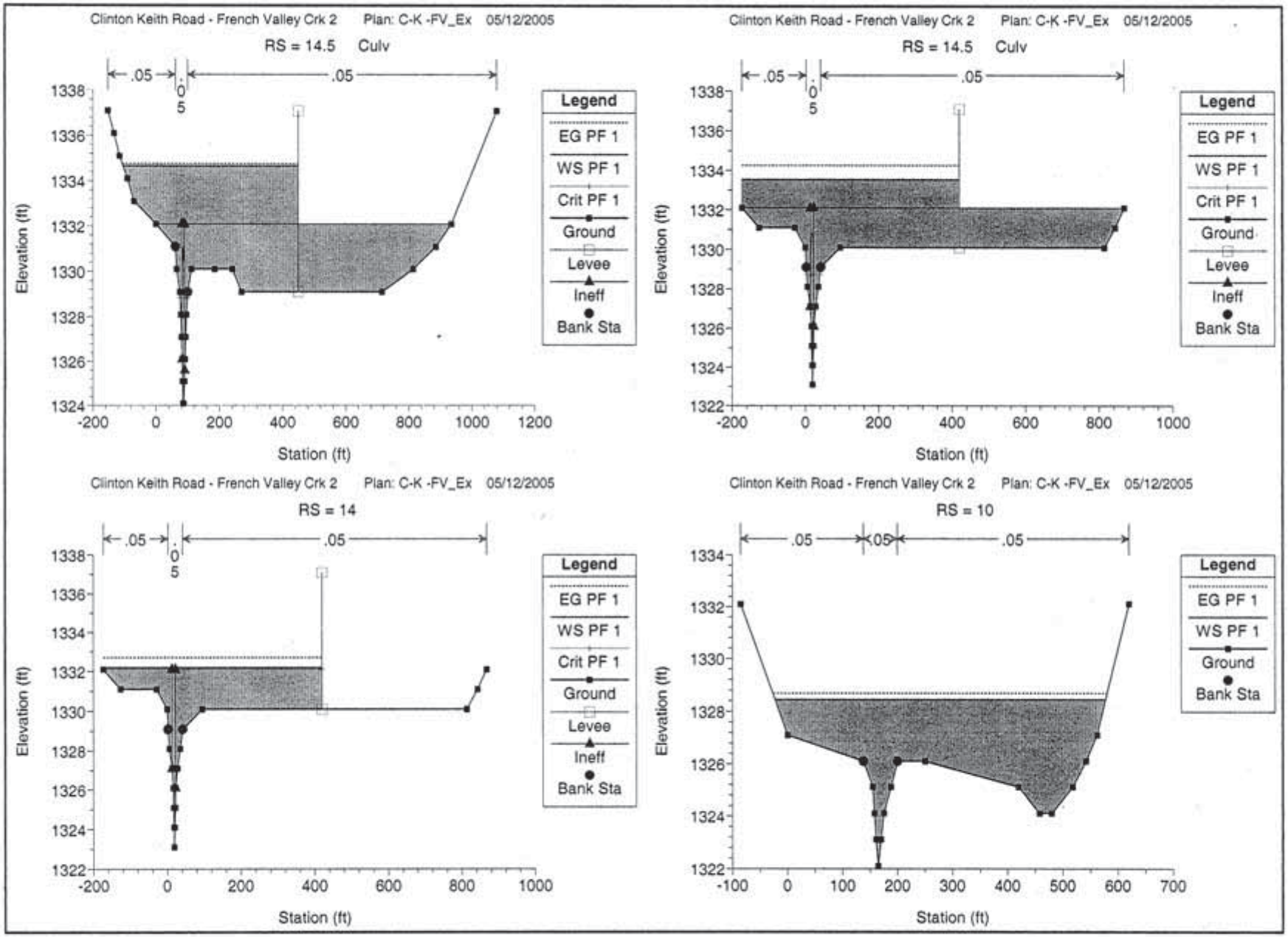
Clinton Keith Road - French Valley Crk 2 Plan: C-K -FV_Ex 05/12/2005
RS = 14.5 Culv
.05
.05
.05
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Clinton Keith Road - French Valley Crk 2 Plan: C-K -FV_Ex 05/12/2005
RS = 14.5 Culv
Clinton Keith Road - French Valley Crk 2 Plan: C-K -FV_Ex 05/12/2005
RS = 14
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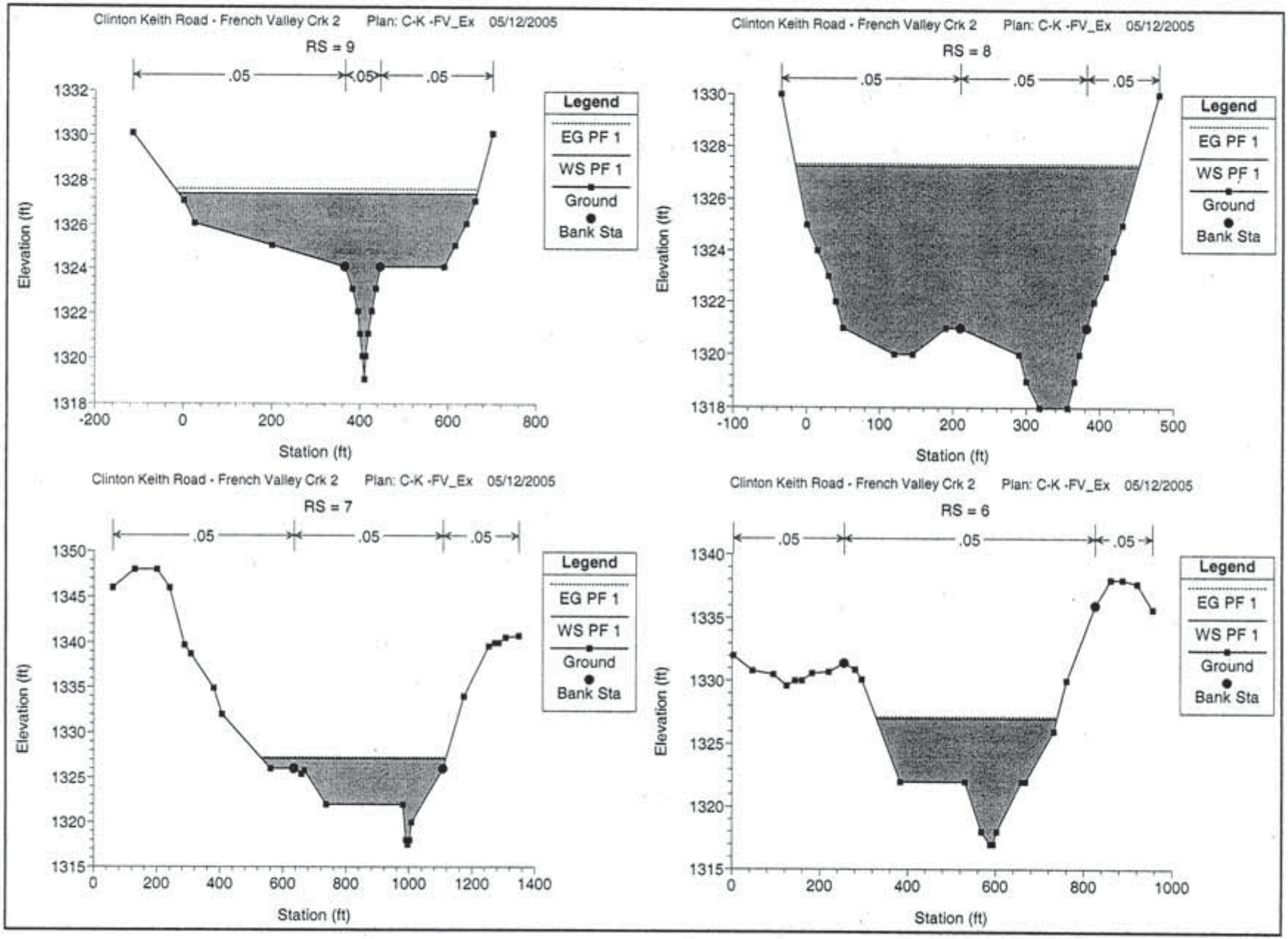
RS = 10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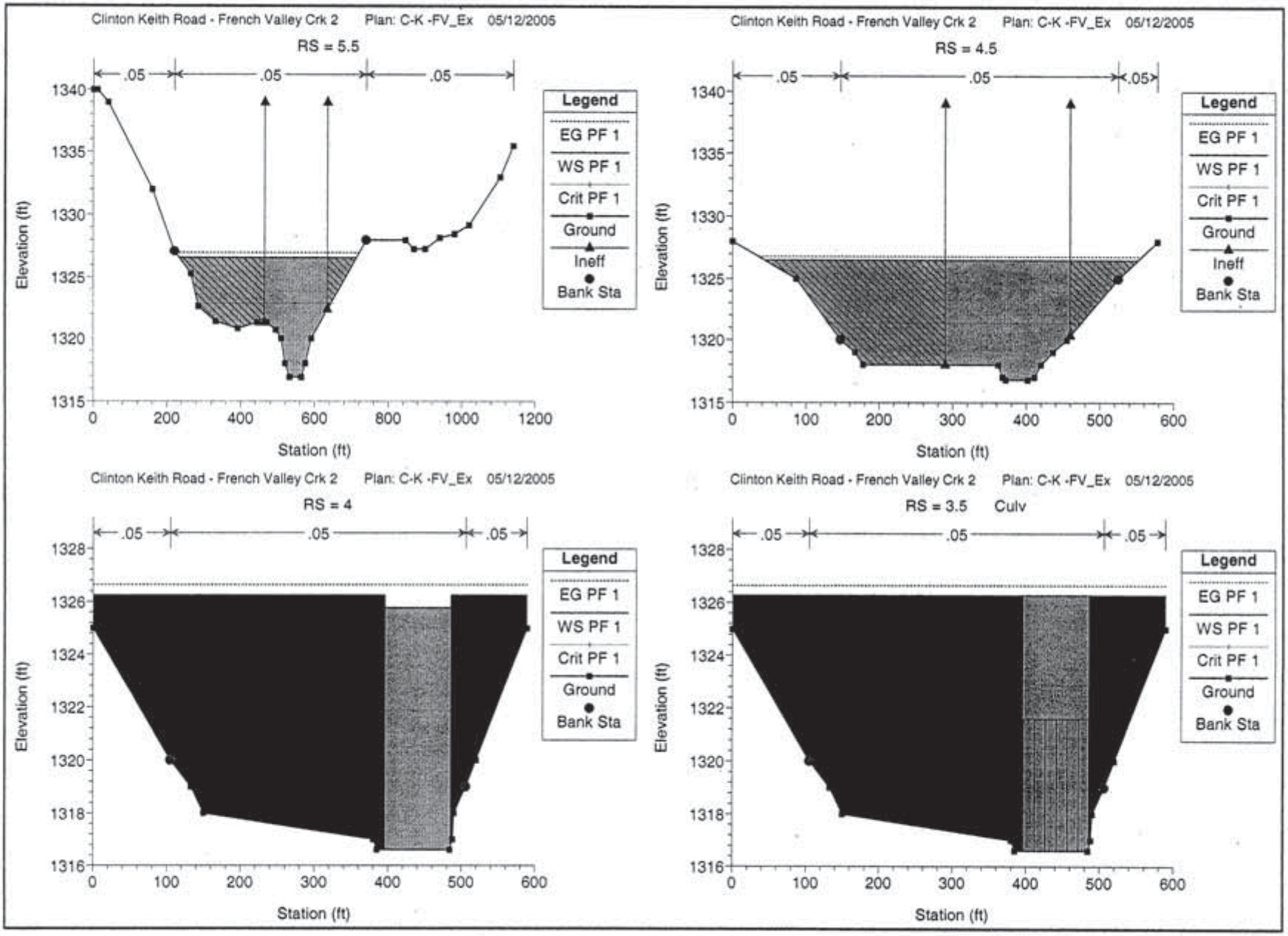
.05
.05
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
Clinton Keith Road - French Valley Crk 2 Plan: C-K -FV_Ex 05/12/2005
RS = 8
Clinton Keith Road - French Valley Crk 2 Plan: C-K -FV_Ex 05/12/2005
RS = 7
Clinton Keith Road - French Valley Crk 2 Plan: C-K -FV_Ex 05/12/2005
RS = 6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Elevation (ft)
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1330
1325
1320
1315
0
200
400
600
800
1000
1200
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Clinton Keith Road - French Valley Crk 2 Plan: C-K -FV_Ex 05/12/2005
RS = 4.5
.05
.05
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Elevation (ft)
1340
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1325
1320
1315
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
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RS = 4
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Elevation (ft)
1328
1326
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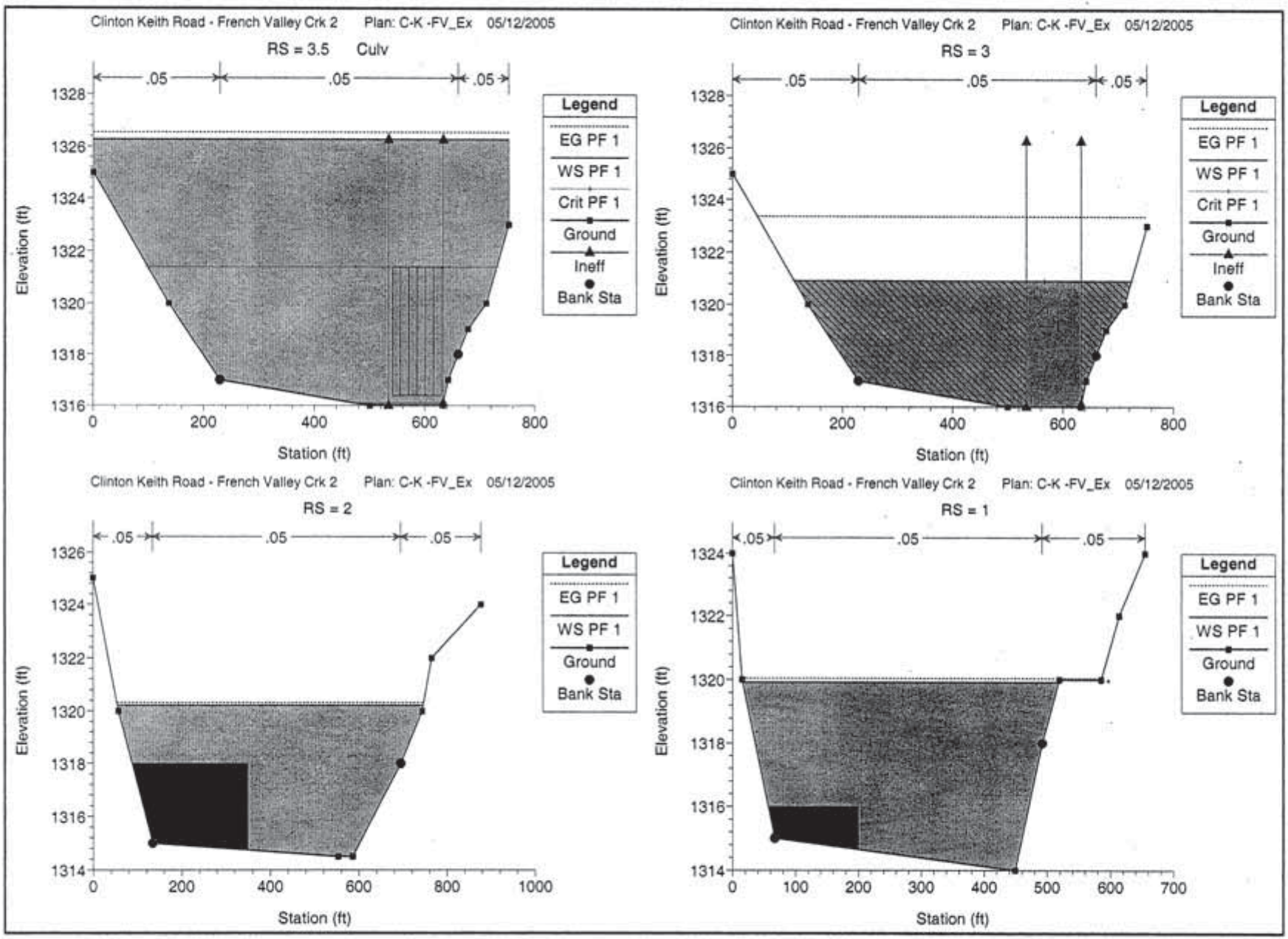
1322
1320
1318
1316
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Clinton Keith Road - French Valley Crk 2 Plan: C-K -FV_Ex 05/12/2005
RS = 3.5 Culv
.05
.05
.05
Elevation (ft)
1328
1326
1324
1322
1320
1318
1316
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta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Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Clinton Keith Road - French Valley Crk 2 Plan: C-K -FV_Ex 05/12/2005
RS = 3
Clinton Keith Road - French Valley Crk 2 Plan: C-K -FV_Ex 05/12/2005
RS = 2
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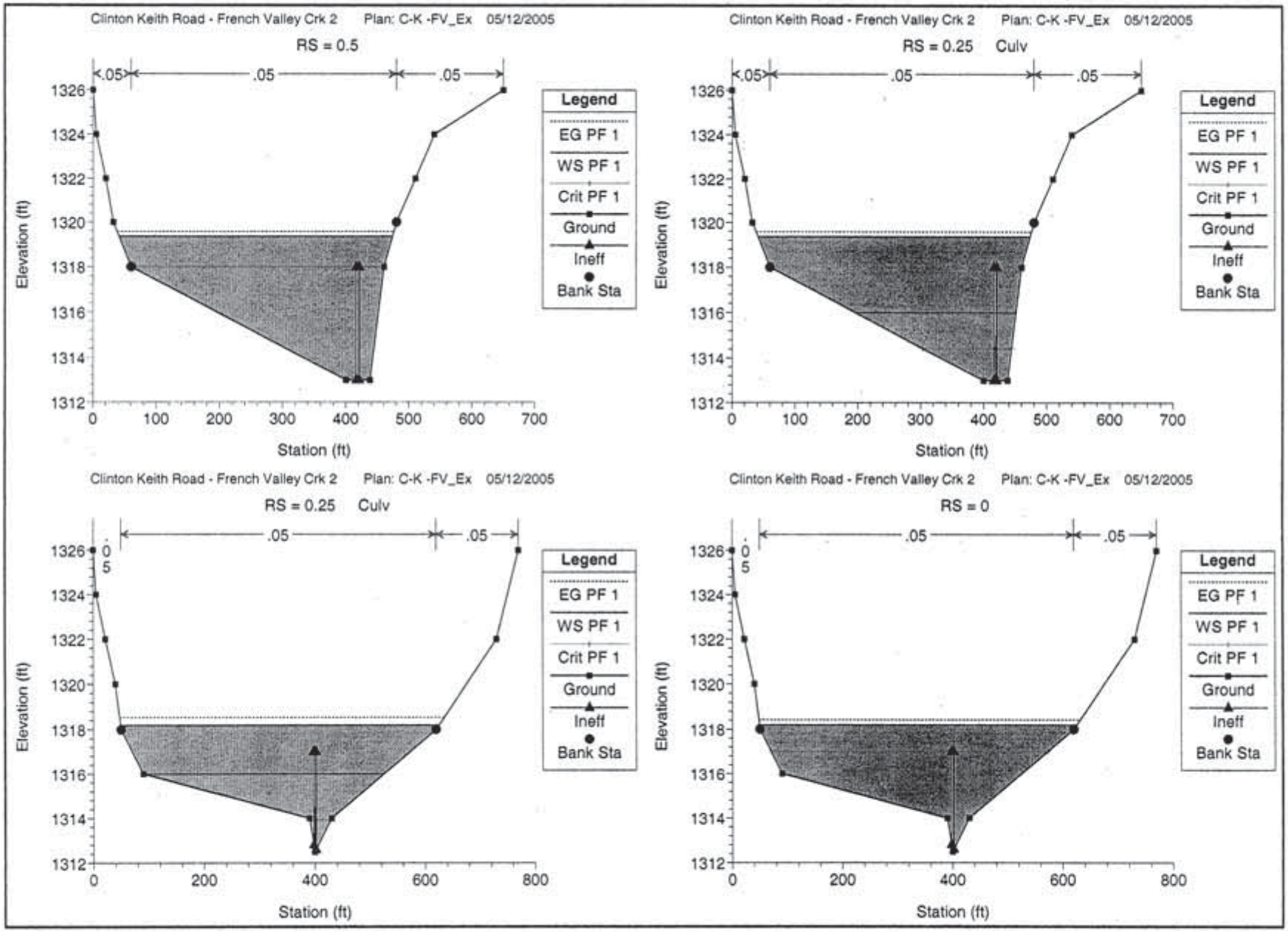
RS = 1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.05
.05
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Clinton Keith Road - French Valley Crk 2 Plan: C-K -FV_Ex 05/12/2005
RS = 0.25 Culv
Clinton Keith Road - French Valley Crk 2 Plan: C-K -FV_Ex 05/12/2005
RS = 0.25 Culv
Clinton Keith Road - French Valley Crk 2 Plan: C-K -FV_Ex 05/12/2005
RS = 0
1326
1324
1322
1320
1318
1316
1314
1312
0
100
200
300
400
500
600
700
800

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv				

REGISTERED CIVIL ENGINEER

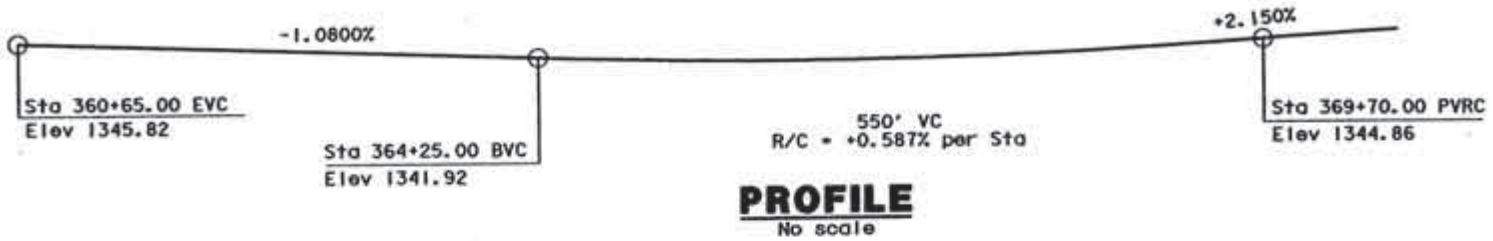
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

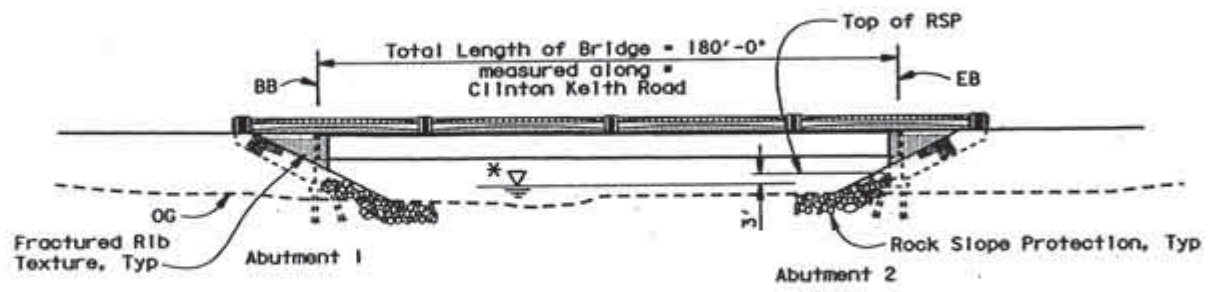
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

COUNTY OF RIVERSIDE
4080 LEMON STREET
RIVERSIDE, CA 92502

CHS2MHILL
3 HUTTON CENTRE DRIVE, SUITE 200
SANTA ANA, CALIFORNIA 92707



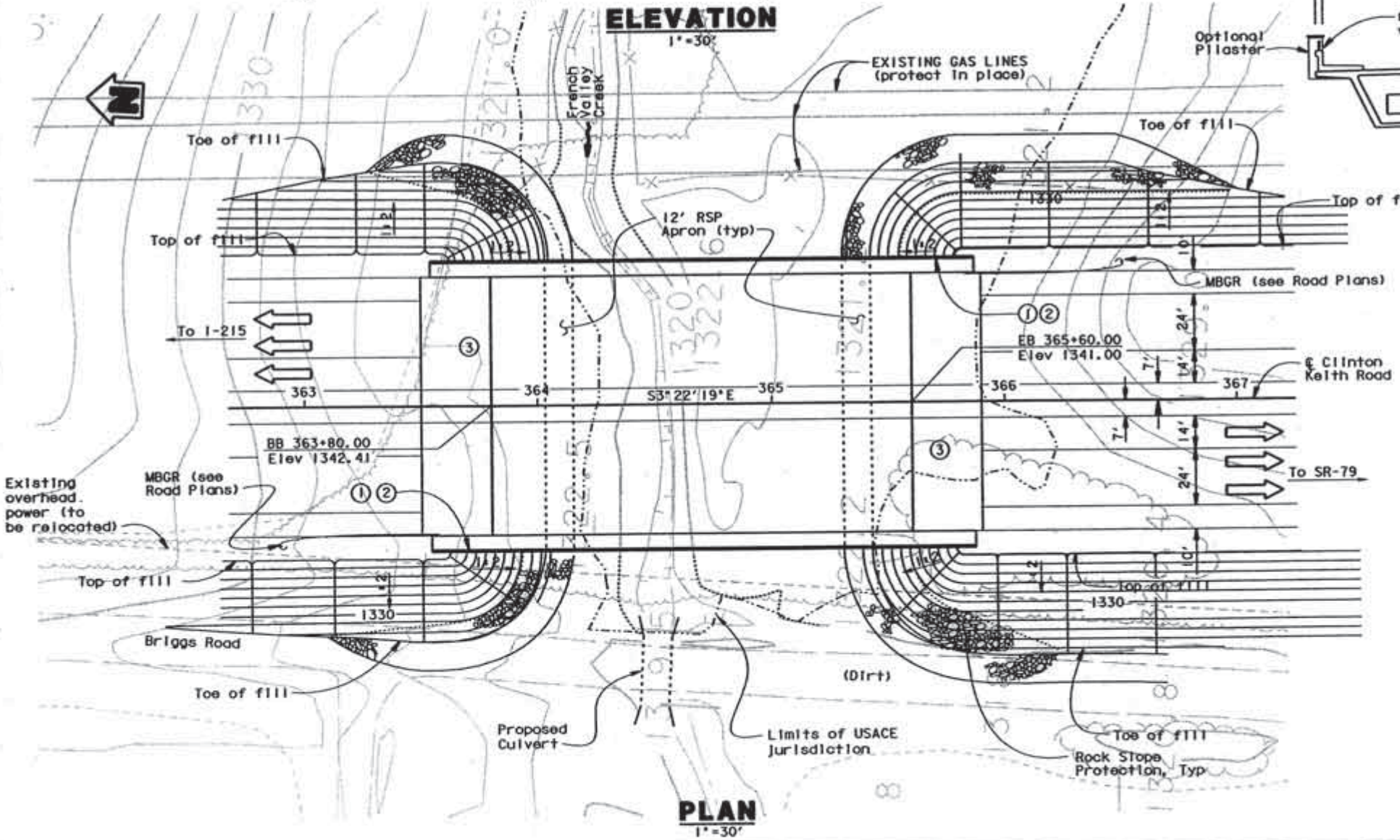
PROFILE
No scale



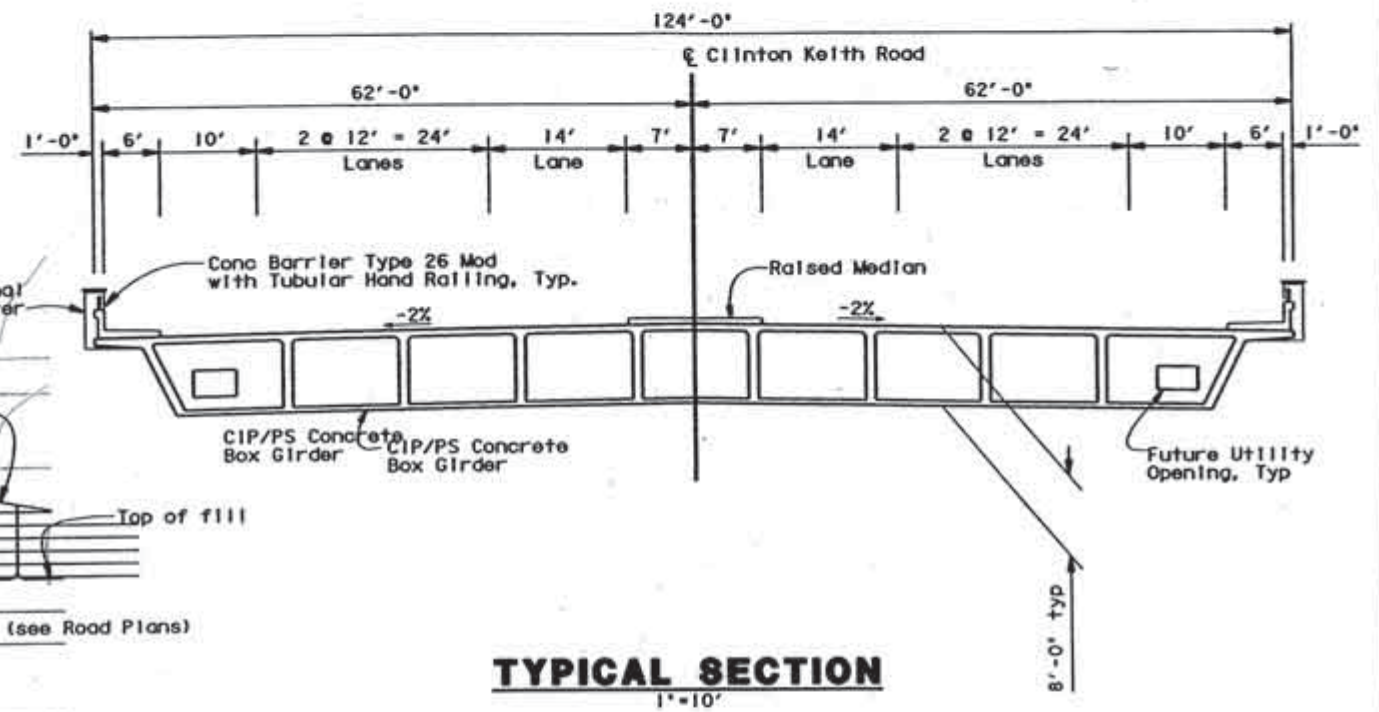
ELEVATION
1"=30'

PILE DATA TABLE

Location	Pile Type	Design Loading (Service)	Nominal Resistance		Design Tip Elevation	Specified Tip Elevation
			Compression	Tension		
Abutment 1	HP 14x89 STL. H-PILE					
Abutment 2	HP 14x89 STL. H-PILE					



PLAN
1"=30'



TYPICAL SECTION
1"=10'

LEGEND:
1. Paint "French Valley Creek Bridge"
2. Paint bridge number and year constructed
3. Structure Approach Type N(30)S

DESIGN OVERSIGHT	DESIGN	BY A. SALAMA	CHECKED	LOAD FACTOR DESIGN	LIVE LOADING= HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD		PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	AYMAN SALAMA PROJECT ENGINEER	BRIDGE NO. M 8410
	DETAILS	BY E. MAECHLER	CHECKED	LAYOUT	BY	CHECKED			POST MILES
SIGN OFF DATE	QUANTITIES	BY	CHECKED	SPECIFICATIONS	BY	PLANS AND SPECS COMPARED		CU EA	DISREGARD PRINTS BEARING EARLIER REVISION DATES →

FRENCH VALLEY CREEK BRIDGE
GENERAL PLAN

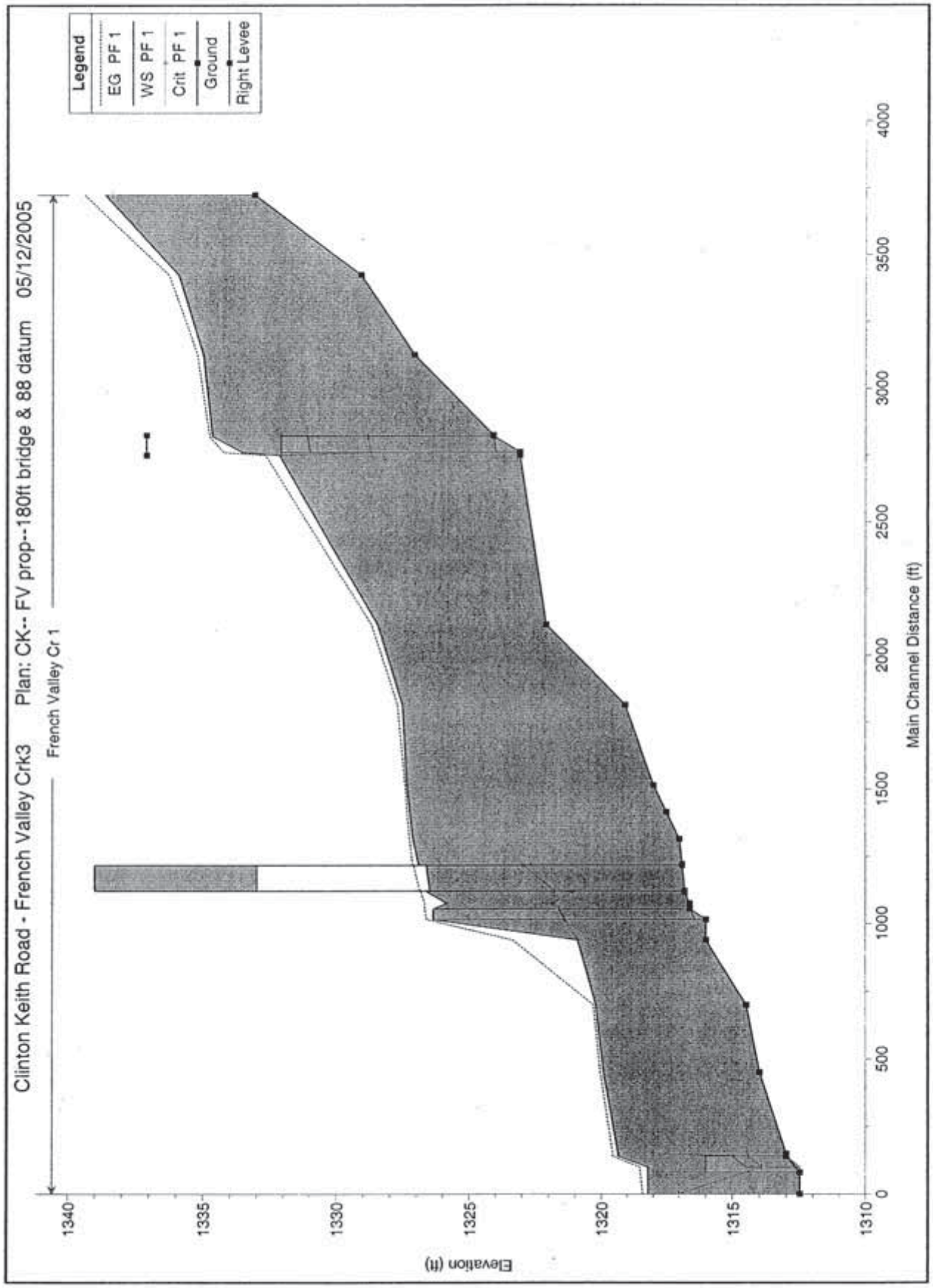
REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

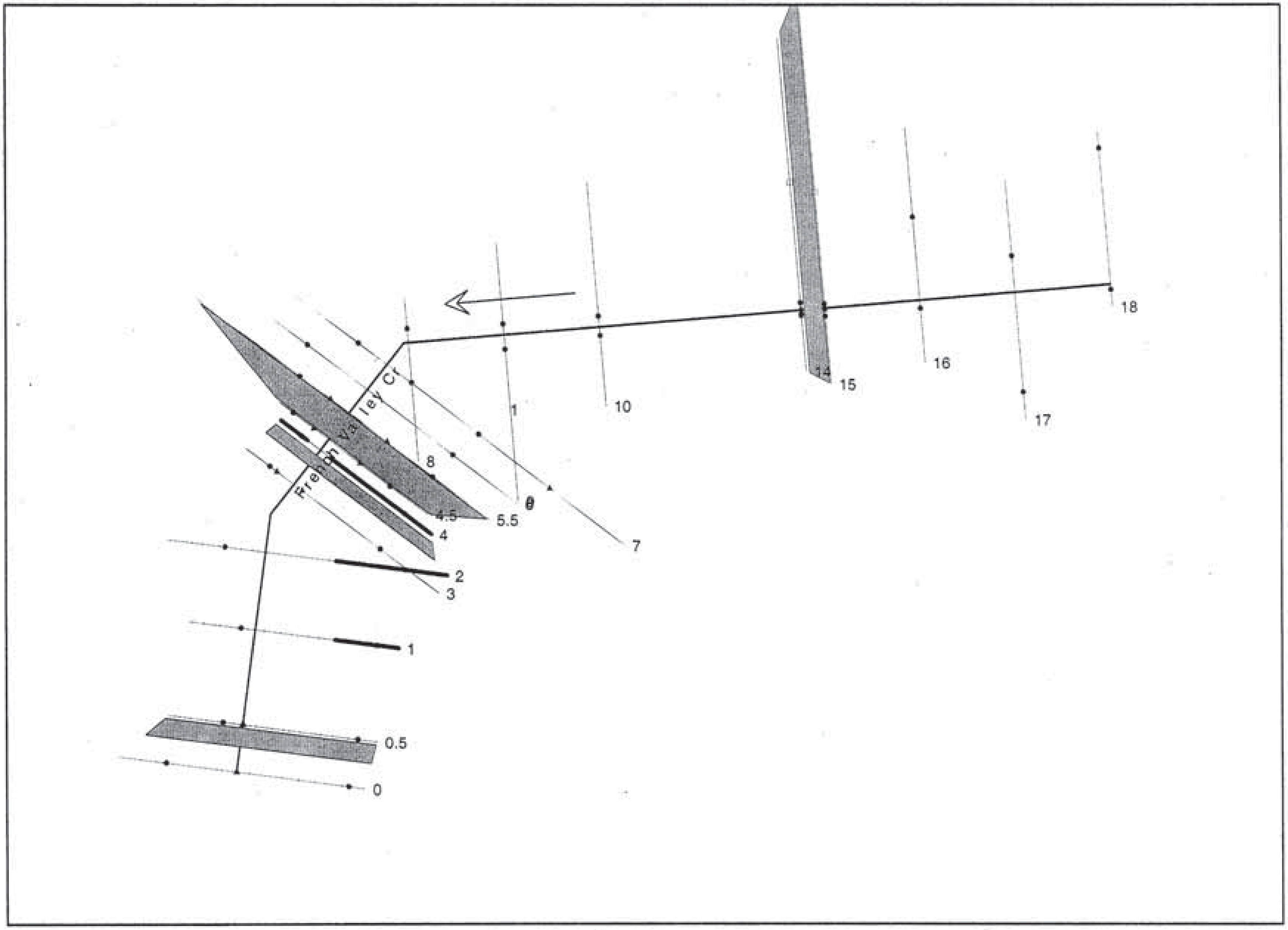
(ORIGINAL SCALE IN INCHES FOR REDUCED PLANS) 0 1 2 3

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV. 5/9/00)

TIME PLOTTED =>
DATE PLOTTED =>
USERNAME =>

French Valley - Prop. (180' Span bridge)

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17
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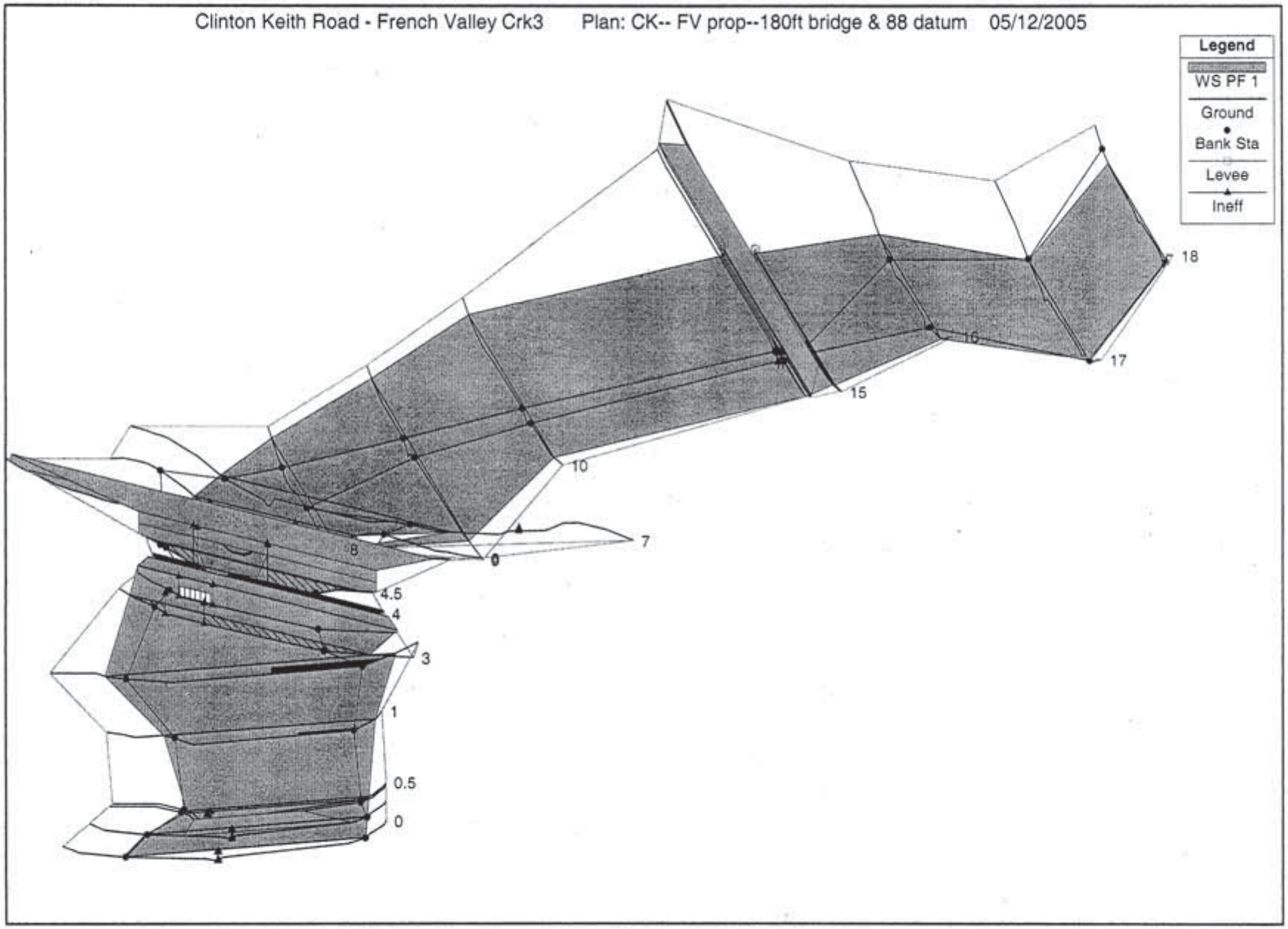
15
14
10
1
8
7
5.5
4.5
4
2
3
1
0.5
0


Clinton Keith Road - French Valley Crk3
Plan: CK-- FV prop--180ft bridge & 88 datum
05/12/2005
Legend
WS PF 1
Ground
Bank Sta
Levee
Ineff
18
17
16
15
10
8
7
6
4.5
4
3
1
0.5
0

HEC-RAS Plan: CK-FVprop&88 River: French Valley Cr Reach: 1 Profile: PF 1

Reach	River Sta	Profile	Q Total	Cum Ch Len	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
1	18	PF 1	6100.00	3724.42	1333.10	1338.63	1338.39	1339.41	0.020573	7.07	864.22	405.34	0.85
1	17	PF 1	6100.00	3424.42	1329.10	1335.93		1336.29	0.005884	4.78	1276.32	419.30	0.48
1	16	PF 1	6100.00	3124.42	1327.10	1335.00		1335.23	0.002212	3.98	1665.65	437.71	0.32
1	15	PF 1	6100.00	2824.42	1324.10	1334.67	1332.11	1334.77	0.000909	3.09	2421.49	555.12	0.21
1	14.5		Culvert										
1	14	PF 1	6100.00	2749.42	1323.10	1332.17	1332.11	1332.70	0.009699	8.22	1191.21	593.00	0.64
1	10	PF 1	6100.00	2114.42	1322.10	1328.47		1328.70	0.004001	4.55	1621.99	601.05	0.41
1	9	PF 1	6100.00	1814.42	1319.10	1327.55		1327.74	0.002547	4.54	1926.28	683.44	0.35
1	8	PF 1	6100.00	1514.42	1318.00	1327.38		1327.46	0.000405	2.36	2922.06	470.53	0.15
1	7	PF 1	6100.00	1414.42	1317.50	1327.28	1323.90	1327.39	0.001039	2.68	2349.34	590.60	0.22
1	6	PF 1	6100.00	1314.42	1317.00	1327.17		1327.29	0.000989	2.82	2164.37	412.55	0.22
1	5.5	PF 1	6100.00	1221.00	1316.90	1326.82	1322.79	1327.15	0.001711	4.63	1318.32	490.82	0.30
1	5.4		Bridge										
1	4.5	PF 1	6100.00	1117.00	1316.80	1326.60	1321.09	1326.83	0.000920	3.84	1587.08	512.77	0.23
1	4	PF 1	6100.00	1075.00	1316.60	1325.84	1321.86	1326.70	0.004122	7.41	822.69	89.00	0.43
1	3.5		Culvert										
1	3	PF 1	6100.00	940.00	1316.00	1320.91	1320.91	1323.36	0.021334	12.54	486.32	611.49	1.00
1	2	PF 1	6100.00	700.00	1314.50	1320.22		1320.32	0.001221	2.60	2436.47	690.92	0.23
1	1	PF 1	6100.00	450.00	1314.00	1319.92		1320.04	0.001086	2.82	2227.44	502.04	0.22
1	0.5	PF 1	6100.00	150.00	1313.00	1319.35	1318.01	1319.57	0.002460	3.70	1658.60	432.50	0.33
1	0.25		Culvert										
1	0	PF 1	6100.00		1312.50	1318.19	1317.01	1318.41	0.004003	3.77	1618.92	576.18	0.39

$\Delta = 0.24'$

Plan: CK-FVprop&88 French Valley Cr 1 RS: 5.4 Profile: PF 1

E.G. US. (ft)	1327.15	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	1326.82	E.G. Elev (ft)	1327.12	1326.89
Q Total (cfs)	6100.00	W.S. Elev (ft)	1326.64	1326.50
Q Bridge (cfs)	6100.00	Crit W.S. (ft)	1322.98	1321.79
Q Weir (cfs)		Max Chl Dpth (ft)	9.74	9.70
Weir Sta Lft (ft)		Vel Total (ft/s)	5.58	4.99
Weir Sta Rgt (ft)		Flow Area (sq ft)	1092.96	1222.92
Weir Submerg		Froude # Chl	0.37	0.31
Weir Max Depth (ft)		Specif Force (cu ft)	5336.88	6209.08
Min El Weir Flow (ft)	1339.01	Hydr Depth (ft)	7.02	7.93
Min El Prs (ft)	1333.00	W.P. Total (ft)	158.99	158.46
Delta EG (ft)	0.32	Conv. Total (cfs)	117429.1	141928.3
Delta WS (ft)	0.21	Top Width (ft)	155.65	154.16
BR Open Area (sq ft)	2160.25	Frctn Loss (ft)	0.21	0.01
BR Open Vel (ft/s)	5.58	C & E Loss (ft)	0.03	0.05
Coef of Q		Shear Total (lb/sq ft)	1.16	0.89
Br Sel Method	Energy only	Power Total (lb/ft s)	6.46	4.44

Plan: CK-FVprop&88 French Valley Cr 1 RS: 14.5 Culv Group: Culvert #1 Profile: PF 1

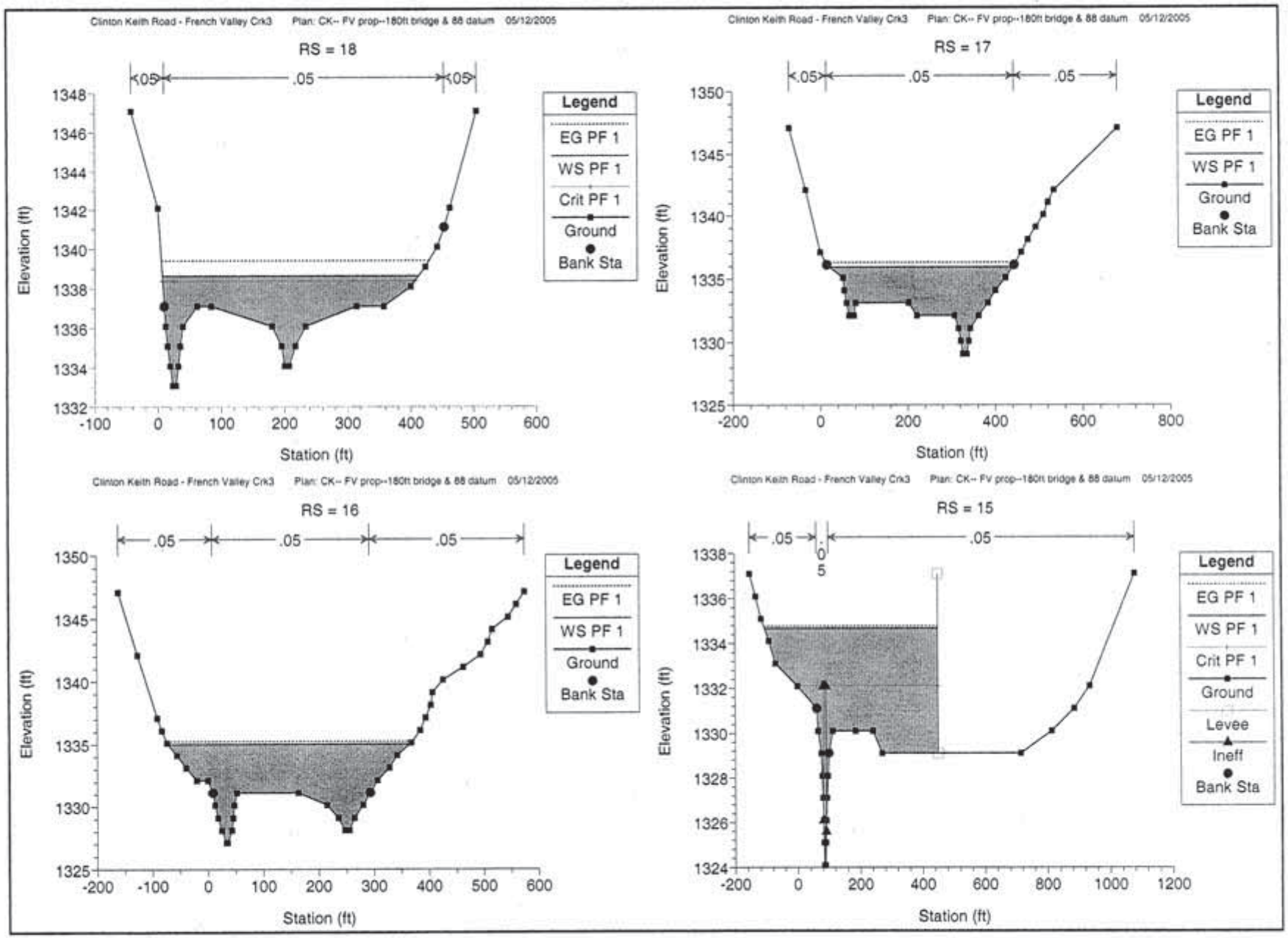
Q Culv Group (cfs)	322.96	Culv Full Len (ft)	60.00
# Barrels	1	Culv Vel US (ft/s)	8.39
Q Barrel (cfs)	322.96	Culv Vel DS (ft/s)	8.39
E.G. US. (ft)	1334.77	Culv Inv El Up (ft)	1324.10
W.S. US. (ft)	1334.67	Culv Inv El Dn (ft)	1324.00
E.G. DS (ft)	1332.70	Culv Frctn Ls (ft)	0.52
W.S. DS (ft)	1332.17	Culv Exit Loss (ft)	0.57
Delta EG (ft)	2.07	Culv Entr Loss (ft)	0.98
Delta WS (ft)	2.49	Q Weir (cfs)	5772.25
E.G. IC (ft)	1334.74	Weir Sta Lft (ft)	-107.81
E.G. OC (ft)	1334.77	Weir Sta Rgt (ft)	450.00
Culvert Control	Outlet	Weir Submerg	0.02
Culv WS Inlet (ft)	1331.10	Weir Max Depth (ft)	2.67
Culv WS Outlet (ft)	1331.00	Weir Avg Depth (ft)	2.48
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	1384.97
Culv Crt Depth (ft)	4.73	Min El Weir Flow (ft)	1332.11

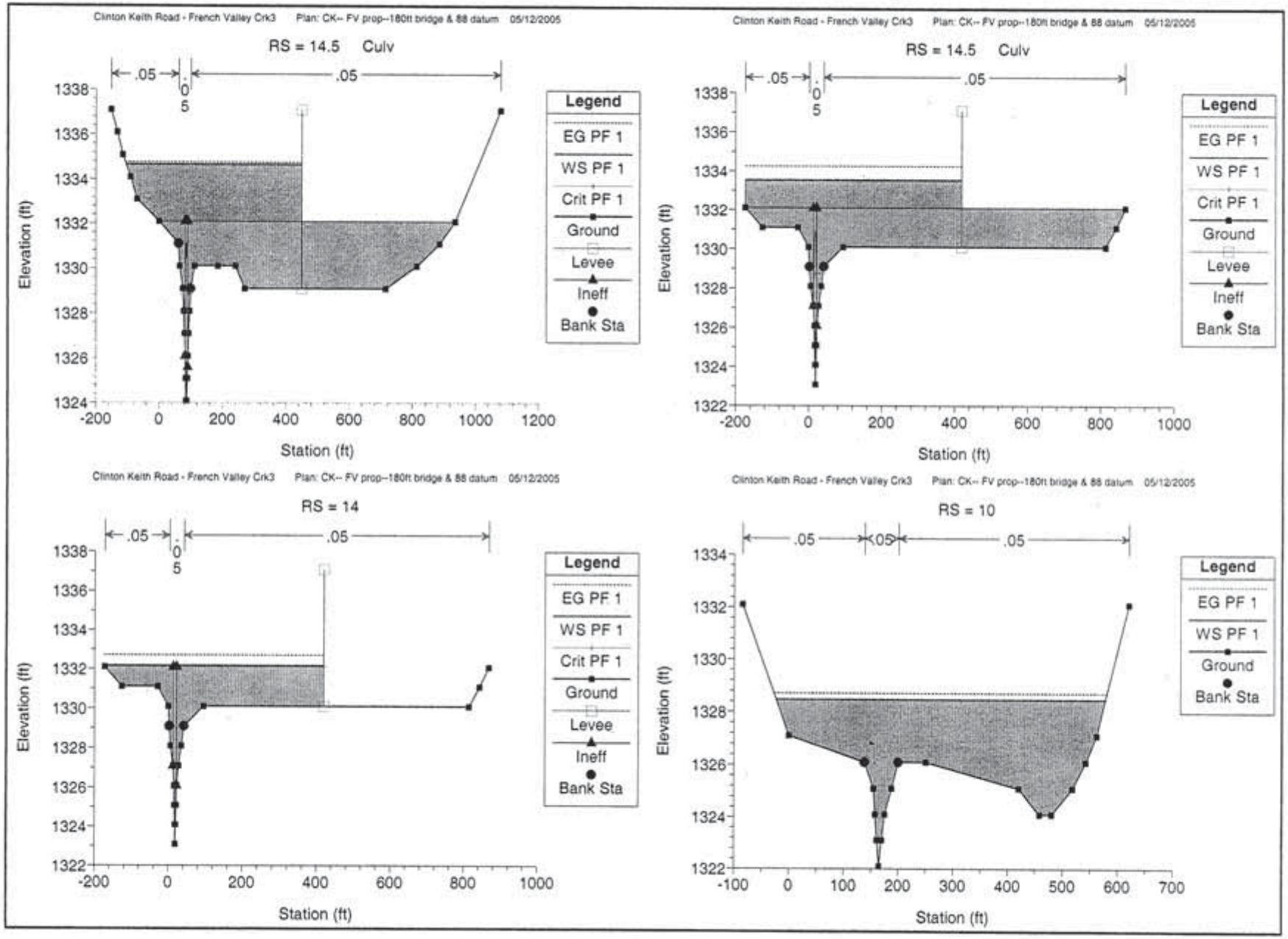
Plan: CK-FVprop&88 French Valley Cr 1 RS: 3.5 Culv Group: Culvert #1 Profile: PF 1

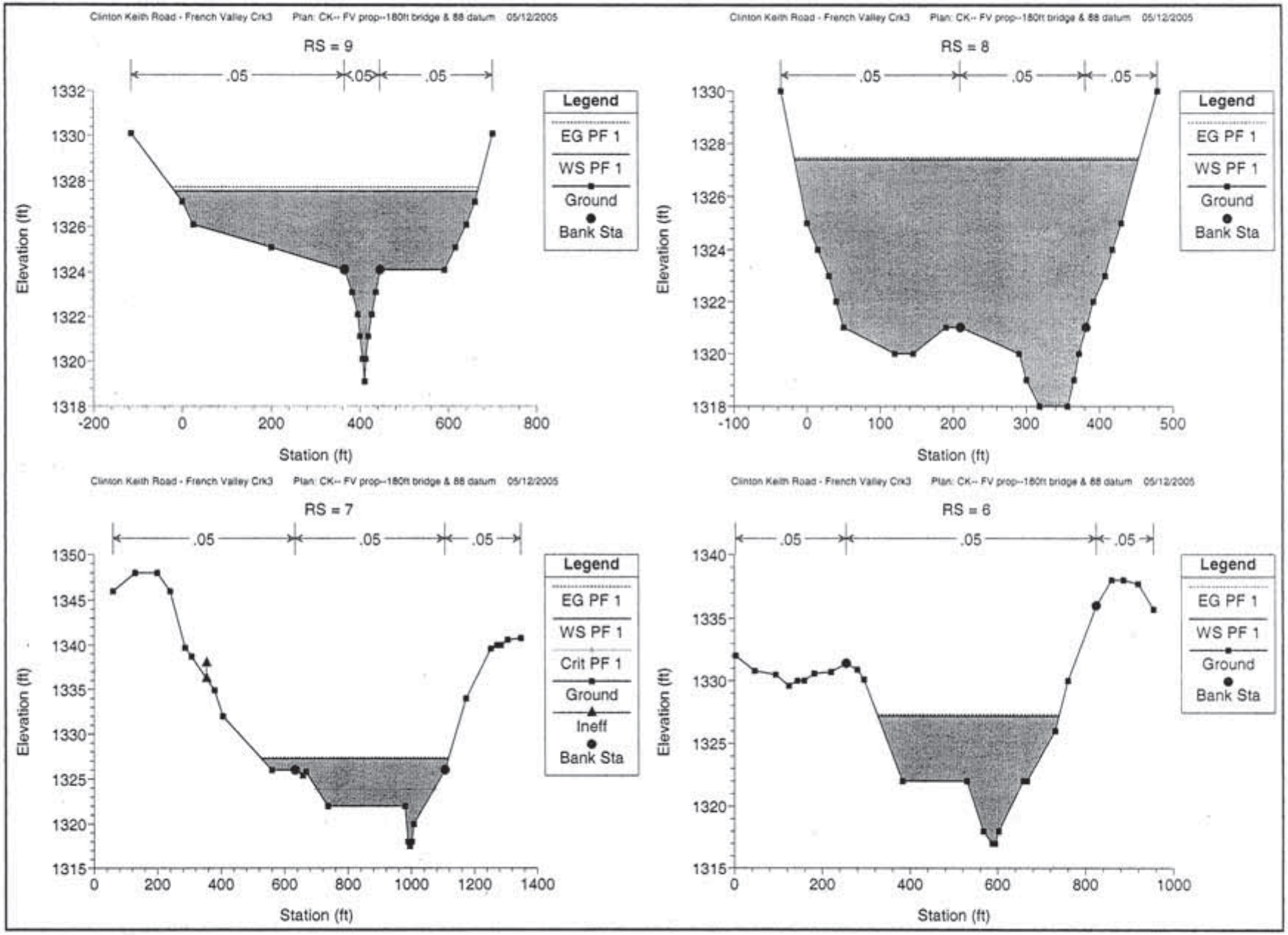
Q Culv Group (cfs)	5787.08	Culv Full Len (ft)	40.00
# Barrels	6	Culv Vel US (ft/s)	13.78
Q Barrel (cfs)	964.51	Culv Vel DS (ft/s)	13.78
E.G. US. (ft)	1326.70	Culv Inv El Up (ft)	1316.60
W.S. US. (ft)	1325.84	Culv Inv El Dn (ft)	1316.40
E.G. DS (ft)	1323.36	Culv Frctn Ls (ft)	0.88
W.S. DS (ft)	1320.91	Culv Exit Loss (ft)	0.99
Delta EG (ft)	3.34	Culv Entr Loss (ft)	1.47
Delta WS (ft)	4.93	Q Weir (cfs)	312.92
E.G. IC (ft)	1326.89	Weir Sta Lft (ft)	0.00
E.G. OC (ft)	1326.70	Weir Sta Rgt (ft)	589.00
Culvert Control	Outlet	Weir Submerg	0.00
Culv WS Inlet (ft)	1321.60	Weir Max Depth (ft)	0.35
Culv WS Outlet (ft)	1321.40	Weir Avg Depth (ft)	0.35
Culv Nml Depth (ft)	5.00	Weir Flow Area (sq ft)	204.34
Culv Crt Depth (ft)	5.00	Min El Weir Flow (ft)	1326.37

Plan: CK-FVprop&88 French Valley Cr 1 RS: 0.25 Culv Group: Culvert #1 Profile: PF 1

Q Culv Group (cfs)	15.61	Culv Full Len (ft)	40.00
# Barrels	1	Culv Vel US (ft/s)	4.97
Q Barrel (cfs)	15.61	Culv Vel DS (ft/s)	4.97
E.G. US. (ft)	1319.57	Culv Inv El Up (ft)	1313.00
W.S. US. (ft)	1319.35	Culv Inv El Dn (ft)	1312.50
E.G. DS (ft)	1318.41	Culv Frctn Ls (ft)	0.65
W.S. DS (ft)	1318.19	Culv Exit Loss (ft)	0.16
Delta EG (ft)	1.16	Culv Entr Loss (ft)	0.35
Delta WS (ft)	1.16	Q Weir (cfs)	6089.09
E.G. IC (ft)	1319.56	Weir Sta Lft (ft)	38.05
E.G. OC (ft)	1319.57	Weir Sta Rgt (ft)	475.68
Culvert Control	Outlet	Weir Submerg	0.57
Culv WS Inlet (ft)	1315.00	Weir Max Depth (ft)	3.57
Culv WS Outlet (ft)	1314.50	Weir Avg Depth (ft)	3.00
Culv Nml Depth (ft)		Weir Flow Area (sq ft)	1311.90
Culv Crt Depth (ft)	1.42	Min El Weir Flow (ft)	1316.01


Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 18
.05
.05
.05
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 17
.05
.05
.05
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 16
.05
.05
.05
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 15
.05
.05
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Ineff
Bank Sta


Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 14.5 Culv
.05
.05
.05
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Ineff
Bank Sta
Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 14.5 Culv
Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 14
Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 10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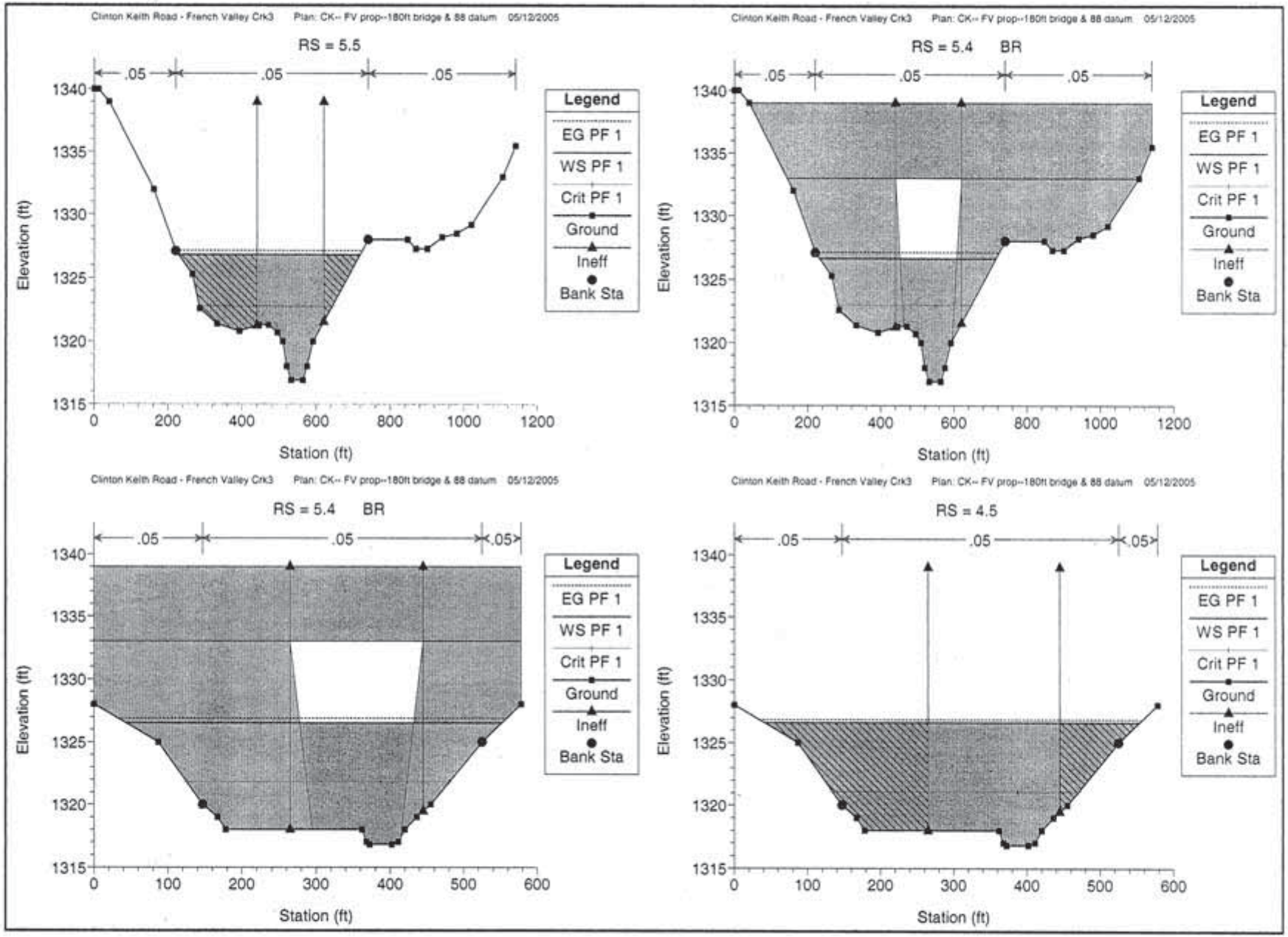
RS = 9
.05
.05
.05
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 8
.05
.05
.05
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 7
.05
.05
.05
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 6
.05
.05
.05
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta


Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 5.5
.05
.05
.05
Elevation (ft)
1340
1335
1330
1325
1320
1315
0
200
400
600
800
1000
1200
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 5.4 BR
.05
.05
.05
Elevation (ft)
1340
1335
1330
1325
1320
1315
0
200
400
600
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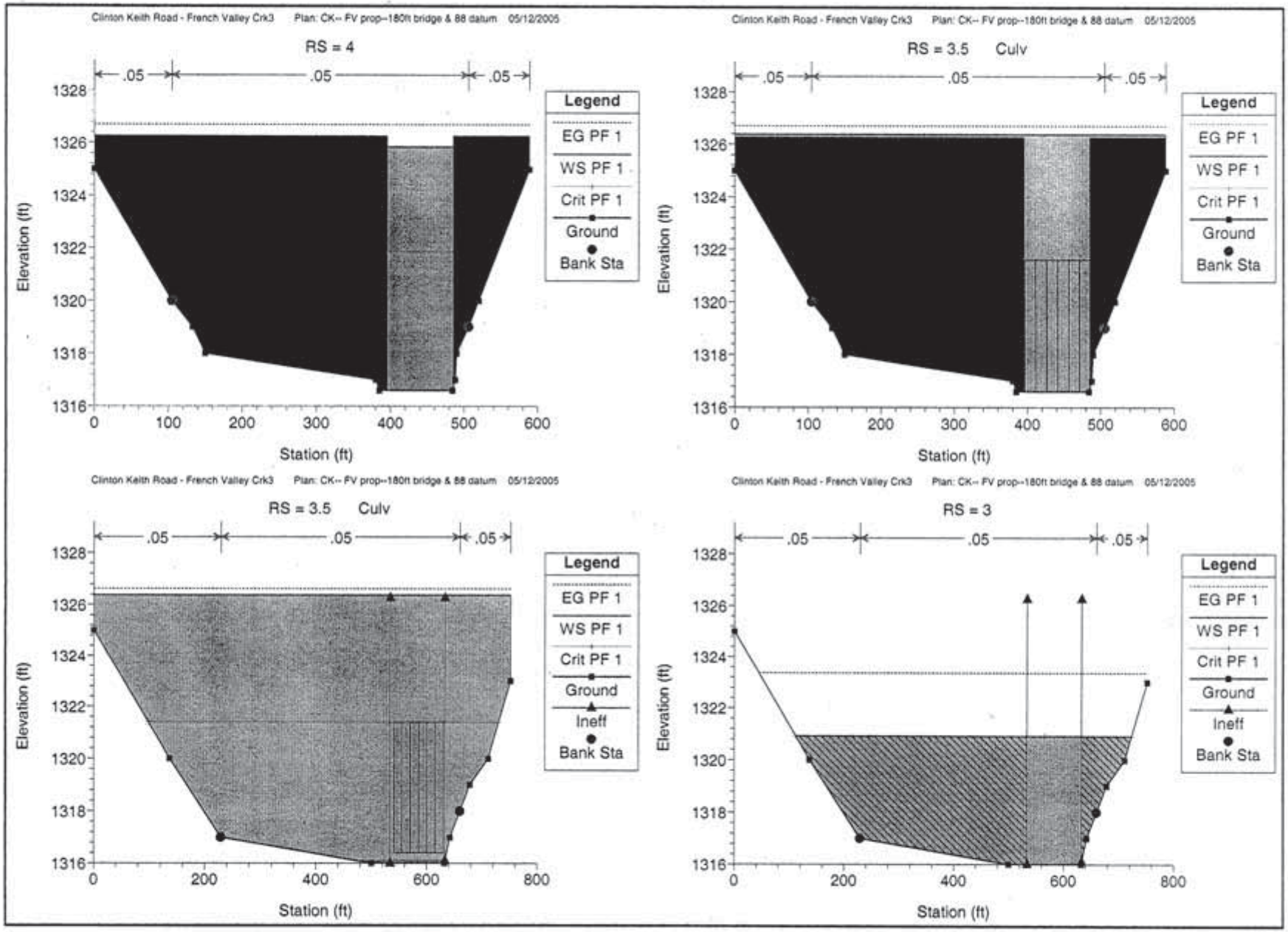
1000
1200
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 5.4 BR
.05
.05
.05
Elevation (ft)
1340
1335
1330
1325
1320
1315
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 4.5
.05
.05
.05
Elevation (ft)
1340
1335
1330
1325
1320
1315
0
100
200
300
400
500
600
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta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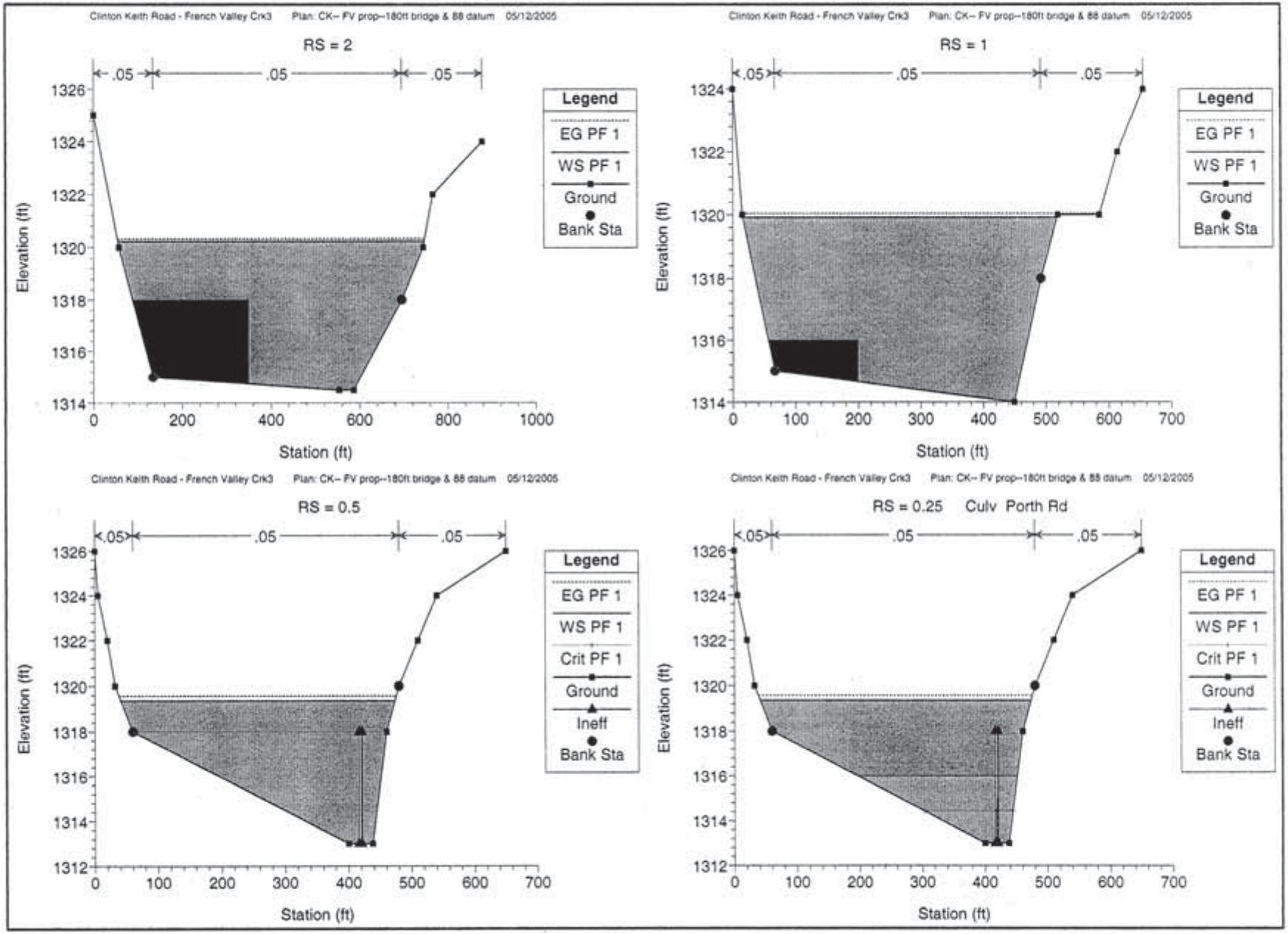
RS = 4
.05
.05
.05
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 3.5 Culv
Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 3.5 Culv
Ineff
Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 3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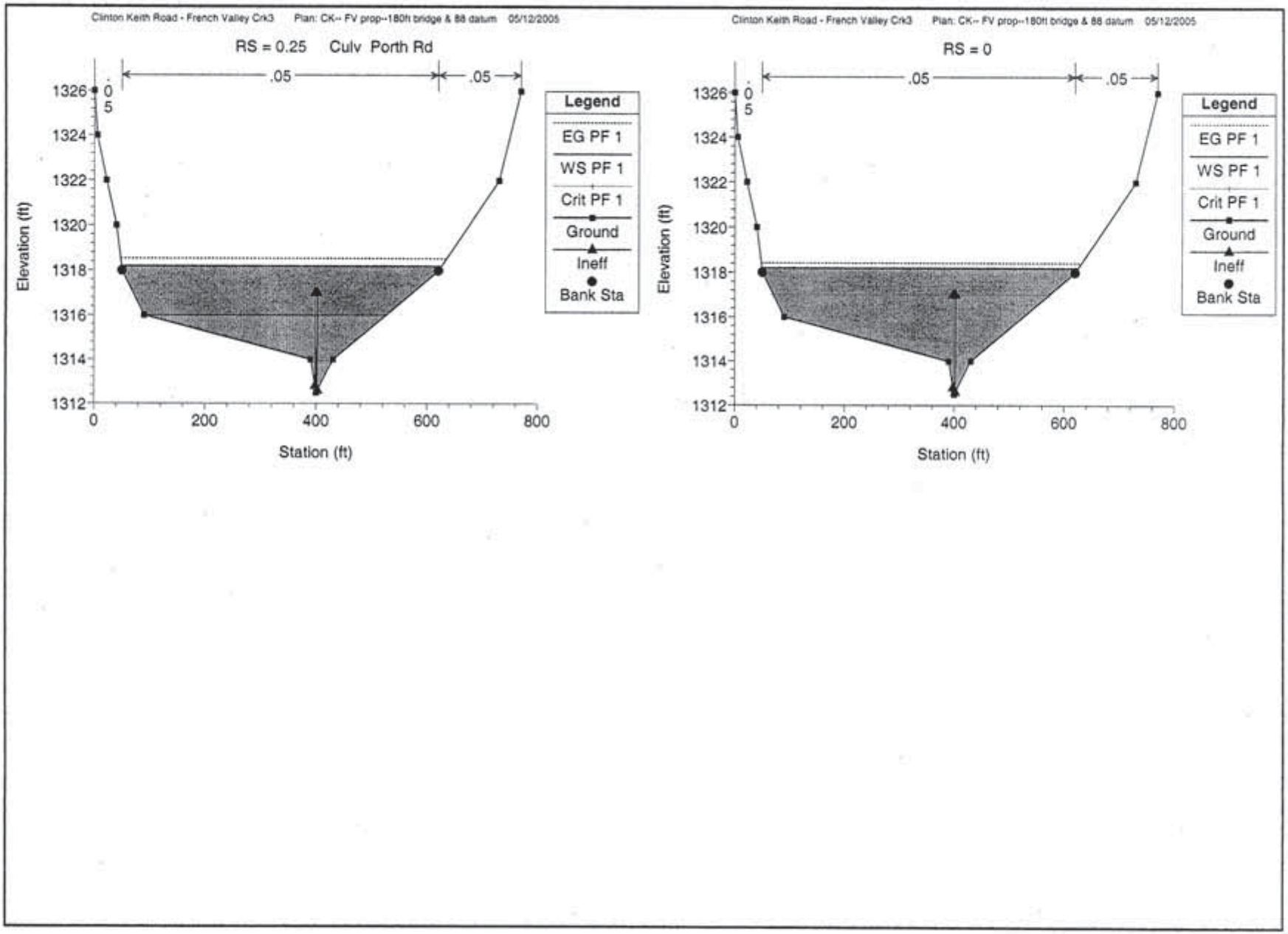
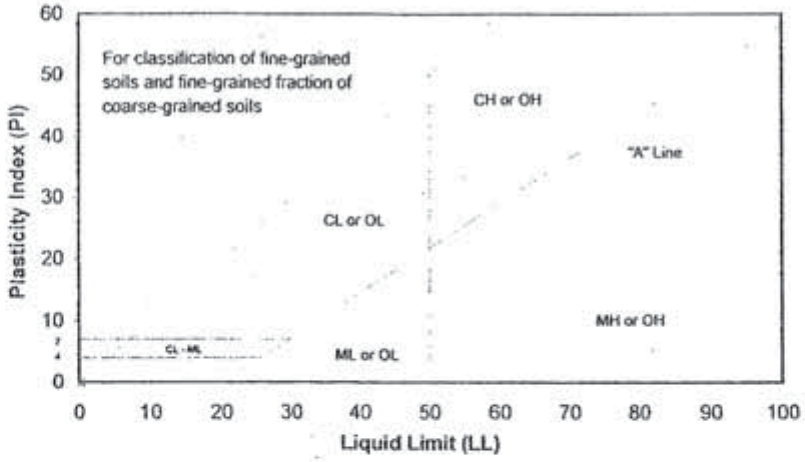
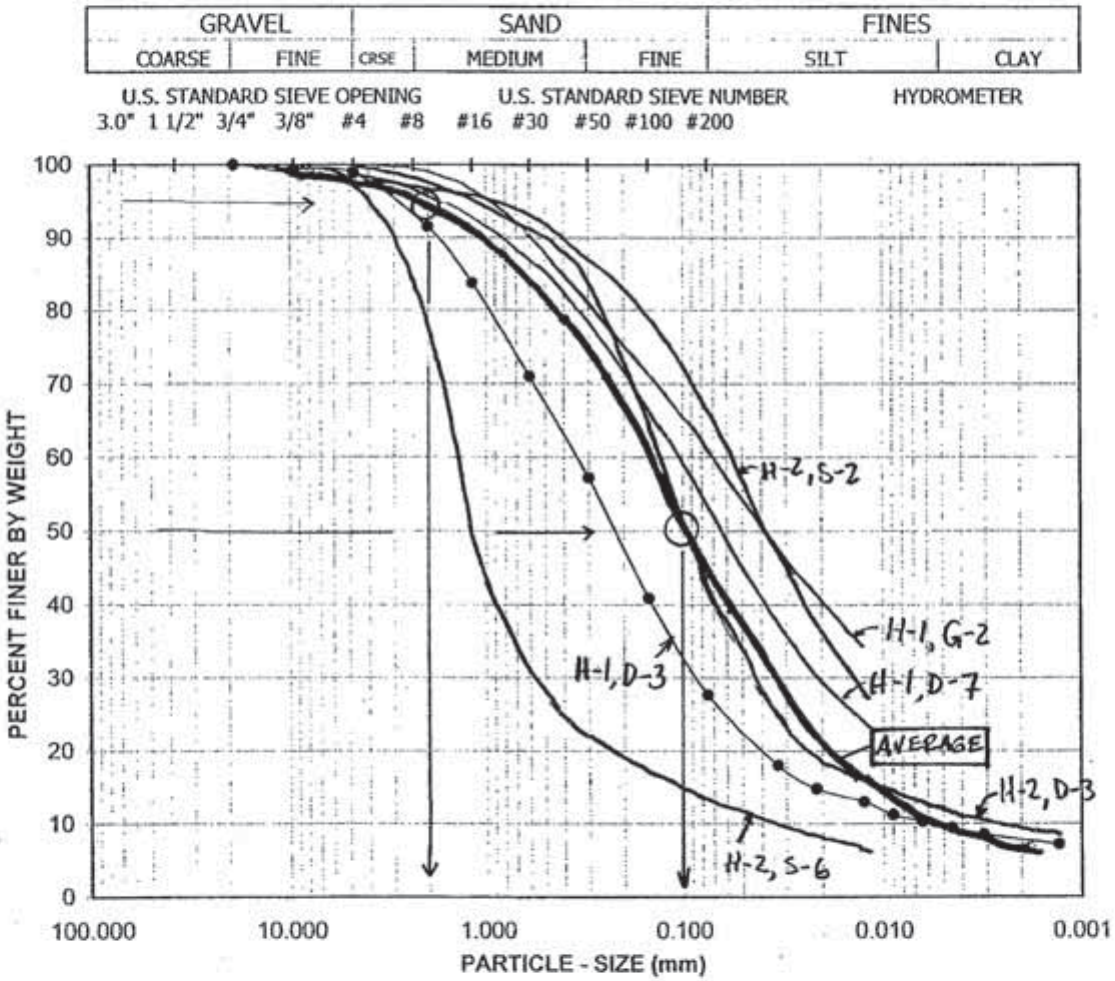
RS = 2
.05
.05
.05
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
Clinton Keith Road - French Valley Crk3 Plan: CK– FV prop–180ft bridge & 88 datum 05/12/2005
RS = 1
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
Clinton Keith Road - French Valley Crk3 Plan: CK– FV prop–180ft bridge & 88 datum 05/12/2005
RS = 0.5
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Clinton Keith Road - French Valley Crk3 Plan: CK– FV prop–180ft bridge & 88 datum 05/12/2005
RS = 0.25 Culv Porth Rd
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)


Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 0.25 Culv Porth Rd
.05
.05
.05
Elevation (ft)
1326
1324
1322
1320
1318
1316
1314
1312
0
200
400
600
800
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Clinton Keith Road - French Valley Crk3 Plan: CK-- FV prop--180ft bridge & 88 datum 05/12/2005
RS = 0
.05
.05
.05
Elevation (ft)
1326
1324
1322
1320
1318
1316
1314
1312
0
200
400
600
800
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta

APPENDIX D

Scour Calculations and Slope Protection





Boring No.:	Sample No.:	Depth (ft.) :	Soil Type	GR:SA:FI	LL,PL,PI
H-1	D-3	10-11.5	SM	1:71:28	NA,,

Soil Description: Yellowish brown silty sand (SM)

Teratest Labs, Inc.
A LEIGHTON GROUP COMPANY

ATTERBERG LIMITS, PARTICLE - SIZE CURVE
ASTM D 4318, D 422

Project No.: 171364.T2.02.01

Clinton Keith (CK) Rd. Expansion

02-04

SA & Hyd H-1 D-3 @ 10-11.5

Warm Springs Ck

Contraction Scour

		Left	Channel	Right
Input Data				
	Average Depth (ft):		4.17	
	Approach Velocity (ft/s):		5.22	
	Br Average Depth (ft):		5.01	
	BR Opening Flow (cfs):		6600.00	
	BR Top WD (ft):		195.13	
	Grain Size D50 (mm):		0.10	
	Approach Flow (cfs):		6600.00	
	Approach Top WD (ft):		303.20	
	K1 Coefficient:		0.590	
Results				
	Scour Depth Ys (ft):		0.40	
	Critical Velocity (ft/s):		0.98	
	Equation:		Live	

Pier Scour

All piers have the same scour depth

Input Data		
	Pier Shape:	Circulare cylinder
	Pier Width (ft):	8.50 — 7.5' CIDH + 1' debris
	Grain Size D50 (mm):	0.10000
	Depth Upstream (ft):	9.17
	Velocity Upstream (ft/s):	7.42
	K1 Nose Shape:	1.00
	Pier Angle:	10.00
	Pier Length (ft):	32.00
	K2 Angle Coef:	1.33
	K3 Bed Cond Coef:	1.10
	Grain Size D90 (mm):	2.00000
	K4 Armouring Coef:	1.00
	Set K1 value to 1.0 because angle > 5 degrees	
Results		
	Scour Depth Ys (ft):	17.80
	Froude #:	0.43
	Equation:	CSU equation

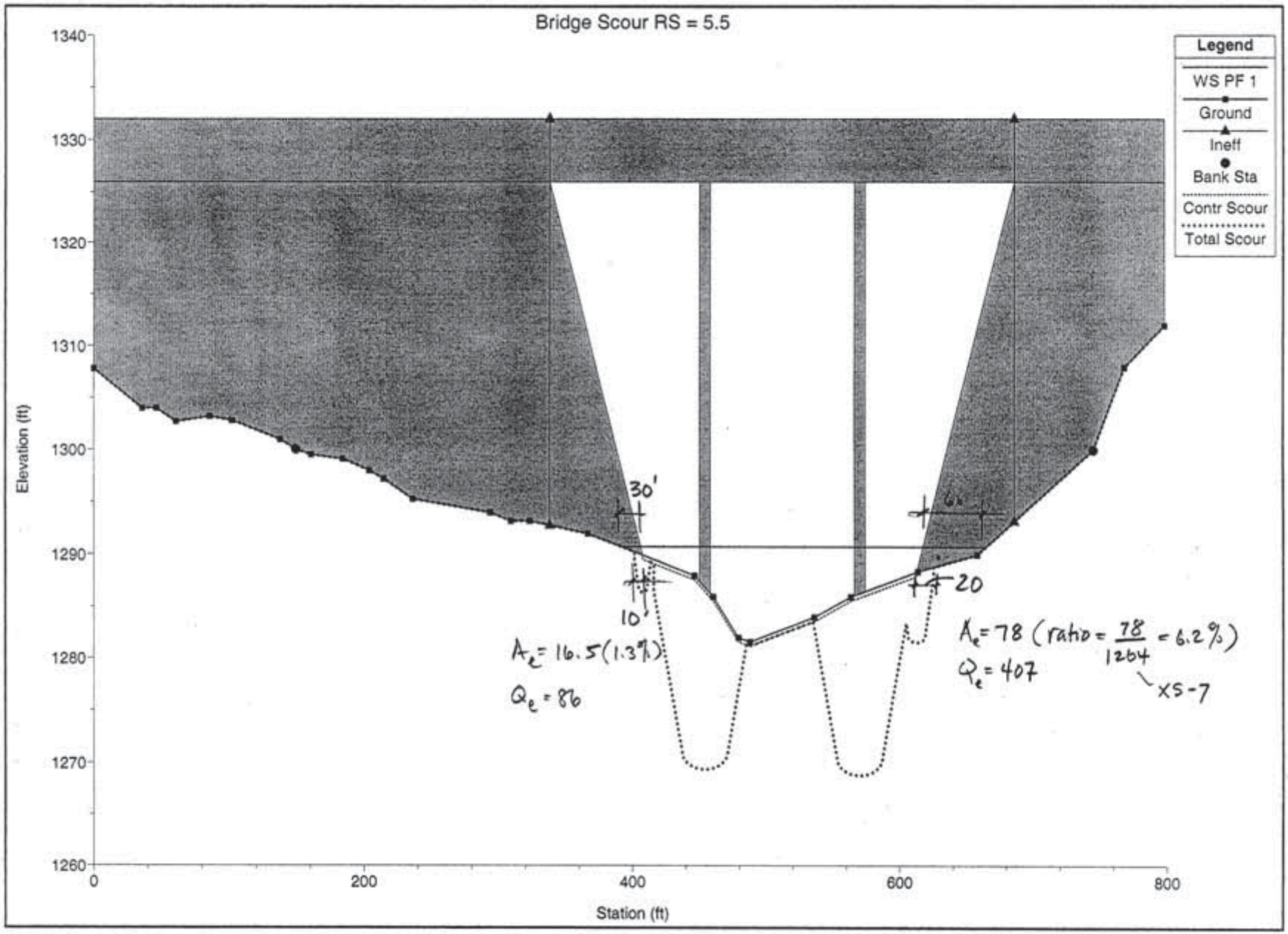
Abutment Scour

		Left	Right
Input Data			
	Station at Toe (ft):	407.54	612.51
	Toe Sta at appr (ft):	582.82	613.28
	Abutment Length (ft):	0.00	0.00
	Depth at Toe (ft):	1.07	2.66
	K1 Shape Coef:	0.55 - Spill-through abutment	
	Degree of Skew (degrees):	75.00	105.00
	K2 Skew Coef:	0.98	1.02
	Projected Length L' (ft):	10.00	20.00
	Avg Depth Obstructed Ya (ft):	0.5	1.5
	Flow Obstructed Qe (cfs):	86	407
	Area Obstructed Ae (sq ft):	16.5	78
Results			
	Scour Depth Ys (ft):	3.10	6.39

Qe/Ae = Ve:	5.21	5.22
Froude #:	1.30	0.75
Equation:	Froehlich	Froehlich

Combined Scour Depths

Pier Scour + Contraction Scour (ft):		
	Channel:	18.20
Left abutment scour + contraction scour (ft):	3.50	
Right abutment scour + contraction scour (ft):	6.78	


Bridge Scour RS = 5.5
Legend
WS PF 1
Ground
Ineff
Bank Sta
Contr Scour
Total Scour
Elevation (ft)
Station (ft)
1340
1330
1320
1310
1300
1290
1280
1270
1260
0
200
400
600
800
30'
10'
6'
20
A_e= 16.5 (1.3%)
Q_e = 86
A_e = 78 (ratio = 78/1264 = 6.2%)
Q_e = 407
XS-7

French Valley

Contraction Scour

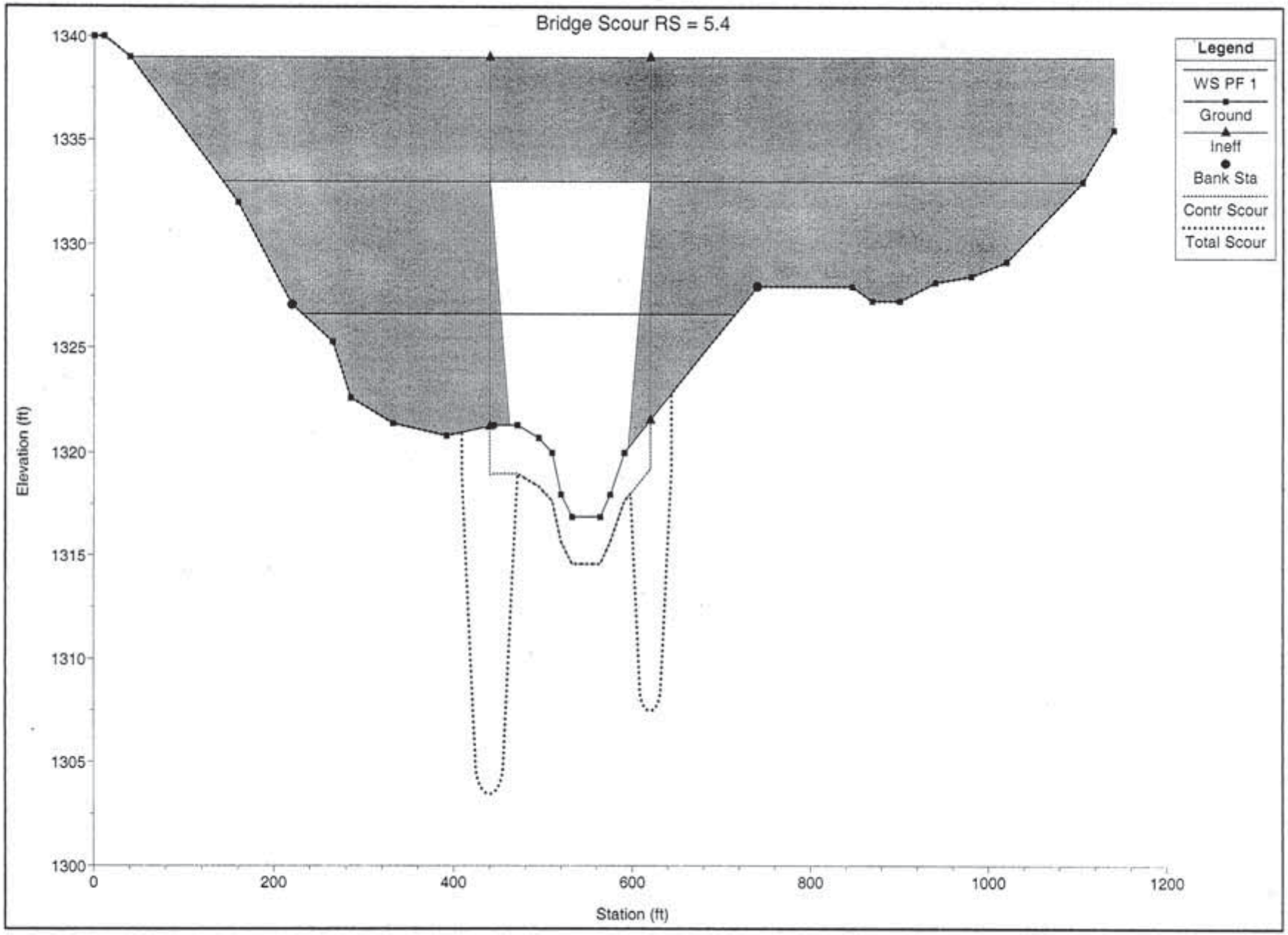
		Left	Channel	Right
Input Data				
	Average Depth (ft):		5.25	
	Approach Velocity (ft/s):		2.82	
	Br Average Depth (ft):		7.02	
	BR Opening Flow (cfs):		6100.00	
	BR Top WD (ft):		155.65	
	Grain Size D50 (mm):		0.10	
	Approach Flow (cfs):		6100.00	
	Approach Top WD (ft):		412.55	
	K1 Coefficient:		0.590	
Results				
	Scour Depth Ys (ft):		2.31	
	Critical Velocity (ft/s):		1.02	
	Equation:		Live	

Abutment Scour

		Left	Right
Input Data			
	Station at Toe (ft):	440.00	620.00
	Toe Sta at appr (ft):	383.00	666.00
	Abutment Length (ft):	0.00	0.00
	Depth at Toe (ft):	5.56	5.26
	K1 Shape Coef:	0.55 - Spill-through abutment	
	Degree of Skew (degrees):	90.00	90.00
	K2 Skew Coef:	1.00	1.00
	Projected Length L' (ft):	70	50
	Avg Depth Obstructed Ya (ft):	5	3.5
	Flow Obstructed Qe (cfs):	1620	810
	Area Obstructed Ae (sq ft):	350	175
Results			
	Scour Depth Ys (ft):	15.50	11.76
	Qe/Ae = Ve:	4.63	4.63
	Froude #:	0.36	0.44
	Equation:	Froehlich	Froehlich

Combined Scour Depths

Left abutment scour + contraction scour (ft):	17.81
Right abutment scour + contraction scour (ft):	14.07


Bridge Scour RS = 5.4
Legend
WS PF 1
Ground
Ineff
Bank Sta
Contr Scour
Total Scour
Elevation (ft)
1340
1335
1330
1325
1320
1315
1310
1305
1300
0
200
400
600
800
1000
1200
Station (ft)

CH2M HILL

SUBJECT: Clinton Keith Extension – Slope protection

BY: G Hsu

SHEET NO. ____ of ____ DATE: 5/12/05

PROJECT NO.

HEC-23 (March, 2001) 2nd edition P. DG8.9

$V = 6.75$ f/s (WS worst)

$Y = 7.02$ ft

$F = 0.45 < 0.8$

$$\frac{D_{50}}{y} = \frac{K}{(S_s - 1)} \left[\frac{V^2}{gy} \right] \qquad (8.2)$$

$K = 0.89$ for Spill-thru abutment

$S_s = 165\ lb/62.4 = 2.65$

$$D_{50} = 7.02 \times \left[\frac{0.89}{1.65} \times 0.45^2 \right]$$

$= 0.8$ ft

$D_{100} = 1.5\ D_{50} = 1.2$ ft or 14" → min 34# use "Facing" Rock method B (75#)

Thickness 2.0 ft

Appendix B – 401 Permit
for Previously Defined West Portion of Proposed Project

California Regional Water Quality Control Board
San Diego Region

Over 50 Years Serving San Diego, Orange, and Riverside Counties
Recipient of the 2004 Environmental Award for Outstanding Achievement from USEPA

Linda S. Adams
Secretary for
Environmental Protection

Arnold Schwarzenegger
Governor

9174 Sky Park Court, Suite 100, San Diego, California 92123-4353
(858) 467-2952 • Fax (858) 571-6972
http:// www.waterboards.ca.gov/sandiego

February 11, 2010

Certified Mail – Return Receipt Requested
Article Number: 7009 1410 0002 2347 4091

Laurie Dobson Correa
Riverside County Transportation Department
4080 Lemon Street, 8th Floor
Riverside, CA 92502

In reply refer to:
708506: cloflen

Dear Ms. Correa:

Subject: Action on Request for Clean Water Act Section 401 Water Quality Certification for the **Clinton Keith Road Extension Project West** Water Quality Certification No. **07C-110**

Enclosed find Clean Water Act Section 401 Water Quality Certification for discharge to Waters of the U.S. and acknowledgment of enrollment under State Water Resources Control Board Order No. 2003-017 DWQ for the **Clinton Keith Road Extension Project West** (project). A description of the project and project location can be found in the project information sheet, location maps, and site maps, which are included as attachments.

Any petition for reconsideration of the Certification must be filed with the State Water Resources Control Board within 30 days of certification action (23 CCR § 3867). If no petition is received, it will be assumed that you have accepted and will comply with all the conditions of the Certification.

Failure to comply with all conditions of the Certification may subject you to enforcement actions by the California Regional Water Quality Control Board, San Diego Region, including administrative enforcement orders requiring you to cease and desist from violations, or to clean up waste and abate existing or threatened conditions of pollution or nuisance; administrative civil liability in amounts of up to $5,000 per day per violation; referral to the State Attorney General for injunctive relief; and, referral to the District Attorney for criminal prosecution.

In the subject line of any response, please include the requested "**In reply refer to:**" information located in the heading of this letter. For questions pertaining to the subject matter, please contact Chad Loflen at (858) 467-2727 or cloflen@waterboards.ca.gov.

Respectfully,

James G. Smith, AEO
for DAVID W. GIBSON
Executive Officer

Enclosures:

Clean Water Act Section 401 Water Quality Certification No. 07C-110 for the **Clinton Keith Road Extension Project West**, with attachments

cc: Refer to Attachment 2 of Certification 7C-110 for E-mail Distribution List.

Tech Staff Info & Use	
File No.	07C-110
WDID	9000001725
Reg. Measure ID	337628
Place ID	708506
Party ID	366229

California Regional Water Quality Control Board
San Diego Region

Linda S. Adams
Secretary for Environmental Protection

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Arnold Schwarzenegger
Governor

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(858) 467-2952 • Fax (858) 571-6972
http:// www.waterboards.ca.gov/sandiego

Action on Request for
Clean Water Act Section 401 Water Quality Certification
and Waste Discharge Requirements
for Discharge of Dredged and/or Fill Materials

PROJECT: **Clinton Keith Road Extension Project West, Certification Number (07C-110) WDID: 9 000001725**

CIWQS
Reg. Meas. ID: 337628
Place ID: 708506
Party ID: 366229

APPLICANT: **Laurie Dobson Correa**
Riverside County Transportation Department
4080 Lemon Street, 8th Floor
Riverside, CA 92502

ACTION:

☐ Order for Low Impact Certification	☐ Order for Denial of Certification
☑ Order for Technically-conditioned Certification	☐ Waiver of Waste Discharge Requirements
☑ Enrollment in SWRCB GWDR Order No. 2003-017 DWQ	☐ Enrollment in Isolated Waters Order No. 2004-004 DWQ

PROJECT DESCRIPTION:
The project is a portion of the extension, widening, and re-alignment of Clinton Keith Road from the Interstate 215 to State Route 79 in Riverside County. The project will extend the western portion of Clinton Keith from I-215 to Liberty Lane. The western extension of Clinton Keith requires the placement of a bridge over Warm Springs Creek, as well as the placement of larger culverts at Drainages A and B, which in total would result in permanent impacts of 0.31 acres (1,850 linear feet) and temporary impacts of 0.01 acres (360 linear feet) to non-wetland waters of the United States.

STANDARD CONDITIONS:

The following three standard conditions apply to all Certification actions, except as noted under Condition 3 for denials (Action 3).

1. This Certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to

section 13330 of the California Water Code and section 3867 of Title 23 of the California Code of Regulations (23 CCR).

2. This Certification action is not intended and must not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

3. The validity of any non-denial Certification action (Actions 1 and 2) must be conditioned upon total payment of the full fee required under 23 CCR section 3833, unless otherwise stated in writing by the certifying agency.

ADDITIONAL CONDITIONS:

In addition to the three standard conditions, the Riverside County Transportation Department must satisfy the following:

A. GENERAL CONDITIONS:

1. The Riverside County Transportation Department must, at all times, fully comply with the engineering plans, specifications and technical reports submitted to the California Regional Water Quality Control Board, San Diego Region (Regional Board), to support this 401 Water Quality Certification (Certification) and all subsequent submittals required as part of this Certification and as described in Attachment 1. The conditions within this Certification must supersede conflicting provisions within such plans submitted prior to the Certification action. Any modifications thereto, would require notification to the Regional Board and reevaluation for individual Waste Discharge Requirements and/or Certification amendment.

2. During construction, the Riverside County Transportation Department must maintain a copy of this Certification at the project site so as to be available at all times to site personnel and agencies.

3. The Riverside County Transportation Department must permit the Regional Board or its authorized representative at all times, upon presentation of credentials:

    a. Entry onto project premises, including all areas on which wetland fill or wetland mitigation is located or in which records are kept.
    b. Access to copy any records required to be kept under the terms and conditions of this Certification.

c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Certification.
d. Sampling of any discharge or surface water covered by this Order.

4. The Riverside County Transportation Department must notify the Regional Board within **24 hours** of any unauthorized discharge, including hazardous or toxic materials, to waters of the U.S. and/or State; measures that were implemented to stop and contain the discharge; measures implemented to clean-up the discharge; the volume and type of materials discharged and recovered; and additional best management practice (BMPs) or other measures that will be implemented to prevent future discharges.

5. The Riverside County Transportation Department must, at all times, maintain appropriate types and sufficient quantities of materials onsite to contain any spill or inadvertent release of materials that may cause a condition of pollution or nuisance if the materials reach waters of the U.S. and/or State.

6. This Certification is not transferable in its entirety or in part to any person except after notice to the Executive Officer of the Regional Board in accordance with the following terms.

   a. Transfer of Property Ownership: The Riverside County Transportation Department must notify the Regional Board of any change in ownership of the project area Notification of change in ownership must include, but not be limited to, a statement that the Riverside County Transportation Department has provided the purchaser with a copy of the Section 401 Water Quality Certification and that the purchaser understands and accepts the certification requirements and the obligation to implement them or be subject to liability for failure to do so; the seller and purchaser must sign and date the notification and provide such notification to the Executive officer of the Regional Board within **10 days** of the transfer of ownership.

   b. Transfer of Mitigation Responsibility: Any notification of transfer of responsibilities to satisfy the mitigation requirements set forth in Section D shall include a signed statement from an authorized representative of the new party (transferee) demonstrating acceptance and understanding of the responsibility to comply with and fully satisfy the mitigation conditions and agreement that failure to comply with the mitigation conditions and associated requirements may subject the transferee to enforcement by the Regional Board under Water Code section 13385, subdivision (a). Notification of transfer of responsibilities meeting the above conditions must be provided to the Regional Board within **10 days** of the transfer date.

7. In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation must be subject to any remedies, penalties, process or sanctions as provided for under State law. For purposes of section 401(d) of the Clean Water Act, the applicability of any State law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Certification.

8. In response to a suspected violation of any condition of this Certification, the Regional Board may require the holder of any permit or license subject to this Certification to furnish, under penalty of perjury, any technical or monitoring reports the Regional Board deems appropriate, provided that the burden, including costs, of the reports must bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

9. In response to any violation or threatened violation of the conditions of this Certification, the Regional Board may add to or modify the conditions of this Certification as appropriate to ensure compliance.

10. The Riverside County Transportation Department and successor owners must submit annual progress reports describing status of compliance with all requirements of this Certification to the Regional Board prior to **August 1** of each year following the issuance of this Certification until the project has reached completion. The Riverside County Transportation Department may submit a joint annual progress report with 401 Certification No. 07C-109.

B. PROJECT CONDITIONS:

1. Prior to the start of the project, and annually thereafter, the Riverside County Transportation Department must educate all personnel on the requirements in this Certification, pollution prevention measures, spill response, and BMP implementation and maintenance.

2. The Riverside County Transportation Department must comply with the requirements of State Water Resources Control Board Water Quality Order No. 2003-0017-DWQ, Statewide General Waste Discharge Requirements for discharges of dredged or fill material that have received State Water Quality Certification. These General Waste Discharge Requirement are accessible at:
http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/generalorders/go_wdr401regulated_projects.pdf.

3. The Riverside County Transportation Department must notify the Regional Board in writing at least **5 days** prior to the actual commencement of dredge,

fill, and discharge activities.

4. The Riverside County Transportation Department must comply with the requirements of State Water Resources Control Board Water Quality Order No. 99-08-DWQ, and any subsequent re-issuance, the NPDES General Permit for Storm Water Discharges Associated with Construction Activity.

5. The treatment, storage, and disposal of wastewater during the life of the project must be done in accordance with waste discharge requirements established by the Regional Board pursuant to CWC § 13260.

6. Discharges of concentrated flow during construction or after completion must not cause downstream erosion or damage to properties or stream habitat.

7. Water containing mud, silt, or other pollutants from equipment washing or other activities, must not be discharged to waters of the United States and/or the State or placed in locations that may be subjected to storm flows. Pollutants discharged to areas within a stream diversion area must be removed at the end of each work day or sooner if rain is predicted.

8. All surface waters, including ponded waters, must be diverted away from areas undergoing grading, construction, excavation, vegetation removal, and/or any other activity which may result in a discharge to the receiving water. Diversion activities must not result in the degradation of beneficial uses or exceedance of water quality objectives of the receiving waters. Any temporary dam or other artificial obstruction constructed must only be built from materials such as clean gravel which will cause little or no siltation. Normal flows must be restored to the affected stream immediately upon completion of work at that location.

9. Substances hazardous to aquatic life including, but not limited to, petroleum products, raw cement/concrete, asphalt, and coating materials, must be prevented from contaminating the soil and/or entering waters of the United States and/or State. BMPs must be implemented to prevent such discharges during each project activity involving hazardous materials.

10. Removal of vegetation must occur by hand, mechanically, or using EPA approved herbicides deployed using applicable BMPs to prevent impacts to Beneficial Uses of waters of the State. Removal of vegetation must occur outside of the avian nesting season (March 15- August 31).

C. POST CONSTRUCTION STORM WATER MANAGEMENT

1. All storm drain inlet structures within the project boundaries must be stamped and/or stenciled (or equivalent) with appropriate language prohibiting non-storm water discharges.

2. All post-construction BMPs, including those described in the Final Project Specific Water Quality Management Plan for the Clinton Keith Road Extension from Antelope Road to French Valley Creek prepared by CH2MHill and dated March, 2009, must be sized to comply with the following numeric sizing criteria:

   a. Volume
   Volume-based BMPs must be designed to mitigate (infiltrate, filter, or treat) either:
      i. The volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the local historical rainfall record (0.6 inch approximate average for the San Diego County area); or
      ii. The volume of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile 24-hour runoff event; or

   b. Flow
   Flow-based BMPs must be designed to mitigate (infiltrate, filter, or treat) either:
      i. The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour; or
      ii. The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two; or
      iii. Th e maximum flow rate of runoff, as determined from the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile hourly rainfall intensity multiplied by a factor of two.

3. Post-construction BMPs must be installed and functional prior to roadway use.

4. The Riverside County Transportation Department must install biofiltration catch basin units with a medium to high removal efficiency for 303(d) listed pollutants for all storm drain catch basins on the portion of the site as described in the Final Project Specific Water Quality Management Plan for the Clinton Keith Road Extension from Antelope Road to French Valley Creek.

5. All post-construction structural BMPs, including, but not limited to, the vegetated extended detention basin and biofiltration catch basin units, must be regularly inspected and maintained by the Riverside County Transportation Department or their designated party for the life of the project per the manufacturers' specifications.

6. Treatment BMPs must be inspected prior to the commencement of the rainy season (October 1) and after every storm event exceeding 0.5 inches of precipitation.

7. Records must be kept regarding inspections and maintenance in order to assess the performance of the systems and determine whether adaptations are necessary to protect receiving waters.

8. The Riverside County Transportation Department, assumes responsibility for the inspection and maintenance of all post-construction structural BMPs until such responsibility is legally transferred to another entity.

9. At the time maintenance responsibility for post-construction BMPs is legally transferred, the Riverside County Transportation Department must submit to the Regional Board a copy of such documentation.

10. At the time maintenance responsibility for post-construction BMPs is legally transferred, the Riverside County Transportation Department must provide the transferee with a copy of a long-term BMP maintenance plan that complies with manufacturer specifications.

D. COMPENSATORY MITIGATION FOR LOSS OF WATERS OF THE U.S./STATE

1. Mitigation for permanent discharges to 0.31 acres (1,850 linear feet) of non-wetland waters of the United States and temporary discharges to 0.01 acres (360 linear feet) of non-wetland waters of the United States must occur as follows and as described in the Clinton Keith Road Extension Habitat Mitigation and Monitoring Plan, dated November 10, 2008:

   a. Through the on-site self-establishment of 2,211 linear feet (0.31 acres) of non-wetland waters of the United States.

2. The Riverside County Transportation Department must submit a Final Enhancement and Mitigation Plan **prior to commencement of** Project construction.

3. The Riverside County Transportation Department must restore all areas of temporary impacts and all other areas of temporary disturbance which could result in a discharge or a threatened discharge to waters of the United States/State. Restoration must include grading of disturbed areas to pre-project contours and revegetation with native species. The Riverside County Transportation Department must implement all necessary BMPs to control erosion and runoff from areas associated with this project.

4. **Prior to the start of construction**, the Riverside County Transportation Department must provide the Regional Board a draft preservation mechanism

(e.g. deed restriction, conservation easement, etc.) that will protect all mitigation areas and their buffers in perpetuity. Within **one year of the start of construction**, the Riverside County Transportation Department must submit proof of a completed preservation mechanism that will protect all mitigation areas and their buffers in perpetuity. The conservation easement, deed restriction, or other legal limitation on the mitigation property must be adequate to demonstrate that the site will be maintained without future development or encroachment on the site which could otherwise reduce the functions and values of the site for the variety of beneficial uses of waters of the U.S. that it supports. The legal limitation must prohibit, without exception, all residential, commercial, industrial, institutional, and transportation development, and any other infrastructure development that would not maintain or enhance the wetland and streambed functions and values of the site. The preservation mechanism must clearly prohibit activities that would result in soil disturbance or vegetation removal, other than the removal of non-native vegetation. Other infrastructure development to be prohibited includes, but is not limited to, additional utility lines, maintenance roads, and areas of maintained landscaping for recreation.

5. The Riverside County Transportation Department must notify the Regional Board in writing at least **5 days** prior to the actual commencement of mitigation installation, and completion of mitigation installation.

6. Mitigation Site Preparation: The Riverside County Transportation Department must salvage leaf litter, coarse woody debris, and upper soil horizons from impacted jurisdictional water sites that are relatively free of invasive exotic species for use in on-site mitigation areas.

7. The Riverside County Transportation Department must also salvage large cuttings from appropriate tree species if they exist at the impact site and use them as pole plantings at the mitigation site.

8. The Riverside County Transportation Department must submit a report (including topography maps and planting locations) to the Regional Board within **90 days** of completion of mitigation site preparation and planting, describing as-built status of the mitigation project.

9. The construction of proposed mitigation must be concurrent with project grading and completed no later than 9 months following the initial discharge of dredge or fill material into on-site waters. Delays in implementing mitigation must be compensated for by an increased mitigation implementation of 10 percent of the cumulative compensatory mitigation for each month of delay.

10. Throughout the mitigation monitoring program mitigation areas must be maintained free of perennial exotic plant species including, but not limited to,

pampas grass, giant reed, tamarisk, sweet fennel, tree tobacco, castor bean, and pepper tree. Annual exotic plant species must not occupy more than 5 percent of the onsite or offsite mitigation areas.

11. Regional Board acceptance of the mitigation plan applies only to the site and plan that mitigates for the Clinton Keith Road Extension West project and must not be construed as approval of the mitigation site or plan for use by other current or future projects that are planning to use the Project site for mitigation.

12. If at any time during the implementation and establishment of the mitigation area(s), and prior to verification of meeting success criteria, a catastrophic natural event (e.g., fire, flood) occurs and impacts the mitigation area, the Riverside County Transportation Department is responsible for repair and replanting of the damaged area(s).

13. Mitigation monitoring reports must be submitted annually until mitigation has been deemed successful. Annual monitoring reports must be submitted prior to **December 1** of each year. The Riverside County Transportation Department may submit a joint annual monitoring report with 401 Certification No. 07C-109. Monitoring reports must include, but not be limited to, the following:

    a. Names, qualifications, and affiliations of the persons contributing to the report;
    b. Tables presenting the raw data collected in the field as well as analyses of the physical and biological data, including at a minimum;
    c. Topographic complexity characteristics at each mitigation site;
    d. Upstream and downstream habitat and hydrologic connectivity;
    e. Source of hydrology;
    f. Width of native vegetation buffer around the entire mitigation site;
    g. Qualitative and quantitative comparisons of current mitigation conditions with pre-construction conditions and previous mitigation monitoring results;
    h. Photodocumentation from established reference points;
    i. A Survey report documenting boundaries of mitigation area; and
    j. Other items specified in the final mitigation and monitoring plan.

14. In the event that the proposed mitigation does not obtain the 5th year success criteria as described in Table 7 in the Clinton Keith Road Extension Habitat Mitigation and Monitoring Plan, dated November 10, 2008, the applicants shall provide the RWQCB with a technical report detailing the actions that will be taken to bring the mitigation up to the success criteria. This report shall also provide an evaluation of alternative mitigation opportunities within the Murrieta Hydrologic Area to be utilized for additional mitigation, if portions of the required mitigation are unsuccessful after five years.

15. For the purpose of determining mitigation credit for the removal of exotic/invasive plant species, only the actual area occupied by exotic/invasive plant species must be quantified to comply with mitigation requirements.

16. For purposes of this Certification, establishment is defined as the creation of vegetated or unvegetated waters of the U.S./State where the resource has never previously existed (e.g. conversion of nonnative grassland to a freshwater marsh). Restoration is divided into two activities, re-establishment and rehabilitation. Re-establishment is defined as the return of natural/historic functions to a site where vegetated or unvegetated waters of the U.S./State previously existed (e.g., removal of fill material to restore a drainage). Rehabilitation is defined as the improvement of the general suite of functions of degraded vegetated or unvegetated waters of the U.S./State (e.g., removal of a heavy infestation or monoculture of exotic plant species from jurisdictional areas and replacing with native species). Enhancement is defined as the improvement to one or two functions of existing vegetated or unvegetated waters of the U.S./State (e.g., removal of small patches of exotic plant species from an area containing predominantly natural plant species). Preservation is defined as the acquisition and legal protection from future impacts in perpetuity of existing vegetated or unvegetated waters of the U.S./State (e.g., conservation easement).

E. STREAM PHOTO DOCUMENTATION PROCEDURE

1. The Riverside County Transportation Department, and its successors, must conduct photo documentation of the project site, including all areas of permanent and temporary impact, prior to and after project construction, and mitigation areas, including all areas of permanent and temporary impact, prior to and after project construction. Photo documentation must be conducted in accordance with the State Water Resources Control Board Standard Operating Procedure 4.2.1.4: Stream Photo Documentation Procedure, included as Attachment Number (7). In addition, photo documentation must include Geographic Positioning System (GPS) coordinates for each of the photo points referenced. The Riverside County Transportation Department must submit this information in a photo documentation report to the Regional Board with the **Mitigation and Monitoring reports (see Condition D.13)**. The report must include a compact disc that contains digital files of all the photos (jpeg file type or similar).

F. POST-CONSTRUCTION BEST MANAGEMENT PRACTICES PHOTO DOCUMENTATION PROCEDURE

1. The Riverside County Transportation Department must conduct photo documentation of implemented post-construction BMPs. Photo-documentation must be modeled after the State Water Resources Control

Board Standard Operating Procedure 4.2.1.4: Stream Photo Documentation Procedure, included as Attachment 6. In addition, photo documentation must include Global Positioning System (GPS) coordinates for each of the photo points referenced. The Riverside County Transportation Department must submit this information in a photo documentation report to the Regional Board with the **Final Project Annual Report (see Condition A.10)**. The report must include a compact disc that contains digital files of all the photos (jpeg file type or similar).

G. GEOGRAPHIC INFORMATION SYSTEM REPORTING

1. The Riverside County Transportation Department must submit Geographic Information System (GIS) shape files of the impact and mitigation areas within **first Mitigation and Monitoring Report (see Condition D.12)** following mitigation installation. All impact and mitigation areas shapefiles must be polygons. Two GPS readings (points) must be taken on each line of the polygon and the polygon must have a minimum of 10 points. GIS metadata must also be submitted.

H. REPORTING:

1. All information requested in this Certification is pursuant to California Water Code (CWC) section 13267. Civil liability may be administratively imposed by the Regional Board for failure to furnish requested information pursuant to CWC section 13268.

2. All reports and information submitted to the Regional Board must be submitted in both hardcopy and electronic format. The preferred electronic format for each report submission is one file in PDF format that is also Optical Character Recognition (OCR) capable.

3. The Riverside County Transportation Department must submit a report to the Regional Board within **the Final Project Annual Report (see Condition A.10)** of completion of the project. The report should include as-built drawings no bigger than 11" x 17" and photos of the completed project.

4. All applications, reports, or information submitted to the Regional Board must be signed and certified as follows:

    a. For a corporation, by a responsible corporate officer of at least the level of vice president.
    b. For a partnership or sole proprietorship, by a general partner or proprietor, respectively.
    c. For a municipality, or a state, federal, or other public agency, by either a principal executive officer or ranking elected official.

5. A duly authorized representative of a person designated in Items 4.a. through 4.c. above may sign documents if:

    a. The authorization is made in writing by a person described in Items 4.a. through 4.c. above.
    b. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated activity.
    c. The written authorization is submitted to the Regional Board Executive Officer.

6. All applications, reports, or information submitted to the Regional Board must be signed and certified as follows:

    "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

7. The Riverside County Transportation Department must submit reports required under this Certification, or other information required by the Regional Board, to:

    Executive Officer
    California Regional Water Quality Control Board
    San Diego Region
    Attn: 401 Certification; Project No. 09C-059
    9174 Sky Park Court, Suite 100
    San Diego, California 92123

8. Required Reports: The following list summarizes the reports required per the conditions of this Certification to be submitted to the Regional Board.

Report Topic	Certification Condition	Due Date(s)
Unauthorized Discharge	A.4	Within 24 Hours
Certification Transfer	A.6	Within 10 Days of Transfer
Annual Progress Reports	A.10	August 01 Annually
Commencement of Fill	B.3	5 Days Prior
Final Enhancement and Mitigation Plan	D.2	Prior to Construction
Preservation Mechanism	D.4	Draft Prior to Construction Final within 1 year of Construction Initiation
Mitigation Commencement	D.5	5 days Prior
Mitigation As-Builts	D.8	Within 90 days of Completion
Mitigation Annual Reports	D.13	December 01 Annually
Stream Photo Documentation	E.1	Mitigation and Monitoring Reports
Post-Construction BMP Photo Documentation	F.1	Final Project Annual Report
GIS Reporting	G.1	First Mitigation and Monitoring Report
Project As-Builts	H.3	Final Project Annual Report

CEQA FINDINGS:

1. The Riverside County Transportation Department is the lead agency under the California Environmental Quality Act (Public Resources Code section 21000, et seq., (CEQA)),and filed a Notice of Completion on December 20, 2004 for a Environmental Impact Report (SCH# 95062022) for the project under CEQA Guidelines Title 14, California Code of Regulations, 15075 (14 CCR § 15075). Following proposed project changes, the Riverside County Transportation Department released a Supplemental Environmental Impact Report.

2. The Regional Board has reviewed the lead agency's Supplemental and original Environmental Impact Report, and finds that the project as proposed will not have a significant effect on the environment with conditioned mitigation measures and therefore determines that issuance of this Certification is consistent with the Supplemental Environmental Impact Report and original Environmental Impact Report.

PUBLIC NOTIFICATION OF PROJECT APPLICATION:

On November 30, 2007 receipt of the project application was posted on the Regional Board web site to serve as appropriate notification to the public.

REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:

Chad Loflen
California Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123
858-467-2727
cloflen@waterboards.ca.gov

WATER QUALITY CERTIFICATION:

I hereby certify that the proposed discharge from the Clinton Keith Road Extension West Project (Project No. 07C-110) will comply with the applicable provisions of sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 ("Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under State Water Board Order No. 2003-0017-DWQ, "Statewide General Waste Discharge Requirements for Dredged or Fill Discharges that have Received State Water Quality Certification (General WDRs)," which requires compliance with all conditions of this Water Quality Certification. Please note that enrollment under Order No. 2003-017 DWQ is conditional and, should new information come to our attention that indicates a water quality problem, the Regional Board may issue waste discharge requirements at that time.

Except insofar as may be modified by any preceding conditions, all Certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the applicants' project description and/or on the attached Project Information Sheet, and (b) on compliance with all applicable requirements of the Regional Board's Water Quality Control Plan (Basin Plan).

James G. Smith, AEO
For DAVID W. GIBSON
Executive Officer
Regional Water Quality Control Board

11 Feb 10
Date

Attachments:

1. Project Information
2. Distribution List
3. Location Map
4. Site Maps
5. Mitigation Maps
6. Post-Construction BMP Maps
7. Stream Photodocumentation Procedure

ATTACHMENT 1
PROJECT INFORMATION

Applicant:	Riverside County Transportation Department Attention: Laurie Dobson Correa 4080 Lemon Street, 8th Floor Riverside, CA 92502 Telephone: 951-955-2016 Facsimile: 951-955-3164 Email: lcorrea@rctlma.org
Applicant Representatives:	CH2M Hill Attention: Carolyn Washburn 3 Hutton Centre Drive, Suite 200 Santa Ana, CA 92707 Telephone: 714-227-5463 Facsimile: 714-424-2079 Email: Carolyn.washburn@ch2m.com
Project Name:	Clinton Keith Road Extension Project West
Project Location:	Latitude: 33 35'52.32"N Longitude: 117 10'17.61"W to Latitude: 33 36'6.86"N Longitude: 117 8'12.47"W
Type of Project:	Transportation Improvement
Need for Project:	The project will widen existing Clinton Keith Road and extend the road east to State Route 79. The project is needed to provide an east-west arterial connection between I-215 and State Route 79.
Project Description:	The project is a portion of the extension, widening, and re-alignment of Clinton Keith Road from the Interstate 215 to State Route 79 in Riverside County. The project will extend the western portion of Clinton Keith from I-215 to Liberty Lane. The western extension of Clinton Keith requires the placement of a bridge over Warm Springs Creek, as well as the placement of larger culverts at Drainages A and B, which in total would result in permanent impacts of 0.31 acres (1,850 linear feet) and temporary impacts of 0.01 acres (360 linear feet) to non-wetland waters of the United States.
Federal Agency/Permit:	U.S. Army Corps of Engineers §404, NWP 14, ACOE Staff: James Mace

Other Required Regulatory Approvals:	California Department of Fish and Game 1600 Streambed Alteration Agreement, CDFG Staff: Anna Milloy
California Environmental Quality Act (CEQA) Compliance:	Environmental Impact Report and Supplemental Environmental Impact Report, Notice of Completion: 12/20/2004, SCH#95062022, Lead Agency: Riverside County Transportation Department
Receiving Water:	Warm Springs Creek, Santa Margarita HU, Murrieta HA, French HSA
Affected Waters of the United States:	Temporary: Un-vegetated Streambed: 0.01 acres, 360 linear feet Permanent: Un-vegetated Streambed: 0.31 acres, 1,850 linear feet
Dredge Volume:	n/a
Related Projects Implemented/to be Implemented by the Applicant(s):	Clinton Keith Road Extension Project East. The U.S. Army Corps of Engineers required the project be split into East and West portions and receive individual 404 permits.
Compensatory Mitigation:	On-site: Streambed: 2,211 linear feet (at least 0.31 acres) of self-creating (establishment) drainages on-site and restoration of temporary impacts to pre-project conditions.
Mitigation Location:	On-site at Drainage A and adjacent to Warm Springs Creek.
Best Management Practices (BMPs):	<u>Construction</u> In accordance with State Water Resources Control Board Water Quality Order No. 99-08-DWQ, and any subsequent re-issuance. <u>Post Construction</u> In accordance with the Project Specific Water Quality Management Plan for the Clinton Keith Road Extension from Antelope Road to "French Valley Creek" prepared by CH2M Hill for the Riverside County Transportation Department and

revised March 2009.

The Project will widen the existing paved portion of Clinton Keith Road from the I-215 to Meadowlark lane. The Riverside County Transportation Authority proposes to utilize biofiltration catch basin units in existing storm drains and/or those constructed as part of the project. All new impervious surfaces associated with the construction of Clinton Keith Road from Meadowlark Lane to Liberty Lane are proposed to be treated by a vegetated extended detention basin. The Post-Construction BMPs proposed will treat 100 percent of new impervious surfaces associated with construction of the project and will also treat existing un-treated impervious surfaces west of Meadowlark Lane.

Public Notice:	November 30, 2007. No comments were received on the project.
Inspection:	n/a
Fees:	Total Due: $11,550.00 Total Paid: $11,550.00 (check No. 0500918558 and No. 0501285912)
CIWQS:	Regulatory Measure ID: 337628 Place ID: 708506 Party ID: 366229

ATTACHMENT 2
E-MAIL DISTRIBUTION LIST

James Mace
U.S. Army Corps of Engineers, Regulatory Branch
James.E.Mace@usace.army.mil

Anna Milloy
California Department of Fish and Game
amilloy@dfg.ca.gov

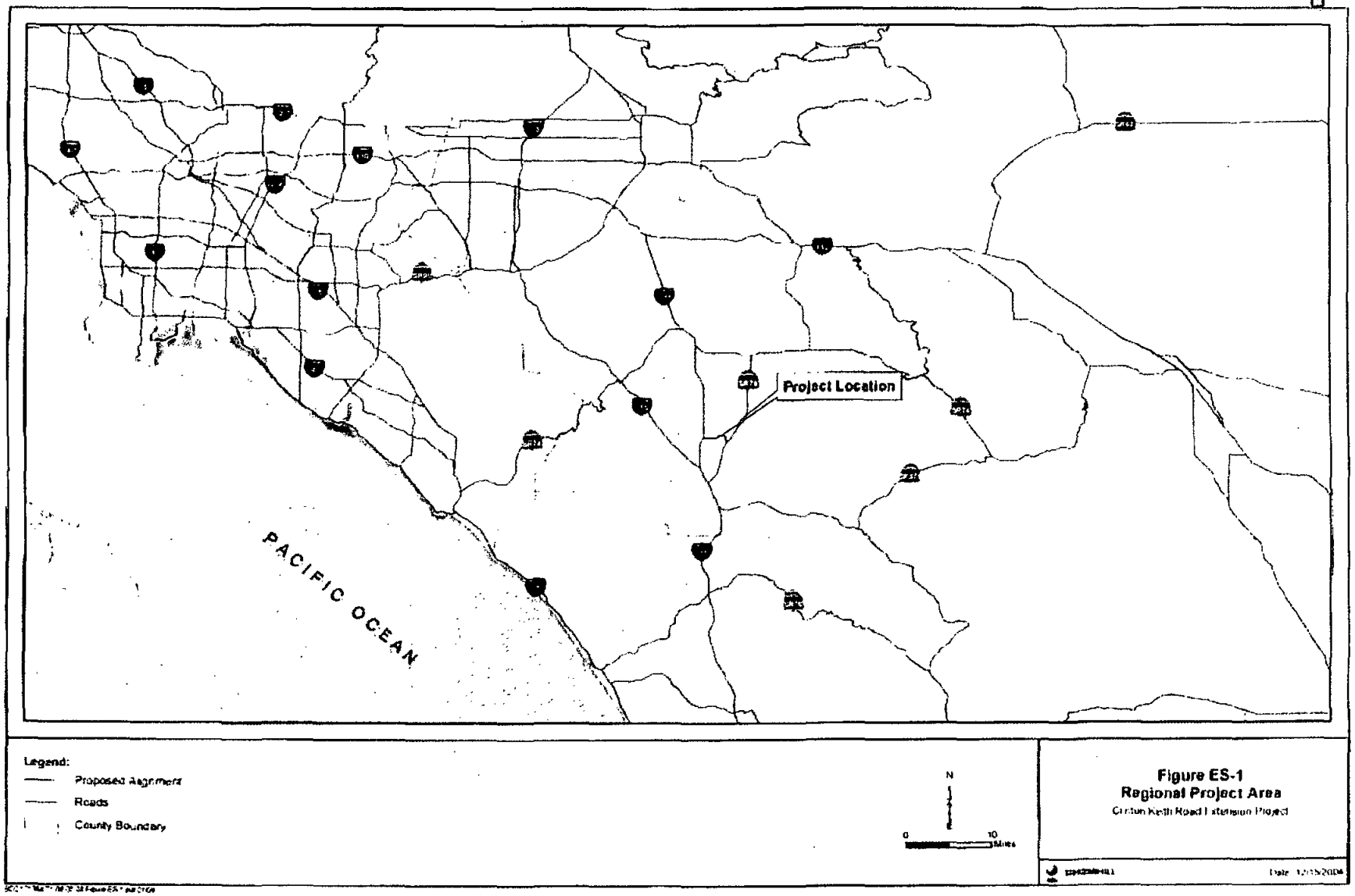
USEPA, Region 9
R9-WTR8-Mailbox@epa.gov

State Water Resources Control Board, Division of Water Quality
401 Water Quality Certification and Wetlands Unit
Stateboard401@waterboards.ca.gov

Carolyn Washburn
CH2M Hill
Carolyn.washburn@ch2m.com

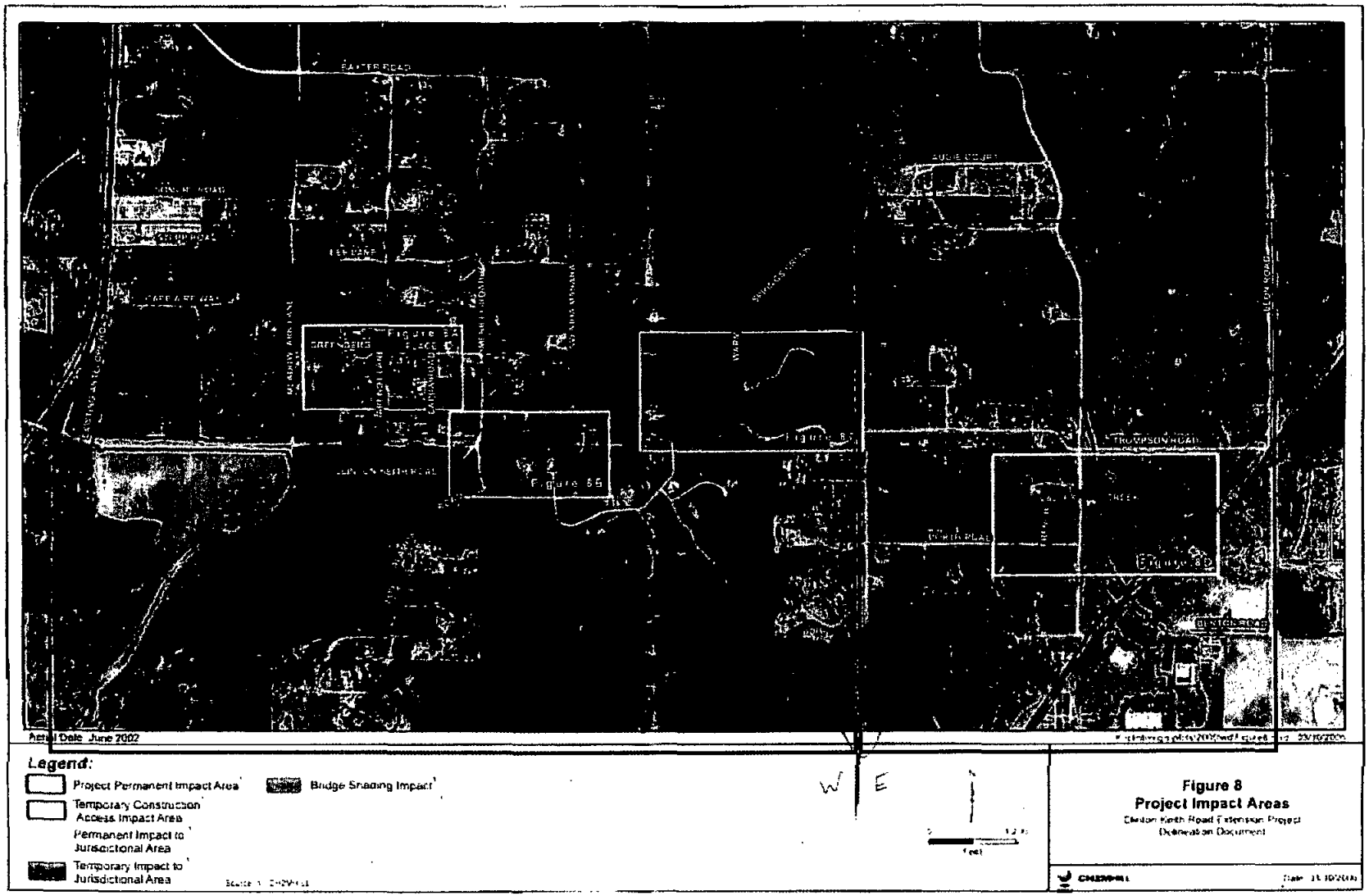
07C-110

ATTACHMENT 3
PROJECT LOCATION



ATTACHMENT 4
SITE MAPS

Red: 07C-110 (West) Blue: 07C-109 (East)



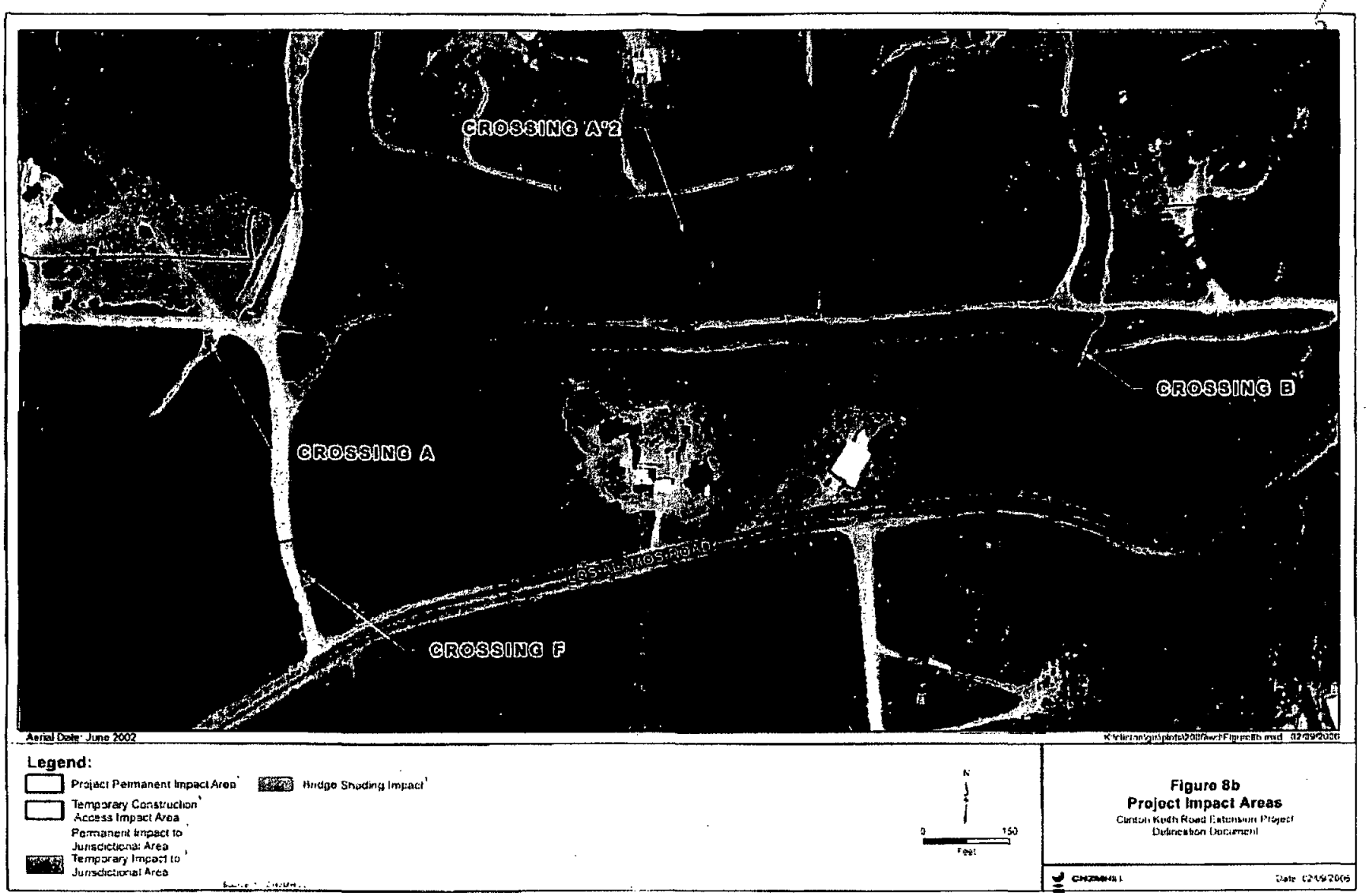
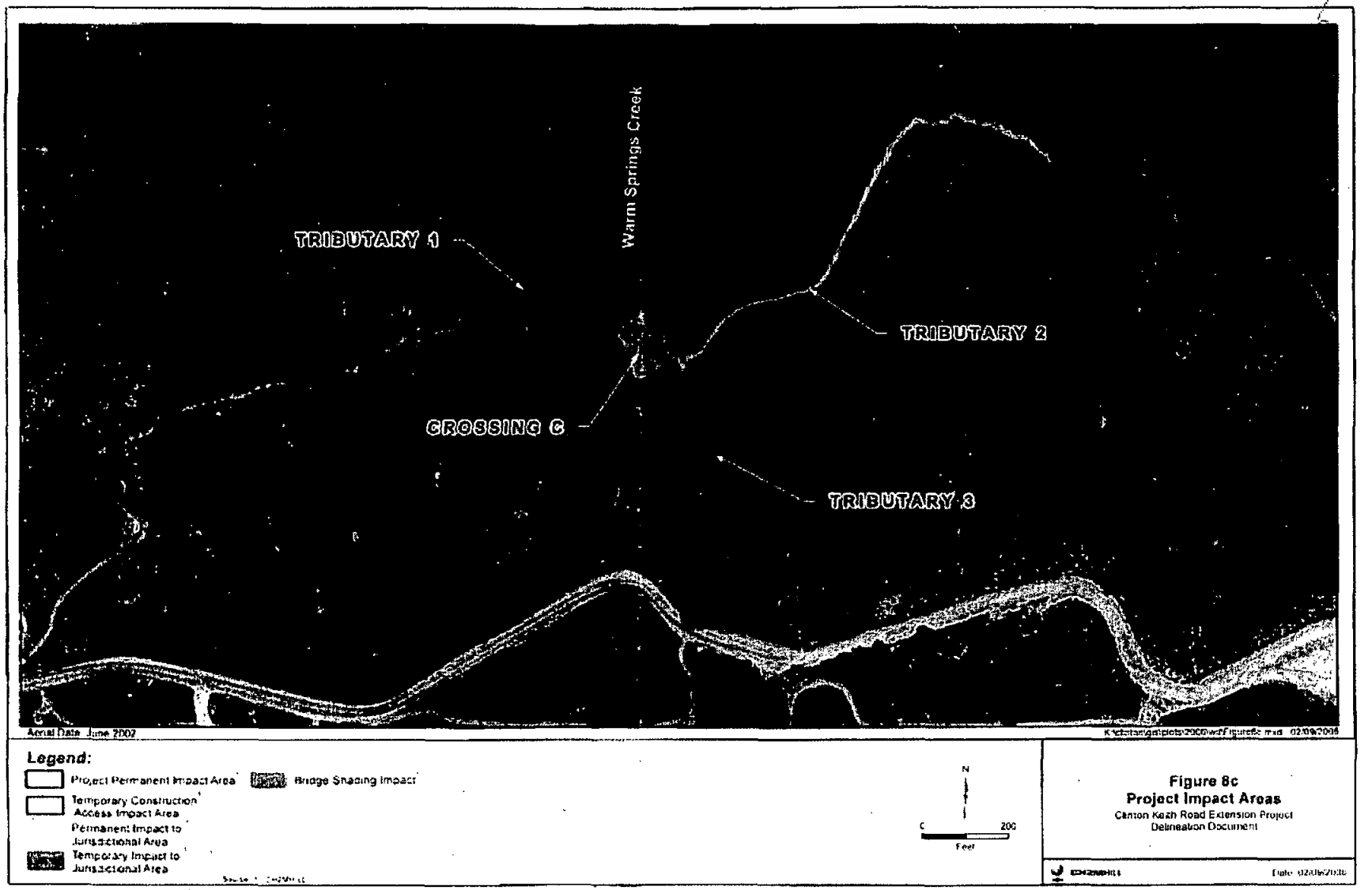
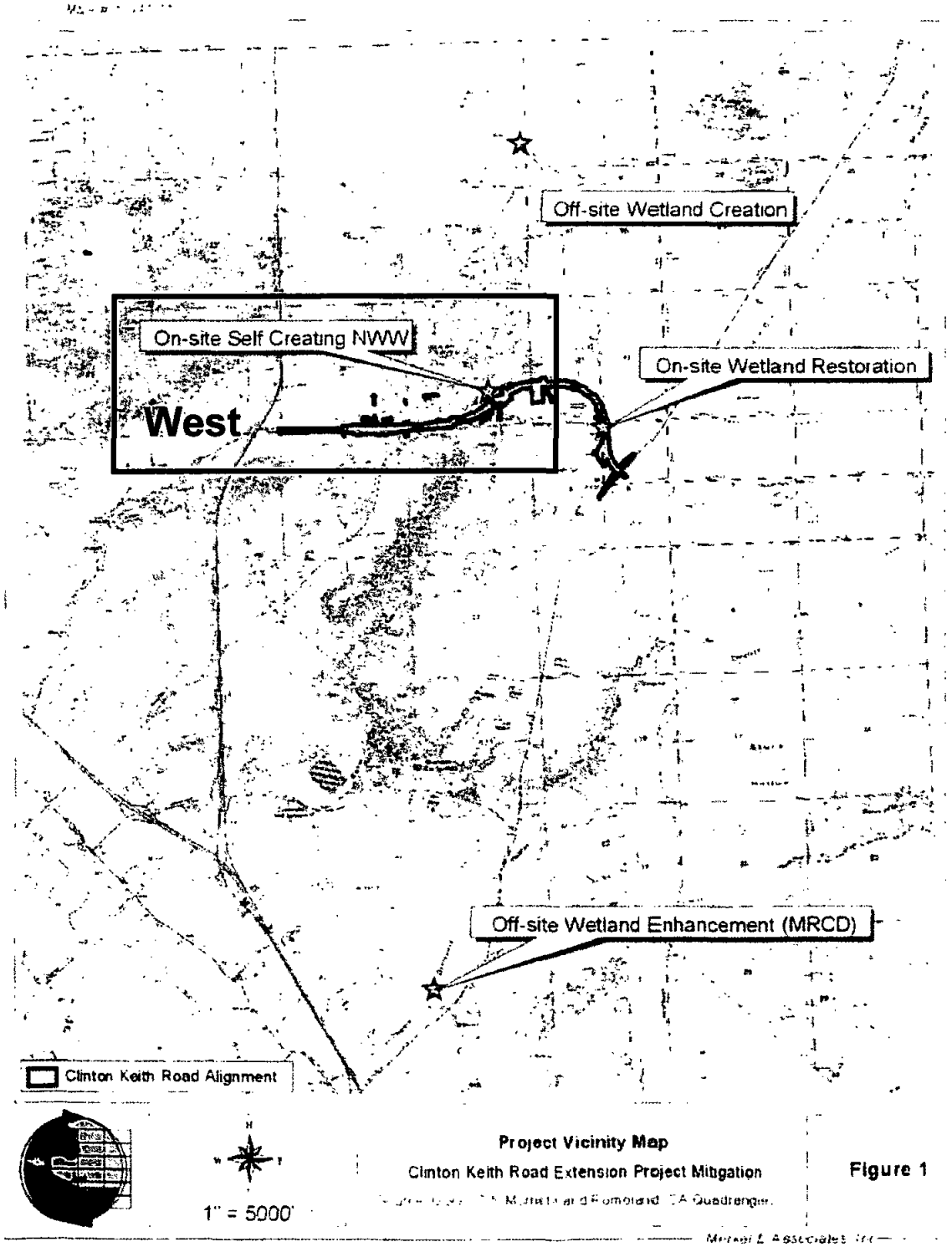


Figure 8b
Project Impact Areas
Clinton Keith Road Extension Project
Delineation Document


TRIBUTARY 1
Warm Springs Creek
TRIBUTARY 2
CROSSING C
TRIBUTARY 3
Aerial Date: June 2002
Legend:
Project Permanent Impact Area
Bridge Shading Impact
Temporary Construction Access Impact Area
Permanent Impact to Jurisdictional Area
Temporary Impact to Jurisdictional Area
N
0
200
Feet
Figure 8c
Project Impact Areas
Canton Kezh Road Extension Project
Delineation Document

ATTACHMENT 5
MITIGATION MAPS

Non-wetland waters (NWW) of the United States



Wetland mitigation is associated with the Clinton Keith Road Project East (07C-109)

Establishment Areas A-G (see additional maps)

A-10′ proposed flow, outside culvert & inside R/W

B-255′ proposed flow, outside culvert & inside R/W

C-120′ proposed flow, outside culvert & inside R/W

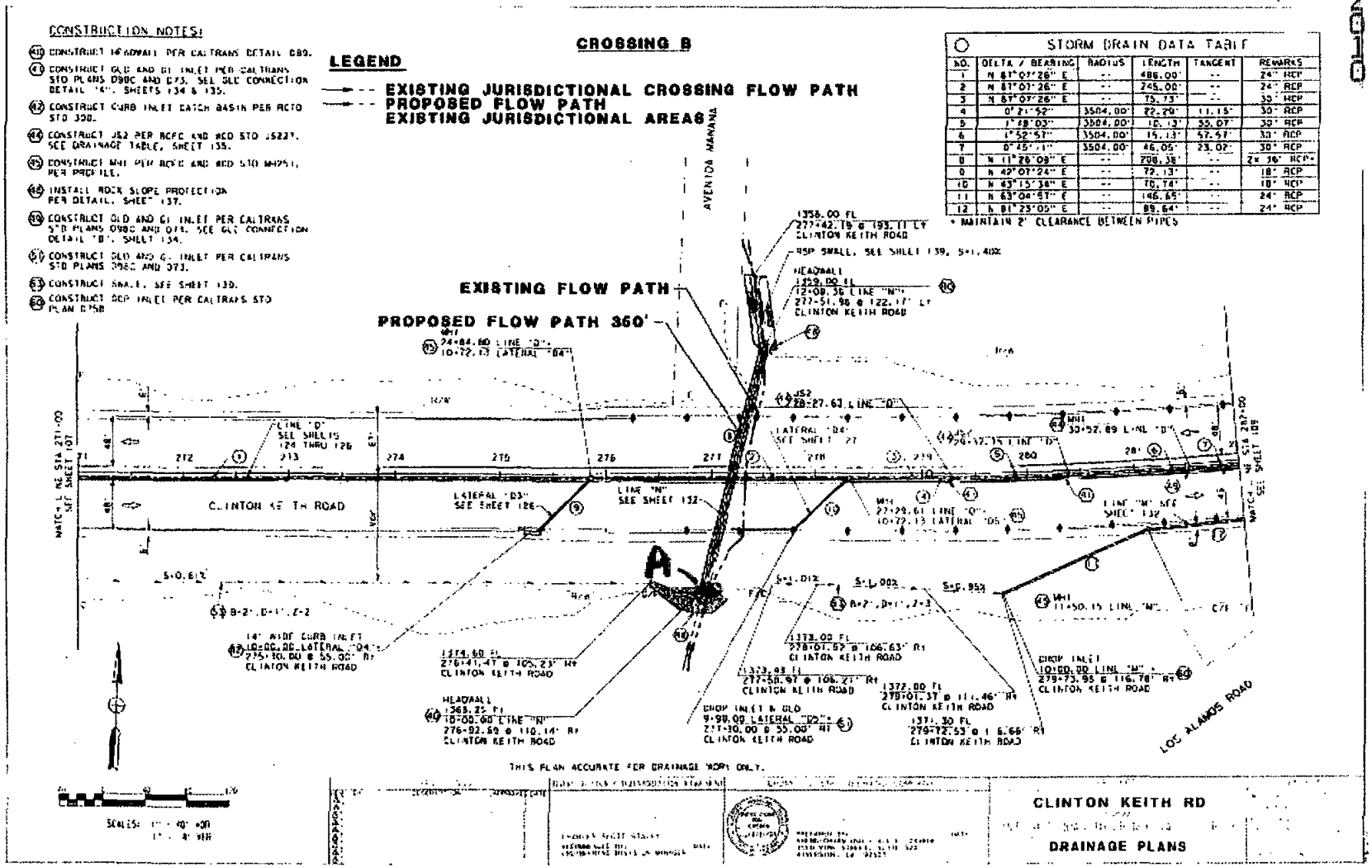
D-582′ proposed flow, outside Culvert & inside R/W

E-519′ proposed flow, outside culvert & inside R/W

F-215′ proposed flow, outside culvert & inside R/W

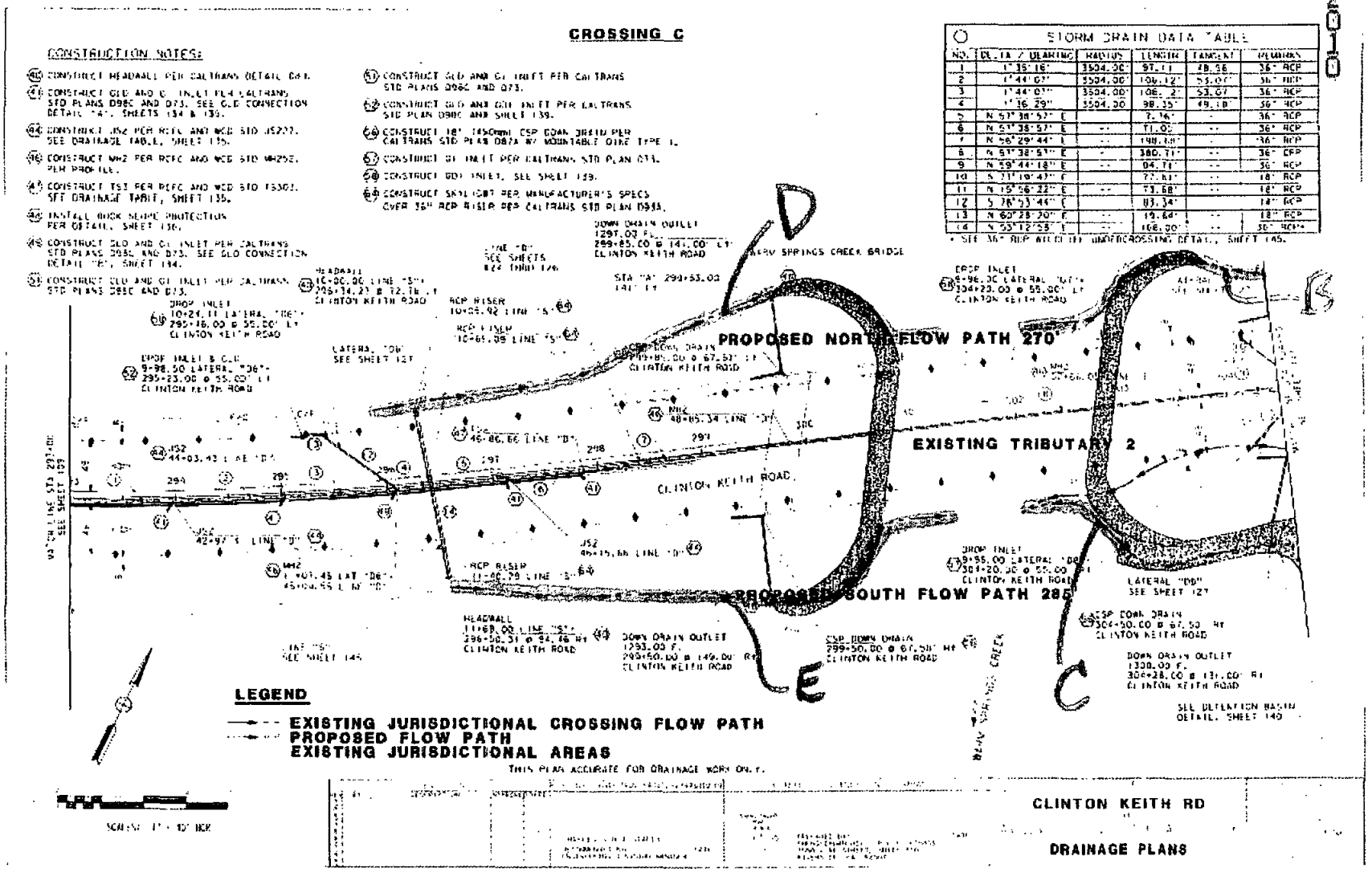
G-520′ proposed flow, outside culvert & inside R/W

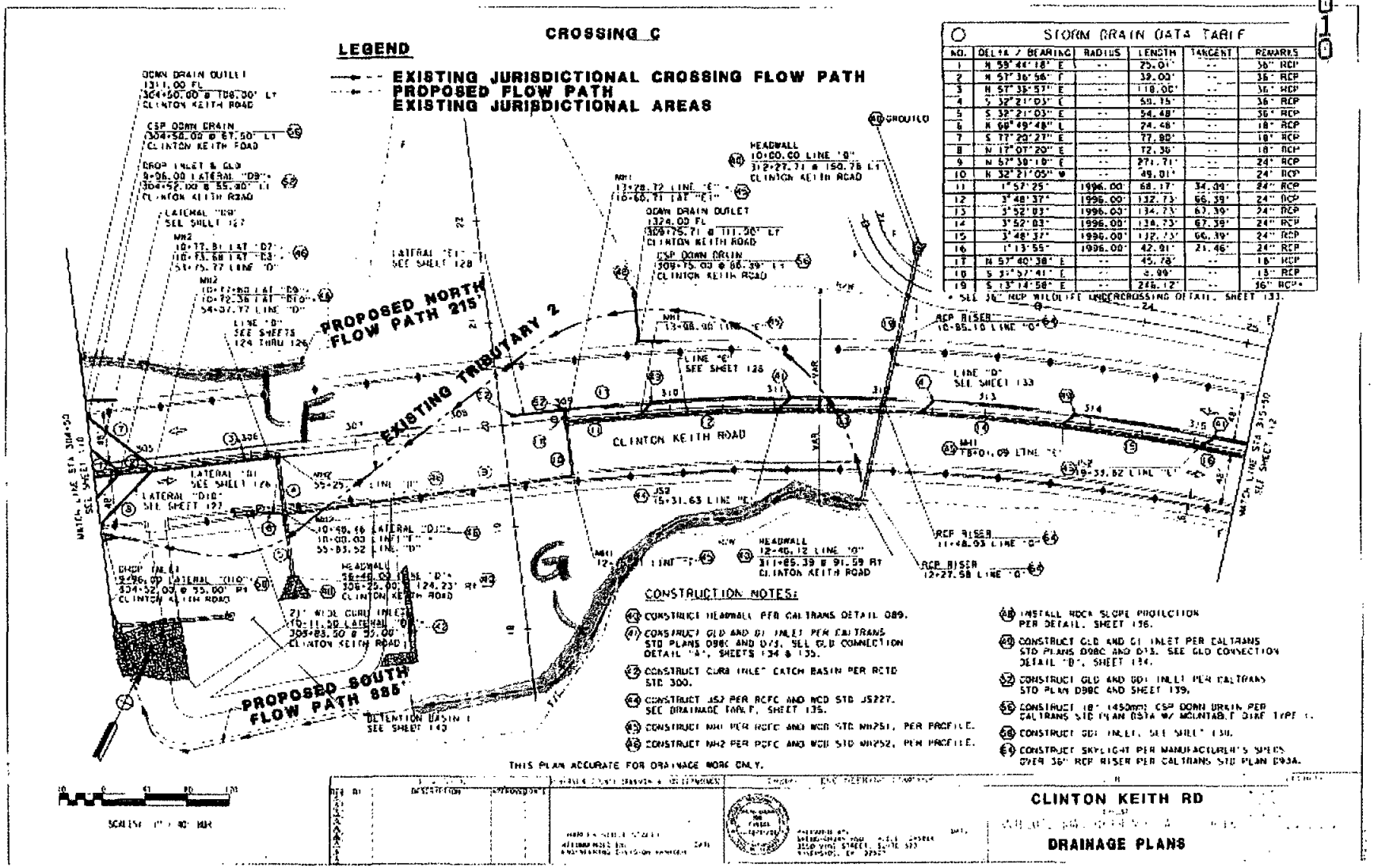
Total = 2221 feet



NO.	DELTA / BEARING	RADIUS	LENGTH	TANGENT	REMARKS
1	N 81°07'26" E	--	486.00'	--	24" RCP
2	N 81°07'26" E	--	245.00'	--	24" RCP
3	N 81°07'26" E	--	75.73'	--	30" RCP
4	0°21'52"	3504.00'	22.29'	11.15'	30" RCP
5	1°48'05"	3504.00'	10.13'	55.07'	30" RCP
6	1°52'57"	3504.00'	15.13'	52.57'	30" RCP
7	0°25'11"	3504.00'	46.05'	23.02'	30" RCP
8	N 11°28'09" E	--	208.38'	--	2x 36" RCP*
9	N 42°07'24" E	--	72.13'	--	18" RCP
10	N 43°15'36" E	--	70.74'	--	18" RCP
11	N 63°04'57" E	--	146.65'	--	24" RCP
12	N 81°23'05" E	--	89.64'	--	24" RCP

* MAINTAIN 2' CLEARANCE BETWEEN PIPES


CROSSING C
CONSTRUCTION NOTES:
STORM DRAIN DATA TABLE
PROPOSED NORTH FLOW PATH 270'
EXISTING TRIBUTARY 2
PROPOSED SOUTH FLOW PATH 285'
CLINTON KEITH ROAD
LEGEND
EXISTING JURISDICTIONAL CROSSING FLOW PATH
PROPOSED FLOW PATH
EXISTING JURISDICTIONAL AREAS
CLINTON KEITH RD
DRAINAGE PLANS

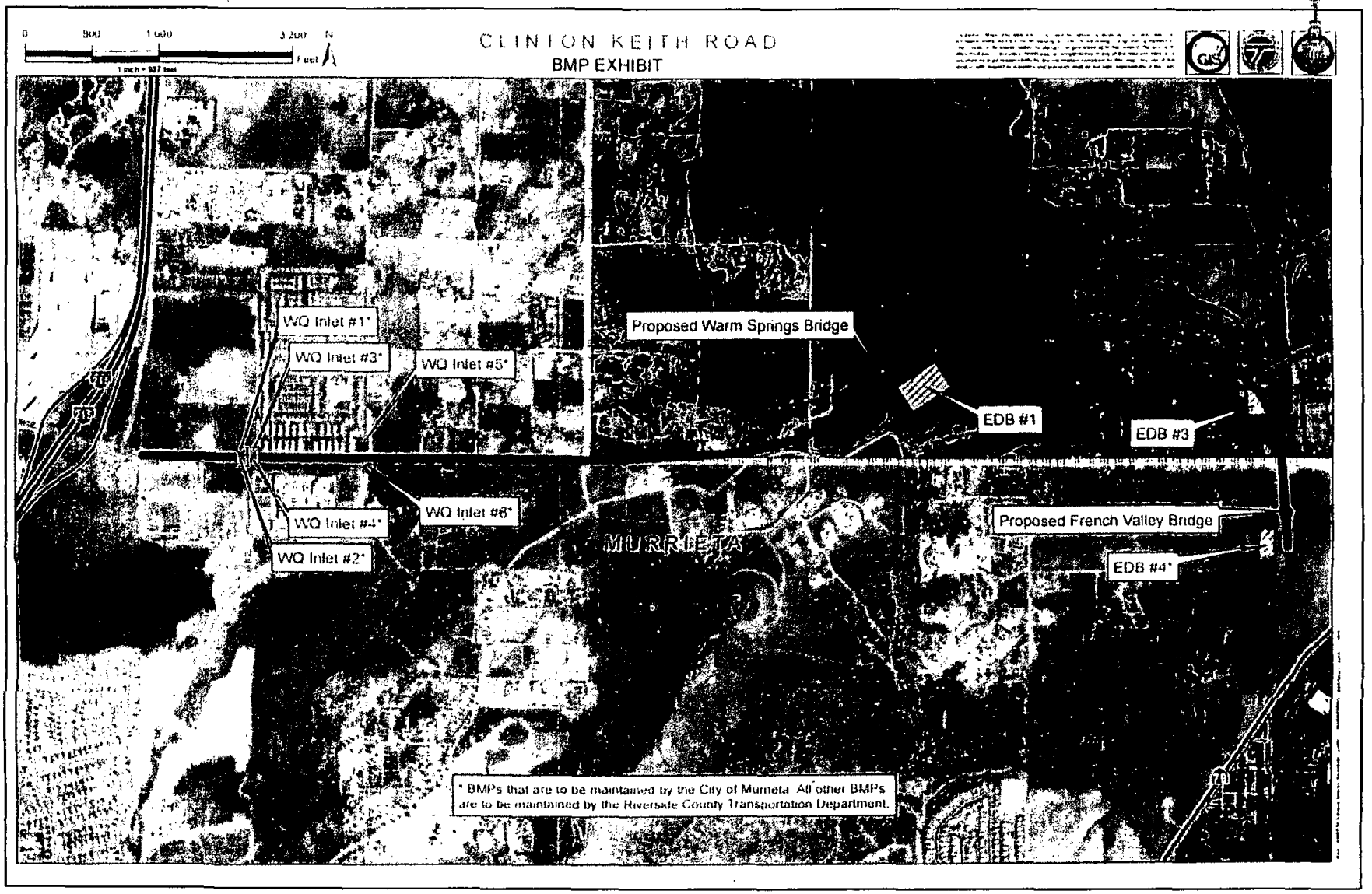


STORM DRAIN DATA TABLE

NO.	DELTA / BEARING	RADIUS	LENGTH	TANGENT	REMARKS
1	N 59°44'18" E	--	75.01'	--	36" RCP
2	N 51°36'56" E	--	39.00'	--	36" RCP
3	N 57°38'57" E	--	110.00'	--	36" RCP
4	S 32°21'03" E	--	60.15'	--	36" RCP
5	S 32°21'03" E	--	54.48'	--	36" RCP
6	N 89°49'48" E	--	24.48'	--	18" RCP
7	S 77°20'27" E	--	77.80'	--	18" RCP
8	N 17°07'20" E	--	72.30'	--	18" RCP
9	N 67°38'10" E	--	271.71'	--	24" RCP
10	N 32°21'05" W	--	49.01'	--	24" RCP
11	1°57'25"	1996.00'	68.17'	34.09'	24" RCP
12	3°48'37"	1996.00'	132.73'	66.39'	24" RCP
13	3°52'03"	1996.00'	134.73'	67.39'	24" RCP
14	3°52'03"	1996.00'	134.73'	67.39'	24" RCP
15	3°48'37"	1996.00'	132.73'	66.39'	24" RCP
16	1°13'55"	1996.00'	42.01'	21.46'	24" RCP
17	N 57°40'38" E	--	45.78'	--	18" RCP
18	S 3°57'41" E	--	6.99'	--	18" RCP
19	S 13°14'58" E	--	246.12'	--	36" RCP*

* SEE 36" RCP WILDLIFE UNDERCROSSING DETAIL, SHEET 133.

ATTACHMENT 6
POST CONSTRUCTION BMP MAP



ATTACHMENT 7
STREAM PHOTO DOCUMENTATION PROCEDURES

Standard Operating Procedure (SOP)

Stream Photo Documentation Procedure
(CARCD 2001, Written by TAC Visual Assessments work group)

Introduction:

Photographs provide a qualitative, and potentially semi-quantitative, record of conditions in a watershed or on a water body. Photographs can be used to document general conditions on a reach of a stream during a stream walk, pollution events or other impacts, assess resource conditions over time, or can be used to document temporal progress for restoration efforts or other projects designed to benefit water quality. Photographic technology is available to anyone and it does not require a large degree of training or expensive equipment. Photos can be used in reports, presentations, or uploaded onto a computer website or GIS program. This approach is useful in providing a visual portrait of water resources to those who may never have the opportunity to actually visit a monitoring site.

Equipment:

Use the same camera to the extent possible for each photo throughout the duration of the project. Either 35 mm color or digital color cameras are recommended, accompanied by a telephoto lens. If you must change cameras during the program, replace the original camera with a similar one comparable in terms of media (digital vs. 35 mm) and other characteristics. A complete equipment list is suggested as follows:

Required:

- Camera and backup camera
- Folder with copies of previous photos (do not carry original photos in the field)
- Topographic and/or road map
- Aerial photos if available
- Compass
- Timepiece
- Extra film or digital disk capacity (whichever is applicable)
- Extra batteries for camera (if applicable)
- Photo-log data sheets or, alternatively, a bound notebook dedicated to the project
- Yellow photo sign form and black marker, or, alternatively, a small black board and chalk

Optional:

- GPS unit
- Stadia rod (for scale on landscape shots)
- Ruler (for scale on close up views of streams and vegetation)
- Steel fence posts for dedicating fixed photo points in the absence of available fixed landmarks

How to Access Aerial Photographs:

Aerial Photos can be obtained from the following federal agencies:

USGS Earth Science Information Center
507 National Center
12201 Sunrise Valley Drive
Reston, VA 22092
800-USA-MAPS

USDA Consolidated Farm Service Agencies
Aerial Photography Field Office
222 West 2300 South
P.O. Box 30010
Salt Lake City, UT 84103-0010
801-524-5856

Cartographic and Architectural Branch
National Archives and Records Administration
8601 Adelphi Road
College park, MD 20740-6001
301-713-7040

Roles and Duties of Team:

The team should be comprised of a minimum of two people, and preferably three people for restoration or other water quality improvement projects, as follows:

1. Primary Photographer
2. Subject, target for centering the photo and providing scale
3. Person responsible for determining geographic position and holding the photo sign forms or blackboard.

One of these people is also responsible for taking field notes to describe and record photos and photo points.

Safety Concerns:

Persons involved in photo monitoring should **ALWAYS** put safety first. For safety reasons, always have at least two 2 volunteers for the survey. Make sure that the

area(s) you are surveying either are accessible to the public or that you have obtained permission from the landowner prior to the survey.

Some safety concerns that may be encountered during the survey include, but are not limited to:

- Inclement weather
- Flood conditions, fast flowing water, or very cold water
- Poisonous plants (e.g.: poison oak)
- Dangerous insects and animals (e.g.: bees, rattlesnakes, range animals such as cattle, etc.)
- Harmful or hazardous trash (e.g.: broken glass, hypodermic needles, human feces)

We recommend that the volunteer coordinator or leader discuss the potential hazards with all volunteers prior to any fieldwork.

General Instructions:

From the inception of any photo documentation project until it is completed, always take each photo from the same position (photo point), and at the same bearing and vertical angle at that photo point. Photo point positions should be thoroughly documented, including photographs taken of the photo point. Refer to copies of previous photos when arriving at the photo point. Try to maintain a level (horizontal) camera view unless the terrain is sloped. (If the photo can not be horizontal due to the slope, then record the angle for that photo.) When photo points are first being selected, consider the type of project (meadow or stream restoration, vegetation management for fire control, ambient or event monitoring as part of a stream walk, etc.) and refer to the guidance listed on *Suggestions for Photo Points by Type of Project.*

When taking photographs, try to include landscape features that are unlikely to change over several years (buildings, other structures, and landscape features such as peaks, rock outcrops, large trees, etc.) so that repeat photos will be easy to position. Lighting is, of course, a key ingredient so give consideration to the angle of light, cloud cover, background, shadows, and contrasts. Close view photographs taken from the north (i.e., facing south) will minimize shadows. Medium and long view photos are best shot with the sun at the photographer's back. Some artistic expression is encouraged as some photos may be used on websites and in slide shows (early morning and late evening shots may be useful for this purpose). Seasonal changes can be used to advantage as foliage, stream flow, cloud cover, and site access fluctuate. It is often important to include a ruler, stadia rod, person, farm animal, or automobile in photos to convey the scale of the image. Of particular concern is the angle from which the photo is taken. Oftentimes an overhead or elevated shot from a bridge, cliff, peak, tree, etc. will be instrumental in conveying the full dimensions of the

project. Of most importance overall, however, is being aware of the goal(s) of the project and capturing images that clearly demonstrate progress towards achieving those goal(s). Again, reference to *Suggestions for Photo Points by Type of Project* may be helpful.

If possible, try to include a black board or yellow photo sign in the view, marked at a minimum with the location, subject, time and date of the photograph. A blank photo sign form is included in this document.

Recording Information:

Use a systematic method of recording information about each project, photo point, and photo. The following information should be entered on the photo-log forms (blank form included in this document) or in a dedicated notebook:

- Project or group name, and contract number (if applicable, e.g., for funded restoration projects)
- General location (stream, beach, city, etc.), and short narrative description of project's habitat type, goals, etc.
- Photographer and other team members
- Photo number
- Date
- Time (for each photograph)
- Photo point information, including:
    - Name or other unique identifier (abbreviated name and/or ID number)
    - Narrative description of location including proximity to and direction from notable landscape features like roads, fence lines, creeks, rock outcrops, large trees, buildings, previous photo points, etc. – sufficient for future photographers who have never visited the project to locate the photo point
    - Latitude, longitude, and altitude from map or GPS unit
- Magnetic compass bearing from the photo point to the subject
- Specific information about the subject of the photo
- Optional additional information: a true compass bearing (corrected for declination) from photo point to subject, time of sunrise and sunset (check newspaper or almanac), and cloud cover.

For ambient monitoring, the stream and shore walk form should be attached or referenced in the photo-log.

When monitoring the implementation of restoration, fuel reduction, or Best Management Practices (BMP) projects, include or attach to the photo-log a narrative description of observable progress in achieving the goals of the project. Provide supplementary information along with the photo, such as noticeable changes in habitat, wildlife, and water quality and quantity.

Archive all photos, along with the associated photo-log information, in a protected environment.

The Photo Point: Establishing Position of Photographer:

1. Have available a variety of methods for establishing position: maps, aerial photos, GPS, permanent markers and landmarks, etc. If the primary method fails (e.g., a GPS or lost marker post) then have an alternate method (map, aerial photo, copy of an original photograph of the photo-point, etc).

2. Select an existing structure or landmark (mailbox, telephone pole, benchmark, large rock, etc.), identify its latitude and longitude, and choose (and record for future use) the permanent position of the photographer relative to that landmark. Alternatively, choose the procedure described in *Monitoring California's Annual Rangeland Vegetation* (UC/DANR Leaflet 21486, Dec. 1990). This procedure involves placing a permanently marked steel fence post to establish the position of the photographer.

3. For restoration, fuel reduction, and BMP projects, photograph the photo-points and carry copies of those photographs on subsequent field visits.

Determining the Compass Bearing:

1. Select and record the permanent magnetic bearing of the photo center view. You can also record the true compass bearing (corrected for declination) but do not substitute this for the magnetic bearing. Include a prominent landmark in a set position within the view. If possible, have an assistant stand at a fixed distance from both the photographer and the center of the view, holding a stadia rod if available, within the view of the camera; preferably position the stadia rod on one established, consistent side of the view for each photo (right or left side).
2. Alternatively, use the procedure described in *Monitoring California's Annual Rangeland Vegetation* (UC/DANR Leaflet 21486, Dec. 1990). This procedure involves placing a permanently marked steel fence post to establish the position of the focal point (photo center).
3. When performing ambient or event photo monitoring, and when a compass is not available, then refer to a map and record the approximate bearing as north, south, east or west.

Suggestions for Photo Points by Type of Project:

Ambient or Event Monitoring, Including Photography Associated with Narrative Visual Assessments:

1. When first beginning an ambient monitoring program take representative long and/or medium view photos of stream reaches and segments of shoreline being monitored. Show the positions of these photos on a map, preferably on the stream/shore walk form. Subjects to be photographed include a representative view of the stream or shore condition at the beginning and ending positions of the segment being monitored, storm drain outfalls, confluence of tributaries, structures (e.g., bridges, dams, pipelines, etc.).

2. If possible, take a close view photograph of the substrate (streambed), algae, or submerged aquatic vegetation.

3. Time series: Photographs of these subjects at the same photo points should be repeated annually during the same season or month if possible.

4. Event monitoring refers to any unusual or sporadic conditions encountered during a stream or shore walk, such as trash dumps, turbidity events, oil spills, etc. Photograph and record information on your photo-log and on your Stream and Shore Walk Visual Assessment form. Report pollution events to the Regional Board. Report trash dumps to local authorities.

All Restoration and Fuel Reduction Projects – Time Series:

Take photos immediately before and after construction, planting, or vegetation removal. Long term monitoring should allow for at least annual photography for a minimum of three years after the project, and thereafter at 5 years and ten years.

Meadow Restoration:

1. Aerial view (satellite or airplane photography) if available.

2. In the absence of an aerial view, a landscape, long view showing an overlapping sequence of photos illustrating a long reach of stream and meadow (satellite photos, or hill close by, fly-over, etc.)

3. Long view up or down the longitudinal dimension of the creek showing riparian vegetation growth bounded on each side by grasses, sedges, or whatever that is lower in height

4. Long view of conversion of sage and other upland species back to meadow vegetation

5. Long view and medium view of streambed changes (straightened back to meandering, sediment back to gravel, etc.)

6. Medium and close views of structures, plantings, etc. intended to induce these changes

Stream Restoration/stabilization:

1. Aerial view (satellite or airplane photography) if available.

2. In the absence of an aerial view, a landscape, long-view showing all or representative sections of the project (bluff, bridge, etc.)

3. Long view up or down the stream (from stream level) showing changes in the stream bank, vegetation, etc.

4. Long view and medium view of streambed changes (thalweg, gravel, meanders, etc.)

5. Medium and close views of structures, plantings, etc. intended to induce these changes.

6. Optional: Use a tape set perpendicular across the stream channel at fixed points and include this tape in your photos described in 3 and 4 above. For specific procedures refer to Harrelson, Cheryl C., C.L. Rawlins, and John P. Potyondy, *Stream Channel Reference Sites: An Illustrated Guide to Field Techniques*, United States Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station, General Technical Report RM-245.

Vegetation Management for Fire Prevention ("fuel reduction"):

1. Aerial view (satellite or airplane photography) if available.

2. In the absence of an aerial view, a landscape, long view showing all or representative sections of the project (bluff, bridge, etc.)

3. Long view (wide angle if possible) showing the project area or areas. Preferably these long views should be from an elevated vantage point.

4. Medium view photos showing examples of vegetation changes, and plantings if included in the project. It is recommended that a person (preferably holding a stadia rod) be included in the view for scale

5. To the extent possible include medium and long view photos that include adjacent stream channels.

Stream Sediment Load or Erosion Monitoring:

1. Long views from bridge or other elevated position.

2. Medium views of bars and banks, with a person (preferably holding a stadia rod) in view for scale.

3. Close views of streambed with ruler or other common object in the view for scale.

4. Time series: Photograph during the dry season (low flow) once per year or after a significant flood event when streambed is visible. The flood events may be episodic in the south and seasonal in the north.

5. Optional: Use a tape set perpendicular across the stream channel at fixed points and include this tape in your photos described in 1 and 2 above. For specific procedures refer to Harrelson, Cheryl C., C.L. Rawlins, and John P. Potyondy, *Stream Channel Reference Sites: An Illustrated Guide to Field Techniques*, United States Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station, General Technical Report RM-245.

PHOTO- LOG FORM

Project:
Location:
Date:
Photographer:
Team members:

Photo #	Time	Photo Point ID	Photo Pt. Description & Location	Bearing to Subject	Subject Description

General Notes or Comments (weather, cloud cover, time of sunrise and sunset, other pertinent information):

PHOTO SIGN FORM: Print this form on yellow paper. Complete the following information for each photograph. Include in the photographic view so that it will be legible in the finished photo.

Location:

Subject Description:

Date:

Time:

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Laurie Dobson Correa
Riverside County Transportation Department
4080 Lemon St., 8th Floor
Riverside, CA 92502

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☒ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7009 1410 0002 2347 4091

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

CERTIFIED MAIL™

7009 1410 0002 2347 4091

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®

OFFICIAL USE

Postage	$
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Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To Laurie Dobson Correa, Riverside County Transportation
Street, Apt. No.; or PO Box No. 4080 Lemon St., 8th Floor
City, State, ZIP+4 Riverside, CA 92502

PS Form 3800, August 2006 See Reverse for Instructions

Appendix C – Operation of Law CDFW Letter

DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
Eastern Sierra-Inland Deserts Region
3602 Inland Empire Blvd., Suite C-220
Ontario, CA 91764
Phone (909) 484-0459
Fax (909) 481-29

March 19, 2007

Ms. Laurie Dobson Correa
Riverside County Transportation Department
14th Street Transportation Annex, 3525
Riverside, CA 92501

Carolyn Washburn
CH2MHILL
3 Hutton Centre Drive, Suite 200
Santa Ana, CA 92707

Re: Notification of Lake or Streambed Alteration
Notification No. 1600-2006-0272-R6
Clinton Keith Road Extension Project

Dear Laurie:

The Department had until March 19, 2007 to submit a draft Lake or Streambed Alteration Agreement to you or inform you that an agreement is not required. Due to staffing constraints, the Department was unable to meet that date. As a result, by law, you may now complete the project described in your notification without an agreement. In doing so, however, the project must be the same one and conducted in the same manner as described in the notification. That includes completing the project within the proposed term and seasonal work period and implementing all mitigation and avoidance measures to protect fish and wildlife resources specified in the notification. (Fish and Game Code section 1602(a)(4)(D).)

If your project differs from the one described in the notification, you may be in violation of Fish and Game Code section 1602. Also, even though you are entitled to complete the project without an agreement, you are still responsible for complying with all other applicable local, state, and federal laws, including, for example, the state and federal Endangered Species Acts and Fish and Game Code sections 5650 (water pollution) and 5901 (fish passage).

Finally, you must have a copy of this letter ***and*** your notification with all attachments available at all times at the work site. If you have any questions regarding this matter, please contact Jeff Brandt at the above address or telephone number.

Sincerely,

Jeff Brandt
Environmental Scientist
Habitat Conservation Planning, Region 6

CH2MHILL TRANSMITTAL

To: California Department of Fish and Game
4665 Lampson Avenue, Suite J
Los Alamitos, CA 90720

From: Carolyn Washburn
CH2M HILL
3 Hutton Centre Drive, Suite 200
Santa Ana, CA 92707

Attn: Sheila Aguinaldo

Date: December 20, 2006

Re: Clinton Keith Road Extension Project – California Department of Fish and Game 1600 Permit Application (revised)

We Are Sending You:		Method of shipment:	
X Attached		Under separate cover via	
Shop Drawings	X	Documents	Tracings
Prints		Specifications	Catalogs
Copy of letter		Other:	

Quantity	Description
1 copy	Notification of Lake or Streambed Alteration Application (revised)
1 CD	Final Supplemental Environmental Impact Report 398 Volume 1 (January 2006)
1 CD	Final Report: Jurisdictional Delineation and Permitting Report (August 2006)
1 copy	Check number: 0500918561 for the amount of $4000.00

If the material received is not as listed, please notify us at once.

Remarks:

Sheila,

Per your request, enclosed is the revised CDFG Notification of Lake or Streambed Alteration Application for the Clinton Keith Road Extension Project. An application was previously sent to the Streambed Alternation Team on December 1, 2006.

When you have completed your review of the material, please let me know if you have any questions. We can discuss the project in more detail.

Please feel free to contact me at (714) 227-5463.

Thank you,

Carolyn Washburn

FOR DEPARTMENT USE ONLY				
Date Received	*Amount Received*	*Amount Due*	*Date Complete*	*Notification No.*
	$	$		

STATE OF CALIFORNIA
DEPARTMENT OF FISH AND GAME

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

Complete EACH field, unless otherwise indicated, following the enclosed instructions and submit ALL required enclosures. Attach additional pages, if necessary.

1. APPLICANT PROPOSING PROJECT

Name	Laurie Dobson Correa		
Business/Agency	Riverside County Transportation Department (RCTD)		
Street Address	14th Street Transportation Annex, 3525 14th Street		
City, State, Zip	Riverside, CA 92501		
Telephone	(951) 955-2016	Fax	(951) 955-3164
Email	LDCORREA@rctlma.org		

2. CONTACT PERSON (*Complete only if different from applicant*)

Name	Carolyn Washburn		
Street Address	3 Hutton Centre Drive, Suite 200		
City, State, Zip	Santa Ana, CA 92707		
Telephone	(714) 227-5463	Fax	(714) 424-2079
Email	Carolyn.Washburn@ch2m.com		

3. PROPERTY OWNER (*Complete only if different from applicant*)

Name	County of Riverside		
Street Address			
City, State, Zip			
Telephone		Fax	
Email			

4. PROJECT NAME AND AGREEMENT TERM

A. Project Name	Clinton Keith Road Extension Project			
B. Agreement Term Requested	☑ Regular (*5 years or less*) ☐ Long-term (*greater than 5 years*)			
C. Project Term		D. Seasonal Work Period		E. Number of Work Days
Beginning (*year*)	Ending (*year*)	Start Date (*month/day*)	End Date (*month/day*)	
2007	2008	09/01	08/31	180.00

5. AGREEMENT TYPE

Check the applicable box. If box B, C, D, or E is checked, complete the specified attachment.		
A.	☑ Standard *(Most construction projects, excluding the categories listed below)*	
B.	☐ Gravel/Sand/Rock Extraction (*Attachment A*)	*Mine I.D. Number:* _____
C.	☐ Timber Harvesting (*Attachment B*)	THP *Number:* _____
D.	☐ Water Diversion/Extraction/Impoundment (*Attachment C*)	*SWRCB Number:* _____
E.	☐ Routine Maintenance (*Attachment D*)	
F.	☐ DFG Fisheries Restoration Grant Program (FRGP)	*FRGP Contract Number:* _____
G.	☐ Master	
H.	☐ Master Timber Harvesting	

6. FEES

Please see the current fee schedule to determine the appropriate notification fee. Itemize each project's estimated cost and corresponding fee. ***Note: The Department may not process this notification until the correct fee has been received.***

	A. Project	B. Project Cost	C. Project Fee
1	Clinton Keith Road Extension Project	$40,000,000.00	$4,000.00
2			
3			
4			
5			
		D. Base Fee *(if applicable)*	
		E. TOTAL FEE ENCLOSED	$4,000.00

7. PRIOR NOTIFICATION OR ORDER

A. Has a notification previously been submitted to, or a Lake or Streambed Alteration Agreement previously been issued by, the Department for the project described in this notification?

☐ Yes (*Provide the information below*) ☑ No

Applicant: _____ Notification Number: _____ Date: _____

B. Is this notification being submitted in response to an order, notice, or other directive ("order") by a court or administrative agency (including the Department)?

☑ No ☐ Yes (*Enclose a copy of the order, notice, or other directive. If the directive is not in writing, identify the person who directed the applicant to submit this notification and the agency he or she represents, and describe the circumstances relating to the order.*)

☐ *Continued on additional page(s)*

8. PROJECT LOCATION

A. Address or description of project location.

(*Include a map that marks the location of the project with a reference to the nearest city or town, and provide driving directions from a major road or highway*)

The proposed Project is located in western Riverside County along the northern jurisdiction of the City of Murrieta and unincorporated Riverside County, between Interstate (I) 215 and State Route (SR) 79. The Project consists of constructing a six-lane urban arterial between Antelope Road and SR 79. This will occur along the existing dirt alignment of Clinton Keith Road to the point where it intersects with Los Alamos Road, and then continue easterly on the adopted General Plan alignment to SR 79.

See attached Jurisdictional Delineation and Permitting Report for more detail.

☐ *Continued on additional page(s)*

B. River, stream, or lake affected by the project.	Warm Springs and French Valley Creek
C. What water body is the river, stream, or lake tributary to?	Murrieta Creek
D. Is the river or stream segment affected by the project listed in the state or federal Wild and Scenic Rivers Acts?	☐ Yes ☑ No ☐ Unknown
E. County	Riverside

F. USGS 7.5 Minute Quad Map Name	G. Township	H. Range	I. Section	J. ¼ Section
Refer to Table 8F on page 1 of attachment.				

☑ *Continued on additional page(s)*

K. Meridian (*check one*) ☐ Humboldt ☐ Mt. Diablo ☑ San Bernardino

L. Assessor's Parcel Number(s)

The project spans multiple parcels. See attached Final Supplemental EIR (January 2006) for parcels and assessor parcel numbers along proposed alignment.

☐ *Continued on additional page(s)*

M. Coordinates (*If available, provide at least latitude/longitude or UTM coordinates and check appropriate boxes*)

Latitude/Longitude	*Latitude:* -117.14228872961	*Longitude:* 33.60030597749	
	☐ Degrees/Minutes/Seconds	☑ Decimal Degrees	☐ Decimal Minutes
UTM	*Easting:*	*Northing:*	☐ Zone 10 ☐ Zone 11
Datum used for Latitude/Longitude or UTM	☐ NAD 27	☑ NAD 83 or WGS 84	

9. PROJECT CATEGORY AND WORK TYPE *(Check each box that applies)*

PROJECT CATEGORY	NEW CONSTRUCTION	REPLACE EXISTING STRUCTURE	REPAIR/MAINTAIN EXISTING STRUCTURE
Bank stabilization – bioengineering/recontouring	☑	☐	☐
Bank stabilization – rip-rap/retaining wall/gabion	☐	☐	☐
Boat dock/pier	☐	☐	☐
Boat ramp	☐	☐	☐
Bridge	☑	☐	☐
Channel clearing/vegetation management	☑	☐	☐
Culvert	☑	☐	☐
Debris basin	☐	☐	☐
Dam	☐	☐	☐
Diversion structure – weir or pump intake	☐	☐	☐
Filling of wetland, river, stream, or lake	☑	☐	☐
Geotechnical survey	☐	☐	☐
Habitat enhancement – revegetation/mitigation	☑	☐	☐
Levee	☐	☐	☐
Low water crossing	☐	☐	☐
Road/trail	☑	☐	☐
Sediment removal – pond, stream, or marina	☐	☐	☐
Storm drain outfall structure	☐	☐	☐
Temporary stream crossing	☐	☐	☐
Utility crossing : Horizontal Directional Drilling	☐	☐	☐
Jack/bore	☐	☐	☐
Open trench	☐	☐	☐
Other *(specify)*: Construction of Clinton Keith Road	☑	☐	☐

10. PROJECT DESCRIPTION

A. Describe the project in detail. Photographs of the project location and immediate surrounding area should be included.

- Include any structures (e.g., rip-rap, culverts, or channel clearing) that will be placed, built, or completed in or near the stream, river, or lake.
- Specify the type and volume of materials that will be used.
- If water will be diverted or drafted, specify the purpose or use.

Enclose diagrams, drawings, plans, and/or maps that provide all of the following: site specific construction details; the dimensions of each structure and/or extent of each activity in the bed, channel, bank or floodplain; an overview of the entire project area (i.e., "bird's-eye view") showing the location of each structure and/or activity, significant area features, and where the equipment/machinery will enter and exit the project area.

See attached Jurisdictional Delineation and Permitting Report for a detailed project description.

☐ *Continued on additional page(s)*

B. Specify the equipment and machinery that will be used to complete the project.

See attached Final Supplemental Environmental Impact Report for this information.

☐ *Continued on additional page(s)*

C. Will water be present during the proposed work period (specified in box 4.D) in the stream, river, or lake (specified in box 8.B).	☐ Yes ☑ No (*Skip to box 11*)
D. Will the proposed project require work in the wetted portion of the channel?	☐ Yes (*Enclose a plan to divert water around work site*) ☑ No

11. PROJECT IMPACTS

A. Describe impacts to the bed, channel, and bank of the river, stream, or lake, and the associated riparian habitat. Specify the dimensions of the modifications in length (linear feet) and area (square feet or acres) and the type and volume of material (cubic yards) that will be moved, displaced, or otherwise disturbed, if applicable.

See attached Jurisdictional Delineation and Permitting Report for more detail.

☐ *Continued on additional page(s)*

B. Will the project affect any vegetation? ☑ Yes (*Complete the tables below*) ☐ No

Vegetation Type	Temporary Impact	Permanent Impact
Refer to Table 11B on page 2 of attachment.	Linear feet: _____ Total area: _____	Linear feet: _____ Total area: _____
	Linear feet: _____ Total area: _____	Linear feet: _____ Total area: _____

Tree Species	Number of Trees to be Removed	Trunk Diameter (range)
None		

☑ *Continued on additional page(s)*

C. Are any special status animal or plant species, or habitat that could support such species, known to be present on or near the project site?

☑ Yes *(List each species and/or describe the habitat below)* ☐ No ☐ Unknown

Refer to Final Supplemental Environmental Impact Report, Volume 1, Section 3.5 Biological Resources

☐ *Continued on additional page(s)*

D. Identify the source(s) of information that supports a "yes" or "no" answer above in Box 11.C.

Refer to Final Supplemental Environmental Impact Report, Volume 1, Section 3.5 Biological Resources.

☐ *Continued on additional page(s)*

E. Has a biological study been completed for the project site?

☑ Yes (*Enclose the biological study*) ☐ No

Note: A biological assessment or study may be required to evaluate potential project impacts on biological resources.

F. Has a hydrological study been completed for the project or project site?

☑ Yes (*Enclose the hydrological study*) ☐ No

Note: A hydrological study or other information on site hydraulics (e.g., flows, channel characteristics, and/or flood recurrence intervals) may be required to evaluate potential project impacts on hydrology.

12. MEASURES TO PROTECT FISH, WILDIFE, AND PLANT RESOURCES

A. Describe the techniques that will be used to prevent sediment from entering watercourses during and after construction.

See attached Jurisdictional Delineation and Permitting Report for more detail.

☐ *Continued on additional page(s)*

B. Describe project avoidance and/or minimization measures to protect fish, wildlife, and plant resources.

See attached Jurisdictional Delineation and Permitting Report for more detail.

Also refer to Final Supplemental Environmental Impact Report, Volume 1, Section 3.5 Biological Resources.

☐ *Continued on additional page(s)*

C. Describe any project mitigation and/or compensation measures to protect fish, wildlife, and plant resources.

See attached Jurisdictional Delineation and Permitting Report for more detail.

☐ *Continued on additional page(s)*

13. PERMITS

List any local, state, and federal permits required for the project and check the corresponding box(es). Enclose a copy of each permit that has been issued.

A.	Clean Water Act Section 404 Permit: NWP 14	☑ Applied	☐ Issued
B.	Clean Water Act Section 401	☑ Applied	☐ Issued
C.		☐ Applied	☐ Issued

D. Unknown whether ☐ local, ☐ state, or ☐ federal permit is needed for the project. (*Check each box that applies*)

☑ *Continued on additional page(s)*

14. ENVIRONMENTAL REVIEW

A. Has a draft or final document been prepared for the project pursuant to the California Environmental Quality Act (CEQA), National Environmental Protection Act (NEPA), California Endangered Species Act (CESA) and/or federal Endangered Species Act (ESA)?

☑ Yes (*Check the box for each CEQA, NEPA, CESA, and ESA document that has been prepared and enclose a copy of each*)

☐ No (*Check the box for each CEQA, NEPA, CESA, and ESA document listed below that will be or is being prepared*)

☐ Notice of Exemption	☐ Mitigated Negative Declaration	☐ NEPA document (*type*): _____
☐ Initial Study	☑ Environmental Impact Report	☐ CESA document (*type*): _____
☐ Negative Declaration	☑ Notice of Determination *(Enclose)*	☐ ESA document (*type*): _____
☐ THP/ NTMP	☐ Mitigation, Monitoring, Reporting Plan	

B. State Clearinghouse Number (*if applicable*)	SCH # 1995062002		
C. Has a CEQA lead agency been determined?	☑ Yes (*Complete boxes D, E, and F*)	☐ No (*Skip to box 14.G*)	
D. CEQA Lead Agency	Riverside County Transportation Department		
E. Contact Person	Laurie Dobson Correa	F. Telephone Number	(951) 955-2016

G. If the project described in this notification is part of a larger project or plan, briefly describe that larger project or plan.

☐ *Continued on additional page(s)*

H. Has an environmental filing fee (Fish and Game Code section 711.4) been paid?

☑ Yes (*Enclose proof of payment*) ☐ No (*Briefly explain below the reason a filing fee has not been paid)*

Note: If a filing fee is required, the Department may not finalize a Lake or Streambed Alteration Agreement until the filing fee is paid.

15. SITE INSPECTION

Check one box only.

☐ In the event the Department determines that a site inspection is necessary, I hereby authorize a Department representative to enter the property where the project described in this notification will take place at any reasonable time, and hereby certify that I am authorized to grant the Department such entry.

☑ I request the Department to first contact (*insert name*) Laurie Dobson Correa at (*insert telephone number*) (951) 955-2016 to schedule a date and time to enter the property where the project described in this notification will take place. I understand that this may delay the Department's determination as to whether a Lake or Streambed Alteration Agreement is required and/or the Department's issuance of a draft agreement pursuant to this notification.

16. DIGITAL FORMAT

Is any of the information included as part of the notification available in digital format (i.e., CD, DVD, etc.)?

☑ Yes (Please enclose the information via digital media with the completed notification form)

☐ No

17. SIGNATURE

I hereby certify that to the best of my knowledge the information in this notification is true and correct and that I am authorized to sign this notification as, or on behalf of, the applicant. I understand that if any information in this notification is found to be untrue or incorrect, the Department may suspend processing this notification or suspend or revoke any draft or final Lake or Streambed Alteration Agreement issued pursuant to this notification. I understand also that if any information in this notification is found to be untrue or incorrect and the project described in this notification has already begun, I and/or the applicant may be subject to civil or criminal prosecution. I understand that this notification applies only to the project(s) described herein and that I and/or the applicant may be subject to civil or criminal prosecution for undertaking any project not described herein unless the Department has been separately notified of that project in accordance with Fish and Game Code section 1602 or 1611.

Signature of Applicant or Applicant's Authorized Representative

12-19-06
Date

Laurie Dobson Correa
Print Name

8.F PROJECT LOCATION (Continued)

USGS 7.5 Minute Quad Map Name	Township	Range	Section
Murrieta and Bachelor Mountain	6S	2W	31
Murrieta	6S	3W	36
Murrieta and Bachelor Mountain	7S	2W	06
Murrieta	7S	3W	01
Murrieta	6S	3W	35
Murrieta	6S	3W	34
Murrieta	7S	3W	02
Murrieta	7S	3W	03

11.B PROJECT IMPACTS (Continued)

Crossing Designation	Approximate Linear Feet/ Crossed	CDFG Jurisdictional Area Impacted (temporary/ permanent) (Acres)	Habitat Description
Crossing A	450 Culvert Crossing	None / 0.13	Upland vegetation – California Buckwheat and chamise
Crossing B	350 Culvert Crossing	None / 0.03	Upland vegetation – Grasses and low herbaceous species
Crossing C: Warm Springs Creek	360 Bridge Crossing	0.01/ 0.30 (shading)[1]	cottonwood (*Populus* sp.), willow (*Salix* sp.), and mulefat (*Baccharis salicifolia*)
Crossing C (Tributary 2): Warm Springs Creek	1050 Culvert Crossing	None / 0.15	Upland vegetation - California buckwheat and chamise
Crossing D: French Valley Creek	180 Bridge Crossing	0.24/ 0.25	Channel dominated by tamarisk (*Tamarix* sp.), saltgrass (*Distichlis spicata*), alkali heath (*Frankenia salina*), bulrush (*Scirpus* sp.), tobacco tree (*Nicotiana glauca*); adjacent upland dominated by Russian thistle (*Salsola* sp.), prickly lettuce (*Lactua serriola*), mustard (*Brassica campestris*), and other weedy species

[1] The bridge span of Crossing C at Warm Springs Creek may result in indirect permanent impacts to CDFG jurisdiction (riparian canopy) from shading by the bridge structure.

13. PERMITS (Continued)

Agency	License/Permit/Agreement
Murrieta Creek and Santa Margarita River	Clean Water Act Section 404 Permit
United States Fish and Wildlife Services	Consistency determination through the County of Riverside Resource Conservation Authority to support Biological Condition in Section 404 permit
California Department of Transportation	Encroachment Permit for impacts to ROW for SR 79
State Water Resources Control Board - San Diego Regional Water Quality Control Board	Elimination System Permit/Storm Water Pollution Prevention Plan Best Management Practices
County of Riverside Resource Conservation Authority	Joint Project Review of Proposed Project and Consistency Determination
City of Murrieta	Encroachment Permit

Riverside County Treasurer

of Riverside, California

0500918561

UNION BANK OF CALIFORNIA

Government Services Division 11-49/1210

County Vendor Warrant
Clearing Fund

Void 6 Months from Date Issued

Date: 06/05/2006

Pay Amount: $4000.00***

Pay To The Order Of ****FOUR THOUSAND AND XX / 100 US DOLLAR****

CALIFORNIA DEPARTMENT OF FISH AND GAME
3602 Inland Empire Blvd
Suite C-220
Ontario, CA 91764

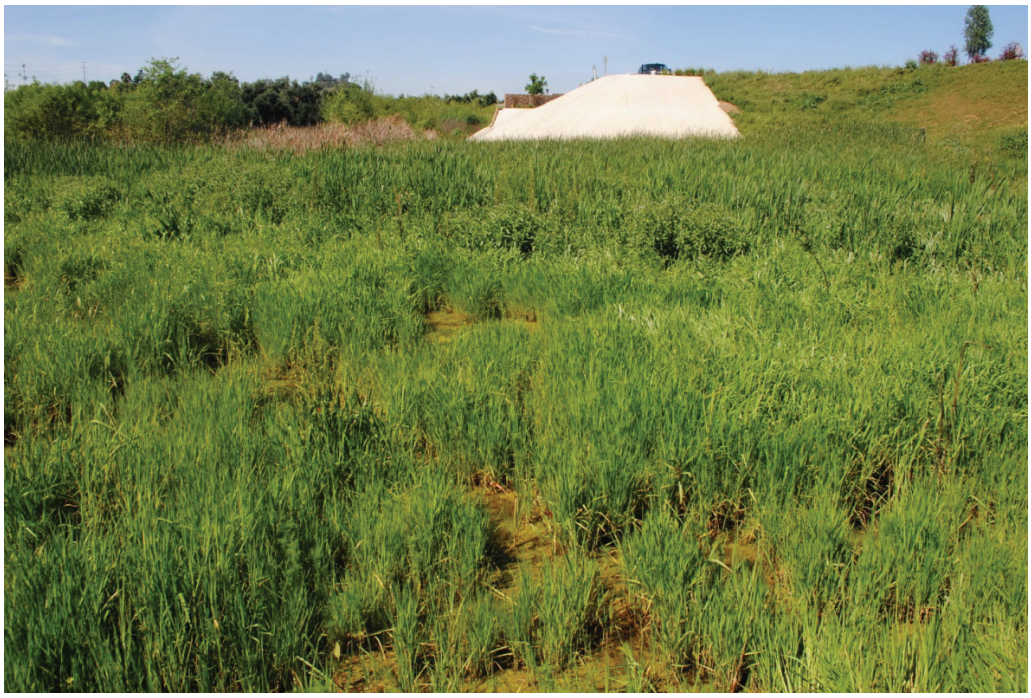
Robert E Byrd

County Auditor-Controller

⑈0500918561⑈ ⑆122000497⑆ 27400183 13⑈

Appendix D – Site Photos

Photograph 1: Wetland Area at Clinton Keith Road/Leon Road Intersection in April 2010 – Facing east looking at Briggs Road



Photograph 2 : Wetland Area at Clinton Keith Road/Leon Road Intersection in April 2010 - facing northwest looking at Clinton Keith Road

Photograph 3: HydroArch Culvert Under Leon Road – facing east towards Briggs Road

Photograph 4: Another view of HydroArch Culvert Under Leon Road - facing north