NAPA RIVER-RUTHERFORD REACH 8: PHASE 4A

NAPA COUNTY, CALIFORNIA

VICINITY MAP

NOT TO SCALE

NOT TO SCALE

LOCATION MAP

INDEX OF SHEETS

ABBREVIATIONS

APPROX	APPROXIMATE
BSSR	BANK STABILIZATION & SEDIMENT REMOVAL
℄	CENTERLINE
DBH	DIAMETER BREAST HEIGHT
DEMO	DEMOLISH
DS	DOWNSTREAM
ELEV	ELEVATION
(E)	EXISTING
EG	EXISTING GRADE
FG	FINISHED GRADE
FL	FLOW LINE
FT	FOOT, FEET
GB	GRADE BREAK
LW	LARGE WOOD
MAX	MAXIMUM
MIN	MINIMUM
(N)	NEW
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
NIC	NOT IN CONTRACT
PIP	PROTECT IN PLACE
POC	POINT OF CONNECTION
RC	RELATIVE COMPACTION
RSP	ROCK SLOPE PROTECTION
SPECS	SPECIFICATIONS
STA	STATION
3:1	SLOPE, HORIZONTAL:VERTICAL
TBD	TO BE DETERMINED
(TYP)	TYPICAL
US	UPSTREAM
VAR	VARIES
VIF	VERIFY IN FIELD

LEGEND

- EXISTING GRADE (PROFILE & SECTION)
- DESIGN GRADE
- APPROX PARCEL BOUNDARY
- MATCHLINE/SHEET OUTLINES
- GRADING LIMITS
- PROJECT LIMITS
- THALWEG
- CONSTRUCTION ACCESS, OUTSIDE GRADING LIMITS
- CONSTRUCTION ACCESS, WITHIN GRADING LIMITS
- EXISTING WATERLINE
- APPROX TREELINE
- NEW CONTOUR LINE (4)
- EXISTING CONTOUR LINE (4)
- EXISTING GROUND (SECTION)
- EXCAVATION (SECTION)
- FILL (PLAN & SECTION)
- VINEYARD TOPSOIL OR PLANTING SOIL

LEGEND (CONT.)

- DEMOLISH TREE
- CAR BODY (TO BE REMOVED)
- WILLOW BAFFLE
- LARGE WOOD STRUCTURE
- BOULDER CLUSTER
- ROCK SLOPE PROTECTION
- BRUSH MAT
- LIVE POLE PLANTING
- STAGING
- VINEYARD REMOVAL
- REVEGETATION ZONE (NIC)
- FLOW DIRECTION
- × 9.36 SPOT ELEVATION
- BENCHMARK
- CONTROL POINT
- 47 EXISTING UTILITY

1. TOPOGRAPHIC CONDITIONS BASED ON NAPA COUNTY LIDAR (APRIL, 2007) AND DOBLE THOMAS SURVEY (NOVEMBER, 2011). DETAILED TOPOGRAPHIC SURVEY PERFORMED BY DOBLE THOMAS WAS PERFORMED FROM STA 31+00 TO STA 76+00, APPROXIMATELY.
2. REVEGETATION PLANS INCLUDING VEGETATION MANAGEMENT AND IRRIGATION ARE PROVIDED UNDER A SEPARATE CONTRACT.

INDICATES SECTION OR DETAIL NUMBER
SHEET NUMBER ON WHICH SECTION OR DETAIL APPEARS
SHEET NUMBER FROM WHICH WHICH SECTION OR DETAIL WAS SPECIFIED

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PREPARED FOR:
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SHEET TITLE: TITLE SHEET

PROJECT: NAPA RIVER RESTORATION RUTHERFORD REACH 8 - PHASE 4A

DESIGNED	J. BLOMBERG, R. BROWN
DRAWN	B.TANAKA
INCHARGE	A.BORGONOVO C053102
SCALE	AS NOTED
DATE	APRIL 30, 2012
SHEET	C01
	1 OF 20

GENERAL NOTES

GENERAL

1. CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE COUNTY AND ITS REPRESENTATIVES HARMLESS FROM ANY AND ALL LIABILITY, REAL AND/OR ALLEGED, IN CONJUNCTION WITH THE PERFORMANCE OF THIS PROJECT.

2. A SET OF SIGNED WORKING DRAWINGS AND A SET OF SPECIFICATIONS WILL BE KEPT ON THE JOB SITE AT ALL TIMES ON WHICH ALL CHANGES OR VARIATIONS IN THE WORK, INCLUDING ALL EXISTING UTILITIES, ARE TO BE RECORDED AND/OR CORRECTED DAILY AND SUBMITTED TO THE COUNTY ENGINEER WHEN THE WORK TO BE DONE IS COMPLETED.

3. CONTRACTOR SHALL CONTACT THE COUNTY'S DIRECTOR OF PUBLIC WORKS, OR HIS/HER DESIGNEE, TO ARRANGE A PRE-CONFERENCE FOR THE PURPOSE OF REVIEWING JOB REQUIREMENTS AND COUNTY PROCEDURES.

4. ALL MATERIAL SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.

5. ALL WORKMANSHIP AND MATERIALS FOR BOTH ON-SITE AND OFF-SITE IMPROVEMENTS SHALL CONFORM TO THE LATEST EDITION OF THE COUNTY OF NAPA PUBLIC WORKS DEPARTMENT ROAD AND STREET STANDARDS AND THE LATEST EDITION OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS AND STANDARD PLANS. THE ON-SITE IMPROVEMENTS SHALL BE INSPECTED BY THE COUNTY PUBLIC WORKS INSPECTORS.

6. CONTRACTOR SHALL NOTIFY THE COUNTY OF NAPA DIRECTOR OF PUBLIC WORKS OR HIS DESIGNEE AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF ANY PART OF WORK.

7. CONTRACTOR SHALL PROVIDE AND MAINTAIN SUFFICIENT TEMPORARY BARRICADES TO PROVIDE FOR THE SAFETY OF THE STAFF AND GENERAL PUBLIC TO THE SATISFACTION OF THE PUBLIC WORKS DIRECTOR.

PROTECTION OF EXISTING CONDITIONS

8. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGES TO EXISTING VEGETATION, STRUCTURES AND UTILITIES DURING CONSTRUCTION.

9. PROTECT ALL EXISTING IMPROVEMENTS AND VEGETATION NOT SLATED FOR DEMOLITION. PLACE TEMPORARY FENCING, FLAGGING OR EQUIVALENT AT THE WATER DIVERSION, PERIMETER OF ALL VEGETATED AREAS AND/OR INDIVIDUAL TREES TO BE PRESERVED, AND ANY OTHER IMPROVEMENTS ONSITE.

10. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL REVIEW ALL TREE AND OTHER PROTECTION FENCING WITH THE OWNER'S REPRESENTATIVE, AND FIELD ADJUST THE LIMITS AS DIRECTED.

UTILITIES

11. CONTRACTOR SHALL NOTIFY ALL PUBLIC OR PRIVATE UTILITY COMPANIES 48 HOURS PRIOR TO COMMENCEMENT OF WORK ADJACENT TO EXISTING UTILITY LINES.

12. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600 PRIOR TO START OF ANY CONSTRUCTION.

13. LOCATIONS OF UTILITIES AND FACILITIES SHOWN ARE APPROXIMATE AND FOR GENERAL INFORMATION ONLY. CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES AS NEEDED FOR VERIFICATION.

14. CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITIES AND PROTECT THROUGHOUT CONSTRUCTION.

ENVIRONMENTAL PROTECTION

15. CONTRACTOR SHALL CONDUCT ALL GRADING OPERATIONS IN SUCH MANNER AS TO PRECLUDE WIND BLOWN DIRT AND DUST AND RELATED DAMAGE TO NEIGHBORING PROPERTIES. SUFFICIENT WATERING TO CONTROL DUST IS REQUIRED AT ALL TIMES. CONTRACTOR SHALL ASSUME LIABILITY FOR CLAIMS RELATED TO WIND BLOWN MATERIAL. IF THE DUST CONTROL IS INADEQUATE AS DETERMINED BY THE PUBLIC WORKS DIRECTOR OR HIS DESIGNATED REPRESENTATIVE, THE CONSTRUCTION WORK SHALL BE TERMINATED UNTIL CORRECTIVE MEASURES ARE TAKEN.

16. CONTRACTOR SHALL ELIMINATE OR MINIMIZE NON-STORM DISCHARGE FROM THE CONSTRUCTION SITE TO STORM DRAINS AND OTHER WATER BODIES. ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN A MANNER THAT MINIMIZES, TO THE MAXIMUM EXTENT PRACTICABLE, ANY POLLUTANTS ENTERING DIRECTLY OR INDIRECTLY INTO GROUND WATER. ALL MATERIALS THAT COULD CAUSE WATER POLLUTION (i.e., MOTOR OIL, FUELS, PAINTS, ETC.) SHALL BE STORED AND USED IN A MANNER THAT WILL NOT CAUSE ANY POLLUTION. ALL DISCARDED MATERIAL AND ANY ACCIDENTAL SPILLS SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED DISPOSAL SITE.

17. CONTRACTOR SHALL PROVIDE TO THE PUBLIC WORKS DEPARTMENT ANY CHANGES PROPOSED FOR THE PROJECT'S EROSION CONTROL PLAN AND SHALL PROVIDE A SCHEDULE FOR IMPLEMENTATION OF CONTROL MEASURES. CONTRACTOR SHALL MEET WITH COUNTY PUBLIC WORKS STAFF PRIOR TO OCTOBER 1 TO REVIEW STATUS OF PROJECT'S EROSION CONTROL AND WATER POLLUTION MEASURES.

18. CONTRACTOR SHALL SUBMIT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) THAT PROVIDES, AT A MINIMUM, THE EROSION CONTROL MEASURES SHOWN ON SHEET C16. THE SWPPP SHALL COMPLY WITH THE NEW CONSTRUCTION GENERAL STORMWATER PERMIT (2009-009-DWQ). THE PROJECT SHOULD BE ASSUMED TO BE IN THE 'L.U.P. TYPE 3' CATEGORY. CONTRACTOR SHALL MAINTAIN A COPY OF THE SWPPP ONSITE AT ALL TIMES, AND SHALL UPDATE THE SWPPP REGULARLY AS NEEDED TO RESPOND TO SITE CONDITIONS.

19. THE CONTRACTOR SHALL UTILIZE BEST MANAGEMENT PRACTICES TO PREVENT EROSION, SEDIMENT AND HAZMAT RUNOFF FROM THE CONSTRUCTION SITE.

20. THE OWNER HAS OBTAINED PERMITS FROM RESOURCE AGENCIES FOR THIS PROJECT (SEE SPECS). COMPLY WITH ALL PERMIT REQUIREMENTS FOR PROTECTION OF WATER QUALITY, WILDLIFE AND VEGETATION. COOPERATE WITH THE ACTIVITIES OF THE COUNTY'S BIOLOGIST AND COMPLY WITH ALL REQUIRED NOTIFICATIONS.

21. DURING GRADING, THE CONTRACTOR SHALL PROVIDE AN ONSITE MONITOR TO MAKE SURE THE GRADING LIMITS ARE CLEAR OF RED-LEGGED FROG AND OTHER PROTECTED WILDLIFE.

22. CONSTRUCTION OF THE BOULDER CLUSTERS, LOG STRUCTURES, AND ROCK TOE PROTECTION REQUIRES WORK IN THE ACTIVE CHANNEL, INCLUDING DEWATERING AND FLOW DIVERSION. COMPLY WITH PERMIT REQUIREMENTS FOR WILDLIFE AND WATER QUALITY PROTECTION (SEE SPECS).

CULTURAL RESOURCES

23. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IF CULTURAL RESOURCES ARE ENCOUNTERED DURING EXCAVATION FOR ANY PHASE OF THE PROJECT, AND THAT PORTION OF WORK SHALL BE HALTED UNTIL A CULTURAL RESOURCE CONSULTANT HAS EVALUATED THE SITUATION.

TRAFFIC CONTROL

24. ALL TRAFFIC CONTROL REQUIRED FOR CONSTRUCTION ACTIVITIES SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE CALTRANS TRAFFIC MANUAL. FOR ALL LANE CLOSURES AND DETOURS, A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE COUNTY OF NAPA FOR REVIEW AND APPROVAL AT LEAST FIVE (5) WORKING DAYS BEFORE THE SCHEDULE CLOSURE.

TOPOGRAPHIC DATA AND MAPPING

25. THE TOPOGRAPHIC SURVEY IS BASED ON LIDAR DATA COLLECTED BY AIRBORNE1 OF EL SEGUNDO, CA ON 3/22/07. TOPOGRAPHIC INFORMATION FOR BENCH GRADING WAS SUPPLEMENTED BY GROUND SURVEY PERFORMED BY DOBLE THOMAS & ASSOCIATES IN OCT TO DEC 2011. BENCHMARKS ARE BASED ON GROUND SURVEYS COMPLETED BY DOBLE THOMAS & ASSOCIATES OF NAPA, CA.

26. THE EXISTING GRADE REFLECTS SITE CONDITIONS AT THE TIME OF THE SURVEYS. CONTRACTOR SHOULD VERIFY GRADES PRIOR TO COMMENCING WORK AND SHALL REPORT ANY DISCREPANCY BETWEEN DESIGN DRAWINGS AND FIELD CONDITIONS IMMEDIATELY TO THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL NOT COMMENCE WITH GRADING UNTIL THE DISCREPANCY IS RESOLVED.

27. HORIZONTAL CONTROL IS CALIFORNIA STATE PLANE ZONE II (NAD83) IN US FT. VERTICAL CONTROL IS NAVD88.

28. CONTRACTOR SHALL VERIFY AND CHECK EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

29. CONTRACTOR SHALL VERIFY LOCATIONS, LEVELS DISTANCES, AND FEATURES THAT MAY AFFECT THE WORK. SHOULD EXISTING CONDITIONS DIFFER FROM THOSE SHOWN OR INDICATED, OR IF IT APPEARS THAT THESE PLANS, STANDARD SPECIFICATION, AND SPECIAL PROVISIONS DO NOT ADEQUATELY DETAIL THE WORK TO BE DONE, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WITH ANY RELATED WORK. NO ALLOWANCE WILL BE MADE IN HIS/HER BEHALF FOR ANY EXTRA EXPENSE RESULTING FROM FAILURE OR NEGLECT IN DETERMINING THE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. NOTED DIMENSION SHALL TAKE PRECEDENCE OVER SCALE.

EARTHWORK

30. RESTORE ALL DISTURBED AREAS BY SEEDING AND APPLYING EROSION CONTROL MEASURES PER THE DRAWINGS AND SPECS. RESTORE ALL ACCESS ROUTES TO ORIGINAL GRADES AND CONDITION.

REVEGETATION

31. REVEGETATION AND VEGETATION MANAGEMENT TO BE PERFORMED UNDER SEPARATE CONTRACT.

SURVEY CONTROL

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
47	1927286.39	6445423.57	144.22	3/8" REBAR
48	1927197.99	6445695.40	142.79	3/8" REBAR
49	1927200.67	6445547.29	143.77	3/8" REBAR
113	1927984.34	6444768.93	146.62	1/2" REBAR
114	1927873.60	6444902.62	130.82	1X2 STAKE
115	1927774.58	6444876.23	145.86	TBAR5520CP
116	1927728.82	6444918.30	146.06	TBAR5520CP
117	1927673.72	6444966.84	145.98	TBAR5520CP
118	1927490.51	6445158.25	145.00	TBAR5520CP
119	1927590.46	6445068.00	145.43	TBARN/T
120	1927639.73	6445015.58	146.00	TBAR5520CP
121	1927617.44	6445042.13	145.62	TBAR5520CP
122	1927729.91	6445154.70	146.96	TBAR5520CP
123	1927202.55	6445527.70	143.88	3/8" REBAR
124	1927548.41	6445609.10	147.11	FND1/2
129	1927406.58	6445928.15	144.84	TBARN/T
130	1927342.19	6446099.44	143.49	TBAR5520CP
131	1927173.83	6446240.42	143.27	1/2" REBAR
132	1927149.60	6446244.49	143.47	TBARN/T
150	1927263.73	6445462.90	144.17	SPIKE
151	1927307.51	6445358.21	144.66	3/8" REBAR
152	1927166.25	6445841.46	146.53	3/8" REBAR
153	1927446.64	6445208.04	145.18	3/8" REBAR
154	1927408.60	6445246.78	144.99	SPIKE
155	1927370.01	6445284.12	145.01	SPIKE
156	1927337.96	6445317.17	144.89	SPIKE
157	1927212.34	6445522.46	143.79	3/8" REBAR
158	1927198.52	6445589.61	143.87	SPIKE
159	1927190.85	6445656.15	141.89	SPIKE
160	1927190.68	6445710.59	143.14	SPIKE
161	1927201.34	6445781.99	144.31	3/8" REBAR
162	1927196.23	6445832.14	145.19	3/8" REBAR
163	1927205.64	6445891.29	142.17	3/8" REBAR
164	1927147.66	6445886.80	146.69	PENXINPAT
166	1927442.41	6446017.55	142.79	ALIGN
264	1927959.91	6444779.70	146.46	3/8" REBAR
265	1927822.56	6444804.67	145.85	3/8" REBAR
266	1927524.24	6445106.49	144.97	SPIKE
267	1927549.73	6445131.07	145.55	3/8" REBAR
599	1927910.52	6444803.82	145.89	SPIKE
601	1927984.33	6444768.90	147.26	1/2" REBAR
602	1927836.03	6444843.91	146.28	1/2" REBAR
603	1928039.25	6444960.02	148.14	1/2" REBAR
604	1927958.26	6445034.83	147.75	1/2" REBAR

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SHEET TITLE
GENERAL NOTES
SURVEY CONTROL

PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4A

PREPARED FOR:
NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559

APPROVED

DESIGNED J. BLOMBERG
R. BROWN

DRAWN

INCHARGE A. BORGONOVO
C053102

SCALE AS SHOWN

DATE MAY 15, 2012

SHEET
C02
2 OF 20

NAPA RIVER CHANNEL ALIGNMENT

	BEGIN STA	BEGIN EASTING	BEGIN NORTHING	LINE BEARING	LINE/CURVE DIST.	CURVE RADIUS	DELTA ANGLE
C1	80+00	6444796.4	1928159.7		0.4	5.6	4° 30' 17"
L1	79+99.56	6444796.6	1928159.3	S32° 44' 07"E	21.8		
C2	79+77.78	6444808.4	1928141.0		1.7	5.6	17° 16' 40"
L2	79+76.10	6444809.5	1928139.8	S50° 00' 47"E	17.6		
C3	79+58.48	6444823.0	1928128.4		0.2	5.6	2° 19' 55"
L3	79+58.25	6444823.2	1928128.3	S47° 40' 52"E	20.0		
C4	79+38.24	6444838.0	1928114.8		1.8	5.6	18° 56' 04"
L4	79+36.40	6444839.1	1928113.4	S28° 44' 48"E	51.0		
C5	78+85.35	6444863.7	1928068.6		0.2	5.6	2° 18' 27"
L5	78+85.13	6444863.8	1928068.4	S31° 03' 15"E	27.2		
C6	78+57.88	6444877.8	1928045.1		0.5	5.6	4° 40' 48"
L6	78+57.43	6444878.0	1928044.7	S26° 22' 26"E	24.4		
C7	78+33.04	6444888.9	1928022.8		1.0	5.6	10° 32' 22"
L188	78+32.02	6444889.2	1928021.9	S15° 50' 04"E	14.5		
C8	78+17.56	6444893.2	1928008.0		0.9	5.6	9° 00' 34"
L7	78+16.68	6444893.4	1928007.1	S6° 49' 30"E	23.7		
C9	77+93	6444896.2	1927983.6		0.8	5.6	8° 36' 39"
L8	77+92.16	6444896.3	1927982.8	S15° 26' 09"E	19.6		
C10	77+72.60	6444901.5	1927963.9		0.7	5.6	7° 11' 14"
L9	77+71.90	6444901.8	1927963.3	S22° 37' 23"E	25.1		
C11	77+46.78	6444911.4	1927940.1		0.6	5.6	5° 54' 49"
L10	77+46.21	6444911.7	1927939.6	S28° 32' 12"E	41.1		
C12	77+05.13	6444931.3	1927903.5		0.5	5.6	5° 12' 57"
L11	77+04.62	6444931.5	1927903.0	S23° 19' 15"E	33.9		
C13	76+70.71	6444944.9	1927871.9		0.5	5.6	5° 15' 39"
L12	76+70.20	6444945.1	1927871.4	S18° 03' 36"E	29.5		
C14	76+40.67	6444954.3	1927843.3		0.7	5.6	7° 03' 17"
L13	76+39.98	6444954.5	1927842.6	S11° 00' 19"E	38.9		
C15	76+01.07	6444961.9	1927804.5		0.9	5.6	9° 15' 45"
L14	76+00.17	6444962.1	1927803.6	S20° 16' 04"E	32.3		
C16	75+67.89	6444973.3	1927773.3		0.6	5.6	6° 36' 12"
L15	75+67.25	6444973.6	1927772.7	S26° 52' 15"E	37.5		
C17	75+29.80	6444990.5	1927739.3		1.3	5.6	13° 54' 24"
L16	75+28.45	6444991.2	1927738.2	S40° 46' 40"E	32.0		
C18	74+96.43	6445012.1	1927713.9		1.2	5.6	12° 46' 49"
L17	74+95.19	6445012.8	1927712.9	S27° 59' 51"E	26.7		
C19	74+68.47	6445025.4	1927689.3		1.0	5.6	10° 48' 41"
L18	74+67.42	6445026.0	1927688.5	S38° 48' 32"E	17.4		
C20	74+50	6445036.9	1927674.9		1.4	5.6	14° 10' 40"
L19	74+48.63	6445037.9	1927673.9	S52° 59' 12"E	29.2		
C21	74+19.45	6445061.2	1927656.4		0.7	5.6	7° 38' 10"
L20	74+18.71	6445061.8	1927656.0	S60° 37' 22"E	30.9		
C22	73+87.84	6445088.7	1927640.8		0.5	5.6	4° 59' 24"
L21	73+87.35	6445089.1	1927640.6	S65° 36' 46"E	36.9		
C23	73+50.46	6445122.7	1927625.4		0.8	5.6	7° 52' 35"
L22	73+49.70	6445123.4	1927625.1	S73° 29' 21"E	30.9		
C24	73+18.79	6445153.1	1927616.3		1.1	5.6	11° 03' 52"
L23	73+17.72	6445154.1	1927615.9	S62° 25' 29"E	15.7		
C25	73+01.97	6445168.0	1927608.6		1.2	5.6	11° 59' 37"
L24	73+00.81	6445169.0	1927608.0	S50° 25' 52"E	34.0		

NAPA RIVER CHANNEL ALIGNMENT

	BEGIN STA	BEGIN EASTING	BEGIN NORTHING	LINE BEARING	LINE/CURVE DIST.	CURVE RADIUS	DELTA ANGLE
C26	72+66.84	6445195.2	1927586.3		0.5	5.6	4° 40' 20"
L25	72+66.39	6445195.5	1927586.0	S45° 45' 32"E	39.9		
C27	72+26.49	6445224.1	1927558.2		0.9	5.6	9° 11' 56"
L26	72+25.59	6445224.8	1927557.6	S54° 57' 29"E	37.4		
C28	71+88.17	6445255.4	1927536.1		1.4	5.6	14° 24' 41"
L27	71+86.77	6445256.5	1927535.2	S40° 32' 47"E	34.2		
C29	71+52.62	6445278.7	1927509.3		2.1	5.6	22° 01' 12"
L28	71+50.48	6445279.7	1927507.4	S18° 31' 36"E	51.6		
C30	70+98.87	6445296.1	1927458.5		1.5	5.6	15° 09' 49"
L29	70+97.40	6445296.7	1927457.2	S33° 41' 24"E	28.7		
C31	70+68.65	6445312.7	1927433.2		2.6	5.6	26° 33' 54"
L30	70+66.07	6445314.6	1927431.5	S60° 15' 18"E	14.8		
C32	70+51.28	6445327.4	1927424.2		2.2	5.6	22° 37' 12"
L31	70+49.08	6445329.5	1927423.5	S82° 52' 30"E	16.0		
C33	70+33.09	6445345.3	1927421.5		0.2	5.6	2° 21' 41"
L32	70+32.86	6445345.6	1927421.5	S85° 14' 11"E	17.0		
C34	70+15.91	6445362.5	1927420.0		0.2	5.6	1° 34' 36"
L33	70+15.76	6445362.6	1927420.0	S83° 39' 35"E	11.6		
C35	70+04.15	6445374.2	1927418.8		2.4	5.6	24° 37' 25"
L34	70+01.76	6445376.4	1927418.0	S59° 02' 11"E	9.0		
C36	69+92.72	6445384.2	1927413.3		4.2	5.6	43° 05' 27"
L35	69+88.54	6445386.6	1927410.1	S15° 56' 44"E	12.6		
C37	69+75.96	6445390.1	1927398.0		1.5	5.6	15° 56' 44"
L36	69+74.42	6445390.3	1927396.5	S0° 00' 00"E	13.1		
C38	69+61.34	6445390.3	1927383.4		0.8	5.6	7° 55' 13"
L37	69+60.57	6445390.3	1927382.6	S7° 55' 13"W	8.2		
C39	69+52.34	6445389.1	1927374.5		1.3	5.6	13° 19' 52"
L38	69+51.04	6445388.8	1927373.2	S21° 15' 05"W	14.9		
C40	69+36.15	6445383.4	1927359.4		1.1	5.6	11° 47' 20"
L39	69+35.01	6445383.1	1927358.3	S9° 27' 45"W	6.7		
C41	69+28.30	6445382.0	1927351.6		2.7	5.6	27° 53' 50"
L40	69+25.59	6445382.2	1927349.0	S18° 26' 06"E	5.5		
C42	69+20.13	6445383.9	1927343.8		4.1	5.6	42° 30' 38"
L41	69+16.01	6445386.5	1927340.7	S60° 56' 44"E	3.2		
C43	69+12.76	6445389.3	1927339.1		3.8	12.3	17° 44' 40"
L42	69+08.95	6445392.9	1927337.8	S78° 41' 24"E	4.5		
C44	69+04.40	6445397.4	1927336.9		1.6	12.3	7° 20' 09"
L43	69+02.82	6445398.9	1927336.7	S86° 01' 34"E	9.1		
C45	68+93.75	6445408.0	1927336.1		3.3	12.3	15° 14' 26"
L44	68+90.47	6445411.2	1927335.4	S70° 47' 08"E	8.7		
C46	68+81.79	6445419.4	1927332.5		4.7	12.3	21° 55' 30"
L45	68+77.08	6445423.4	1927330.2	S48° 51' 38"E	38.8		
C47	68+38.24	6445452.7	1927304.6		1.2	12.3	5° 36' 40"
L46	68+37.03	6445453.6	1927303.9	S54° 28' 18"E	29.9		
C48	68+07.18	6445477.9	1927286.5		1.5	12.3	6° 54' 31"
L47	68+05.69	6445479.2	1927285.8	S61° 22' 49"E	30.0		
C49	67+75.73	6445505.5	1927271.4		2.1	12.3	9° 59' 45"
L48	67+73.58	6445507.4	1927270.5	S71° 22' 34"E	20.9		
C50	67+52.73	6445527.2	1927263.9		3.0	12.3	14° 00' 21"
L49	67+49.72	6445530.2	1927263.3	S85° 22' 55"E	23.8		

NAPA RIVER CHANNEL ALIGNMENT

	BEGIN STA	BEGIN EASTING	BEGIN NORTHING	LINE BEARING	LINE/CURVE DIST.	CURVE RADIUS	DELTA ANGLE
C51	67+25.95	6445553.8	1927261.4		1.3	12.3	5° 52' 24"
L50	67+24.69	6445555.1	1927261.3	N88° 44' 41"E	29.4		
C52	66+95.31	6445584.5	1927262.0		0.7	12.3	3° 14' 47"
L51	66+94.61	6445585.2	1927262.0	N85° 29' 54"E	57.3		
C53	66+37.35	6445642.3	1927266.5		1.8	12.3	8° 21' 34"
L52	66+35.56	6445644.0	1927266.8	N77° 08' 19"E	39.6		
C54	65+96	6445682.6	1927275.6		2.1	12.3	9° 58' 35"
L53	65+93.85	6445684.6	1927276.2	N67° 09' 44"E	63.0		
C55	65+30.85	6445742.7	1927300.7		1.1	12.3	4° 57' 01"
L54	65+29.79	6445743.7	1927301.1	N72° 06' 45"E	20.2		
C56	65+09.61	6445762.9	1927307.3		1.8	12.3	8° 34' 25"
L55	65+07.76	6445764.7	1927307.7	N80° 41' 11"E	14.4		
C57	64+93.35	6445778.9	1927310.0		3.1	12.3	14° 21' 49"
L56	64+90.26	6445782.0	1927310.1	S84° 57' 00"E	19.1		
C58	64+71.19	6445801.0	1927308.5		3.4	12.3	15° 57' 43"
L57	64+67.76	6445804.3	1927307.7	S68° 59' 18"E	37.8		
C59	64+29.92	6445839.6	1927294.1		2.3	12.3	10° 43' 07"
L58	64+27.61	6445841.9	1927293.5	S79° 42' 25"E	25.1		
C60	64+02.52	6445866.5	1927289.0		2.7	12.3	12° 28' 20"
L59	63+99.84	6445869.2	1927288.8	N87° 49' 15"E	15.5		
C61	63+84.30	6445884.7	1927289.4		2.4	12.3	11° 16' 40"
L60	63+81.87	6445887.1	1927289.7	N76° 32' 36"E	23.8		
C62	63+58.05	6445910.3	1927295.3		1.5	12.3	7° 07' 38"
L61	63+56.51	6445911.8	1927295.6	N83° 40' 14"E	25.1		
C63	63+31.46	6445936.7	1927298.3		0.8	12.3	3° 47' 15"
L62	63+30.64	6445937.5	1927298.4	N87° 27' 29"E	28.9		
C64	63+01.71	6445966.4	1927299.7		0.8	12.3	3° 54' 51"
L63	63+00.87	6445967.3	1927299.7	S88° 37' 41"E	28.2		
C65	62+72.64	6445995.5	1927299.0		2.5	12.3	11° 46' 03"
L64	62+70.11	6445998.0	1927298.7	S76° 51' 37"E	18.1		
C66	62+51.97	6446015.7	1927294.6		2.0	12.3	9° 28' 10"
L65	62+49.93	6446017.6	1927293.9	S67° 23' 28"E	31.0		
C67	62+18.92	6446046.2	1927282.0		0.7	12.3	3° 13' 45"
L66	62+18.22	6446046.9	1927281.7	S64° 09' 42"E	30.8		
C68	61+87.42	6446074.6	1927268.3		1.1	12.3	5° 14' 37"
L67	61+86.29	6446075.6	1927267.8	S58° 55' 05"E	26.0		
C69	61+60.31	6446097.8	1927254.3		1.3	12.3	6° 08' 54"
L68	61+58.99	6446098.9	1927253.6	S52° 46' 11"E	22.9		
C70	61+36.05	6446117.2	1927239.7		1.4	12.3	6° 34' 21"
L69	61+34.64	6446118.3	1927238.8	S46° 11' 50"E	18.9		
C71	61+15.73	6446131.9	1927225.7		1.1	12.3	5° 06' 43"
L70	61+14.63	6446132.7	1927224.9	S41° 05' 07"E	27.8		
C72	60+86.87	6446150.9	1927204.0		2.3	12.3	10° 42' 19"
L71	60+84.56	6446152.3	1927202.1	S30° 22' 48"E	16.5		
C73	60+68.06	6446160.6	1927187.9		2.1	12.3	9° 44' 15"
L72	60+65.97	6446161.5	1927186.0	S20° 38' 33"E	47.8		
C74	60+18.18	6446178.4	1927141.3		1.9	12.3	8° 50' 47"
L73	60+16.28	6446178.9	1927139.5	S11° 47' 47"E	19.1		
C75	59+97.19	6446182.8	1927120.8		1.5	12.3	6° 49' 39"
L74	59+95.72	6446183.0	1927119.3	S4° 58' 08"E	18.6		

NAPA RIVER CHANNEL ALIGNMENT

	BEGIN STA	BEGIN EASTING	BEGIN NORTHING	LINE BEARING	LINE/CURVE DIST.	CURVE RADIUS	DELTA ANGLE
C76	59+77.15	6446184.6	1927100.8		1.5	12.3	7° 10' 53"
L75	59+75.61	6446184.7	1927099.3	S2° 12' 45"W	16.1		
C77	59+59.48	6446184.0	1927083.2		1.5	12.3	6° 46' 43"
L76	59+58.02	6446183.9	1927081.7	S8° 59' 28"W	21.7		
C78	59+36.27	6446180.5	1927060.2		1.5	12.3	6° 45' 33"
L77	59+34.82	6446180.2	1927058.8	S15° 45' 01"W	53.5		
C79	58+81.36	6446165.7	1927007.4		2.2	12.3	10° 26' 55"
L78	58+79.12	6446164.9	1927005.3	S26° 11' 56"W	26.0		
C80	58+53.12	6446153.4	1926981.9		1.1	12.3	5° 19' 54"
L79	58+51.97	6446152.9	1926980.9	S20° 52' 02"W	22.8		
C81	58+29.19	6446144.8	1926959.6		1.9	12.3	8° 52' 05"
L80	58+27.29	6446144.0	1926957.9	S29° 44' 07"W	12.6		
C82	58+14.67	6446137.7	1926946.9		2.6	12.3	11° 53' 16"
L81	58+12.12	6446136.3	1926944.9	S41° 37' 23"W	19.1		
C83	57+92.97	6446123.5	1926930.6		1.2	12.3	5° 29' 52"
L82	57+91.79	6446122.7	1926929.7	S47° 07' 15"W	35.3		
C84	57+56.47	6446096.8	1926905.7		1.2	12.3	5° 37' 45"
L83	57+55.26	6446096.0	1926904.8	S41° 29' 30"W	21.4		
C85	57+33.87	6446081.8	1926888.8		1.5	12.3	6° 57' 38"
L84	57+32.37	6446080.9	1926887.6	S34° 31' 51"W	13.2		
C86	57+19.17	6446073.4	1926876.7		2.4	12.3	11° 10' 32"
L85	57+16.77	6446072.3	1926874.6	S23° 21' 20"W	20.3		
C87	56+96.43	6446064.2	1926856.0		1.8	12.3	8° 19' 47"
L86	56+94.64	6446063.6	1926854.3	S15° 01' 32"W	34.9		
C88	56+59.72	6446054.5	1926820.5		1.1	12.3	5° 14' 01"
L87	56+58.59	6446054.2	1926819.5	S20° 15' 34"W	29.7		
C89	56+28.85	6446043.9	1926791.6		1.0	12.3	4° 40' 47"
L88	56+27.84	6446043.5	1926790.6	S24° 56' 21"W	19.3		
C90	56+08.53	6446035.4	1926773.1		1.9	12.3	8° 37' 37"
L89	56+06.68	6446034.5	1926771.5	S33° 33' 57"W	21.5		
C91	55+85.17	6446022.6	1926753.6		1.4	12.3	6° 31' 04"
L90	55+83.77	6446021.9	1926752.4	S27° 02' 53"W	13.3		
C92	55+70.44	6446015.8	1926740.5		2.1	12.3	9° 42' 57"
L91	55+68.35	6446015.0	1926738.6	S17° 19' 56"W	7.2		
C93	55+61.11	6446012.9	1926731.7		3.4	12.3	16° 00' 15"
L92	55+57.67	6446012.3	1926728.3	S1° 19' 41"W	7.8		
C94	55+49.82	6446012.1	1926720.4		1.5	12.3	7° 05' 55"
L93	55+48.30	6446012.2	1926718.9	S5° 46' 15"E	14.1		
C95	55+34.17	6446013.6	1926704.9		1.6	12.3	7° 20' 24"
L94	55+32.59	6446013.9	1926703.3	S13° 06' 38"E	19.9		
C96	55+12.64	6446018.4	1926683.9		3.5	12.3	16° 26' 24"
L95	55+09.11	6446018.7	1926680.4	S3° 19' 45"W	14.6		
C97	54+94.52	6446017.8	1926665.8		3.8	12.3	17° 31' 56"
L96	54+90.75	6446017.1	1926662.1	S20° 51' 41"W	24.5		
C98	54+66.24	6446008.3	1926639.2		0.5	12.3	2° 31' 34"
L97	54+65.70	6446008.1	1926638.7	S23° 23' 15"W	38.7		
C99	54+26.97	6445992.8	1926603.2		1.8	12.3	8° 29' 31"
L98	54+25.14	6445992.2	1926601.5	S14° 53' 44"W	40.7		
C100	53+84.47	6445981.7	1926562.1		0.8	12.3	3° 31' 01"
L99	53+83.71	6445981.5	1926561.4	S18° 24' 45"W	31.1		

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SHEET TITLE
CHANNEL BASELINE CONTROL TABLE

PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4A

PREPARED FOR:
NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559

APPROVED

DESIGNED J. BLOMBERG, R. BROWN
DRAWN SCOTT STOLLER
INCHARGE A. BORGONOVO C053102
SCALE AS SHOWN
DATE MAY 15, 2012
SHEET C02.1
3 OF 20

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SHEET TITLE
PROJECT LAYOUT
AND SECTIONS KEY PLAN

PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4A

PREPARED FOR:
NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559

APPROVED	
DESIGNED	J. BLOMBERG R. BROWN
DRAWN	B.TANAKA
INCHARGE	A. BORGONOVO C053102
SCALE	AS SHOWN
DATE	MAY 15, 2012
SHEET	C03

4 OF 20

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NOTES

TREE PROTECTION

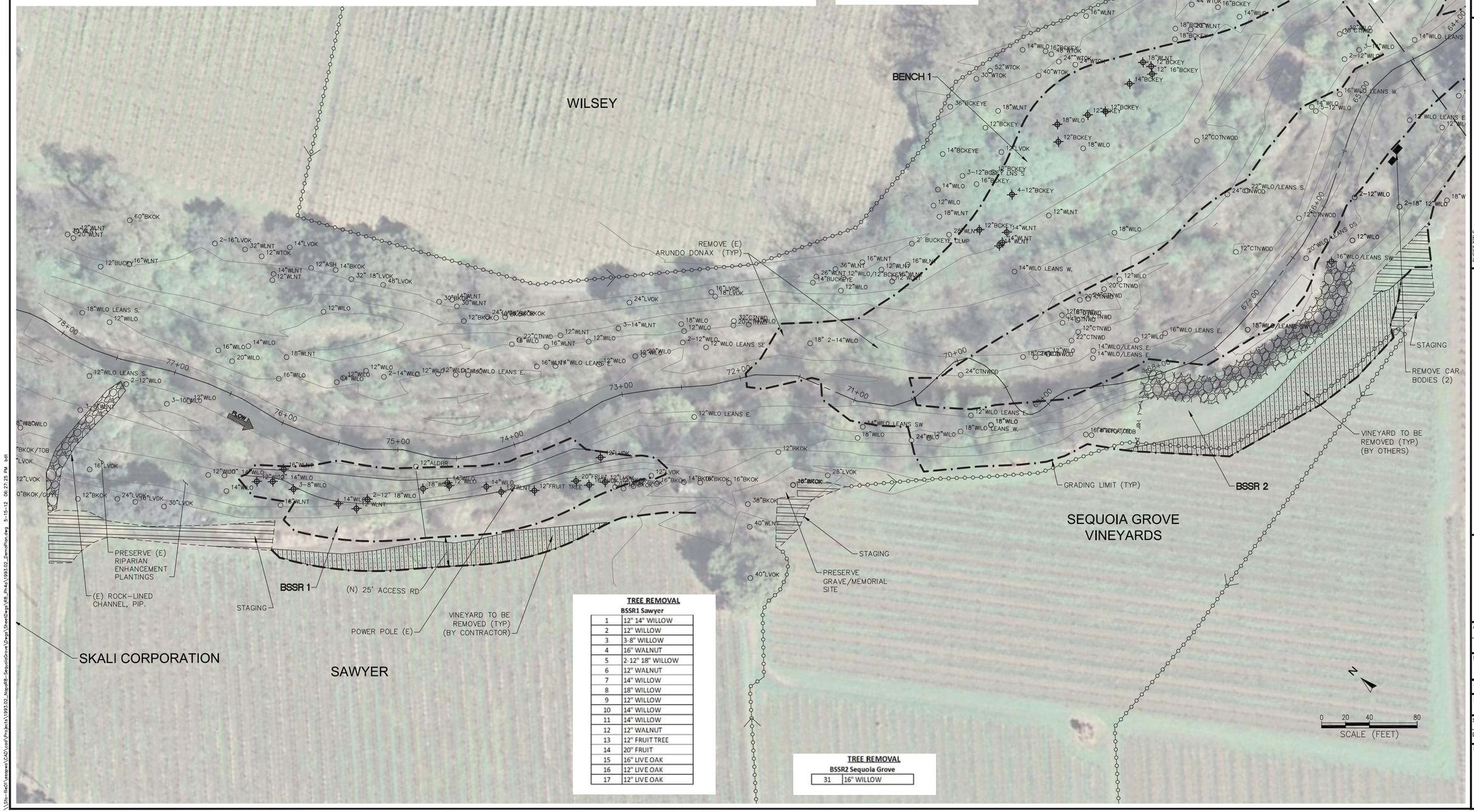
1. ONLY TREES GREATER THAN 12" DIAMETER ARE SHOWN ON THE PLANS. CONTRACTOR TO PROTECT ALL TREES, EXCEPT THOSE SLATED FOR REMOVAL, REGARDLESS OF SIZE. SEE ALSO NOTES ON SHEET C02.
2. TREE PRESERVATION IS A PRIORITY TO MAINTAIN CANOPY COVER. CLUSTERS OF (E) MATURE TREES TO BE PRESERVED AS TREE ISLANDS AS NOTED.

USE OF SITE

3. THE PROJECT SITE IS ON PRIVATE PROPERTY. THE CONTRACTOR SHALL ONLY USE SITE ACCESS ROUTES TO THE SITE AS NOTED ON THE DRAWINGS.
4. STAGING, STORAGE AND TEMPORARY STOCKPILING SHALL BE LIMITED TO THE AREAS INDICATED ON THE DRAWINGS.
5. THE CONTRACTOR SHALL ONLY OPERATE EQUIPMENT WITHIN THE LIMITS OF GRADING AND ALONG APPROVED ACCESS ROUTES WITHIN THE SITE.
6. DRAWINGS SHOW SUGGESTED ACCESS ROUTES WITHIN THE SITE. THE CONTRACTOR SHALL LIMIT ITS ACCESS TO THESE LOCATIONS, AND/OR ALTERNATIVE ROUTE(S) AS APPROVED IN WRITING BY THE OWNER'S REPRESENTATIVE.

TREE REMOVAL
Bench 1 (Wilsey)

18	12" BUCKEYE
19	14" WALNUT
20	14" WALNUT
21	14" WALNUT
22	4-12" BUCKEYE
23	12" BUCKEYE
24	18" WILLOW
25	12" BUCKEYE
26	12" BUCKEYE
27	14" BUCKEYE
28	18" WALNUT
29	12" BUCKEYE
30	12" 16" BUCKEYE



TREE REMOVAL
BSSR1 Sawyer

1	12" 14" WILLOW
2	12" WILLOW
3	3-8" WILLOW
4	16" WALNUT
5	2-12" 18" WILLOW
6	12" WALNUT
7	14" WILLOW
8	18" WILLOW
9	12" WILLOW
10	14" WILLOW
11	14" WILLOW
12	12" WALNUT
13	12" FRUIT TREE
14	20" FRUIT
15	16" LIVE OAK
16	12" LIVE OAK
17	12" LIVE OAK

TREE REMOVAL
BSSR2 Sequoia Grove

31	16" WILLOW

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SHEET TITLE
DEMOLITION, ACCESS, AND STAGING
BSSR 1, BENCH 1, & BSSR 2

PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4A

PREPARED FOR:
NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559

APPROVED

DESIGNED J. BLOMBERG
R. BROWN

DRAWN B.TANAKA

INCHARGE A. BORGONOVO
C053102

SCALE AS SHOWN

DATE MAY 15, 2012

SHEET
C04
5 OF 20

TREE REMOVAL

BSSR3 Wilsey	
32	18" WILLOW
33	18" WILLOW
34	14" WILLOW
35	14" WILLOW
36	14" WILLOW
37	14" WILLOW
38	16" WILLOW
39	12" WILLOW

SEE NOTES ON SHEET C04

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SHEET TITLE
DEMOLITION, STAGING, AND ACCESS
BSSR 3

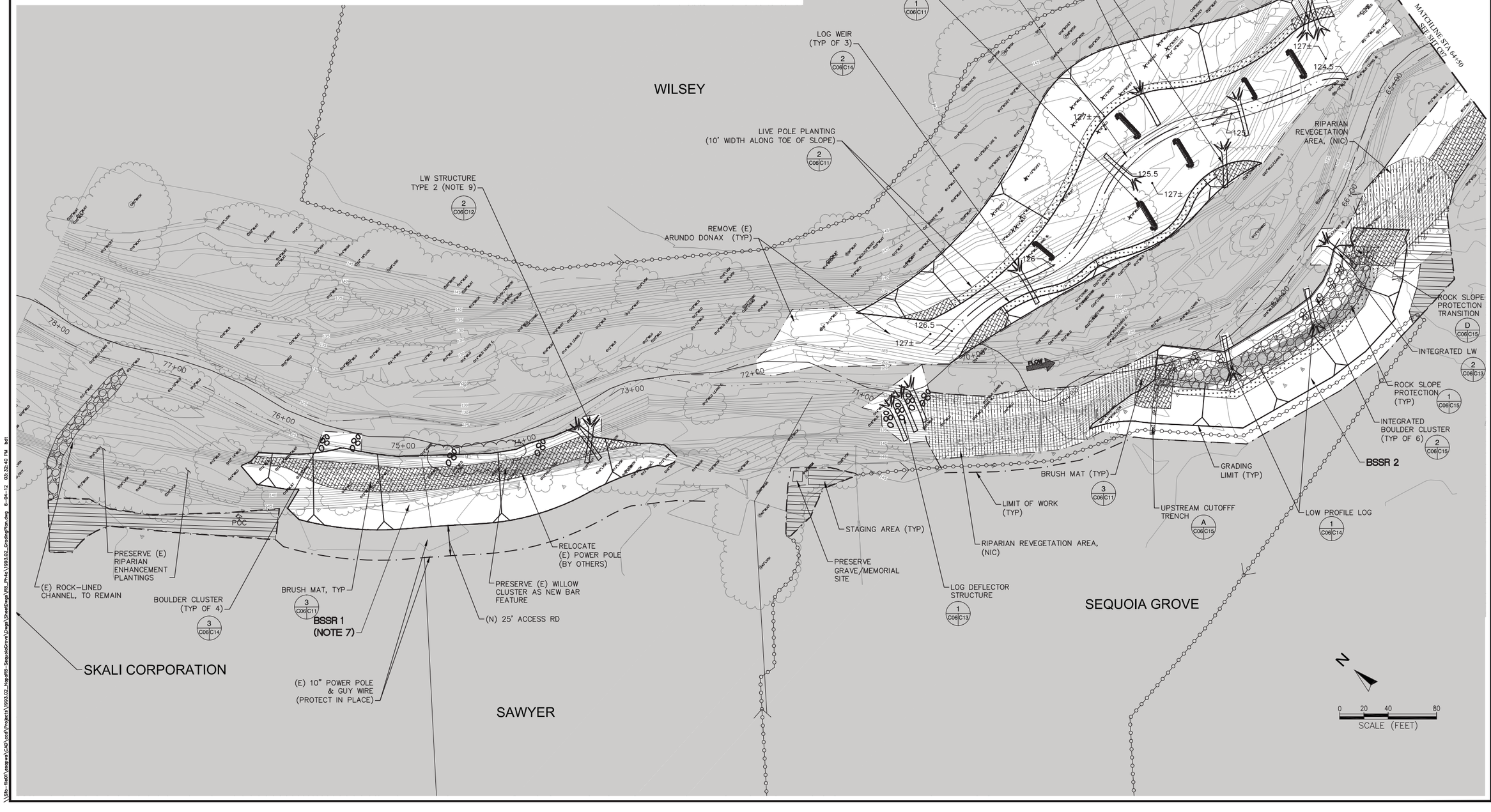
PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4A

PREPARED FOR:
NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559

APPROVED	
DESIGNED	J. BLOMBERG R. BROWN
DRAWN	B.TANAKA
INCHARGE	A. BORGONOVO C053102
SCALE	AS SHOWN
DATE	MAY 15, 2012
SHEET	C05

SHEET NOTES

1. INSTALL AND MAINTAIN SILT FENCE ALONG THE TOP OF THE ACTIVE CHANNEL BANK FOR ALL GRADING AREAS. (FENCE NOT SHOWN ON DRAWINGS.) REMOVE BY OCT 15TH.
2. PRIOR TO COMMENCING CONSTRUCTION, INSTALL SILT FENCE AND TREE PRESERVATION FENCING.
3. CONTRACTOR SHALL CLEAR AND GRUB ALL AREAS TO BE GRADED. SALVAGE SANTA BARBARA SEDGE FOR REPLANTING (SEE SPECS).
4. VINEYARD REMOVAL ON THE SAWYER PROPERTY TO BE PERFORMED BY COLINAS FARMING.
5. PRIOR TO COMMENCING EARTHWORK, PERFORM CONSTRUCTION STAKING FOR REVIEW, ADJUSTMENT (IF NEEDED) AND APPROVAL BY OWNER'S REPRESENTATIVE.
6. SEE SCHEDULE ON SHEET C11 FOR APPROXIMATE STATIONING OF ALL LOG, ROCK AND BIOTECHNICAL STRUCTURES. PRIOR TO INSTALLATION, FIELD STAKE ALL STRUCTURES FOR REVIEW, ADJUSTMENT (IF NEEDED) AND APPROVAL BY OWNER'S REPRESENTATIVE.
7. FOR BSSR 1, GRADE BANK TO 3:1 (H:V) SLOPE, FROM TOE OF SLOPE (APPROX EL. 124 FT) TO TOP OF SLOPE (APPROX EL. 145–146 FT).
8. ALL GRADED AREAS AND OTHER AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED BY SEEDING AND APPLYING EROSION CONTROL MEASURES. SEE SHEET C16 AND SPECS.
9. TYPE 2 LW STRUCTURE SHOWN AS 2 LOGS FOR CLARITY. SEE SHEET C12 FOR DETAIL OF 4–LOG STRUCTURE



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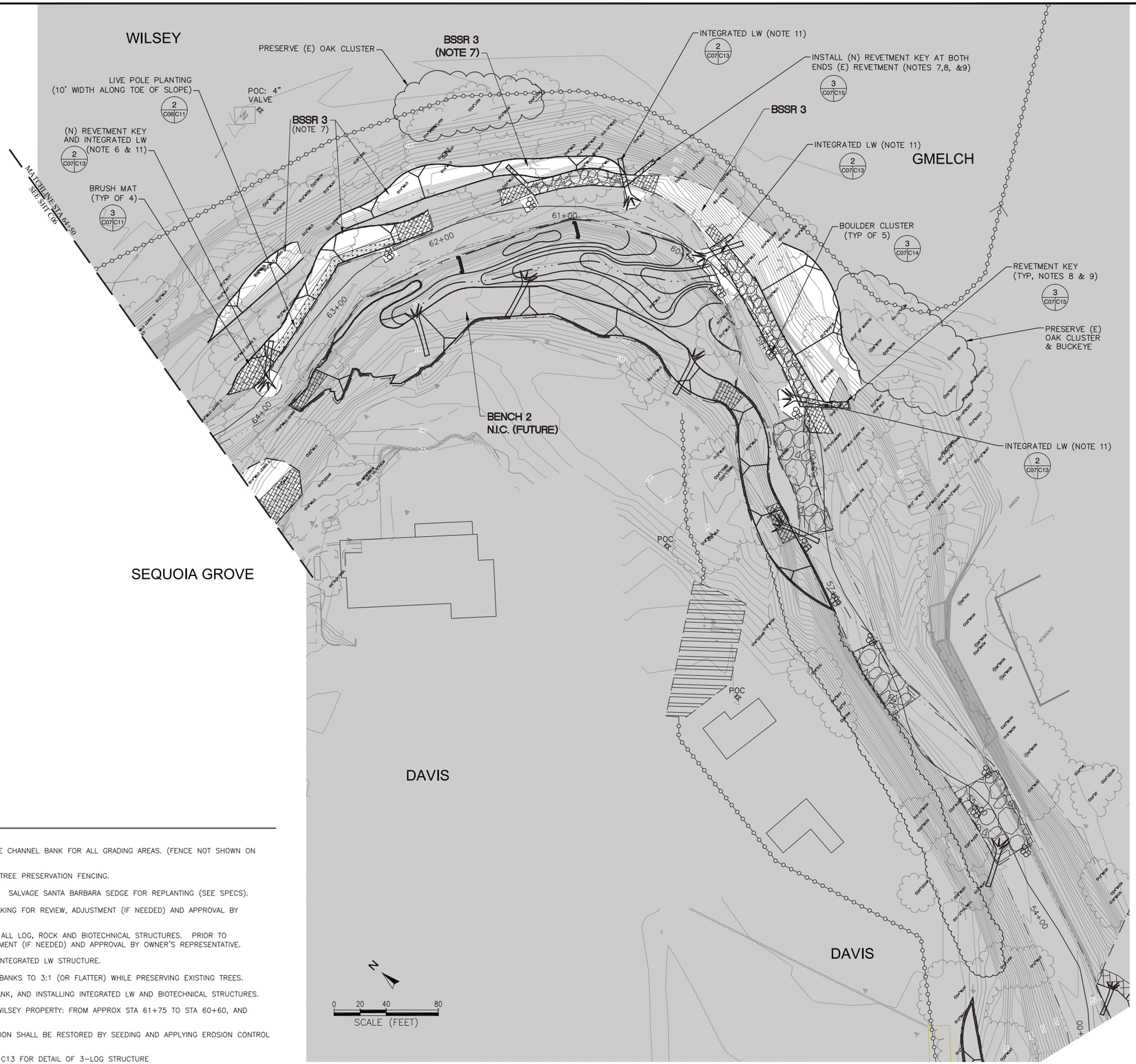
SHEET TITLE
GRADING PLAN
BSSR 1, BENCH 1 & BSSR 2

PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4A

PREPARED FOR:
NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559

APPROVED	
DESIGNED	J. BLOMBERG R. BROWN
DRAWN	B.TANAKA
INCHARGE	A. BORGONOVO C053102
SCALE	AS SHOWN
DATE	MAY 15, 2012
SHEET	C06

7 OF 20



SHEET NOTES

1. INSTALL AND MAINTAIN SILT FENCE ALONG THE TOP OF THE ACTIVE CHANNEL BANK FOR ALL GRADING AREAS. (FENCE NOT SHOWN ON DRAWINGS.) REMOVE BY OCT 15TH.
2. PRIOR TO COMMENCING CONSTRUCTION, INSTALL SILT FENCE AND TREE PRESERVATION FENCING.
3. CONTRACTOR SHALL CLEAR AND GRUB ALL AREAS TO BE GRADED. SALVAGE SANTA BARBARA SEDGE FOR REPLANTING (SEE SPECS).
4. PRIOR TO COMMENCING EARTHWORK, PERFORM CONSTRUCTION STAKING FOR REVIEW, ADJUSTMENT (IF NEEDED) AND APPROVAL BY OWNER'S REPRESENTATIVE.
5. SEE SCHEDULE ON SHEET C11 FOR APPROXIMATE STATIONING OF ALL LOG, ROCK AND BIOTECHNICAL STRUCTURES. PRIOR TO INSTALLATION, FIELD STAKE ALL STRUCTURES FOR REVIEW, ADJUSTMENT (IF NEEDED) AND APPROVAL BY OWNER'S REPRESENTATIVE.
6. BACKFILL EXISTING SCOUR HOLE WITH NEW REVETMENT KEY AND INTEGRATED LW STRUCTURE.
7. SELECTIVELY GRADE WITHIN BSSR 3 TO FLATTEN OVERSTEEPENED BANKS TO 3:1 (OR FLATTER) WHILE PRESERVING EXISTING TREES.
8. RETROFIT EXISTING REVETMENT BY KEYING THE ENDS INTO THE BANK, AND INSTALLING INTEGRATED LW AND BIOTECHNICAL STRUCTURES.
9. EXISTING REVETMENTS ARE LOCATED AT TWO LOCATIONS ON THE WILSEY PROPERTY: FROM APPROX STA 61+75 TO STA 60+60, AND FROM APPROX STA 59+90 TO STA 58+50.
10. ALL GRADED AREAS AND OTHER AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED BY SEEDING AND APPLYING EROSION CONTROL MEASURES. SEE SHEET C16 AND SPECS.
11. INTEGRATED LW SHOWN AS SINGLE LOG FOR CLARITY. SEE SHEET C13 FOR DETAIL OF 3-LOG STRUCTURE

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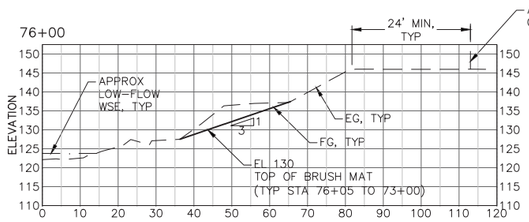
SHEET TITLE
GRADING PLAN
BSSR 3

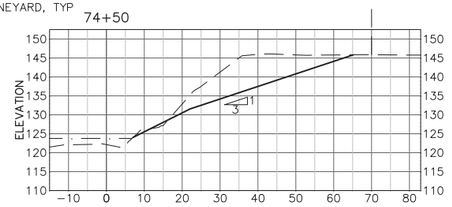
PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4A

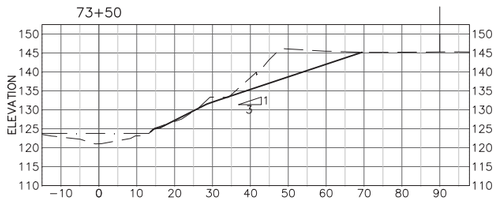
PREPARED FOR:
NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559

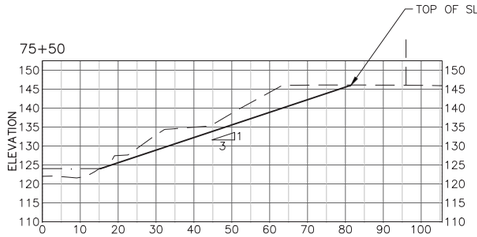
APPROVED	
DESIGNED	J. BLOMBERG R. BROWN
DRAWN	B.TANAKA
INCHARGE	A. BORGONOVO C053102
SCALE	AS SHOWN
DATE	MAY 15, 2012
SHEET	C07

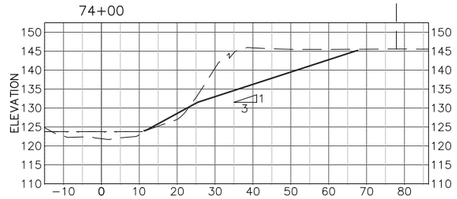
8 OF 20

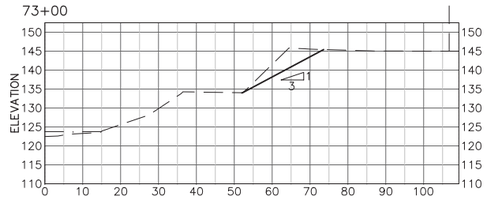


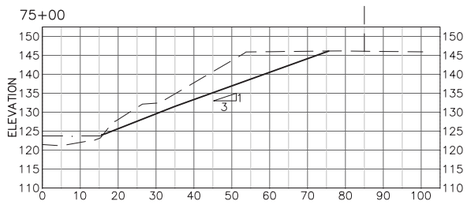












A
-
BSSR 1
73+00 TO 76+00

SCALE:
HORIZ: 1" = 20'
VERT: 1" = 20'

PREPARED BY:
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SHEET TITLE
GRADING SECTIONS
BSSR 1 (STA 73+00 TO 76+00)

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R. BROWN

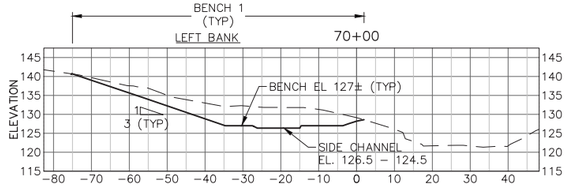
DRAWN B.TANAKA

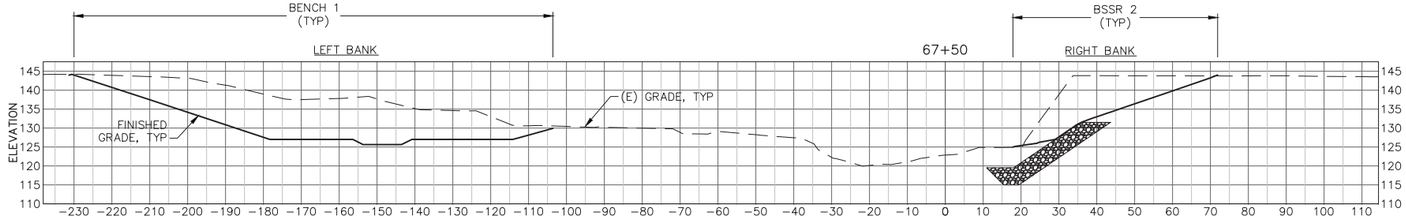
INCHARGE A. BORGONOVO
C053102

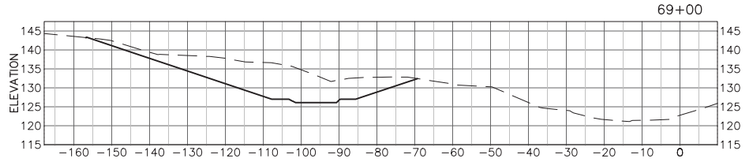
SCALE AS SHOWN

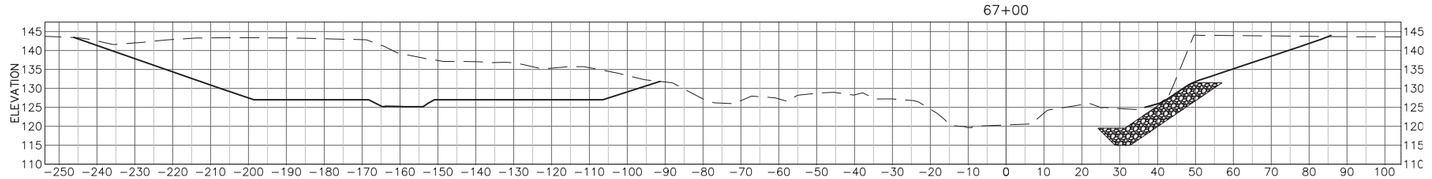
DATE MAY 15, 2012

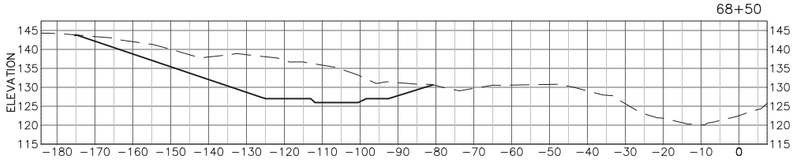
SHEET
C08

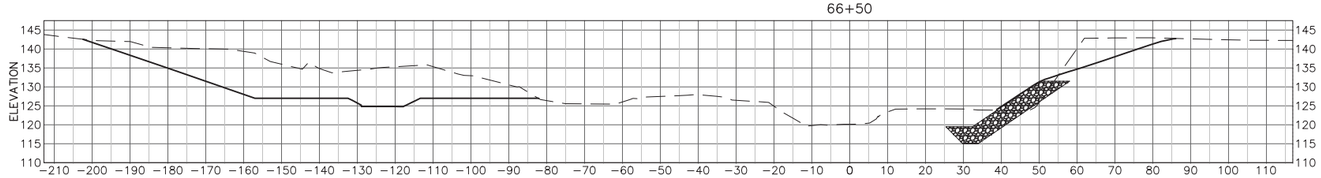


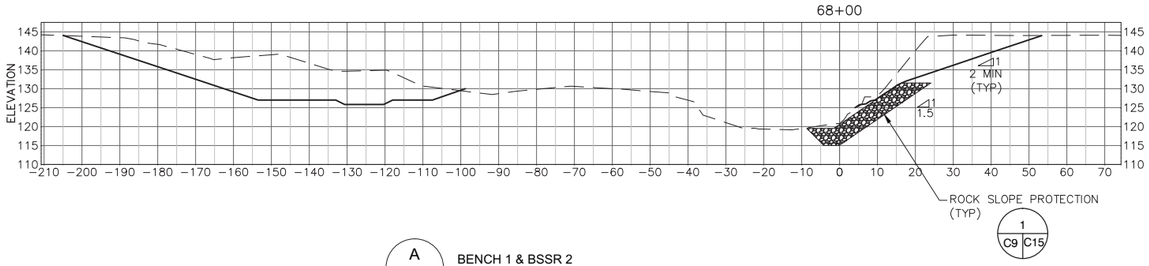






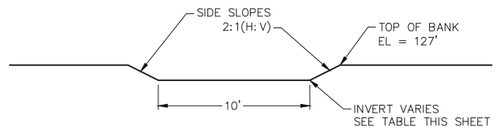






A / - BENCH 1 & BSSR 2
66+50 to 70+00

SCALE:
HORIZ: 1" = 20'
VERT: 1" = 20'



TYPICAL SIDE CHANNEL DIMENSIONS

SCALE: 1" = 5'

START STA	SIDE CHANNEL DISTANCE	THALWEG ELEV
70+00	0	126.5
	22	126.4
	123	126.0
	225	125.5
END STA	327	125.0
65+20	428	124.5

SIDE CHANNEL ELEVATIONS

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SHEET TITLE
GRADING SECTIONS
BENCH 1 & BSSR 2 (STA 66+50 TO 70+00)

PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4A

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APPROVED

DESIGNED J. BLOMBERG
R. BROWN

DRAWN B.TANAKA

INCHARGE A. BORGONOVO
C053102

SCALE AS SHOWN

DATE MAY 15, 2012

SHEET
C09

10 OF 20

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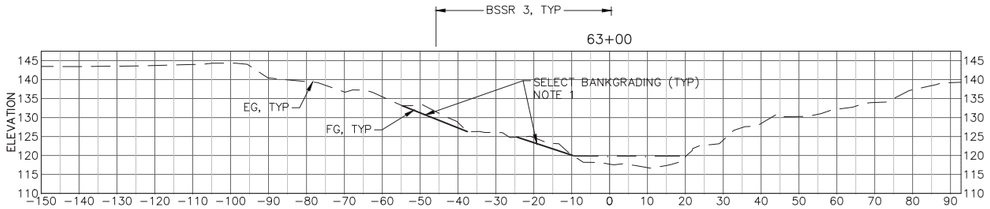

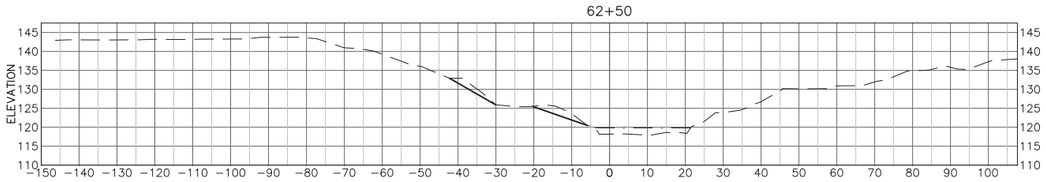

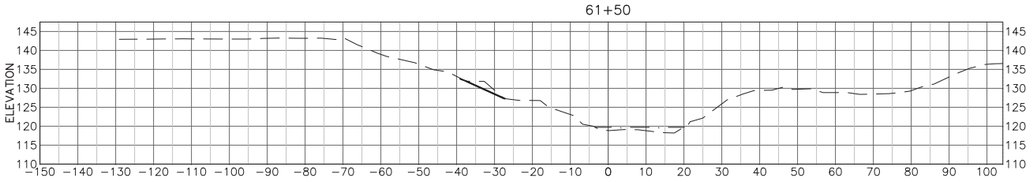

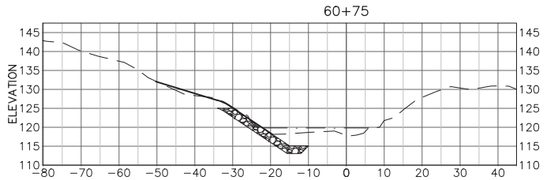

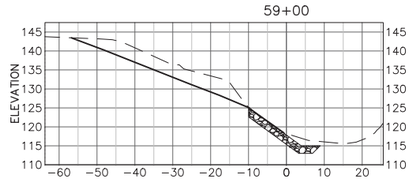

NOTES:
1. SELECT BANK GRADING OF OVERSTEEPENED BANKS, WHILE PRESERVING EXISTING TREES. STAKE LIMITS FOR REVIEW PRIOR TO GRADING.

A
-
BSSR 3
59+00 TO 63+00

SCALE:
HORIZ: 1" = 20'
VERT: 1" = 20'

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SHEET TITLE
GRADING SECTIONS
BSSR 3 (STA 59+00 TO 63+00)

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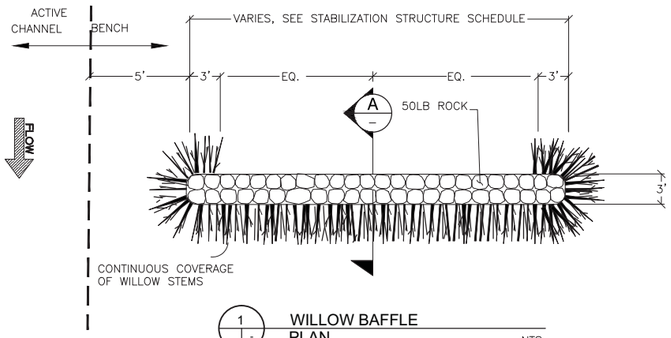
INCHARGE A. BORGONOVO
C053102

SCALE AS SHOWN

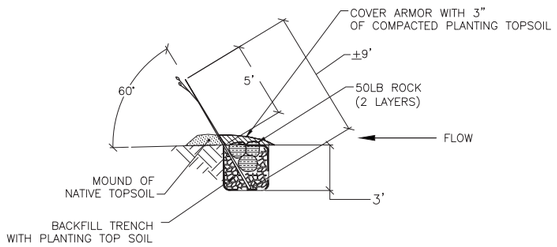
DATE MAY 15, 2012

SHEET
C10

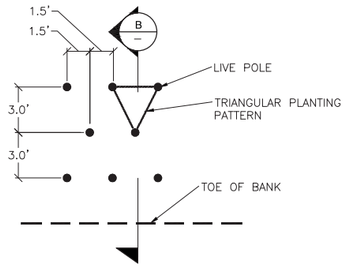
11 OF 20



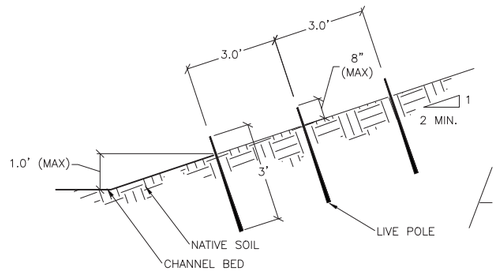
1 WILLOW BAFFLE PLAN NTS



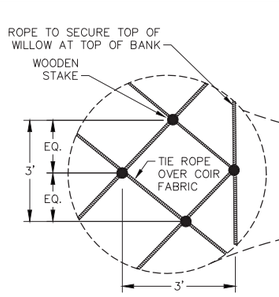
A WILLOW BAFFLE SECTION NTS



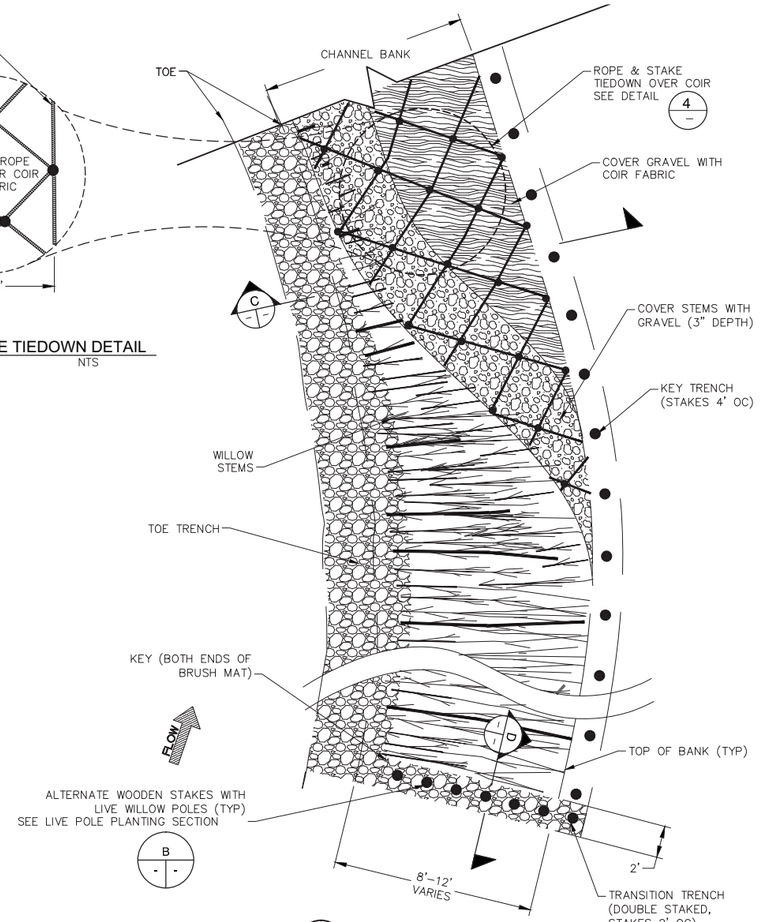
2 LIVE POLE PLANTING PLAN NTS



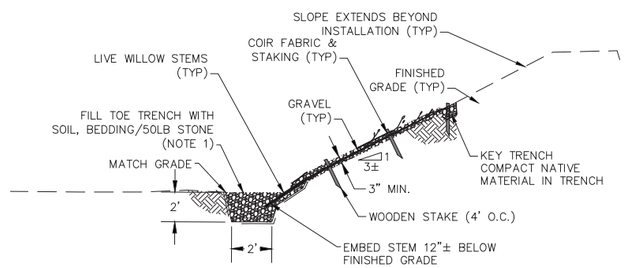
B LIVE POLE PLANTING SECTION NTS



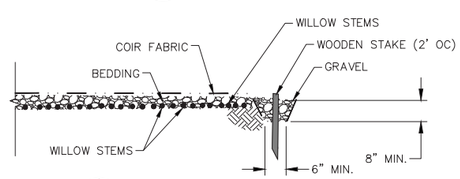
4 ROPE AND STAKE TIEDOWN DETAIL TYPICAL PLAN NTS



3 BRUSH MAT TYPICAL PLAN NTS



C BRUSH MAT TYPICAL SECTION NTS



D BRUSH MAT TRANSITION TRENCH TYPICAL CROSS SECTION NTS

SCHEDULE OF STRUCTURES AND INSTALLATIONS

TREATMENT	STATION/RANGE	BANK	WIDTH/ ELEVATION RANGE
BSSR 1	**76+10 TO 72+70**	**RIGHT**	
BRUSH MAT	76+05 TO 73+00	RIGHT	122+/- TO 130
BOULDER CLUSTER	75+60		
BOULDER CLUSTER	75+36		
BOULDER CLUSTER	74+60		
BOULDER CLUSTER	73+90		
LW TYPE 2	73+50	RIGHT	
BENCH 1	**71+95 TO 64+70**	**LEFT**	
BRUSH MAT	70+40 TO 70+00	LEFT	127 TO 132
BRUSH MAT	70+15 TO 69+65	CENTER	127 TO 130
POLE PLANTING	70+00 TO 65+25	SIDE CHANNEL LT	*SEE NOTE BELOW
POLE PLANTING	69+65 TO 66+60	SIDE CHANNEL RT	
LOG WEIR	69+50		
WILLOW BAFFLE	68+50		20
LOW PROFILE LOG	67+35		
WILLOW BAFFLE	67+40		30
WILLOW BAFFLE	67+20		30
LOG WEIR	67+15		
WILLOW BAFFLE	66+70		30
LOG WEIR	66+10		
WILLOW BAFFLE	66+00		20
BRUSH MAT	66+60 TO 66+20	CENTER	
LOW PROFILE LOG	66+80		
WILLOW BAFFLE	65+30		30
BRUSH MAT	65+25 TO 64+85	LEFT	126 to 130
LW TYPE 2	65+15	LEFT	

TREATMENT	STATION/RANGE	BANK	ELEVATION RANGE
BSSR 2	**69+00 TO 64+15**	**RIGHT**	
LOG DEFLECTOR	70+90 TO 70+60	RIGHT	
BRUSH MAT	68+30 TO 67+90	RIGHT	125 TO 130
ROCK SLOPE PROTECTION	68+25 TO 66+30	RIGHT	(NOT SHOWN IN XS)
BOULDER CLUSTER	67+80		
BOULDER CLUSTER	67+70		
LOW PROFILE LW	67+55		
BOULDER CLUSTER	67+00		
LOW PROFILE LW	66+95		
BOULDER CLUSTER	66+80		
BOULDER CLUSTER	66+65		
BOULDER CLUSTER	66+50		
INTEGRATED LW	66+40		
BRUSH MAT	66+40 TO 65+90	RIGHT	125-130
BRUSH MAT	65+50 TO 64+15	RIGHT	133-138
BSSR 3	**64+10 TO 58+10**	**LEFT**	
BRUSH MAT	64+10 TO 63+55	LEFT	126 TO 131
REVETMENT KEY	63+85 TO 63+55	LEFT	115 TO 127
INTEGRATED LW	63+70	LEFT	
BOULDER CLUSTER	62+40		
POLE PLANTING	63+55 to 62+30		
BRUSH MAT	62+30 TO 62+00	LEFT	126 TO 131
BRUSH MAT	61+50 TO 61+20	LEFT	127 TO 132
REVETMENT KEY	61+30 TO 61+00	LEFT	115 TO 130
BOULDER CLUSTER	61+25		
REVETMENT KEY	60+75 TO 60+45	LEFT	115 TO 130
INTEGRATED LW	60+60		
BRUSH MAT	60+60 TO 60+30	LEFT	121 TO 126
POLE PLANTING	60+30 to 59+80		
BRUSH MAT	60+10 TO 58+75	LEFT	125 TO 130
REVETMENT KEY	60+05 TO 59+75	LEFT	115 TO 130
INTEGRATED LW	59+80		
BOULDER CLUSTER	59+65		
BOULDER CLUSTER	58+95		
BOULDER CLUSTER	58+45		
BRUSH MAT	58+45 TO 58+10	LEFT	125 TO 130
REVETMENT KEY	58+35 TO 58+05	LEFT	115 TO 130
INTEGRATED LW	58+20		

* POLE PLANTING OCCURS IN 3 COURSES, FIRST COURSE IS APPROX 1' ABOVE THE TOE OF SLOPE. PLANT POLES 3' O.C. PER DETAIL THIS SHEET.

BRUSH MAT NOTES

1. FOR BSSR #1 KEY TOE TRENCH INTO EXISTING CHANNEL BAR

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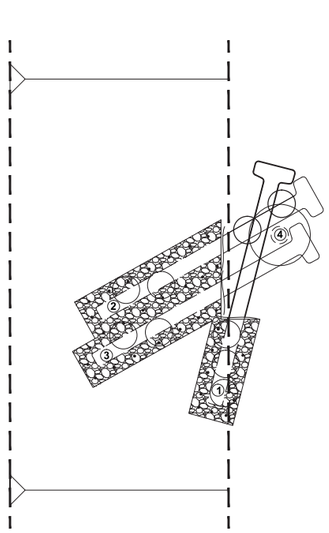
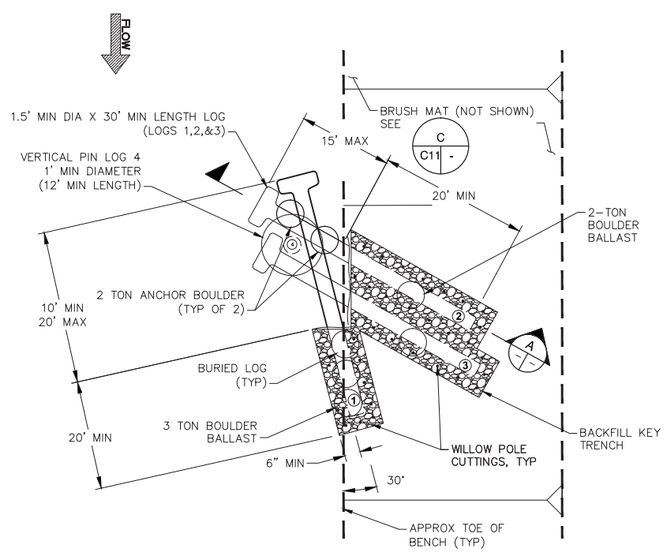
SHEET TITLE
DETAILS
BIOTECHNICAL FEATURES

PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4A

PREPARED FOR:
NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559

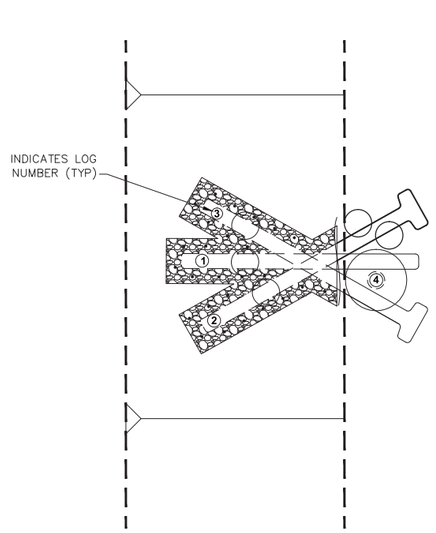
APPROVED	
DESIGNED	J. BLOMBERG R. BROWN
DRAWN	B.TANAKA
INCHARGE	A. BORGONOVO C053102
SCALE	AS SHOWN
DATE	MAY 15, 2012
SHEET	C11

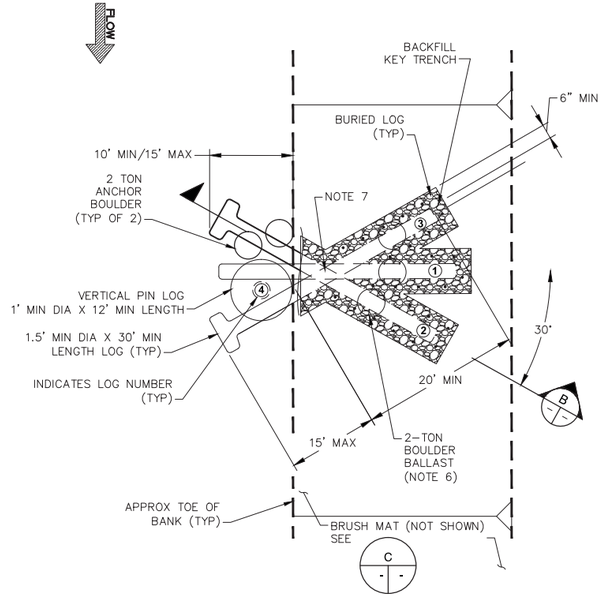




1/- LWD STRUCTURE - TYPE 1
SCHEMATIC PLAN - RIVER RIGHT NTS

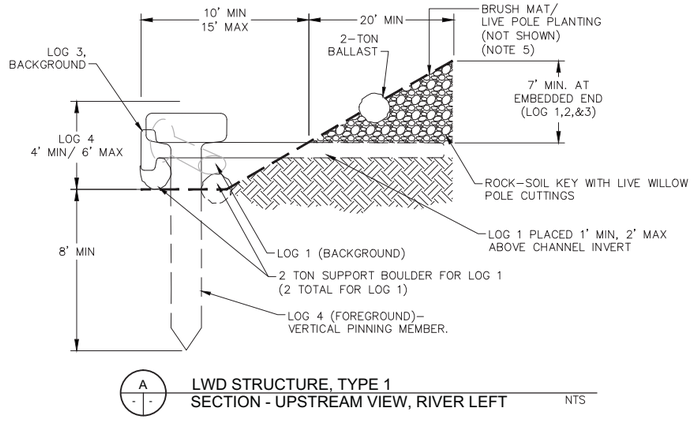
1/- LWD STRUCTURE- TYPE 1
PLAN - RIVER LEFT NTS



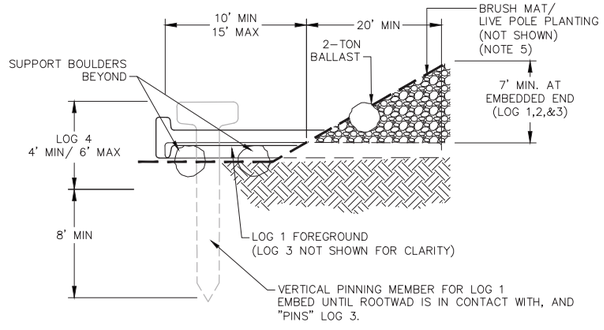


2/- LWD STRUCTURE- TYPE 2
SCHEMATIC PLAN - RIVER RIGHT NTS

2/- LWD STRUCTURE- TYPE 2
PLAN - RIVER LEFT NTS



A/- - LWD STRUCTURE, TYPE 1
SECTION - UPSTREAM VIEW, RIVER LEFT NTS



B/- - LWD STRUCTURE, TYPE 2
SECTION AT LOG 2 - UPSTREAM VIEW, RIVER LEFT NTS

SHEET NOTES

1. PRIOR TO INSTALLATION, FIELD STAKE LWD STRUCTURE LOCATIONS (LOG ENDPOINTS) FOR REVIEW BY THE OWNER'S REPRESENTATIVE. ALLOW 3 WORKING DAYS FOR REVIEW AND ADJUST STAKES AS DIRECTED.
2. LOGS SHALL BE PLACED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. FIELD FIT AND ADJUST AS NEEDED TO CONFORM IRREGULAR LOGS TO NEAT DIMENSIONS SHOWN AND TO ACHIEVE LOG INTERLOCKING.
3. DETAIL SHOWS EMBEDMENT DEPTH ASSUMING THE LOG IS THE MINIMUM LENGTH SPECIFIED. IF LONGER LOGS ARE USED, INCREASE EMBEDMENT LENGTH AND DEPTH AS NEEDED TO MEET REQUIREMENTS SHOWN.
4. BACKFILL TRENCH WITH ROCK-SOIL MIX AND COMPACT TO 90% RC. STAKE THE ENDPOINTS OF THE BURIED LOG TO GUIDE BALLAST PLACEMENT.
5. INSTALL BRUSH MAT OVER FINISHED GRADE PER SHEET C11. INSTALL LIVE POLE PLANTING (PER SHEET C11) ON ANY PORTION OF THE DISTURBED BANK NOT COVERED WITH BRUSH MAT.
6. BALLAST BOULDERS CAN EITHER BE ONE 2-TON ROCK OR TWO 1-TON ROCKS PER LOG AT CONTRACTOR'S OPTION. PLACE DIRECTLY OVER THE EMBEDDED LOG AND EMBED MIN 6 INCHES BELOW GRADE. BOULDERS MAY BE BURIED WITHIN KEY TRENCH. FIELD LOCATE AS DIRECTED BY THE OWNER'S REPRESENTATIVE. TRIM HOLE IN COMPLETED BRUSH MAT AS NEEDED FOR ROCK PLACEMENT.
7. LOGS MAY BE NOTCHED (3" MAX) TO ACHIEVE ORIENTATION AND EMBEDMENT AS SHOWN.

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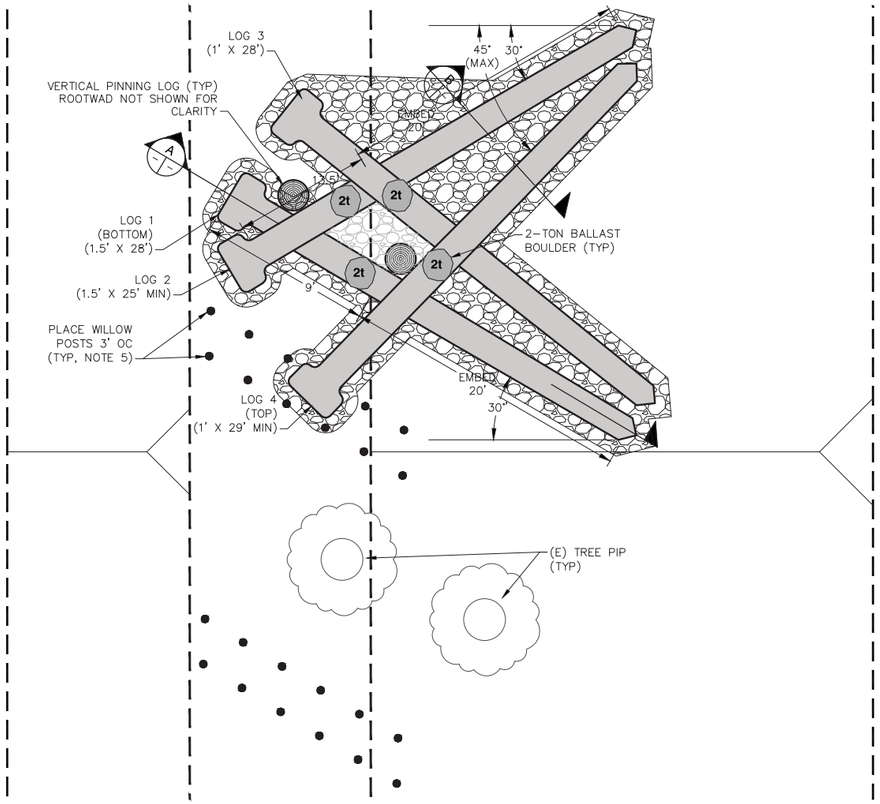
SHEET TITLE: DETAILS - LARGE WOOD (LW) STRUCTURES

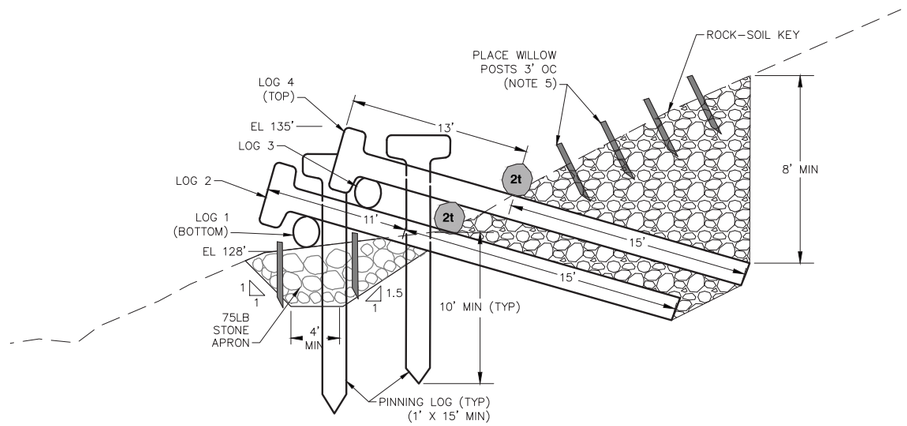
PROJECT: NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4A

PREPARED FOR:
NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559

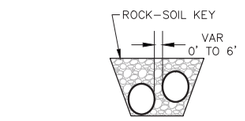
APPROVED	
DESIGNED	J. BLOMBERG R. BROWN
DRAWN	B.TANAKA
INCHARGE	A. BORGONOVO C053102
SCALE	AS SHOWN
DATE	MAY 15, 2012
SHEET	C12



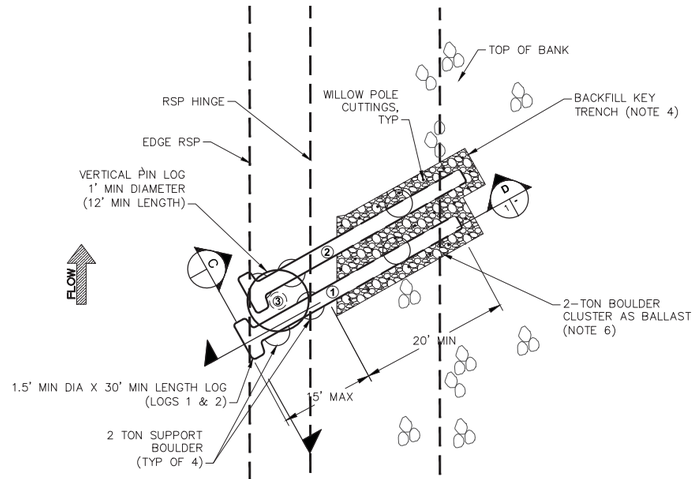
1 — LW STRUCTURE - DEFLECTOR
SCHEMATIC PLAN - RIVER RIGHT NTS



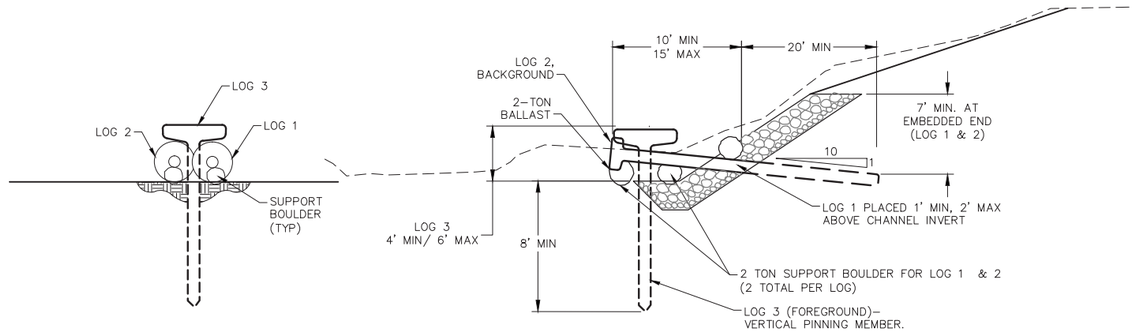
A — LW STRUCTURE - DEFLECTOR
SECTION - RIVER RIGHT NTS



B — LW STRUCTURE - DEFLECTOR
TRENCH SECTION NTS



2 — INTEGRATED LW STRUCTURE
SCHEMATIC PLAN - RIVER RIGHT NTS



C — INTEGRATED LW STRUCTURE
ELEVATION VIEW NTS

D — INTEGRATED LW STRUCTURE
SECTION NTS

SHEET NOTES

1. PRIOR TO INSTALLATION, FIELD STAKE LW STRUCTURE LOCATIONS (LOG ENDPOINTS) AND EXTENT OF ARMOR STONE APRON FOR REVIEW BY THE OWNER'S REPRESENTATIVE. ALLOW 3 WORKING DAYS FOR REVIEW AND ADJUST STAKES AS DIRECTED.
2. LOGS SHALL BE PLACED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. FIELD FIT AND ADJUST AS NEEDED TO CONFORM IRREGULAR LOGS TO NEAT DIMENSIONS SHOWN AND TO ACHIEVE LOG INTERLOCKING.
3. DETAIL SHOWS EMBEDMENT DEPTH ASSUMING THE LOG IS THE MINIMUM LENGTH SPECIFIED. IF LONGER LOGS ARE USED, INCREASE EMBEDMENT LENGTH AND DEPTH AS NEEDED TO MEET REQUIREMENTS SHOWN.
4. BACKFILL TRENCH WITH ROCK-SOIL MIX AND COMPACT TO 90% RC. STAKE THE ENDPOINTS OF THE BURIED LOG TO GUIDE BALLAST PLACEMENT.
5. INSTALL BRUSH MAT OVER FINISHED GRADE PER SHEET C11. INSTALL LIVE POLE PLANTING (PER SHEET C11) ON ANY PORTION OF THE DISTURBED BANK NOT COVERED WITH BRUSH MAT. WILLOW POSTS TO BE 2.5" MIN AND 6" MAX; EMBEDDED MINIMUM 3' AND TRIMMED TO 1.5' ABOVE GRADE
6. BALLAST BOULDERS CAN EITHER BE ONE 2-TON ROCK OR TWO 1-TON ROCKS PER LOG AT CONTRACTOR'S OPTION. PLACE DIRECTLY OVER THE EMBEDDED LOG AND EMBED MIN 6 INCHES BELOW GRADE. FIELD LOCATE AT TOE OF ROCK-SOIL KEY SLOPE AS DIRECTED BY THE OWNER'S REPRESENTATIVE. TRIM HOLE IN COMPLETED BRUSH MAT AS NEEDED FOR ROCK PLACEMENT.
7. LOGS MAY BE NOTCHED (3" MAX) TO ACHIEVE ORIENTATION AND EMBEDMENT AS SHOWN.

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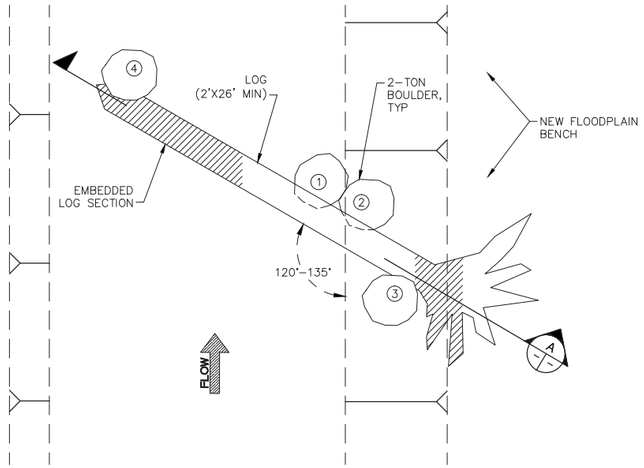
SHEET TITLE
DETAILS - LARGE WOOD (LW) - 2

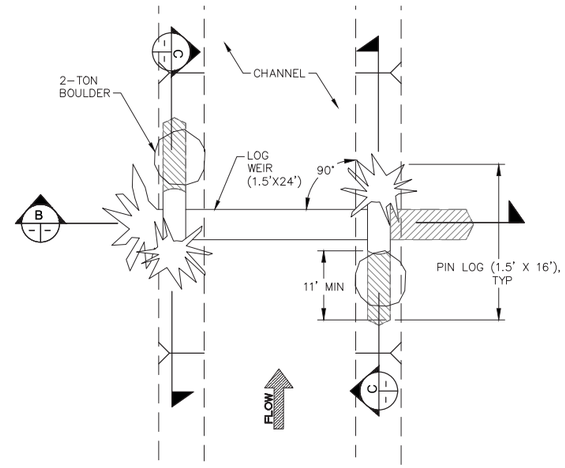
PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4A

PREPARED FOR:
NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559

APPROVED	
DESIGNED	J. BLOMBERG R. BROWN
DRAWN	B.TANAKA
INCHARGE	A. BORGONOVO C053102
SCALE	AS SHOWN
DATE	MAY 15, 2012
SHEET	C13



1 LOW PROFILE LOG STRUCTURE
PLAN SCALE: NTS



2 LOG WEIR
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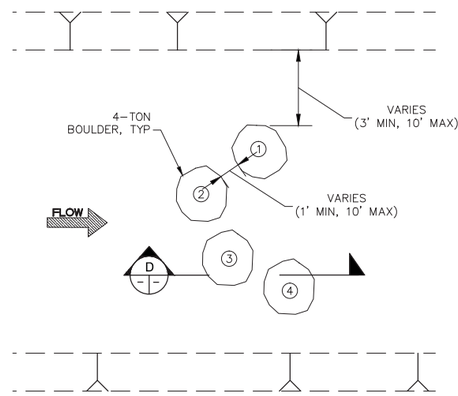
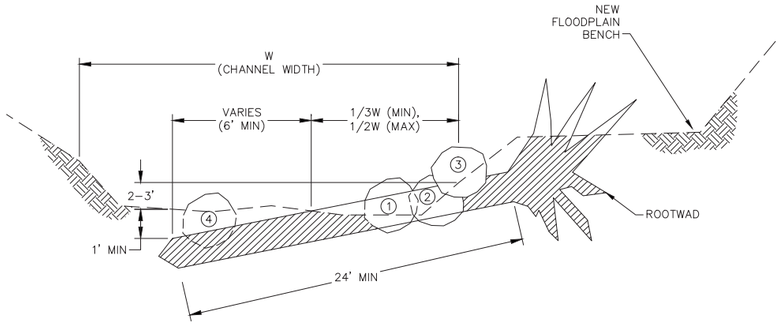
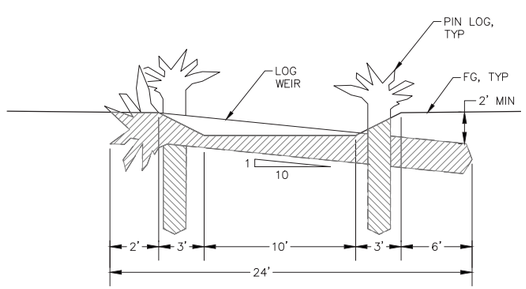


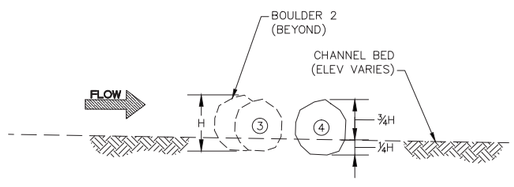
3 BOULDER CLUSTER
PLAN SCALE: NTS



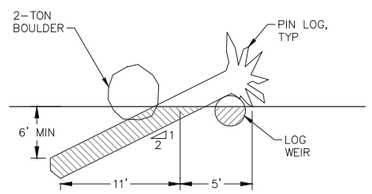
A LOW PROFILE LOG STRUCTURE
SECTION SCALE: NTS



B LOG WEIR
SECTION SCALE: NTS



D BOULDER CLUSTER
PROFILE SCALE: NTS



C LOG WEIR
PROFILE SCALE: NTS

NOTES

1. BOULDERS 1 AND 2 SHOWN BEYOND ROOTWAD. BOULDER RESTS ON TOP OF LOG, EMBEDDED IN CHANNEL
2. LOW PROFILE LOG DETAIL IS SCHEMATIC TO ILLUSTRATE GENERAL PLACEMENT OF MATERIALS. FIELD FIT AND ADJUST AS–NEEDED TO CONFORM TO SITE CONDITIONS AND ACHIEVE INTEGRATION OF MATERIALS.

NOTES

1. BACKFILL TRENCH WITH ROCK–SOIL MIX AND COMPACT TO 90% RC. STAKE ENDPOINTS OF THE BURIED LOG TO GUIDE BALLAST PLACEMENT.
2. LOG WEIR DETAIL IS SCHEMATIC TO ILLUSTRATE GENERAL PLACEMENT OF MATERIALS. FIELD FIT AND ADJUST AS–NEEDED TO CONFORM TO SITE CONATIONS AND ACHIEVE INTEGRATION OF MATERIALS.

NOTES

1. BOULDER CLUSTER DETAIL IS SCHEMATIC TO ILLUSTRATE GENERAL CONFIGURATION AND SPACING OF MATERIALS. FIELD FIT AND ADJUST AS–NEEDED TO CONFORM TO SITE CONDITIONS AND ACHIEVE INTENDED FUNCTION.

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SHEET TITLE
DETAILS - BOULDER CLUSTER, LOW PROFILE LOG, & LOG WEIR

PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4A

PREPARED FOR:
NAPA COUNTY
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Napa, CA 94559

APPROVED	
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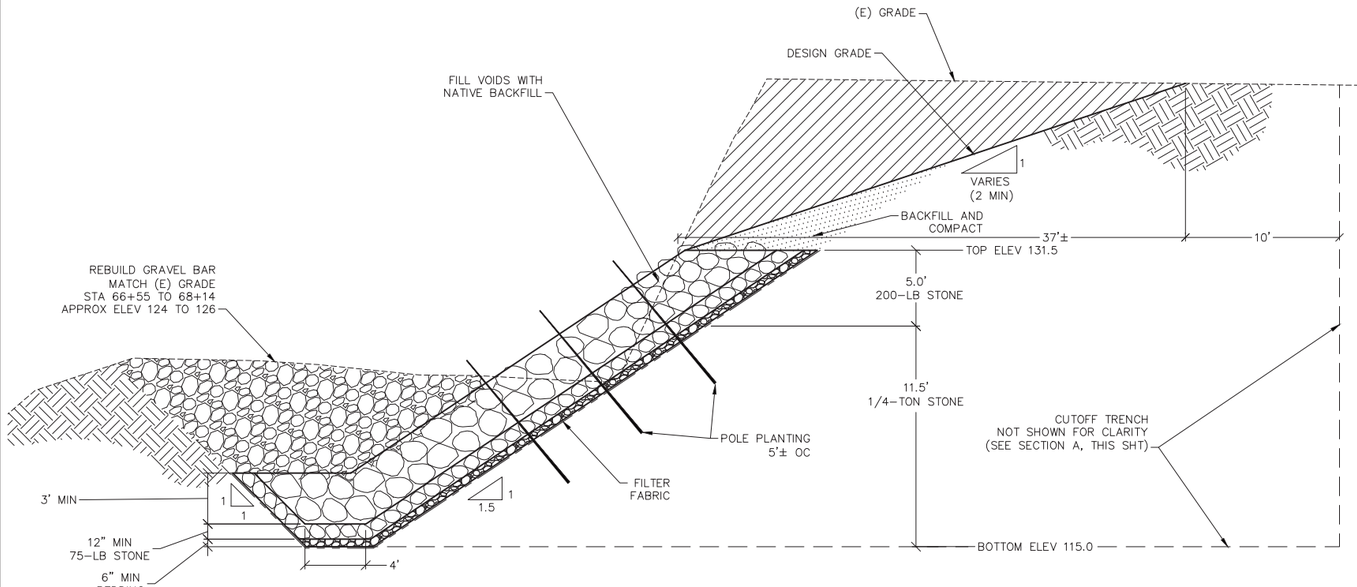
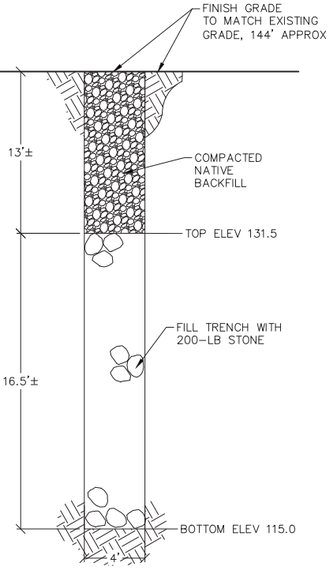
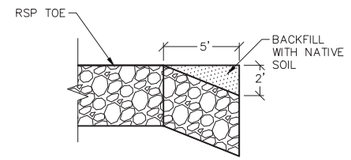
DRAWN	B.TANAKA
INCHARGE	A. BORGONOVO C053102
SCALE	AS SHOWN
DATE	MAY 15, 2012
SHEET	C14



1 - ROCK SLOPE PROTECTION
TYPICAL SECTION (STA 66+40± TO 68+20±)
NOT TO SCALE



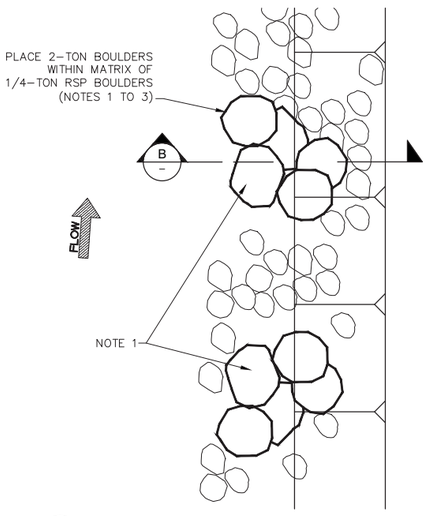
A - CUTOFF TRENCH
SECTION (NOTE 4)
NOT TO SCALE



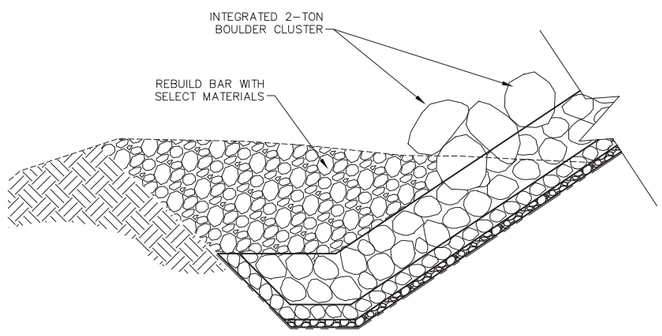
D - ROCK SLOPE PROTECTION TRANSITION
TYPICAL SECTION
NOT TO SCALE

NOTES

1. BOULDER CLUSTERS CONSIST OF 3 TO 5 2-TON BOULDERS.
2. METHOD A PLACEMENT TO INTEGRATE CLUSTER WITH ROCK SLOPE PROTECTION.
3. VARY BOULDER CLUSTER ORIENTATION TO MINIMIZE UNIFORM INSTALLATION.
4. REVETMENT KEY DETAIL 3 SHOWN AT UPSTREAM END OF EXISTING REVETMENT; INSTALLATION OF STRUCTURE ELEMENTS AT DOWNSTREAM END SHALL BE REVERSED.
5. VERTICAL AND LONGITUDINAL LIMITS OF EXISTING BANK REVETMENT VARY. CONFORM NEW REVETMENT KEY TO ACTUAL CONDITIONS.
6. BANK SCOUR IS SHOWN SCHEMATICALLY. ACTUAL EXTENTS OF SCOUR VARIES AT EACH LOCATION.
7. REVETMENT KEY SHALL TIE INTO EXISTING REVETMENT. REMOVE AND REPLACE EXISTING REVETMENT AS NEEDED TO INSTALL KEY AND PRODUCE SMOOTH, INTEGRATED REVETMENT STRUCTURE. REMOVAL LIMITS SHALL BE 2' MIN AND 4' MAX.
8. VERTICAL DIMENSION OF BANK KEY TO MATCH HEIGHT OF EXISTING REVETMENT. DIMENSIONS WILL VARY BETWEEN SITES.
9. SEE DETAIL 2 SHEET C13 FOR INTEGRATED LARGE WOOD STRUCTURE.
10. INSTALL LINE OF LIVE WILLOW POLES ALONG TRANSITION BETWEEN REVETMENT KEY AND GRADED BANK.



2 - INTEGRATED BOULDER CLUSTER DETAIL
PLAN VIEW (NOTES 1 - 3)
NOT TO SCALE



B - INTEGRATED BOULDER CLUSTER DETAIL
TYPICAL SECTION
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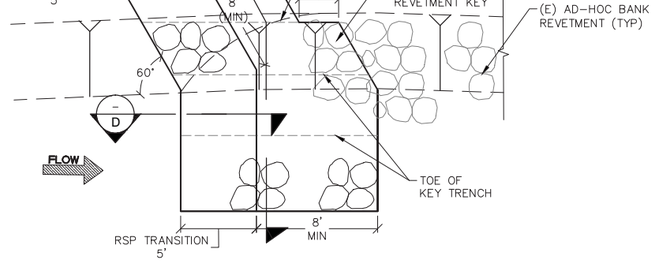
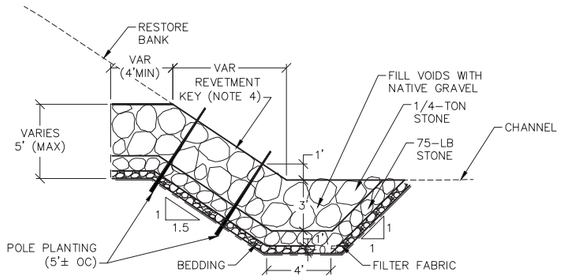


3 - REVETMENT KEY
TYPICAL PLAN (NOTES 5-10)
NOT TO SCALE



C - REVETMENT KEY
SECTION
NOT TO SCALE

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SHEET TITLE
DETAILS - ROCK SLOPE PROTECTION: SAWYER & SEQUOIA GROVE

PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4A

PREPARED FOR:
NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559

APPROVED	
DESIGNED	J. BLOMBERG R. BROWN
DRAWN	B.TANAKA
INCHARGE	A. BORGONOVO C053102
SCALE	AS SHOWN
DATE	MAY 15, 2012
SHEET	C15

16 OF 20

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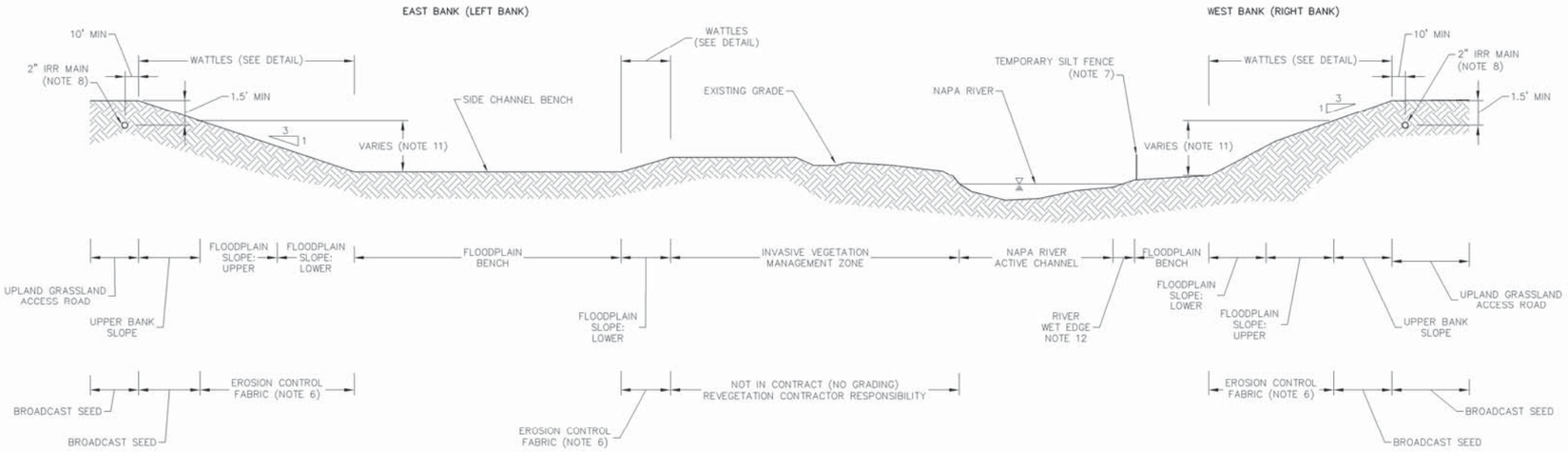
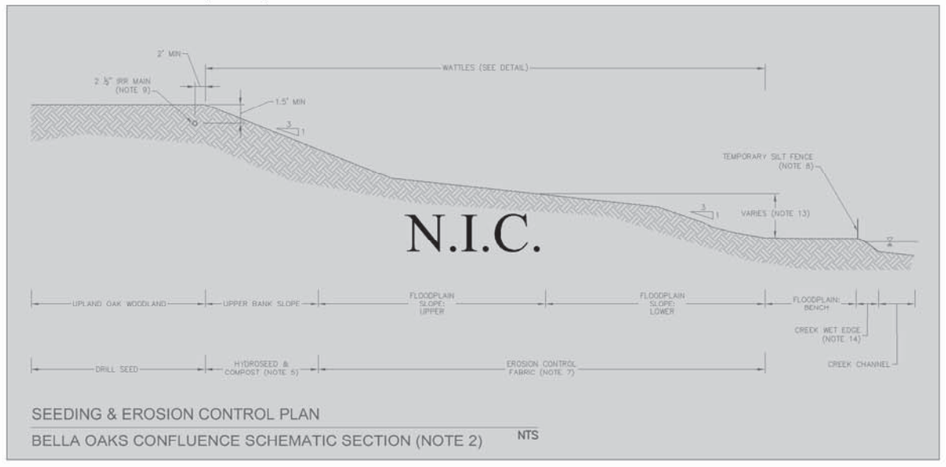


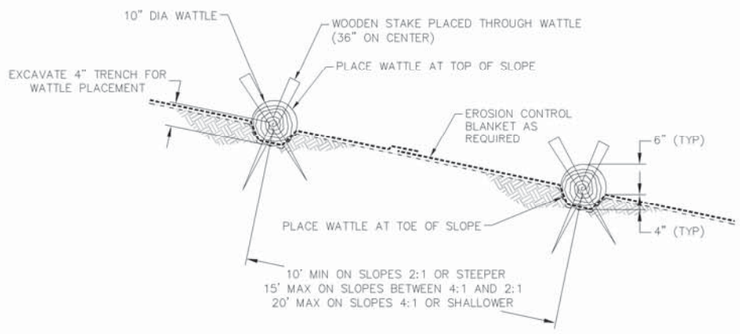
SEEDING & EROSION CONTROL PLAN

SCHEMATIC SECTION (NOTE 2) NTS



SEEDING & EROSION CONTROL PLAN

BELLA OAKS CONFLUENCE SCHEMATIC SECTION (NOTE 2) NTS



WATTLE DETAIL

SECTION VIEW NTS 03 C16

EROSION CONTROL SEEDING MIXES AND RATES

Rutherford Reach 8 Phase 4A Seed Palette

Habitat Type: Upland Grassland / Access Route		Acres 0.44	
Biological Name / Common Name	Seeding Method	lbs / ac	Qty
Elymus glaucus / Blue Wildrye	Broadcast	8	4
Eschscholzia californica / California Poppy	Broadcast	2	1
Festuca microstachys / Small Fescue	Broadcast	12	5
Lupinus bicolor / Miniature Lupine	Broadcast	4	2
Stipa pulchra / Purple Needlegrass	Broadcast	10	4
	Totals	36	16

Habitat Type: Upper Bank Slope		Acres 0.43	
Biological Name / Common Name	Seeding Method	lbs / ac	Qty
Bromus carinatus / California Brome	Broadcast	5	2
Elymus glaucus / Blue Wildrye	Broadcast	10	4
Eschscholzia californica / California Poppy	Broadcast	2	1
Festuca idahoensis / Idaho Fescue	Broadcast	8	3
Festuca microstachys / Small Fescue	Broadcast	8	3
Lupinus bicolor / Miniature Lupine	Broadcast	4	2
Trifolium willdenovii / Tomcat Clover	Broadcast	2	1
	Totals	39	16

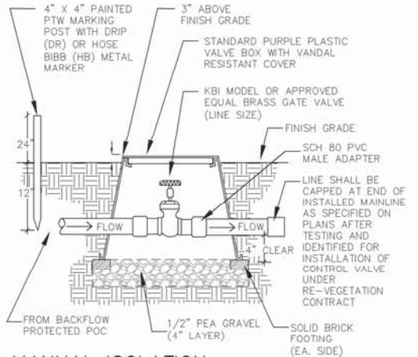
Habitat Type: Staging Area		Acres 0.19	
Biological Name / Common Name	Seeding Method	lbs / ac	Qty
Eschscholzia californica / California Poppy	Broadcast	2	1
Lupinus bicolor / Miniature Lupine	Broadcast	4	1
Trifolium willdenovii / Tomcat Clover	Broadcast	2	1
Triticum X Elymus "Regreen" / Sterile Wheat	Broadcast	28	5
	Totals	36	8

Habitat Type: Upper Floodplain Slope		Acres 0.64	
Biological Name / Common Name	Seeding Method	lbs. / ac.	lbs. Req.
Elymus glaucus / Blue Wildrye	Broadcast	8	5
Elymus triticoides /Creeping Wildrye	Broadcast	8	5
Festuca idahoensis / Idaho Fescue	Broadcast	6	4
Hordeum brachyantherum / Meadow Barley	Broadcast	6	4
Symphyotrichum chilense / Common Aster	Broadcast	6	4
	Totals	34	22

Habitat Type: Lower Floodplain Slope		Acres 0.87	
Biological Name / Common Name	Seeding Method	lbs. / ac.	lbs. Req.
Elymus triticoides /Creeping Wildrye	Broadcast	12	10
Hordeum brachyantherum / Meadow Barley	Broadcast	10	9
Symphyotrichum chilense / Common Aster	Broadcast	6	5
	Totals	28	24

Habitat Type: Lower Floodplain Bench		Acres 0.41	
Biological Name / Common Name	Seeding Method	lbs. / ac.	lbs. Req.
Elymus triticoides /Creeping Wildrye	Broadcast	18	7
	Totals	18	7

HABITAT ZONES SHALL BE IDENTIFIED AND STAKED IN THE FIELD. CONTRACTOR SHALL OBTAIN SEEDING LAYOUT APPROVAL FROM THE COUNTY'S REPRESENTATIVE PRIOR TO SEEDING.

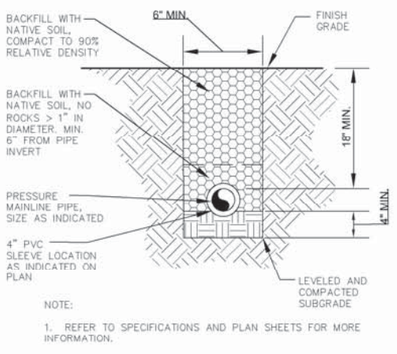


MANUAL ISOLATION VALVE

NOT TO SCALE

(c) Restoration Resources, 2012

01 C16



MAIN LINE TRENCHING

NOT TO SCALE

(c) Restoration Resources, 2012

02 C16

SHEET NOTES

1. THIS SHEET SHOWS MINIMUM EROSION CONTROL MEASURES THAT ARE REQUIRED. INSTALL ADDITIONAL MEASURES AS NEEDED FOR SEDIMENT AND EROSION CONTROL AND SWPPP COMPLIANCE.
2. THE SECTIONS SHOW DESIGNATIONS OF SEEDING & EROSION CONTROL ZONES FOR GRADED AREAS. BROADCAST SEED ALL DISTURBED AREAS PER TABLE EROSION CONTROL SEEDING MIXES AND RATES TABLE SHOWN ABOVE.
3. UPON COMPLETION OF THE WORK RESTORE STAGING AREA(S) AND ACCESS ROUTES BY BROADCAST SEEDING (PER TABLE) AND APPLYING GRASS STRAW, MULCH, AND TACKIFIER PER NOTE 6.
4. SEE SEED MIX TABLE FOR SPECIES, QUANTITIES AND APPLICATION METHOD BY HABITAT ZONE.
5. FOR ALL SEEDED AREAS APPLY SEED AT RATES SHOWN PER ZONE WITH MYCORRHIZAE PER SPECS. AFTER BROADCAST SEEDING, APPLY A COMMERCIALLY AVAILABLE WEED-FREE STRAW/FIBER MULCH, ORGANIC TACKIFIER, AND WATER SLURRY TO ALL DISTURBED AREAS TO ENSURE ADEQUATE EROSION CONTROL PROTECTION. FOR PRODUCT SPECIFICATIONS, RATES, APPLICATION METHOD, AND MANUFACTURER'S RECOMMENDATIONS REFER TO THE WRITTEN TECHNICAL SPECIFICATIONS.
6. INSTALL BIODEGRADABLE EROSION CONTROL FABRIC. SECURE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS, AND THE SPECS (USE MOST STRINGENT REQUIREMENTS).
7. INSTALL AND MAINTAIN SILT FENCE ALONG THE TOP OF THE ACTIVE CHANNEL BANK DURING BENCH GRADING. SILT FENCE LOCATIONS SHALL BE VERIFIED BY ENGINEER. REMOVE BY OCTOBER 15TH.
8. INSTALL IRRIGATION MAINLINES WHERE SHOWN. IRRIGATION MAINLINES SHALL BE LOCATED AT LEAST 5-FEET FROM DRIVABLE PORTION OF TOP OF BANK AND 10' FROM BANK EDGE. CENTER IRRIGATION LINE DOWN MIDDLE OF DRIVABLE PORTION OF ACCESS ROUTE ON THE WEST SIDE OF THE RIVER AS SHOWN ON THE PLANS. IDENTIFY LOCATION OF MAINLINE AND ISOLATION VALVES IN FIELD AND OBTAIN APPROVAL FROM COUNTY REPRESENTATIVE PRIOR TO INSTALLATION. IRRIGATION MAINLINES TO RECEIVE 18-INCHES MINIMUM COVER. BACKFILL TRENCH TO 90% RELATIVE COMPACTION. MAINLINE SHALL BE SLEEVED UNDER ALL VEHICLE ACCESS CROSSINGS.
9. POC LOCATIONS WILL BE CONFIRMED BY OWNERS.
10. DISTURBED AREAS WILL BE PLANTED UNDER SEPARATE REVEGETATION CONTRACT. IN THE EVENT THAT CONTRACT SCHEDULES OVERLAP, COOPERATE AND COORDINATE WITH REVEGETATION CONTRACTOR AS NEEDED.
11. LIMITS OF FLOODPLAIN SLOPE VARY. PRIOR TO SEEDING AND INSTALLATION OF EROSION CONTROL FABRIC, CONTRACTOR SHALL STAKE LIMIT OF FLOODPLAIN BENCHES AND SLOPES AND VERIFY WITH OWNERS' REPRESENTATIVE. EROSION CONTROL FABRIC SHALL BE INSTALLED ON ALL DISTURBED OR CUT FLOODPLAIN SLOPES TO A MINIMUM VERTICAL DIMENSION OF 9-FEET. THE VERTICAL EXTENT OF EROSION CONTROL FABRIC SHALL BE MEASURED FROM THE NEW FLOODPLAIN BENCH ELEVATION.
12. WHERE DIRECTED BY THE COUNTY'S REPRESENTATIVE, GRADE WET EDGE TO 3:1 AND PLACE LIVE POLE PLANTING.
13. ALL EROSION CONTROL WORK AND SEEDING SHALL BE COMPLETED BY OCTOBER 15TH.

REGISTERED LANDSCAPE ARCHITECT CHARLES R. HATCH No. 1393 Signature 5-31-13 Renewal Date Date STATE OF CALIFORNIA

PREPARED BY

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CA LIC. #429252

SHEET TITLE: EROSION CONTROL PLAN & IRRIGATION DETAILS

PROJECT: NAPA RIVER RESTORATION RUTHERFORD REACH 8 - PHASE 4A

PREPARED FOR:
NAPA COUNTY
DEPT OF PUBLIC WORKS
1195 Third St, Suite 201
Napa, CA 94559

DESIGNED	R. SWIFT L.PIPER
DRAWN	L.PIPER
INCHARGE	R. SWIFT PRESIDENT
SCALE	AS NOTED
DATE	MAY, 2012
SHEET	C16

17 OF 20

NOTES:

POC SHALL PROVIDE MINIMUM 60 GPM @ 60 PSI. CONTRACTOR SHALL VERIFY PRIOR TO IRRIGATION SYSTEM INSTALLATION.

GATE VALVE IDENTIFICATION: Dr = VALVE FOR FUTURE DRIP SYSTEM
Hb = VALVE FOR FUTURE HOSE BIBB SYSTEM

POC LOCATIONS WILL BE CONFIRMED BY OWNERS.

IRRIGATION LEGEND

SYMBOL	DESCRIPTION	MANUFACTURER / MODEL	DETAIL	REMARKS
⧗	MANUAL ISOLATION VALVE (GATE VALVE)	KBI MODEL OR APPROVED EQUAL BRASS GATE VALVE AS PER DETAIL	01/C16	SIZED ACCORDING TO PIPE SIZE SET IN BOX WITH A 4"X4" PAINTED WOOD MARKER POST
- - - - - -	PVC MAINLINE PIPE (SIZE AS INDICATED)	AS APPROVED	02/C16	1½" – 2" PVC SCH 40
———	PVC SLEEVING	AS APPROVED	02/C16	TWICE THE DIAMETER OF PIPE SEE PLAN FOR LOCATIONS UNDER ACCESS ROAD AS NEEDED. PVC SCH 40

WILSEY

IRRIGATION LINES TO BE PROVIDED BY REVEGETATION CONTRACTOR (NIC)

BENCH 1

REACH 8 PHASE 4A PROPOSED GRADING CONTOURS

PROJECT LIMIT OF WORK (TYP)

MATCHLINE STA 64+50 SEE SHEET C16

65+00

66+00

67+00

68+00

69+00

70+00

72+00

73+00

74+00

75+00

76+00

77+00

78+00

NAPA RIVER CENTERLINE

BSSR 2

Dr

Hb

GRADING LIMIT OF EARTHWORK CONTRACT (TYP)

2" MAINLINE

Hb

BSSR 1

ISOLATION VALVES SHALL BE MIN. 5' FROM EDGE OF BANK. AT STUB OUT 1 ½" MAINLINE SHALL EXTEND DOWNSTREAM 12" TO EACH VALVE. ISOLATION VALVES SHALL BE SET UNDERGROUND IN INDIVIDUAL 12" PURPLE VALVE BOXES. SEE DETAIL 01/C16.

PARCEL BOUNDARY (TYP)

STUB OUT TO ISOLATION VALVE WITH 1½" MAINLINE. LOCATE VALVE 5' FROM EDGE OF BANK WITH PTW MARKER POST

MAINLINE SHALL BE LOCATED MIN. 10' FROM EDGE OF BANK. IN CENTER "MIDDLE" OF VEHICLE ACCESS ROUTE

STUB OUT TO ISOLATION VALVES WITH 1½" MAINLINE TO BOTH ISOLATION VALVES

SKALI CORPORATION

SEQUOIA GROVE

TO 1¼" POC
CONTRACTOR SHALL CONNECT TO POC LOCATION IDENTIFIED IN THE FIELD. 2" SCHEDULE 40 PVC MAINLINE TO CONNECT TO EXISTING POC USING COUNTY AND LANDOWNER APPROVED CONNECTION. CONTRACTOR SHALL INSTALL ISOLATION VALVE 24" DOWNSTREAM FROM POC.

2" MAINLINE

NORTH

0 20 40 80

CONSTRUCTION ACCESS (TYP)

SAWYER

REGISTERED LANDSCAPE ARCHITECT
CHARLES R. HATCH
No. 1393
Signature
5-31-13
Renewal Date
Date
STATE OF CALIFORNIA

PREPARED BY
ESA PWA
550 Kearny Street, Suite 900
San Francisco, CA 94108
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ROCKLIN, CA 95765
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SHEET TITLE
IRRIGATION PLAN
STA 64+50 TO 78+50

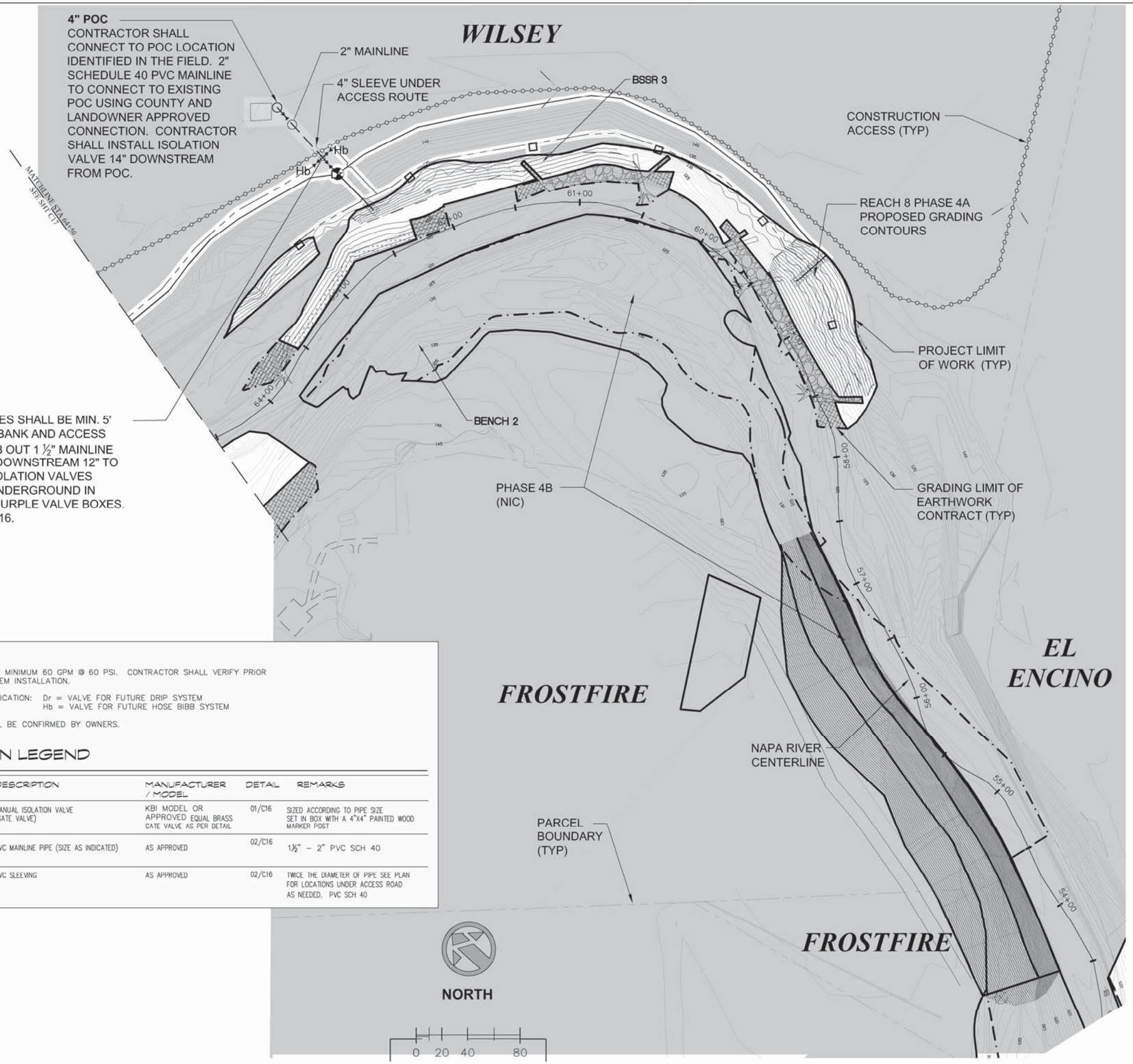
PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4A

PREPARED FOR:
NAPA COUNTY
DEPT OF PUBLIC WORKS
1195 Third St, Suite 201
Napa, CA 94559

NAPA COUNTY CALIFORNIA

DESIGNED	R. SWIFT L.PIPER
DRAWN	L.PIPER
INCHARGE	R. SWIFT PRESIDENT
SCALE	AS NOTED
DATE	MAY, 2012
SHEET	RO1

18 OF 20



NOTES:

POC SHALL PROVIDE MINIMUM 60 GPM @ 60 PSI. CONTRACTOR SHALL VERIFY PRIOR TO IRRIGATION SYSTEM INSTALLATION.

GATE VALVE IDENTIFICATION: Dr = VALVE FOR FUTURE DRIP SYSTEM
Hb = VALVE FOR FUTURE HOSE BIBB SYSTEM

POC LOCATIONS WILL BE CONFIRMED BY OWNERS.

IRRIGATION LEGEND

SYMBOL	DESCRIPTION	MANUFACTURER / MODEL	DETAIL	REMARKS
	MANUAL ISOLATION VALVE (GATE VALVE)	KBI MODEL OR APPROVED EQUAL BRASS GATE VALVE AS PER DETAIL	01/C16	SIZED ACCORDING TO PIPE SIZE SET IN BOX WITH A 4"X4" PAINTED WOOD MARKER POST
------	PVC MAINLINE PIPE (SIZE AS INDICATED)	AS APPROVED	02/C16	1½" – 2" PVC SCH 40
	PVC SLEEVING	AS APPROVED	02/C16	TWICE THE DIAMETER OF PIPE SEE PLAN FOR LOCATIONS UNDER ACCESS ROAD AS NEEDED. PVC SCH 40

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SHEET TITLE: REVEGETATION PLAN STA 53+00 TO 64+50

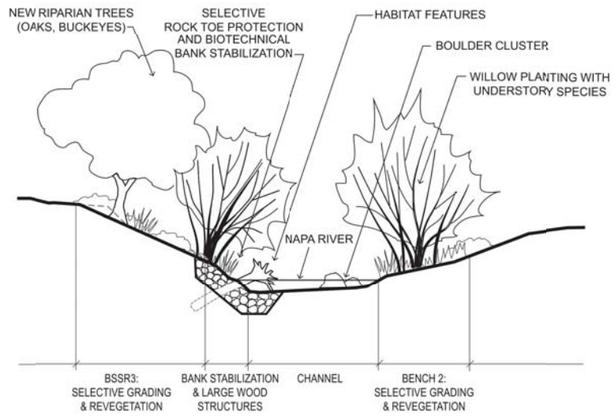
PROJECT: NAPA RIVER RESTORATION RUTHERFORD REACH 8 - PHASE 4A

PREPARED FOR:
NAPA COUNTY
DEPT OF PUBLIC WORKS
1195 Third St, Suite 201
Napa, CA 94559

DESIGNED	R. SWIFT L.PIPER
DRAWN	L.PIPER
INCHARGE	R. SWIFT PRESIDENT
SCALE	AS NOTED
DATE	MAY, 2012
SHEET	R02

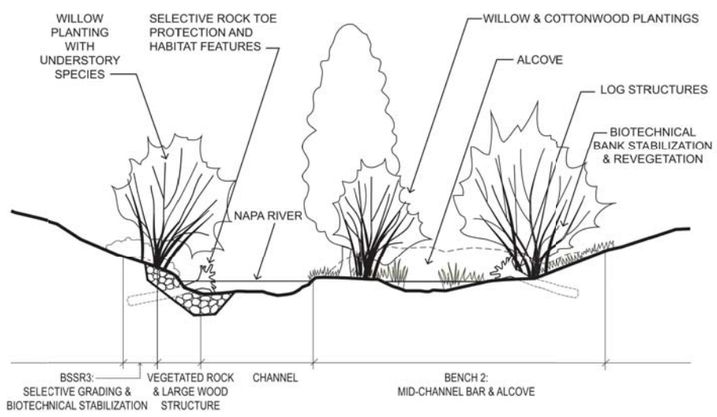
19 OF 20

REGISTERED LANDSCAPE ARCHITECT
CHARLES R. HATCH
No. 1393
Signature
5-31-13
Renewal Date
Date
STATE OF CALIFORNIA



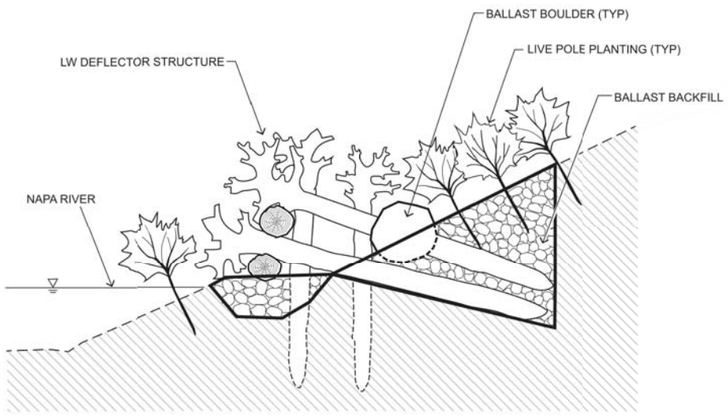
NAPA RIVER RESTORATION RUTHERFORD REACH 8 - PHASE 4A: BENCH 2 & BSSR3

TYPICAL ILLUSTRATIVE SECTION 1: STATION 58 + 50



NAPA RIVER RESTORATION RUTHERFORD REACH 8 - PHASE 4A: BENCH 2 & BSSR3

TYPICAL ILLUSTRATIVE SECTION 2: STATION 60 + 50



NAPA RIVER RESTORATION RUTHERFORD REACH 8 - PHASE 4A: LOG DEFLECTOR

TYPICAL ILLUSTRATIVE SECTION 3: STATION 70 + 80

SHEET NOTES

1. ILLUSTRATIVE CROSS-SECTION SKETCHES PROVIDED FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT INTENDED FOR BIDDING OR CONSTRUCTION.
2. THE SKETCHES ARE INTENDED TO SHOW THE INTEGRATION OF STRUCTURAL AND REVEGETATION FEATURES TO ACCOMPLISH COMPREHENSIVE BANK STABILIZATION AND HABITAT ENHANCEMENT.
3. SEE SHEETS C06 – C15 FOR CONSTRUCTION PLANS AND DETAILS.

NOT FOR CONSTRUCTION

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SHEET TITLE
SUPPLEMENTAL INFORMATION
ILLUSTRATIVE SKETCHES

PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4A

PREPARED FOR:
NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559

APPROVED

DESIGNED J. BLOMBERG
R. BROWN

DRAWN B.TANAKA

INCHARGE A. BORGONOVO
C053102

SCALE AS SHOWN

DATE MAY 15, 2012

SHEET
S01

20 OF 20