft flood impact zones within the site were provided by the Client, Placer County Flood Control Agency, and RBF Consulting. These maps along with soils maps and CNDDB maps prepared by Restoration Resources were taken into the field to verify data represented and to use for recording observations made by Restoration Resources staff.

Data and maps provided to date indicate that a 300' long flood water detention wall spanning the Secret Ravine creek and its immediate floodplain will be constructed parallel to Sierra College Blvd. roughly 30 to 50 feet from the toe of the slope extending down from the elevated Sierra College Boulevard overcrossing. The conceptual plan indicates that the flood wall will have an opening presumably wide enough to pass the entire low flow volume of the creek and that the opening will span the existing creek channel. Flows in excess of the capacity of this opening will be detained upstream of the wall within the existing upper terrace floodplain. Our site inspection and preliminary vegetation analysis indicates that typical creek incision processes have left much of this upper floodplain terrace abandoned even during higher runoff events. The proposed project should re-attach the creek to much of the upper terrace floodplain area during peak flow periods while reducing downstream affects of flood waters on developed areas within the lower Dry Creek Watershed.

Restoration Resources mission was to evaluate the potential effects of flood wall construction to protected natural resources and to present some conceptual habitat enhancement and mitigation opportunities that may be found within the boundaries of the site. The following discussion is meant to present our preliminary findings in meeting our goals and completing our mission.

Existing Conditions – Westerly Portion

Restoration Resources prepared a map combining the various graphic information data sets provided that depicts the site's boundaries, topography, resource findings and its

habitat attributes (see Appendix B). As presented, the overall site encompasses approximately 61.41 acres with the westerly portion encompassing 38.7 acres. Access to the site from Sierra College Blvd. is found on the north and south sides of the creek. Some old, dilapidated machinery and equipment can be found along the southerly access road. The northerly roadway provides access to an abandoned building and exposes some old pieces of metal work and small amounts of various wooden construction materials. These access roads are very short but will be important to the implementation of the proposed project, as well as future maintenance and monitoring efforts and therefore should be maintained in their current locations.

The existing topography of the westerly portion of the site, north of the creek channel and bounded by Sierra College Blvd. on the west, a block retaining wall on the north, and an old barbed wire fence extending from the block wall to near the creek on the east, indicates extensive anthropomorphic manipulations, likely resulting from historic gold mining operations. Most of this historic work appears to have been concentrated within and adjacent to natural swales leading toward the creek though pre-settlement topography can only be guessed at for the purposes of this report. It appears that the mining work left conditions that favored colonization by wetland adapted plant species in the bottom portions of some of these swales. These potentially jurisdictional wetland features were marked on maps provided by others and have been reproduced as colored polygons on our attached map and given codes W1 through W4. The topography of the balance of this sub-area can be characterized as a gently rolling terrain, sloped toward the creek with two areas left relatively flat high above the creek floodway. We have identified these upland habitat areas on our map as U1 which supports a typical oak-foothill pine habitat with a ruderal herbaceous layer and U2 and U3 which are far more open and the soil surface is dominated by non-native grasses and weedy broadleaf plants.

We have mapped the provided potential floodway as polygon R1 in the westerly portion of the site where the vegetation type can be described and valley-foothill riparian. The topography indicates a somewhat incised creek channel, perhaps some remnant channel braids, some swale alluvial termini, and some relatively flat floodplain terrace lands. The vegetation within this polygon consists of a nearly closed canopy made up of valley and live oaks on the higher portions and willow, white alder, and valley oak near the creek. The understory is dominated by the non-native Himalayan blackberry and native poison oak. Some locations support other native vines including California wild grape which climb into the overstory creating an overall relatively densely shaded creek zone which provides multiple benefits to fish living in the creek.

South of and up slope of the creek zone in the westerly portion of the site, is found an extensive oak-foothill pine vegetative community mapped as U5 and another upland ruderal grassland community which we mapped as U4. As on the north side of the creek, the presumed natural micro-topography appears to have been altered some time in the historic past. We assume mining occurred within the swales, later agricultural activities may have altered the grassland areas, and some leveling may have occurred as a part of human use for storage of construction related materials and equipment. We are guessing as to the causes, but the surface disturbance is clearly evident. The large trees covering

much of this area as with the north side indicate that the presumed man-caused disturbances are not recent by any means. Our map shows polygon W6 south of the creek which lies just above a previously mapped intermittent drainage and "heritage" oak tree and incorporates the confluence of two existing swales.

The soils of the site are mapped by NRCS as Andregg coarse sandy loam on the hills above the creek floodway and Xerothents, placer areas within the drainageway. These soils are of granitic parent material and a generally can be described as well drained decomposed granite with numerous granite boulder outcroppings. Previous mining operations and perhaps other disturbances have done much to create a seemingly homogenous mix of the mapped soil types in many areas especially along the creek and swales leading to the creek.

Site Constraints

Wetlands: A map of biologic features identified by Jones & Stokes Associates (JSA) provided by our Client, indicated three potential vernal pool fairy shrimp habitat wetlands in the westerly portion of the site. We found the locations mapped by JSA and determined that two are in all likelihood not potential wetlands and certainly not fairy shrimp habitat. The third which is found north of and upslope from the creek between two mapped swales does support some typical vernal pool vegetation over an area of approximately 100 square feet. While it may well be delineated as a wetland, we would not expect this small isolated depression to support fairy shrimp. However, this depression should be avoided and protected during any construction activities thereby eliminating any need for very expensive vernal pool fairy shrimp habitat mitigation.

For the most part we agree with JSA's depiction of other wetland features and sensitive habitats, the bulk of which are found along the creek and the easily identified swales. However, we located each of the mapped seasonal wetland features and found that the JSA map likely overstates their size and importance. The project will impact some waters of the U.S. and some riparian habitat at the weir construction site which will require mitigation. Therefore, a formal wetland delineation will be necessary for ACOE permit application. The flood zone resulting from the project is not likely to negatively affect any of the existing wetland features.

Listed Species: Restoration Resources obtained the CNDDB records for all listed species of plants and animals occurring within a 5-mile of the site in order to better prepare ourselves for on-site surveys and focus our search on specific habitat types.

Vernal Pool Fairy Shrimp: See discussion under *wetland*s above.

VELB: Data provided by others indicated the presence of elderberry shrubs on the site which are habitat for the federally listed threatened valley elderberry longhorn beetle (VELB). Our survey located the five shrubs previously mapped by JSA along with several more individual plants and elderberry clumps with numerous plants and stems larger than 1-inch diameter at ground level. We did not do protocol level surveys because

of significant conflicts with poison oak, but of the stems we were able to examine we did not see any evidence of VELB exit holes. None the less, these shrubs are protected as critical habitat for the insect and should be avoided during the construction process. The shrubs should be mapped appropriately during the wetland delineation process and suitable plant protection measures including minimum setbacks described along with those for protection of delineated wetlands.

If the project, including any habitat restoration for mitigation, proposes to impact the elderberry shrubs with stems greater than 1-inch at ground level, then approval must be given by USFWS under the section 7 consultation required by the CWA during the ACOE permitting. However, we believe that it will not be necessary to adversely impact any of the elderberry shrubs currently existing on the site thereby eliminating this difficult step.

Northwestern Pond Turtle: The JSA map indicates potential habitat for the northwestern pond turtle, a state listed species of special concern, and we do not disagree. The turtle's habitat is indicated within the riparian and creek habitats all along the Secret Ravine drainageway plus one area that appears to have been an impoundment associated with historic mining activities located north and upslope of the creek near the center of the western portion of the site. We believe that this latter area is a good candidate for wetland and riparian habitat enhancement and creation and should this type of work be done as mitigation, then care would need to be taken to ensure that no turtles were in the area at the time of construction. Review of turtle protection measures will likely come from CDFG during the CEQA process for the project and/or conditions will be placed in the ultimate Streambed Alteration Agreement needed for the weir construction.

Salmonids: Salmon and steelhead trout are known to occur in the Dry Creek drainage and in Secret Ravine itself. During our survey we observed several rainbow trout which could potentially be juvenile steelhead. Therefore, we suggest that the proposed weir design must first be "fish friendly" before it can be a detention facility in order for the project to be permitted for construction. Additionally, the timing of work in and adjacent to the creek will have to recognize the need for salmonids to move up and downstream during their annual reproductive cycle. These issues will need to be addressed in the ACOE permit application to provide information for review by the National Marine Fisheries Service (NMFS) and USFWS under section 7 of CWA consultation requirements.

Archeological Resources: Under section 106 of the CWA, it will be necessary for the project proponent to conduct a protocol level search for evidence of historically or archeologically significant sites. We considered this site likely to contain such protected resources and searched very briefly for evidence of Native American use by looking at a number of exposed granite boulder surfaces where mortar (acorn grinding) holes are often found in the region. The third such inspection yielded a hole and its location is identified on our map. We did not look any further for evidence of archeological resources and we are not able to assess the historical value of the existing building sited north of the creek, but it is likely that an expert will turn up more sites that will require

protection and avoidance as the project including any mitigation habitat construction goes forward.

Oak Trees: Oaks including valley oak, interior live oak and blue oak woodlands are protected by state law and individual oak trees are protected by county and city ordinances. The oak-dominated habitats found on this site have all three species represented and individual trees vary in size from saplings to very old, very large, often multi-trunk giants that will require protection and mitigation if damaged. We have left off our map all reference to "heritage oaks" provided in one of the data sets given us because we were not provided any arborists' reports and this designation is largely subjective and interpreted differently in different jurisdictions. That said, it will be important to the project that an updated arborist's report is prepared in which all native trees larger than six-inches diameter breast height (dbh) are identified, tagged, measured and rated for health and vigor. This report is likely to be extensive due to the large number of trees that will be flooded at some interval more frequent than the current case as a result of the project. It is our opinion that while the existing riparian corridor is well forested, the species present are adapted to relatively frequent flooding and although some species such as blue oak will drop out, the site will become more beneficial to valley oaks under the new hydrologic regime. Our depiction of the more frequently flooded zone is found on our opportunities and constraints map. We do not believe that the threat to oaks will seriously constrain the project, though some will certainly be lost and their loss will necessitate appropriate mitigation.

Construction Season: Typically, construction activities in stream zones is limited by CDFG and the state Water Board to the period between April 15 and October 15th to avoid erosion and unwanted sediment transport issues. Additionally, nesting raptors within the stream zone or adjacent habitat can affect the allowable construction period. Under federal migratory bird protection rules, disruption of nesting activities of other migratory birds may also affect the allowable construction window. Bird nesting activities are generally accepted as being over by July 15. Therefore, we feel the estimated construction period should be limited to July 16 through October 15.

During our site surveys, we located juvenile great horned owls and barn owls in the oak-foothill pine habitat. It is likely that other raptors also nest in this habitat type and potentially in the adjacent riparian habitat type. It is also likely that more than one species of federally recognized migratory birds nest on the site. Prior to construction nesting raptor surveys and perhaps migratory bird surveys will be required if the construction season were to be proposed within the nesting season for any of these species.

<u>Site Opportunities:</u>

Site B presents a significant opportunity to provide a rich, diverse assemblage of preserved, enhanced, restored, and created habitats which could well be used for mitigation for project impacts on this and perhaps other sites. Our Opportunities & Constraints map shows the acreages of various habitat types that potentially could be

enhanced or restored thereby creating suitable in-kind mitigation for all proposed project impacts.

Wetlands: Mapped polygons W2, W3, W4, W5, and W6 all present good potential for creation of additional wetland habitat by construction of small, armored overflow weirs at existing outfalls or constrictions in drainageways. Some additional grading would be required to expand the perimeter of several of the existing basins/depressions in conjunction with weir construction, but we believe that costs will be minimal for the gain in wetland habitat and the likelihood of long-term stability of the created/restored habitats is very high. Some additional technical studies such as soils and hydrology along with detailed biological resource mapping will be needed to prepare final design concepts for agency approval. Also, if Site B is to be used for mitigation purposes it will need to be placed under a conservation easement with an appropriate steward and a long-term management plan will have to be prepared and an endowment to support perpetual stewardship duties must be funded.

VELB: Site B currently supports numerous elderberry shrubs and clumps of elderberry shrubs on high terraces above the floodway. Their presence indicates the suitable nature of the site for future VELB mitigation. As long as vehicular access is maintained and potentially enhanced, the overall site could accommodate a significant number of transplanted elderberry shrubs along with requisite elderberry seedling and associated plant seedling installation making it relatively cost effective for providing this type of mitigation for local public works projects with impacts in need of VELB compensation. As with the potential for wetlands mitigation, a perpetual conservation easement, long-term management plan, and endowment would be required along with a commitment for at least 10 years of protocol level monitoring and reporting to regulatory agencies. Initial plantings would require regular maintenance including irrigation for two to three years and non-chemical weed control. Some replacement planting should be expected in the first three years of establishment maintenance with all maintenance activities being reduced thereafter. This habitat type could provide oak mitigation credits as well.

Oak Trees and Oak Woodlands: Local ordinances and state law require compensatory mitigation for project impacts to oak trees and/or oak woodland habitat. The proposed floodwater detention project will certainly have impacts to these protected resources on Site B and virtually any other site proposed for this type of work. Areas upslope of the creek zone on Site B offer multiple opportunities for oak woodland mitigation. The site lends itself to the more ecologically comprehensive woodland restoration concept as opposed to the more traditional oak plantation/orchard/landscape concept common with “oak tree” mitigations heretofore installed in the region. Woodlands are composed of multiple species of native woody trees, shrubs, and vines along with a herbaceous understory of native perennial grasses and graminoids along with many species of broadleaf plants including typical wildflowers of the foothills.

Restoration Resources has successfully permitted and implemented oak mitigation projects in which we worked from the oak tree paradigm where impacts are measured in “inches at diameter breast height” and mitigations are expressed in numbers of 5- to15-

gallon oak or redwood trees installed in ball parks or street medians to the restored woodland paradigm where all installed plants, the occupied protected land, and the maintenance obligations were considered valuable in replacing the lost oaks. In every case the larger scale mitigation projects will ultimately produce many more oaks than were lost and provide a host of additional habitat values for multiple wildlife species – all at a cost lower than that for installation of many large container sized plants. This habitat type could provide VELB mitigation credits as well.

Site C – Linda Creek Upstream of Auburn-Folsom Road

Prior to our visit to Site C, the Client and RBF Consulting provided a schematic drawing overlaying an aerial photograph of the site. The potential project indicated on this drawing proposes a berm be constructed along the left bank of the Linda Creek tributary and an off-channel detention basin be constructed encompassing something more than the southerly one third of the site. No information is given on the drawing regarding neither the height of the proposed berm nor the depth of the proposed basin. Restoration Resources gathered supporting data and maps and proceeded in the field to verify the constructability and potential constraints to the implementation of the proposed detention facility.

Upon entering the site it was immediately evident that there are multiple existing wetland features and mature oak-dominated riparian vegetation all along the Linda Creek tributary, as well as, significant stands of oak-dominated woodlands throughout the proposed work area. Impacts due to proposed construction to the existing oaks alone would create extensive and expensive mitigation requirements. It should be noted that the site is currently being used as an oak and/or riparian mitigation site (irrigation lines and tree posts supporting installed native riparian trees were found all along the right bank of the tributary). There are also existing sewer lines and manhole covers as well as existing water pipelines paralleling the creek within the proposed area of work. The only area that could potentially be appropriate for a storm water detention basin is the northerly half of the site and it is at an elevation relative to the creek thalweg such that the ability to create a floodwater detention facility at this site seems impractical not to mention that any diversion facility and return facility would have to cross existing sewer and water lines. It is our opinion that the net benefit of creating a detention basin and berm on this site would not exceed impacts associated with the construction. Therefore we do not recommend the use of this site for a flood water detention facility.

Potential Impacts:

- Existing oak trees
- Existing wetland habitat
- Existing riparian habitat
- Existing mitigation plantings
- Potential elderberry shrub impacts throughout
- Salmonid habitat in stream and juvenile entrapment issues

Potential Issues:

- Many existing wetland basins apparently fed by ground water and existing wetland and riparian wetland features including swales
- Extensive mature oak dominated upland and riparian woodlands with potential for multiple impacts to protected resources
- Evidence that portions of the site have been used for oak or riparian mitigation
- Existing water and sewer lines in proposed work areas
- Existing use as landscape pruning dump site

Potential Opportunities:

- Oak mitigation site
- Wetland and riparian wetland and woodland mitigation site
- Elderberry mitigation site

Site D – Linda Creek Upstream of Wedgewood Drive

Site D supports extensive mature riparian woodland and riparian wetland communities within the immediate creek corridor and mature mixed oak-foothill pine woodland rising from near stream bank level to the top of the uppermost slopes adjacent to the channel. The creek corridor is relatively narrow and confined by the steep local topography resulting in a narrow flood impact zone attributable to construction of the proposed weir just upstream of the Wedgewood Road overcrossing. Presumably this narrow zone does not allow for the detention of much flood water unless the weir structure is of significant height in which case flood waters will rise into to the adjacent upland oak woodlands.

This site is located entirely within an exclusive gated residential community adjacent to the Granite Bay Golf Club and the development has strict Covenants, Conditions and Restrictions for architectural and landscaping standards. No private perimeter fencing is visible and most of the pre-existing oaks have been retained within the community presumably to enhance the feeling of living compatibly with nature for the residents. It is our belief that any attempt to construct a large concrete weir across a beloved stream within a community open space will be met with significant resistance. Additionally, the currently existing riparian habitat will be impacted and the adjacent mature live oaks, blue oaks, and foothill pines will likely suffer death from even infrequent flooding. Therefore, it is our opinion that this site is not a good candidate for the flood attenuation project and deserves no further evaluation.

Site E – Linda Creek Upstream of Old Auburn Road

Site E encompasses a relatively incised narrow channel with steep, nearly vertical stream banks bordered by uplands dominated by oak woodland and annual non-native grass/forb vegetative communities. Typical valley riparian woody species including cottonwood and willows are scattered rather sparsely along the length of Linda Creek and found mostly on the left bank. The upland area to the west of the creek identified by RBF Consulting as

suitable for off-channel flood water detention is currently completely occupied by oak tree mitigation plantings regularly tended by City of Roseville personnel.

We believe that it is highly unlikely that the City of Roseville will support complete destruction of this mitigation site without the extraordinary expense of replacing the land area and all the trees and extending tree maintenance and tree survivorship guarantees for some considerable time into the future. The chosen site seems well suited for the type of installation proposed with the berm constructed from spoils excavated within the detention basin; however, we believe that do to its existing use for mitigation, Site E is not a good candidate for the flood control project and, unless cost is of no concern, should not be considered further.

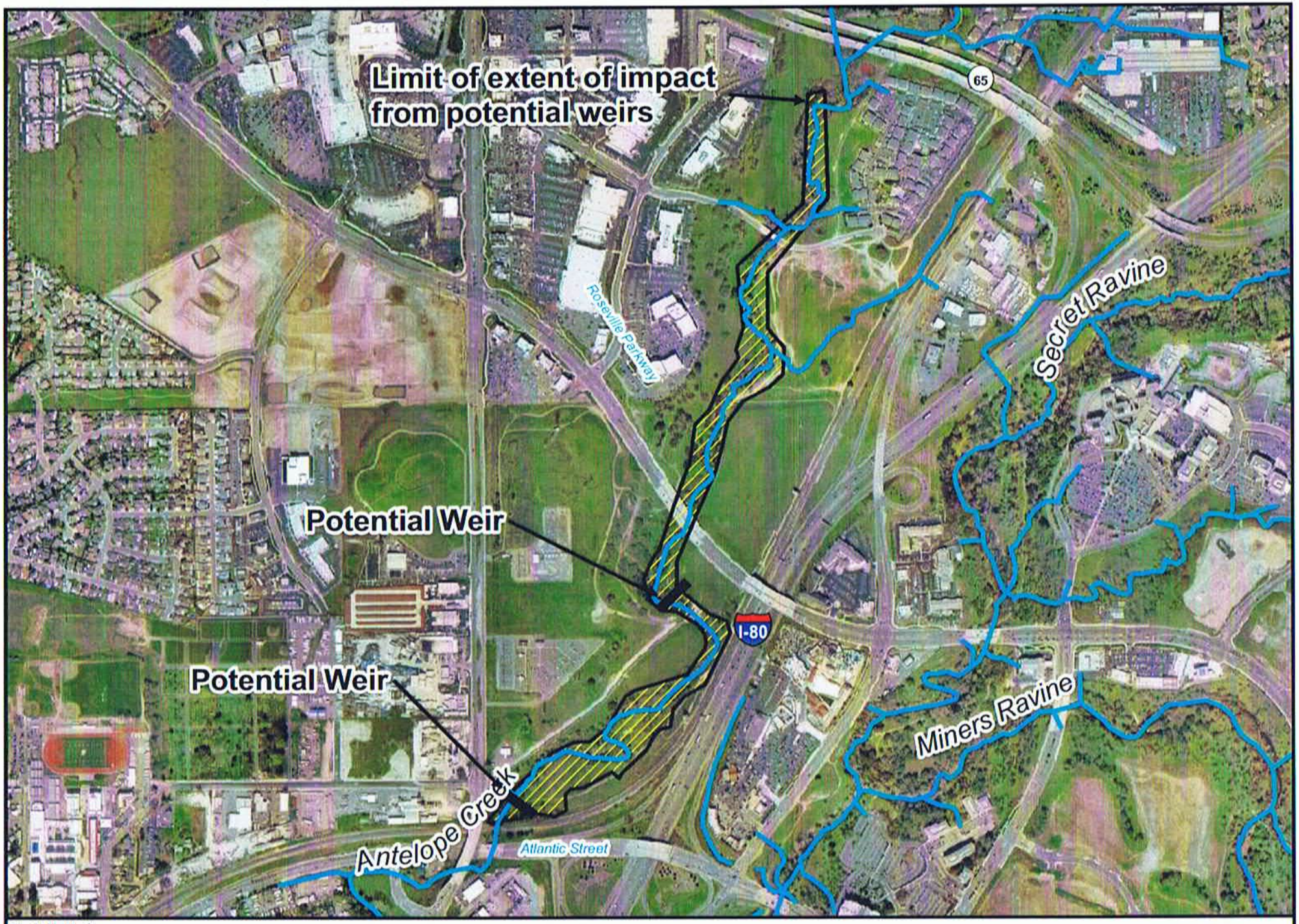
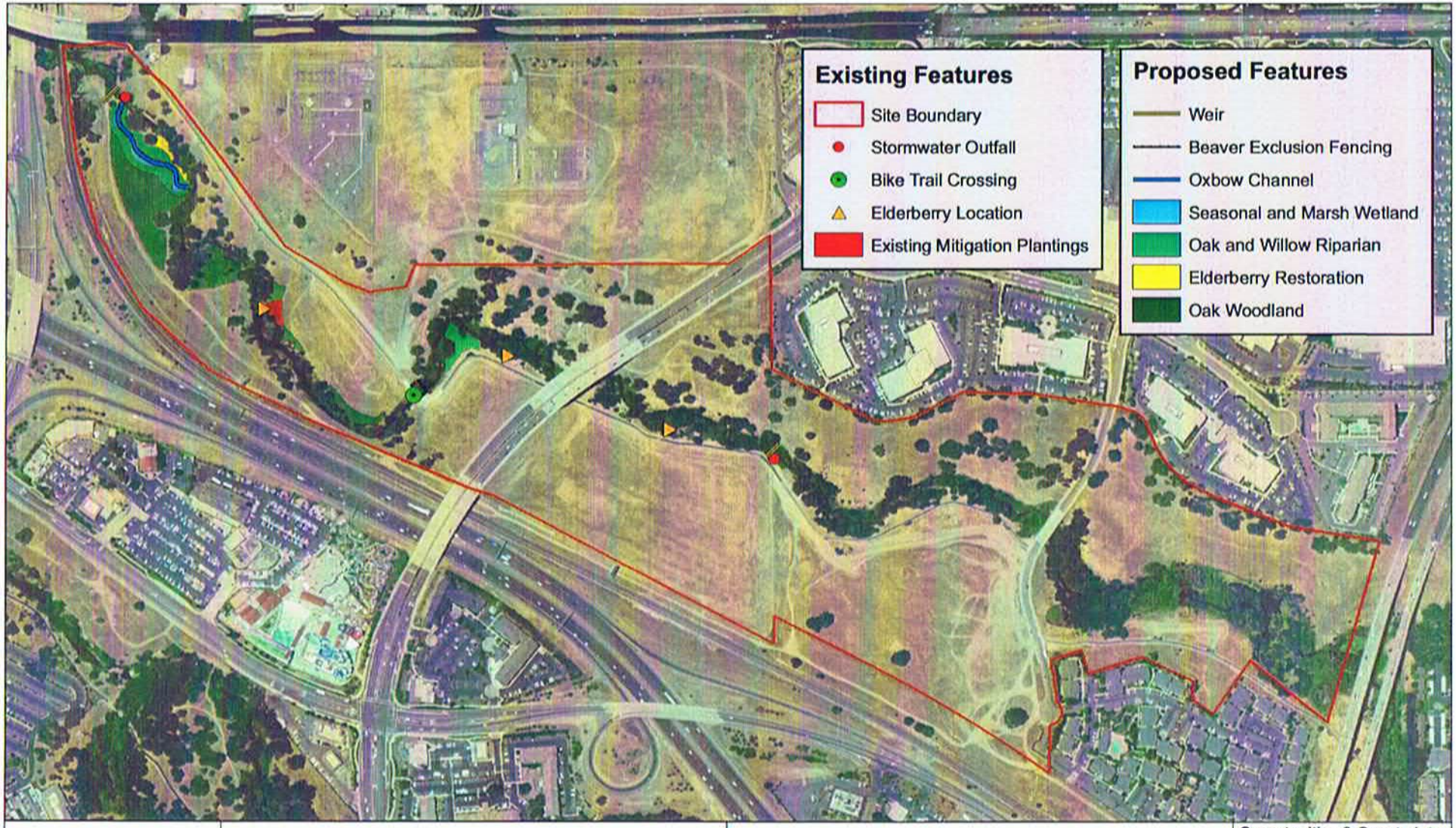


Exhibit 1
Potential Project
Antelope Creek upstream from Atlantic Street

N

0 162.5 325 650 Feet

RBF CONSULTING



RESTORATION RESOURCES

N

0 375 750 1,500 Feet

Site A:
Antelope Creek Upstream of Atlantic Street

Opportunities & Constraints

Dry Creek Watershed
Placer County, CA
July 30, 2010

Site A: Large valley oak within the flood zone. Attention should be given to weir design and duration of flood up to prevent detriment to existing protected vegetation.

Site A: Parrots feather and concrete outfall. Noxious non-native vegetation should be treated and removed as part of the riparian enhancement.

Site A: Open Floodplain on downstream end of Antelope Creek. We suggest this site be used for wetland restoration ("Oxbow").

Site A: Existing Mounds of soil along Antelope Creek may be enhanced and created elsewhere on site to provide hydrologic/soil conditions for elderberry plantings.

Site A: Red sesbania. Noxious non-native vegetation should be treated and removed as part of the riparian enhancement.

Site A: Himalayan blackberry. Noxious non-native vegetation should be treated and removed as part of the riparian enhancement.

Site A: Bike trail crossing inlet. Pipes should be cleared and maintained. We suggest a beaver exclusion device be installed upstream of this location

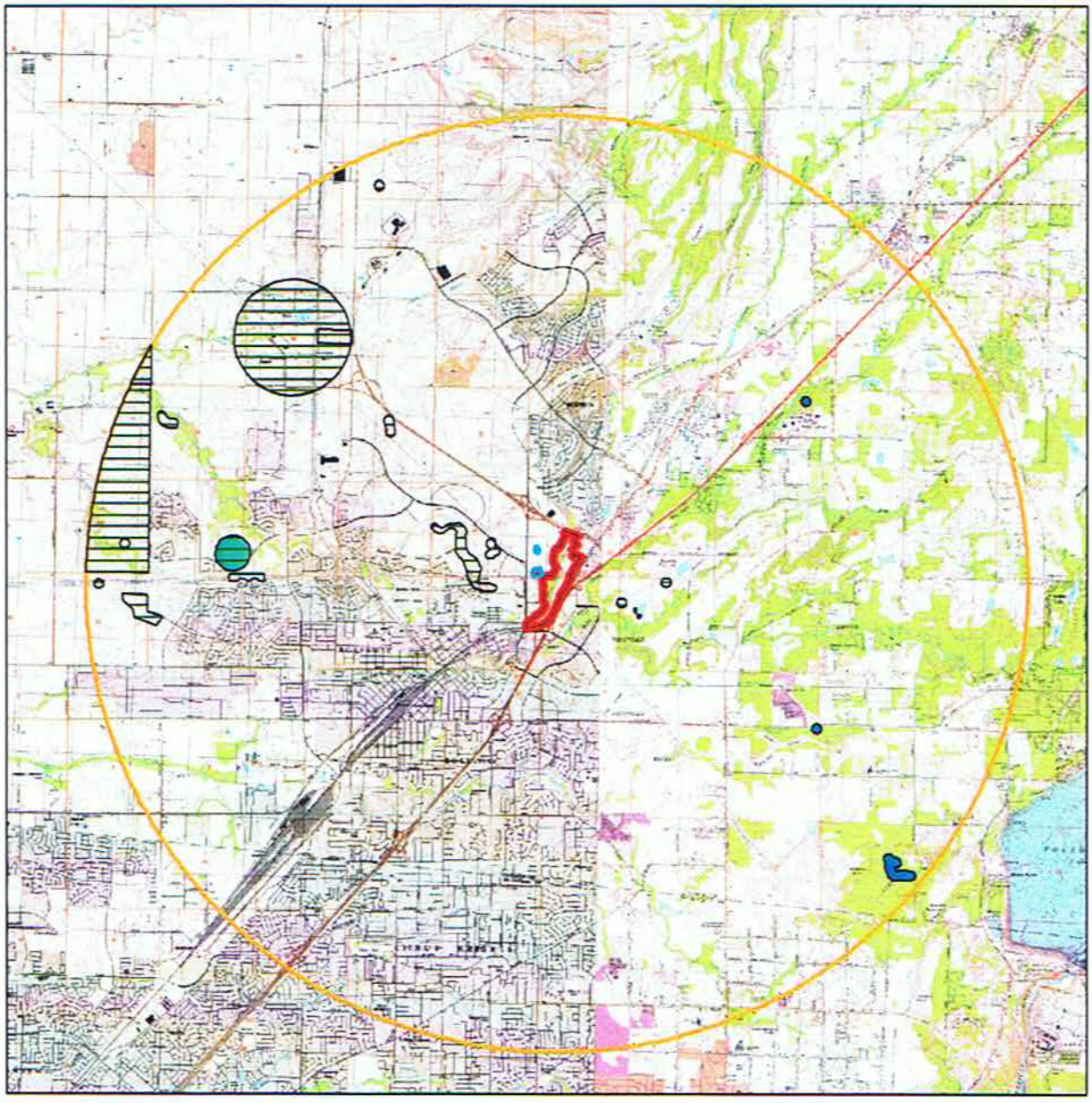
Site A: Bike trail crossing outlet. It is suggested that concrete slabs be removed and disposed of legally off site or used for upland habitat sturctures.

Site A: Oak tree mitigation plantation. There is a location on Antelope Creek that has been used for what seems to be oak tree mitigation plantings.

Site A: Oak tree mitigation plantation. Trees were planted in dense rows discouraging the development of a diverse and appropriately structured oak riparian woodland

Site A: Lower benches. Adjacent to the oak tree mitigation site at the base of the capped landfill there are sites suitable for additional oak plantings.

Site A: Lower benches. There are multiple locations along Antelope Creek at the base of the capped landfill that are suitable for oak tree mitigation plantings.



Legend

Plant and Animals (Common Name)

- vernal pool tadpole shrimp
- California black rail
- Boggs Lake hedge-hyssop
- Swainson's hawk
- valley elderberry longhorn beetle
- vernal pool fairy shrimp

California Natural Diversity Database Map	
Site Analysis- 5 mile radius	
Site A - Antelope Creek (upstream of Atlantic Street)	
Designed By: LRP	Prepared By: RESTORATION RESOURCES
Drafted By: LRP	
Date: 7.30.10	Job No.: 29001

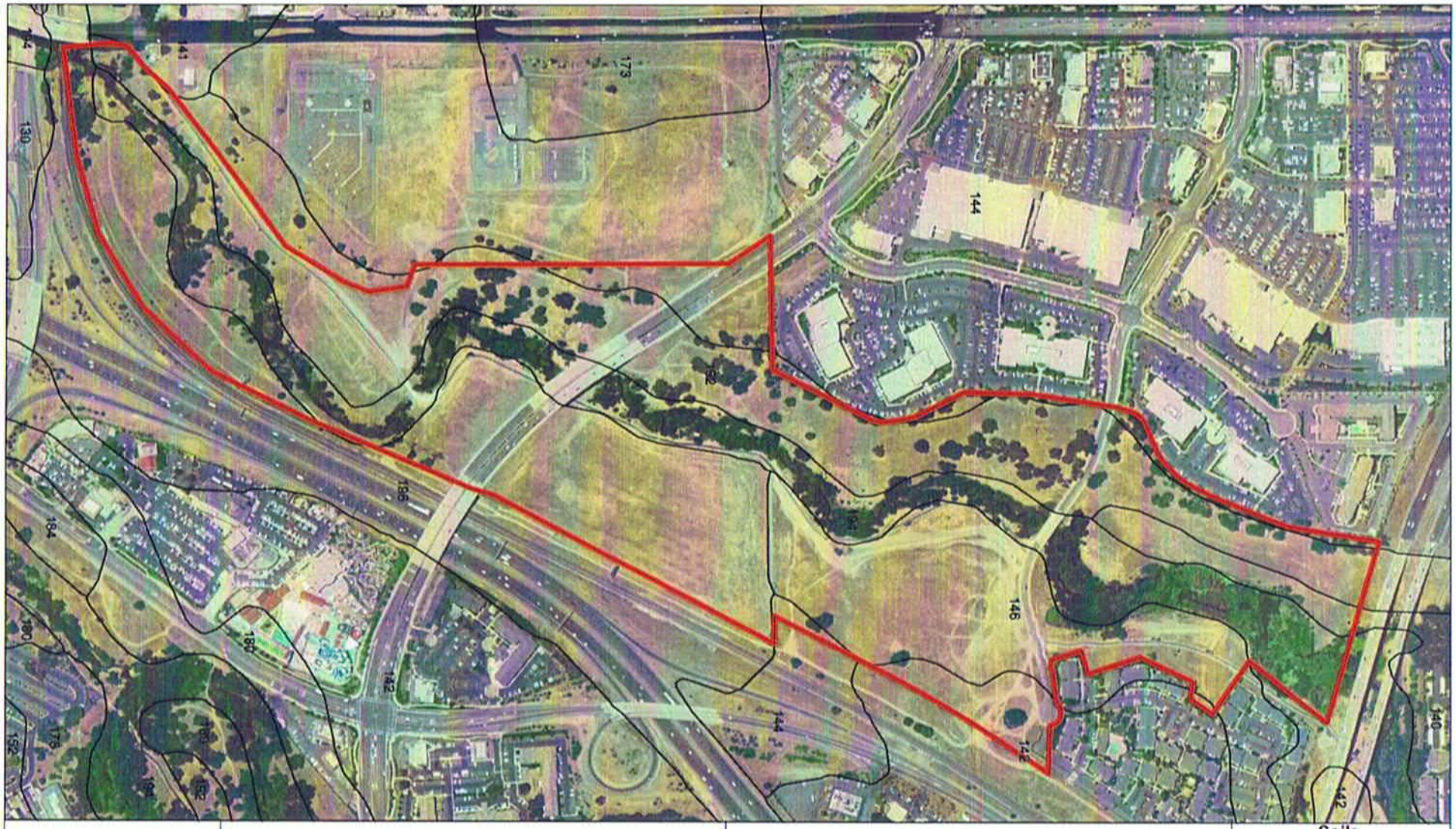
Legend

- Site Boundary
- 5mile buffer

N W E S

1:110,000

0 0.5 1 2 Miles



RESTORATION RESOURCES

Site A:
Antelope Creek Upstream of Atlantic Street

Soils

Dry Creek Watershed
Placer County, CA
July 30, 2010

Map Unit Description

Placer County, California, Western Part

140 Cometa sandy loam, 1 to 5 percent slopes

Setting

Elevation: 20 to 400 feet
Mean annual precipitation: 10 to 23 inches
Mean annual air temperature: 63 to 63 degrees F
Frost-free period: 260 to 300 days

Composition

Cometa and similar soils: 85 percent
Minor components: 15 percent

Description of Cometa

Setting

Landform: Terraces
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Properties and Qualities

Slope: 1 to 5 percent
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low or moderately low (0.00 to 0.06 in/hr)
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Low (about 5.2 inches)

Interpretive Groups

Land capability classification (irrigated): 3e
Land capability (non irrigated): 3e

Typical Profile

0 to 18 inches: sandy loam
18 to 29 inches: clay
29 to 60 inches: sandy loam

Minor Components

Kaseburg soils

Percent of map unit: 5 percent

Fiddyment soils

Percent of map unit: 5 percent

San joaquin soils

Percent of map unit: 4 percent

Alamo soils

Percent of map unit: 1 percent
Landform: Depressions

142 Cometa-Ramona sandy loams, 1 to 5 percent slopes

Setting

Elevation: 20 to 3500 feet
Mean annual precipitation: 10 to 23 inches
Mean annual air temperature: 63 to 63 degrees F
Frost-free period: 230 to 320 days

Composition

Cometa and similar soils: 50 percent
Ramona and similar soils: 30 percent
Minor components: 20 percent

Description of Cometa

Setting

Landform: Terraces
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Properties and Qualities

Slope: 1 to 5 percent
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low or moderately low (0.00 to 0.06 in/hr)
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Low (about 5.5 inches)

Interpretive Groups

Land capability classification (irrigated): 3e
Land capability (non irrigated): 3e

Typical Profile

0 to 18 inches: sandy loam
18 to 29 inches: clay
29 to 60 inches: sandy loam

Description of Ramona

Setting

Landform: Terraces
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Properties and Qualities

Slope: 1 to 5 percent
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Moderate (about 8.2 inches)

Interpretive Groups

Land capability classification (irrigated): 3e
Land capability (non irrigated): 3e

Typical Profile

0 to 6 inches: sandy loam
6 to 14 inches: loam

14 to 55 inches: sandy clay loam
55 to 73 inches: gravelly sandy loam

Minor Components

San joaquin soils
Percent of map unit: 5 percent

Fiddyment soils
Percent of map unit: 5 percent

Alamo soils
Percent of map unit: 5 percent
Landform: Depressions

Xerofluvent soils
Percent of map unit: 5 percent
Landform: Drainageways

146 Fiddyment loam, 1 to 8 percent slopes

Setting

Elevation: 50 to 280 feet
Mean annual precipitation: 19 to 19 inches
Mean annual air temperature: 61 to 61 degrees F
Frost-free period: 230 to 300 days

Composition

Fiddyment and similar soils: 85 percent
Minor components: 15 percent

Description of Fiddyment

Setting

Landform: Terraces
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from siltstone

Properties and Qualities

Slope: 1 to 8 percent
Depth to restrictive feature: 20 to 35 inches to Duripan; 28 to 35 inches to Duripan; 35 to 39 inches to Lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Very low (about 2.7 inches)

Interpretive Groups

Land capability classification (irrigated): 4e
Land capability (non irrigated): 4e

Typical Profile

0 to 12 inches: loam
12 to 28 inches: clay loam
28 to 35 inches: indurated
35 to 39 inches: weathered bedrock

Minor Components

Cometa soils

Percent of map unit: 5 percent

Kaseburg soils

Percent of map unit: 5 percent

San joaquin soils

Percent of map unit: 3 percent

Alamo soils

Percent of map unit: 2 percent
Landform: Depressions

152 Inks cobbly loam, 2 to 30 percent slopes

Setting

Elevation: 200 to 2000 feet
Mean annual precipitation: 30 to 30 inches
Mean annual air temperature: 61 to 61 degrees F
Frost-free period: 175 to 270 days

Composition

Inks and similar soils: 80 percent
Minor components: 20 percent

Description of Inks

Setting

Landform: Ridges
Landform position (two-dimensional): Backslope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from conglomerate

Properties and Qualities

Slope: 2 to 30 percent
Surface area covered with stones and boulders: 2.0 percent
Depth to restrictive feature: 18 to 22 inches to Paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low or moderately low (0.00 to 0.06 in/hr)
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Very low (about 1.8 inches)

Interpretive Groups

Land capability classification (irrigated): 4e
Land capability (non irrigated): 4e
Ecological site: SHALLOW LOAMY (R018XD076CA)

Typical Profile

0 to 5 inches: cobbly loam
5 to 18 inches: very cobbly loam
18 to 22 inches: unweathered bedrock

Minor Components

Inks varient cobbly loam soils
Percent of map unit: 10 percent

Exchequer very stony loam soils
Percent of map unit: 10 percent

194 Xerofluvents, frequently flooded

Setting

Elevation: 0 to 1500 feet
Mean annual precipitation: 14 to 20 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 250 to 270 days

Composition

Xerofluvents, frequently flooded, and similar soils: 90 percent
Minor components: 10 percent

Description of Xerofluvents, frequently flooded

Setting

Landform: Drainageways
Landform position (two-dimensional): Toeslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Properties and Qualities

Slope: 0 to 2 percent
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high or high (0.20 to 1.98 in/hr)
Depth to water table: About 30 to 57 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate maximum: 5 percent
Gypsum maximum: 0 percent
Available water capacity: Moderate (about 8.1 inches)

Interpretive Groups

Land capability classification (irrigated): 4w
Land capability (non irrigated): 4w

Typical Profile

0 to 15 inches: stratified loamy sand to fine sandy loam
15 to 37 inches: stratified loamy sand to fine sandy loam to silt loam
37 to 55 inches: stratified loam to silty clay loam to clay

Minor Components

Unnamed soils

Percent of map unit: 10 percent
Landform: Drainageways

196 Xerorthents, cut and fill areas

Setting

Elevation: 400 to 3500 feet
Mean annual precipitation: 8 to 18 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 200 to 300 days

Composition

Xerorthents and similar soils: 90 percent
Minor components: 10 percent

Description of Xerorthents

Setting

Anthropogenic features: Fills
Parent material: Mine spoil or earthy fill

Properties and Qualities

Slope: 2 to 50 percent
Drainage class: Well drained
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Very low (about 0.0 inches)

Interpretive Groups

Land capability (non irrigated): 8e

Typical Profile

0 to 60 inches: variable

Minor Components

Unnamed soils
Percent of map unit: 10 percent

Map Unit Description

Detailed Soil Map Units

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 in this report, 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. The contrasting components are mentioned in the map unit descriptions. 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 indicates the composition of the map unit and selected properties of the components of the unit.

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.

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Some surveys include "miscellaneous areas." Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

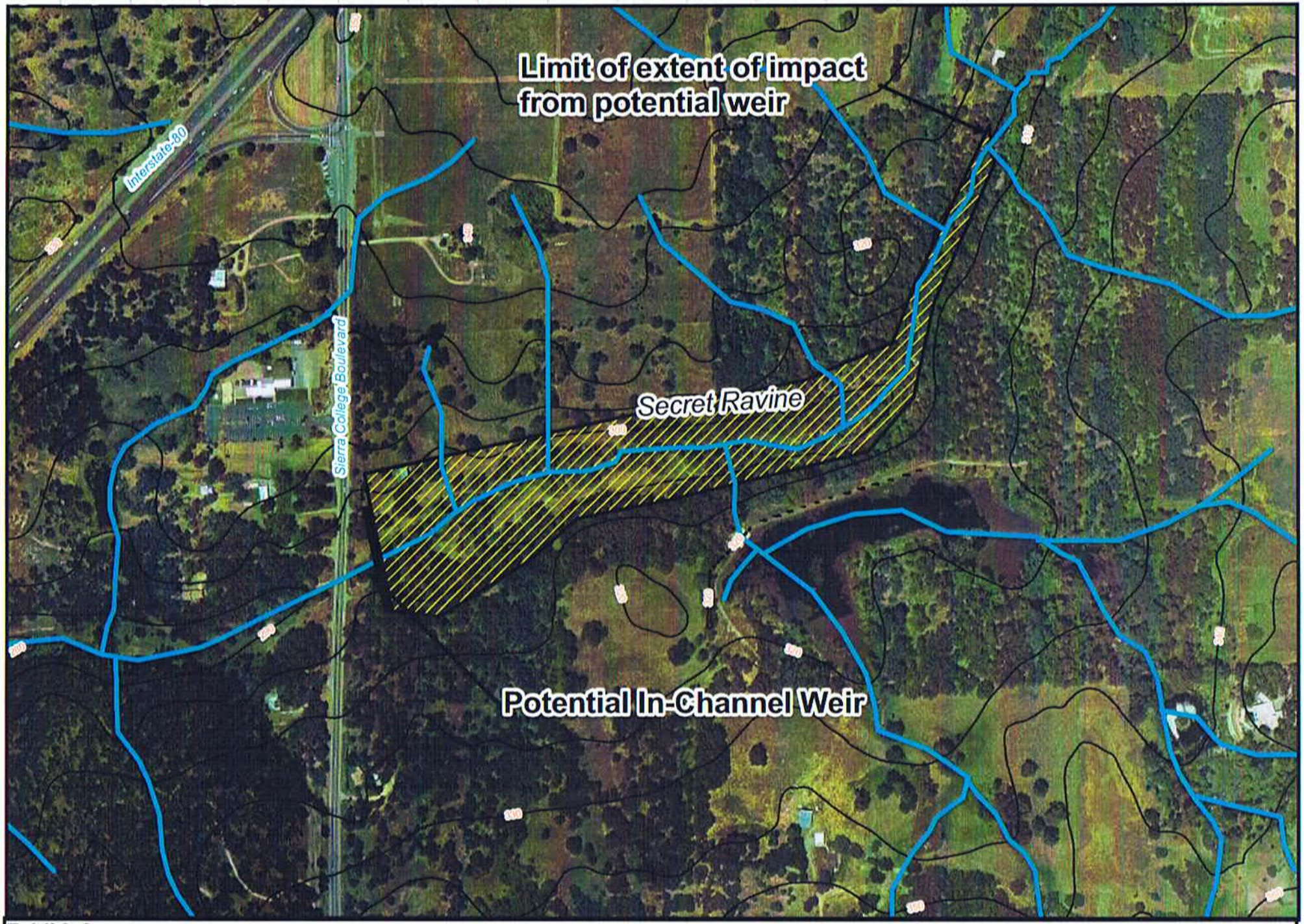
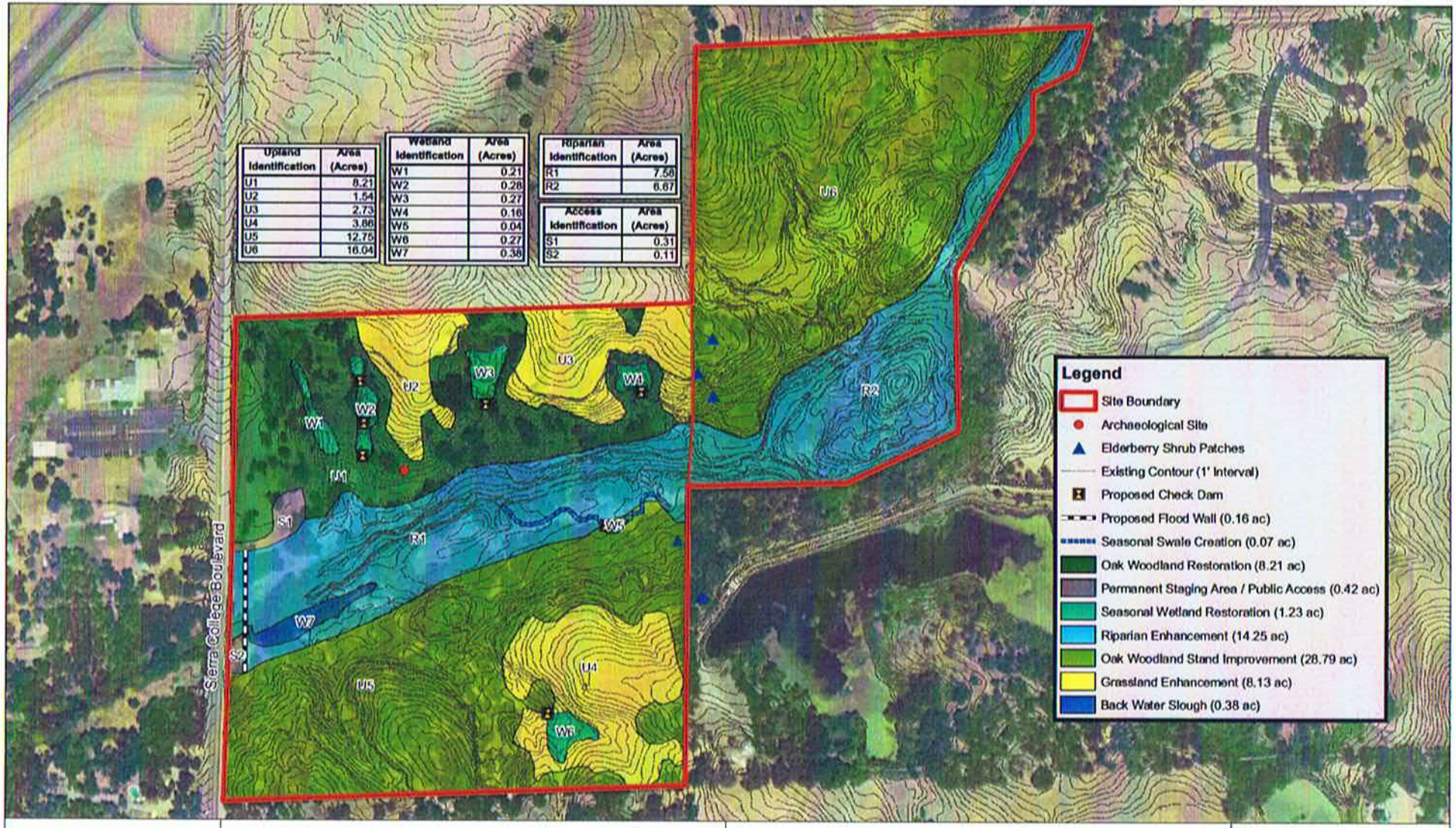


Exhibit 8
Potential Project
Secret Ravine upstream of Sierra College Boulevard

N

0 100 200 400 Feet

RBF CONSULTING



Upland Identification	Area (Acres)
U1	8.21
U2	1.54
U3	2.73
U4	3.86
U5	12.75
U6	16.04

Wetland Identification	Area (Acres)
W1	0.21
W2	0.28
W3	0.27
W4	0.16
W5	0.04
W6	0.27
W7	0.38

Riparian Identification	Area (Acres)
R1	7.58
R2	6.67

Access Identification	Area (Acres)
S1	0.31
S2	0.11

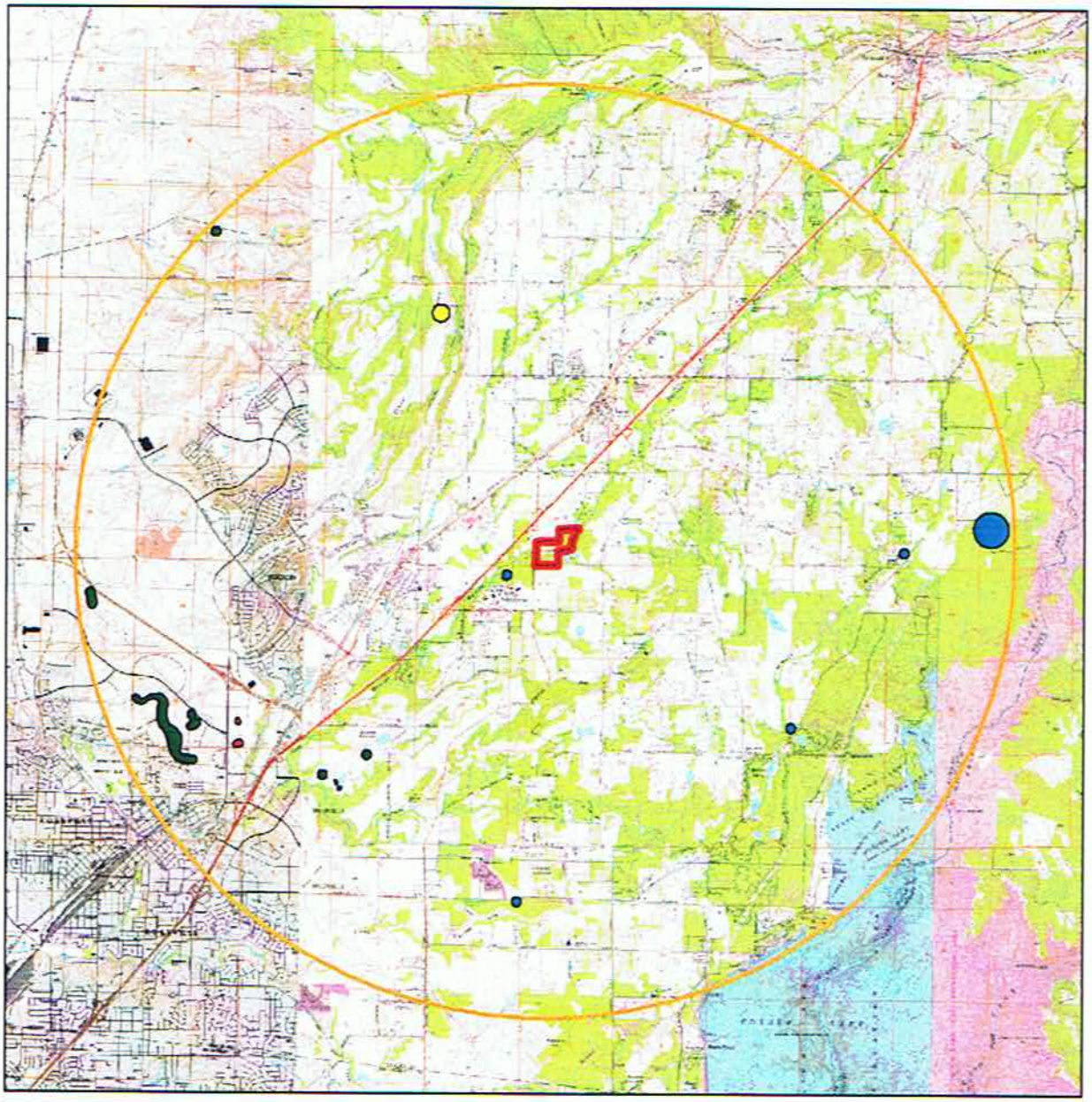
RESTORATION RESOURCES

N

Site B:
Secret Ravine Upstream of Sierra College Boulevard

Opportunities & Constraints

Dry Creek Watershed
Placer County, CA
July 30, 2010



Legend

Plant and Animals (Common Name)

- Boggs Lake hedge-hyssop
- California black rail
- valley elderberry longhorn beetle
- vernal pool fairy shrimp

California Natural Diversity Database Map	
Site Analysis- 5 mile radius	
Site B - Secret Ravine (upstream of Sierra College Boulovard)	
Designed By: LRP	Prepared By: RESTORATION RESOURCES
Drafted By: LRP	
Date: 7.30.10	Job No.: 29001

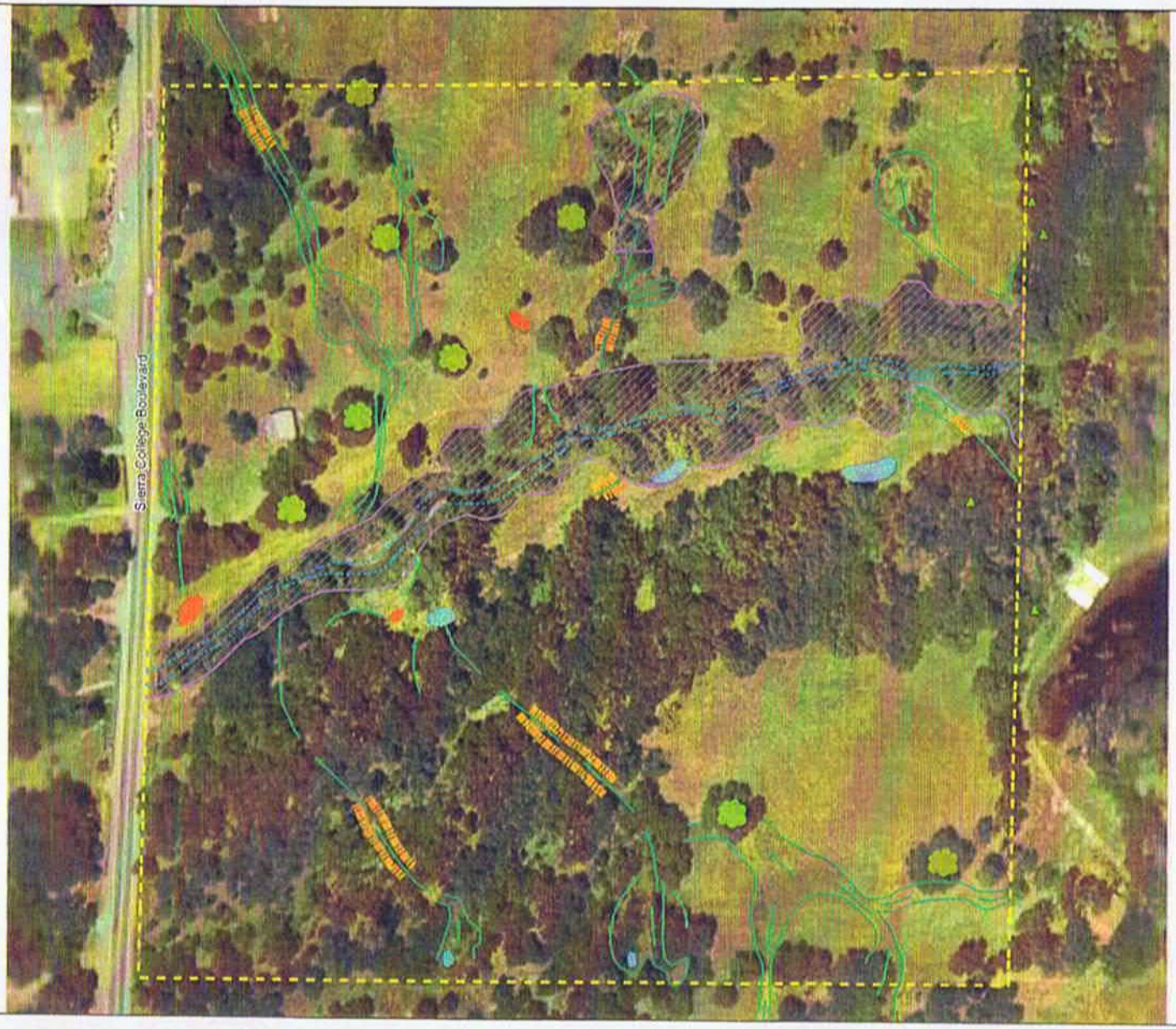
Legend

- Site Boundary
- 5mile buffer

N W E S

1:110,000

0 0.5 1 2 Miles



Biological Resources

Legend

- Swale Flow Direction
- Limit of Swale
- Bed and Bank of Intermittent Stream
- Seasonal Wetland
- Potential Vernal Pool Fairy Shrimp Habitat
- Riparian Woodland
- Elderberry Shrub
- Heritage Oak Tree
- Secret Ravine (Potential Northwestern Pond Turtle Habitat)
- Project Site Boundary

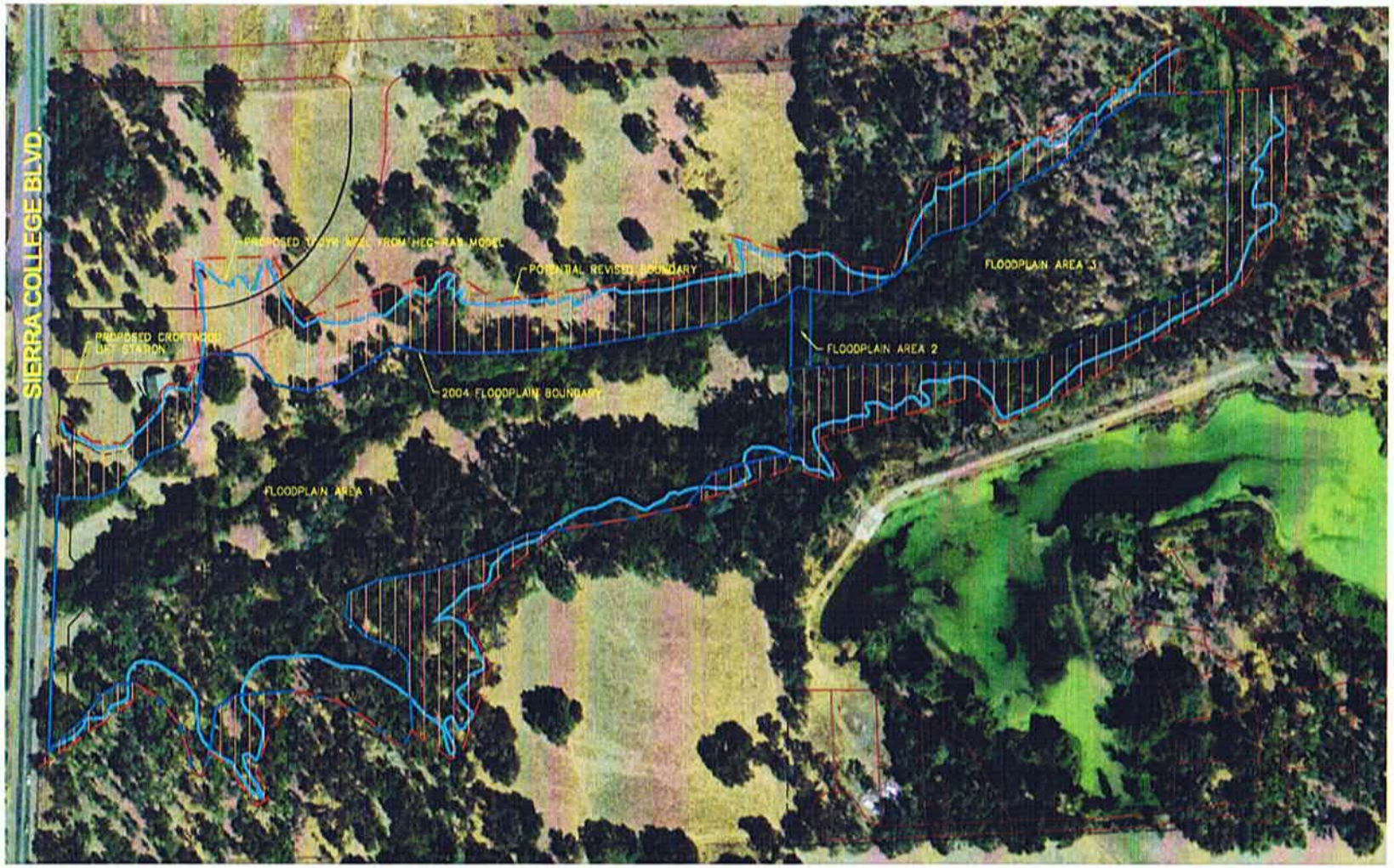
150 75 0
Feet

N

Aerial Photo Source: Google Earth 2005

Notes:
1. Location of identified biological features is approximate; GPS points were not taken for these features.
2. Potential vernal pool fairy shrimp habitat throughout project area requires further investigation to determine suitability.
3. Not all heritage oaks are identified.

Jones & Stokes



LEGEND:

- FLOODPLAIN AREAS 1, 2, & 3 FROM ANDREGG GEOMATICS
- PROPOSED FLOODPLAIN EXTENTS FROM HEC-RAS MODELING AND TOPOGRAPHIC DATA OF CROFTWOOD AREA
- POTENTIAL REVISED BOUNDARY
- POTENTIAL EXPANDED FLOODPLAIN AREA (APPROXIMATELY 8.2 +/- ACRES)

FIGURE 1
PROJECT FLOODPLAIN LOCATION
SECRET RAVINE
FLOODPLAIN RESTORATION PROJECT
PLACER COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RBF CONSULTING

REV.	DATE	BY	REVISIONS	APP'D	DATE	APP'D

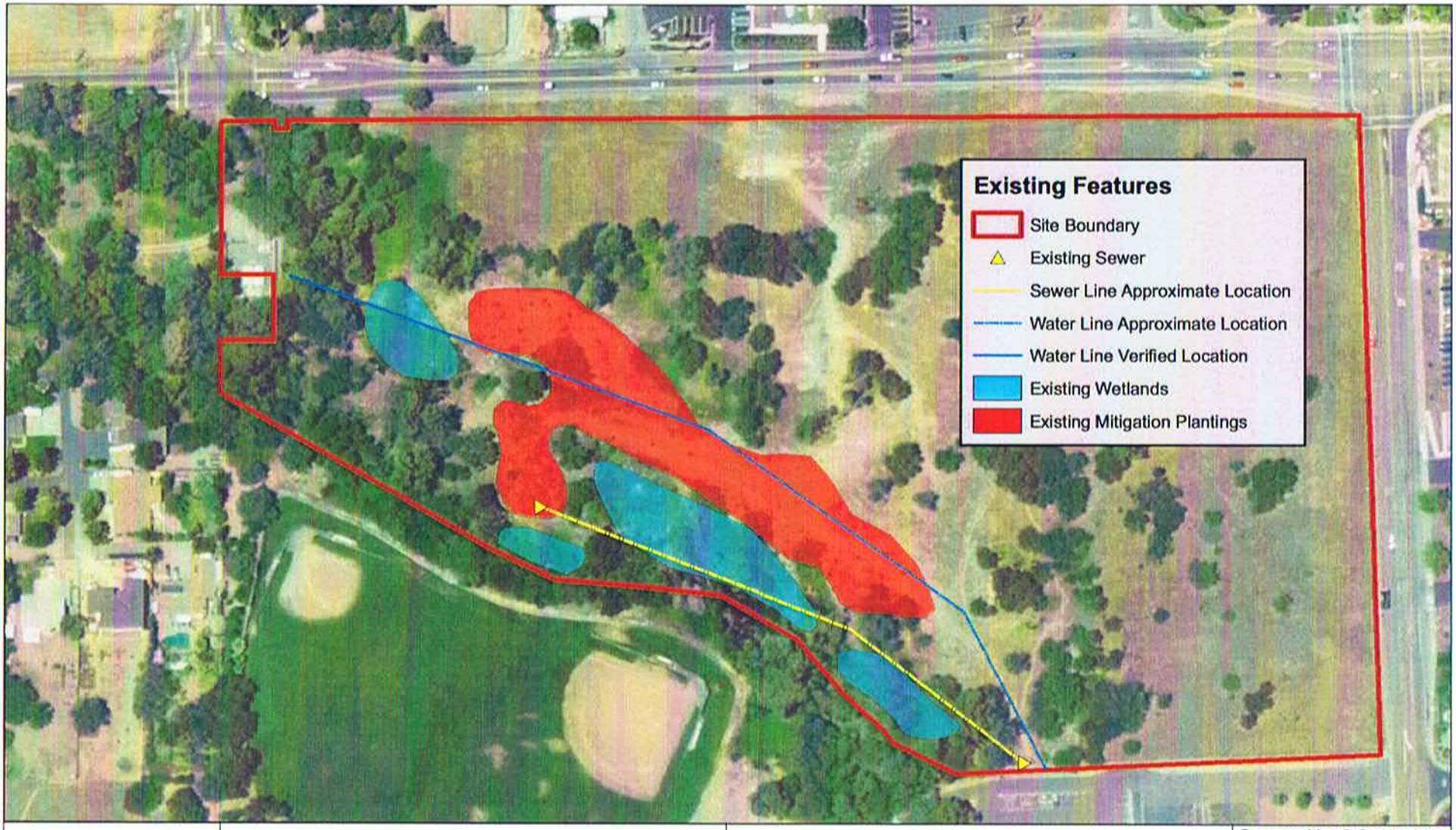
DRAWN BY: S.SUJAC 1/21
DESIGNED BY: K.CHALICK 1/21
CHECKED BY: P.MCCLURE 1/21
DATE: 1/21/2005

Exhibit 2
Potential Project
Linda Creek upstream Auburn-Folsom Road

N

0 50 100 200 Feet

RBF CONSULTING



RESTORATION RESOURCES

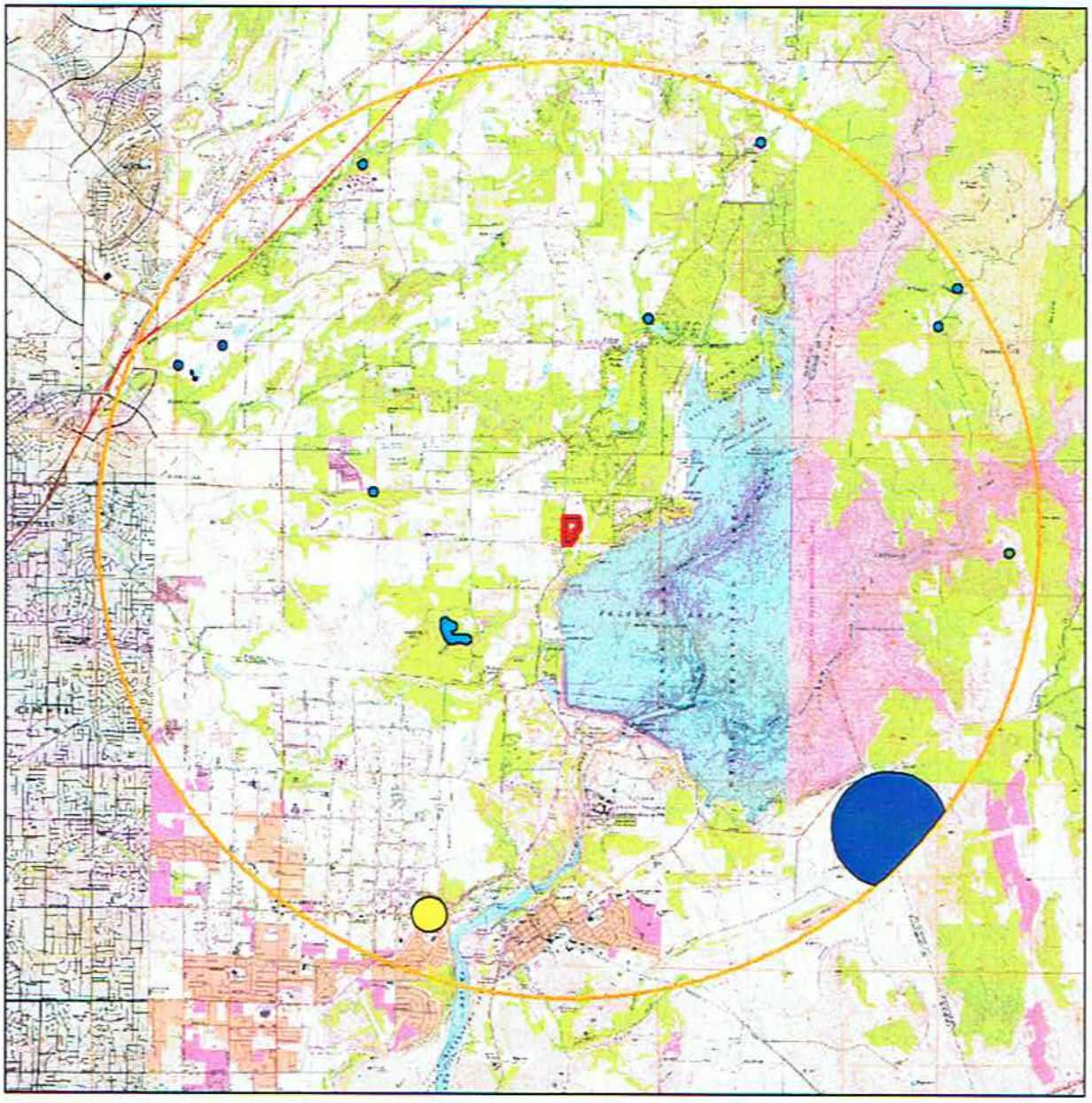
N

0 125 250 500 Feet

Site C:
Linda Creek Upstream of Auburn-Folsom Road

Opportunities & Constraints

Dry Creek Watershed
Placer County, CA
July 30, 2010



Legend

Plant and Animals (Common Name)

- Boggs Lake hedge-hyssop
- California red-legged frog
- Sacramento Orcutt grass
- valley elderberry longhorn beetle
- vernal pool fairy shrimp

California Natural Diversity Database Map	
Site Analysis- 5 mile radius	
Site C - Linda Creek (upstream of Auburn-Folsom)	
Designed By: LRP	Prepared By: RESTORATION RESOURCES
Drafted By: LRP	
Date: 7.30.10	Job No.: 29001

Legend

- Site Boundary
- 5mile buffer

1:110,000

0 0.5 1 2 Miles

N W E S

RESTORATION RESOURCES

0 125 250 500 Feet

N

Site C:
Linda Creek Upstream of Auburn-Folsom Road

Soils

Dry Creek Watershed
Placer County, CA
July 30, 2010

Map Unit Description

Placer County, California, Western Part

106 Andregg coarse sandy loam, 2 to 9 percent slopes

Setting

Landscape: Foothills
Elevation: 200 to 1500 feet
Mean annual precipitation: 12 to 35 inches
Mean annual air temperature: 61 to 61 degrees F
Frost-free period: 200 to 270 days

Composition

Andregg and similar soils: 85 percent
Minor components: 15 percent

Description of Andregg

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from granite

Properties and Qualities

Slope: 2 to 9 percent
Depth to restrictive feature: 29 to 33 inches to Paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low or moderately low (0.00 to 0.06 in/hr)
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Low (about 3.5 inches)

Interpretive Groups

Land capability classification (irrigated): 3e
Land capability (non irrigated): 3e
Ecological site: GRANITIC (R018XD080CA)

Typical Profile

0 to 15 inches: coarse sandy loam
15 to 29 inches: coarse sandy loam
29 to 33 inches: weathered bedrock

Minor Components

Caperton soils

Percent of map unit: 5 percent

Sierra soils

Percent of map unit: 5 percent

Unnamed, mod.deep soils

Percent of map unit: 4 percent

Unnamed soils

Percent of map unit: 1 percent
Landform: Drainageways

109 Andregg coarse sandy loam, rocky, 2 to 15 percent slopes

Setting

Landscape: Foothills
Elevation: 200 to 1500 feet
Mean annual precipitation: 12 to 35 inches
Mean annual air temperature: 61 to 61 degrees F
Frost-free period: 200 to 270 days

Composition

Andregg and similar soils: 85 percent
Minor components: 15 percent

Description of Andregg

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from granite

Properties and Qualities

Slope: 2 to 15 percent
Depth to restrictive feature: 29 to 33 inches to Paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low or moderately low (0.00 to 0.06 in/hr)
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Low (about 3.5 inches)

Interpretive Groups

Land capability classification (irrigated): 4e
Land capability (non irrigated): 4e
Ecological site: GRANITIC (R018XD080CA)

Typical Profile

0 to 15 inches: coarse sandy loam
15 to 29 inches: coarse sandy loam
29 to 33 inches: weathered bedrock

Minor Components

Sierra soils

Percent of map unit: 5 percent

Caperton soils

Percent of map unit: 5 percent

Unnamed soils

Percent of map unit: 2 percent

Xerofluvents soils

Percent of map unit: 2 percent
Landform: Drainageways

Unnamed soils

Percent of map unit: 1 percent
Landform: Drainageways

196 Xerorthents, cut and fill areas

Setting

Elevation: 400 to 3500 feet
Mean annual precipitation: 8 to 18 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 200 to 300 days

Composition

Xerorthents and similar soils: 90 percent
Minor components: 10 percent

Description of Xerorthents

Setting

Anthropogenic features: Fills
Parent material: Mine spoil or earthy fill

Properties and Qualities

Slope: 2 to 50 percent
Drainage class: Well drained
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Very low (about 0.0 inches)

Interpretive Groups

Land capability (non irrigated): 8e

Typical Profile

0 to 60 inches: variable

Minor Components

Unnamed soils
Percent of map unit: 10 percent

197 Xerorthents, placer areas

Setting

Elevation: 50 to 3200 feet
Mean annual precipitation: 8 to 18 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 150 to 280 days

Composition

Xerorthents and similar soils: 90 percent
Minor components: 10 percent

Description of Xerorthents

Setting

Anthropogenic features: Spoil piles
Parent material: Mine spoil or earthy fill

Properties and Qualities

Slope: 2 to 5 percent
Drainage class: Well drained
Depth to water table: More than 6 feet
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Very low (about 0.0 inches)

Interpretive Groups

Land capability (non irrigated): 7s
Ecological site: PLACER DIGGINGS (R018XD084CA)

Typical Profile

0 to 60 inches: variable

Minor Components

Unnamed soils

Percent of map unit: 10 percent
Landform: Drainageways

Map Unit Description

Detailed Soil Map Units

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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.

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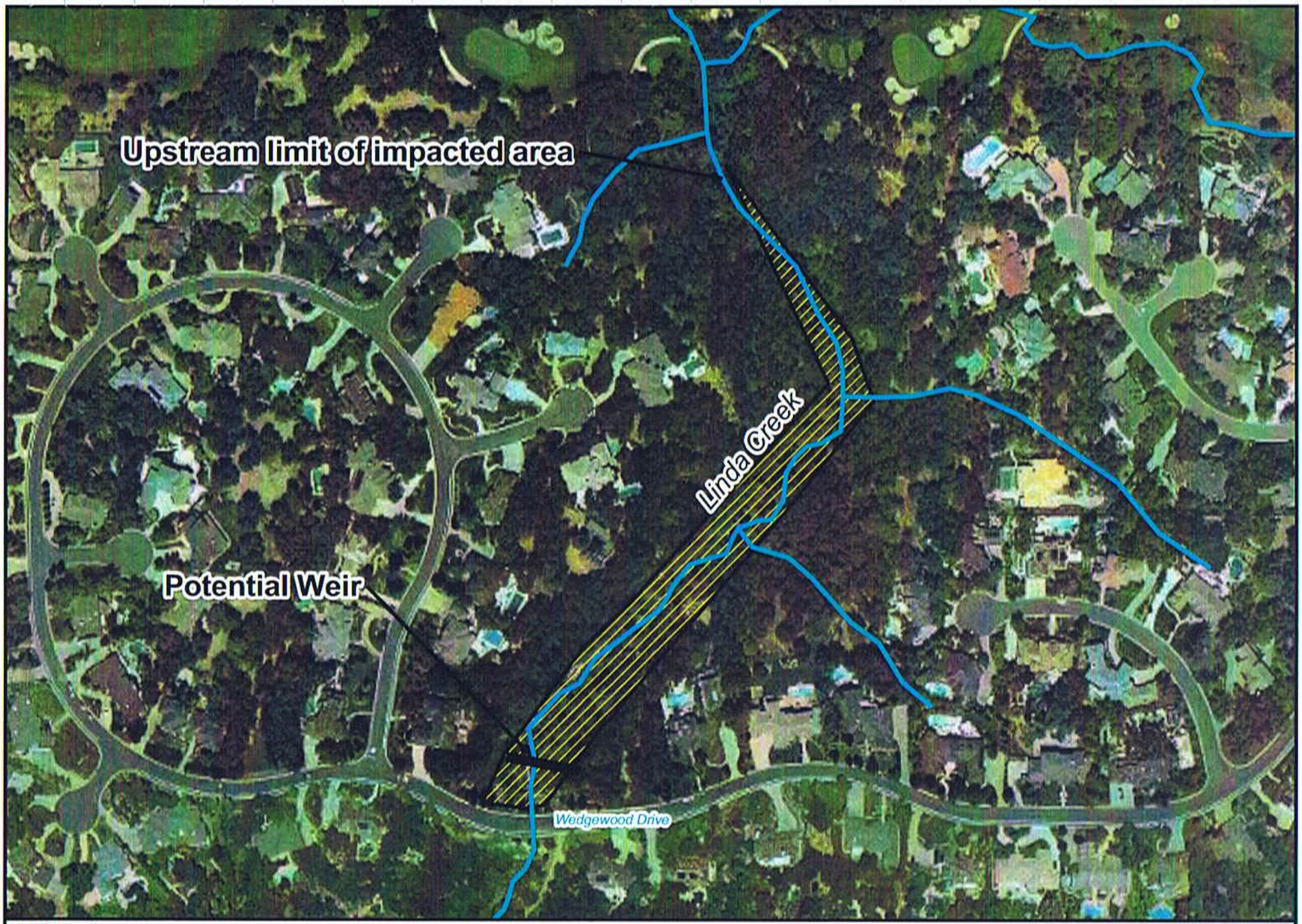


Exhibit 3
Potential Project
Linda Creek upstream from Wedgewood Drive

N

0 40 80 160 Feet

RBF CONSULTING

RESTORATION RESOURCES

HABITAT PLANNING & RESTORATION SERVICES

N

0 125 250 500 Feet

Site D:
Linda Creek Upstream of Wedgewood Drive

Opportunities & Constraints

Dry Creek Watershed
Placer County, CA
July 30, 2010

Map Unit Description

Placer County, California, Western Part

129 Caperton gravelly coarse sandy loam, 2 to 30 percent slopes

Setting

Landscape: Foothills
Elevation: 200 to 1500 feet
Mean annual precipitation: 20 to 35 inches
Mean annual air temperature: 61 to 61 degrees F
Frost-free period: 220 to 270 days

Composition

Caperton and similar soils: 85 percent
Minor components: 15 percent

Description of Caperton

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from granite

Properties and Qualities

Slope: 2 to 30 percent
Depth to restrictive feature: 18 to 22 inches to Paralithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low or moderately low (0.00 to 0.06 in/hr)
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Very low (about 1.8 inches)

Interpretive Groups

Land capability classification (irrigated): 6e
Land capability (non irrigated): 6e
Ecological site: SHALLOW GRANITIC (R018XD098CA)

Typical Profile

0 to 18 inches: gravelly coarse sandy loam
18 to 22 inches: weathered bedrock

Minor Components

Andregg soils

Percent of map unit: 10 percent

Shenendoah soils

Percent of map unit: 2 percent

Unnamed, mod. deep soils

Percent of map unit: 2 percent

Unnamed soils

Percent of map unit: 1 percent
Landform: Drainageways

RESTORATION RESOURCES

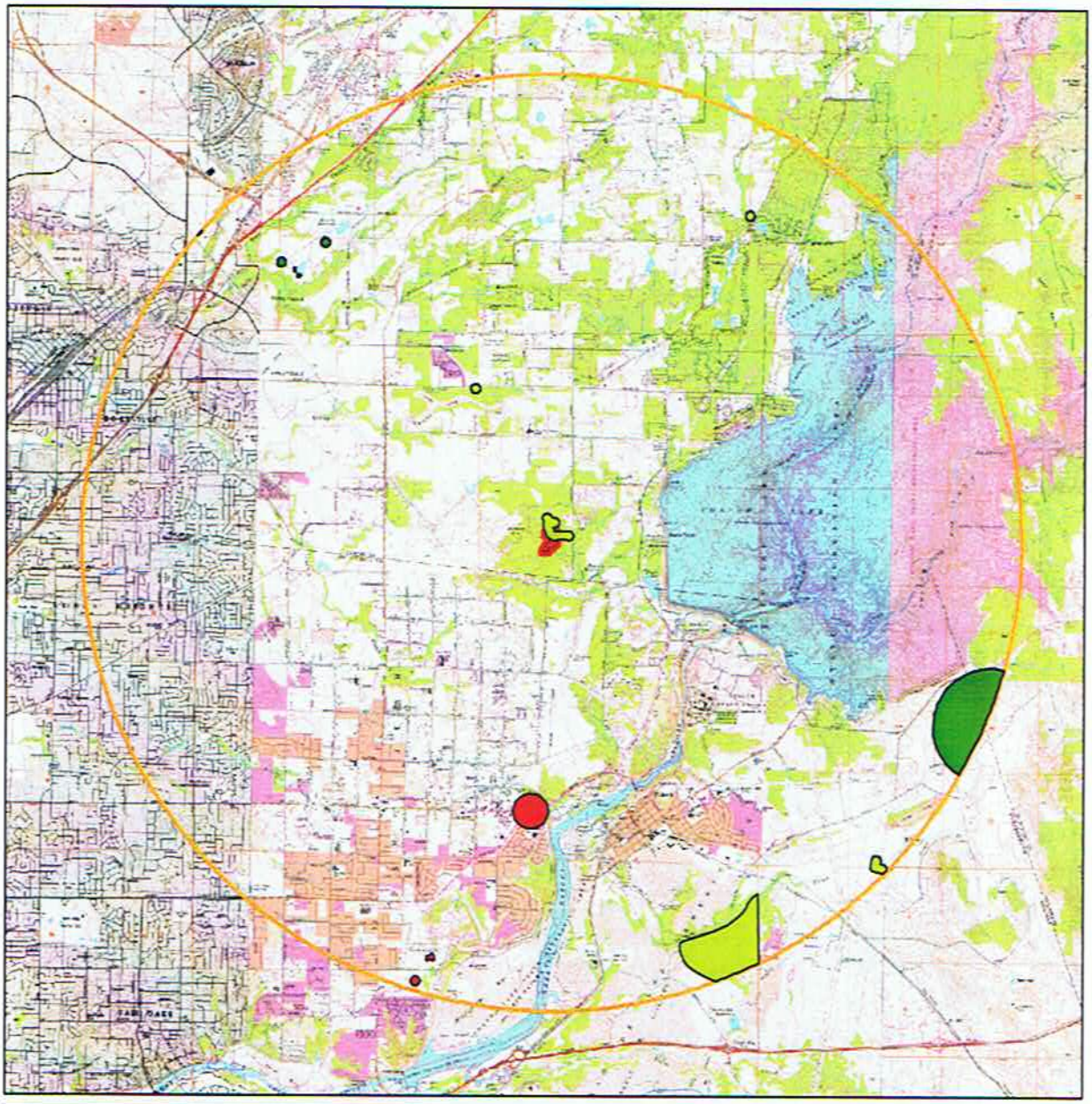
N

0 125 250 500 Feet

Site D:
Linda Creek Upstream of Wedgewood Drive

Opportunities & Constraints

Dry Creek Watershed
Placer County, CA
July 30, 2010



Legend

Plant and Animals (Common Name)

- Boggs Lake hedge-hyssop
- Sacramento Orcutt grass
- valley elderberry longhorn beetle
- vernal pool fairy shrimp

California Natural Diversity Database Map	
Site Analysis- 5 mile radius	
Site D - Linda Creek (upstream of Wedgewood Drive)	
Designed By: LRP	Prepared By: RESTORATION RESOURCES
Drafted By: LRP	
Date: 7.30.10	Job No.: 29001

Legend

- Site Boundary
- 5mile buffer

N W E S

1:110,000

0 0.5 1 2 Miles

Map Unit Description

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Appendix E

Exhibit 4
Potential Project
Linda Creek upstream from Old Auburn Road

N

0 37.5 75 150 Feet

RBF CONSULTING

RESTORATION RESOURCES

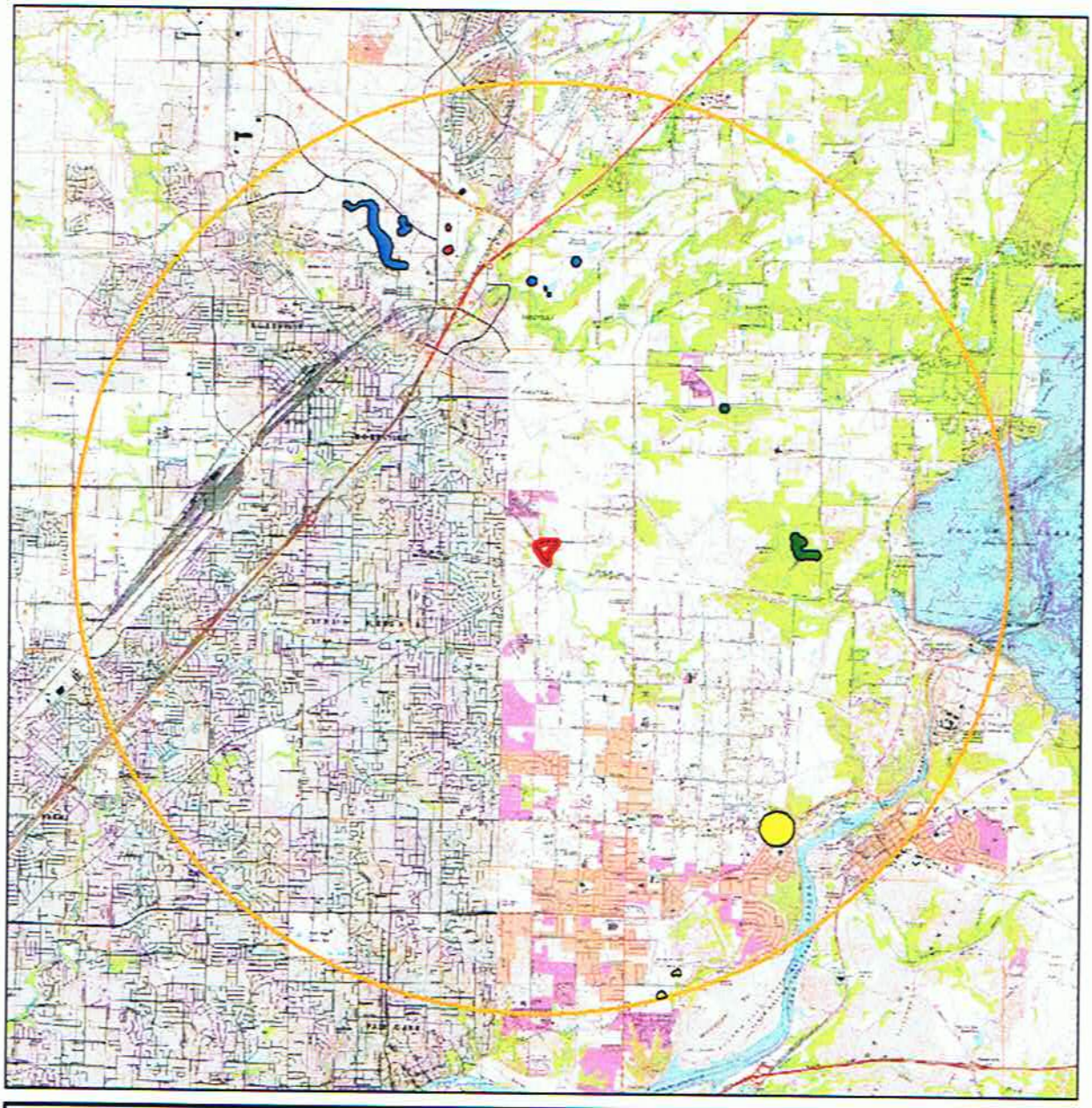
N

0 125 250 500 Feet

Site E:
Linda Creek Upstream of Old Auburn Road

Opportunities & Constraints

Dry Creek Watershed
Placer County, CA
July 30, 2010



Legend

Plant and Animals (Common Name)

- Boggs Lake hedge-hyssop
- Sacramento Orcutt grass
- valley elderberry longhorn beetle
- vernal pool fairy shrimp

California Natural Diversity Database Map	
Site Analysis- 5 mile radius	
Site E - Linda Creek (upstream of Old Auburn Road)	
Designed By: LRP	Prepared By: RESTORATION RESOURCES
Drafted By: LRP	
Date: 7.30.10	Job No.: 29001

Legend

- Site Boundary
- 5mile buffer

N W E S

1:110,000

0 0.5 1 2 Miles

RESTORATION RESOURCES

Site E:
Linda Creek Upstream of Old Auburn Road

Soils

Dry Creek Watershed
Placer County, CA
July 30, 2010

Map Unit Description

Placer County, California, Western Part

146 Fiddyment loam, 1 to 8 percent slopes

Setting

Elevation: 50 to 280 feet
Mean annual precipitation: 19 to 19 inches
Mean annual air temperature: 61 to 61 degrees F
Frost-free period: 230 to 300 days

Composition

Fiddyment and similar soils: 85 percent
Minor components: 15 percent

Description of Fiddyment

Setting

Landform: Terraces
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from siltstone

Properties and Qualities

Slope: 1 to 8 percent
Depth to restrictive feature: 20 to 35 inches to Duripan; 28 to 35 inches to Duripan; 35 to 39 inches to Lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate maximum: 0 percent
Gypsum maximum: 0 percent
Available water capacity: Very low (about 2.7 inches)

Interpretive Groups

Land capability classification (irrigated): 4e
Land capability (non irrigated): 4e

Typical Profile

0 to 12 inches: loam
12 to 28 inches: clay loam
28 to 35 inches: indurated
35 to 39 inches: weathered bedrock

Minor Components

Cometa soils

Percent of map unit: 5 percent

Kaseburg soils

Percent of map unit: 5 percent

San joaquin soils

Percent of map unit: 3 percent

Alamo soils

Percent of map unit: 2 percent
Landform: Depressions

Map Unit Description

Placer County, California, Western Part

194 Xerofluvents, frequently flooded

Setting

Elevation: 0 to 1500 feet
Mean annual precipitation: 14 to 20 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 250 to 270 days

Composition

Xerofluvents, frequently flooded, and similar soils: 90 percent
Minor components: 10 percent

Description of Xerofluvents, frequently flooded

Setting

Landform: Drainageways
Landform position (two-dimensional): Toeslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Properties and Qualities

Slope: 0 to 2 percent
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high or high (0.20 to 1.98 in/hr)
Depth to water table: About 30 to 57 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate maximum: 5 percent
Gypsum maximum: 0 percent
Available water capacity: Moderate (about 8.1 inches)

Interpretive Groups

Land capability classification (irrigated): 4w
Land capability (non irrigated): 4w

Typical Profile

0 to 15 inches: stratified loamy sand to fine sandy loam
15 to 37 inches: stratified loamy sand to fine sandy loam to silt loam
37 to 55 inches: stratified loam to silty clay loam to clay

Minor Components

Unnamed soils

Percent of map unit: 10 percent
Landform: Drainageways

Map Unit Description

Detailed Soil Map Units

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 in this report, 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. The contrasting components are mentioned in the map unit descriptions. 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 indicates the composition of the map unit and selected properties of the components of the unit.

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.

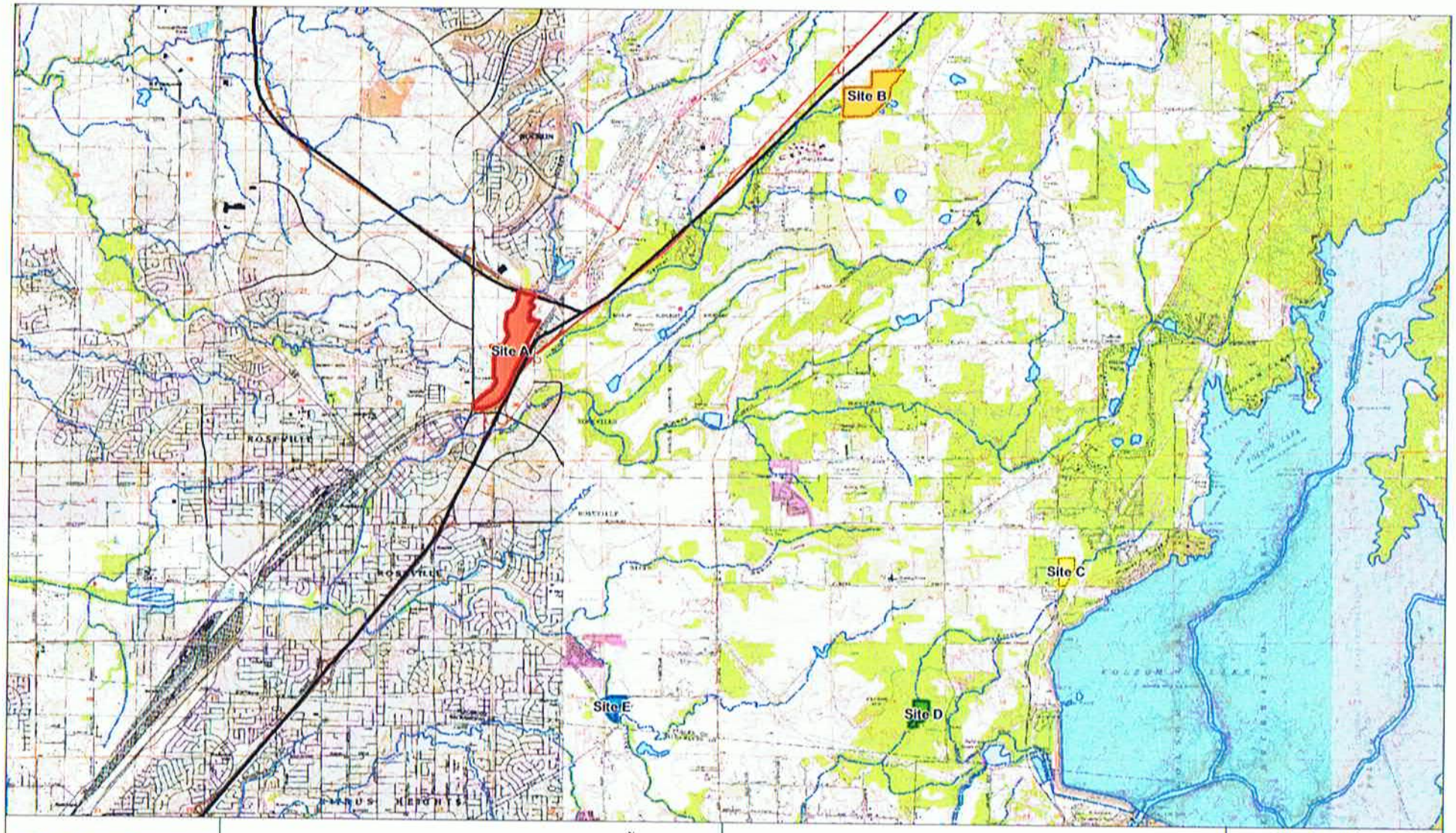
An "association" is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. 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.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Appendix F



RESTORATION RESOURCES

Dry Creek Watershed
Site Location Map

Site Locations

Dry Creek Watershed
Placer County, CA
July 30, 2010