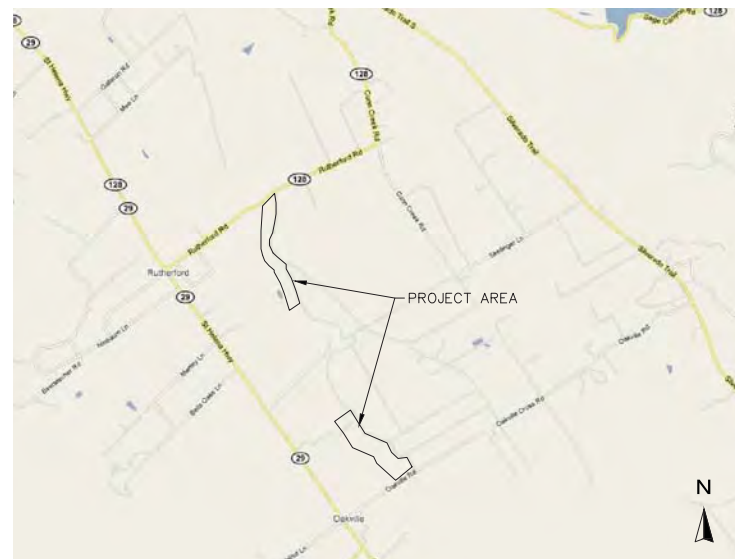
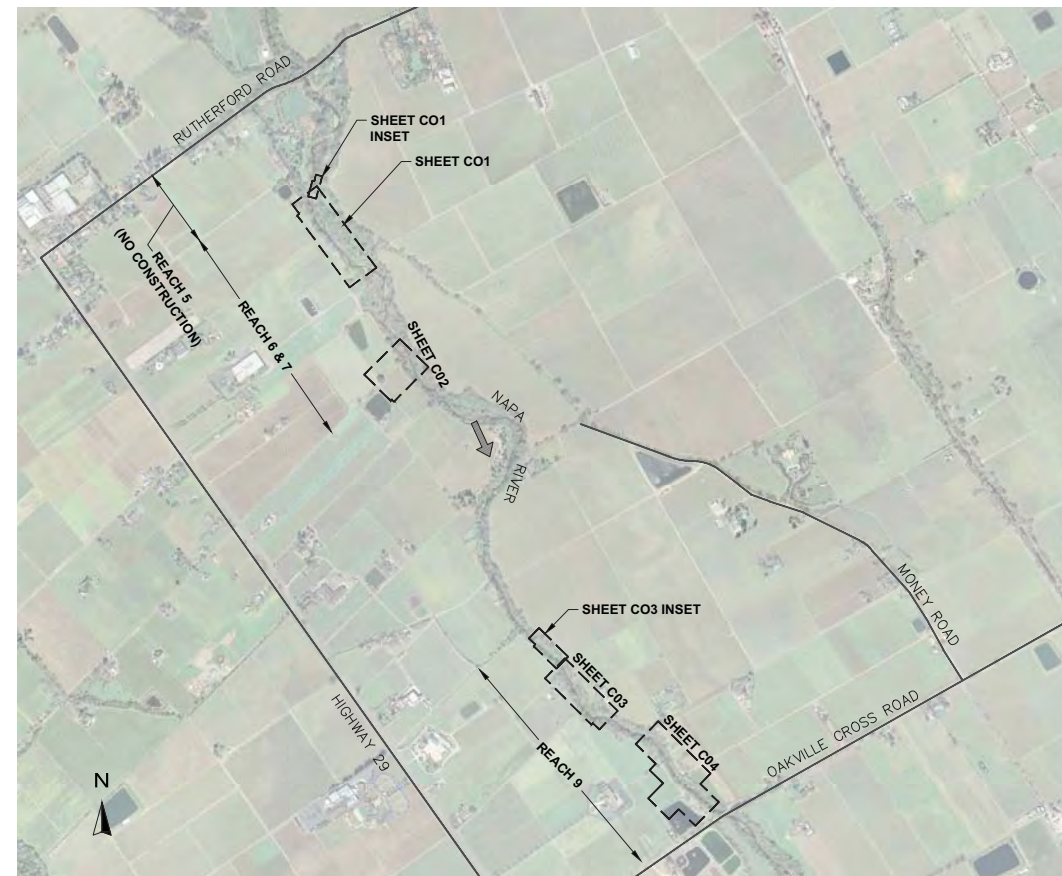


NAPA RIVER-RUTHERFORD REACHES 5,6,7 & 9 (PW-14-09) NAPA COUNTY, CALIFORNIA 100% COMPLETE DESIGN



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

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- L05 IRRIGATION PLAN – REACH 9 STA 0+00 TO STA 14+00

RICHARD E. MARSHAL, PE, RGE 47574 DATE
DEPUTY DIRECTOR OF PUBLIC WORKS

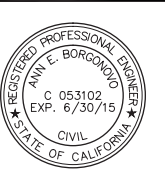


1" = 100'

PREPARED BY:
ESA PWA
550 Kenny Street, Suite 900
San Francisco, CA 94108
415.262.2303
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SHEET TITLE
TITLE SHEET
PROJECT
**NAPA RIVER RESTORATION
RUTHERFORD - REACHES 5,6,7 & 9**

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



APPROVED
DESIGNED J. BLOMBERG / B. TANAKA
DRAWN B. TANAKA
INCHARGE A. BORGONOVO
C053102
SCALE AS NOTED
DATE MARCH, 2014
SHEET

G01
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ABBREVIATIONS

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

TREE POINT DESCRIPTION ABBREVIATIONS

DESCRIPTION	TREE SPECIES
ALDR	ALDER
ASH	ASH
BKOK	BLACK OAK
CTNWOD	COTTONWOOD
EUC	EUCALYPTUS
LVOK	LIVE OAK
POPLR	POPLAR
SYC	SYCAMORE
WLNT	WALNUT
WLO	WILLOW
WTOK	WHITE OR VALLEY OAK

LEGEND

	EXISTING GRADE (PROFILE & SECTION)
	DESIGN GRADE
	APPROX PARCEL BOUNDARY
	MATCHLINE/GRADING SHEET OUTLINES
	DEMOSHEET OUTLINES
	GRADING LIMITS
	THALWEG
	CONSTRUCTION ACCESS
	EXISTING WATERLINE
	APPROX TREELINE
	NEW CONTOUR LINE
	EXISTING CONTOUR LINE, GROUND BASED SURVEY
	EXISTING CONTOUR LINE, LIDAR SURVEY
	EXISTING GROUND (SECTION)
	EXCAVATION (SECTION)
	FILL (PLAN & SECTION)
	ROCK MATERIALS
	STAGING
	VINEYARD REMOVAL
	REVEGETATION ZONE
	RIPARIAN ENHANCEMENT ZONE
	SNOW BERRY OR SANTA BARBARA SEDGE PLANTING
	FLOW DIRECTION
	DRAINAGE DIRECTION
	DEMO TREE
	SPOT ELEVATION
	BENCHMARK
	CONTROL POINT
	EXISTING UTILITY
	POINT OF CONNECTION

DEFINITIONS

RESTORATION ENGINEER: ESA PWA
550 KEARNY STREET
SUITE 800
SAN FRANCISCO, CA 94108
PH: (415) 896-5900
CONTACT: JORGEN BLOMBERG

REVEGETATION AND VEGETATION MANAGEMENT: RESTORATION RESOURCES
3388 CINCINNATI AVENUE
ROCKLIN, CA 95765
PH: (916) 408-2990
CONTACT: LUCAS PIPER

PROPERTY OWNER: VARIES - CONTACT VIA LANDOWNER COORDINATOR

LANDOWNER COORDINATOR: TESSERA SCIENCES
6549 WILLOWVIEW COURT
LIVERMORE, CA 94551
PH: (925) 980-2829
CONTACT: GRETCHEN HAYES

THE OWNER-DESIGNATED LANDOWNER COORDINATOR WILL COORDINATE AS NEEDED BETWEEN THE OWNERS, NAPA COUNTY, RESTORATION ENGINEER, AND CONTRACTOR.



PREPARED BY:

LEGEND AND ABBREVIATIONS

NAPA RIVER RESTORATION
RUTHERFORD - REACHES 5,6,7 & 9

SHEET TITLE

PROJECT

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

PREPARED FOR:



APPROVED

DESIGNED J. BLOMBERG / B. TANAKA

DRAWN B. TANAKA

INCHARGE A. BORGONOVO
C053102

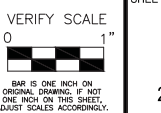
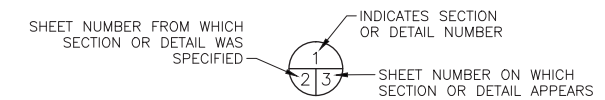
SCALE AS NOTED

DATE MARCH, 2014

SHEET

G02

2 OF 31



VERIFY SCALE
1" = 100'
BASE IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

GENERAL NOTES

GENERAL

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

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

- CONTRACTOR SHALL NOTIFY ALL PUBLIC OR PRIVATE UTILITY COMPANIES 48 HOURS PRIOR TO COMMENCEMENT OF WORK ADJACENT TO EXISTING UTILITY LINES.
- CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600 PRIOR TO START OF ANY CONSTRUCTION.
- LOCATIONS OF UTILITIES AND FACILITIES SHOWN ARE APPROXIMATE AND FOR GENERAL INFORMATION ONLY. CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES AS NEEDED FOR VERIFICATION.
- CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITIES AND PROTECT THROUGHOUT CONSTRUCTION.

ENVIRONMENTAL PROTECTION

- CONTRACTOR SHALL CONDUCT ALL GRADING OPERATIONS IN SUCH MANNER AS TO PRECLUDE WIND BLOWN DIRT AND DUST AND RELATED DAMAGE TO NEIGHBORING PROPERTIES. CONFIRM PREFERRED DUST CONTROL METHOD WITH EACH VINEYARD OWNER OR REPRESENTATIVE PRIOR TO INITIATING DUST CONTROL MEASURES. 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.
- 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.
- 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.
- CONTRACTOR SHALL SUBMIT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) THAT PROVIDES, AT A MINIMUM, THE EROSION CONTROL MEASURES SHOWN ON SHEET 101. THE SWPPP SHALL COMPLY WITH THE NEW CONSTRUCTION GENERAL STORMWATER PERMIT (2009-0009-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.
- THE CONTRACTOR SHALL IMPLEMENT AND UTILIZE BEST MANAGEMENT PRACTICES TO PREVENT EROSION, SEDIMENT AND HAZMAT RUNOFF FROM THE CONSTRUCTION SITE.
- 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.
- DURING GRADING, THE OWNER SHALL PROVIDE AN ONSITE MONITOR TO MAKE SURE THE GRADING LIMITS ARE CLEAR OF RED-LEGGED FROG, PACIFIC CHORUS FROG, CALIFORNIA NEWT, NORTHWESTERN POND TURTLE, DUSKY-FOOTED WOODRAT, PALLID BAT, TOWNSEND'S BIG-EARED BAT, SWAINSON'S HAWK, AND OTHER PROTECTED WILDLIFE AS INDICATED BY THE PROJECT BIOLOGIST.
- CONSTRUCTION OF THE BOULDER CLUSTERS, LOG STRUCTURES, AND BURIED ROUGHENED CHANNEL 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

- 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

- 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

- THE TOPOGRAPHY SHOWN IS BASED ON GROUND BASED SURVEY PERFORMED BY DOBLE THOMAS AND ASSOCIATES (2012-2013).
- 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.
- HORIZONTAL CONTROL IS CALIFORNIA STATE PLANE ZONE II (NAD83) IN US FT. VERTICAL CONTROL IS NAVD88.
- CONTRACTOR SHALL VERIFY AND CHECK EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- 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.
- PARCEL LINES ARE APPROXIMATE AND DO NOT REPRESENT LEGAL PROPERTY BOUNDARIES. PARCEL LINES ARE USED TO DELINEATE DIFFERENT VINEYARD PROPERTIES FOR PLANNING PURPOSES.

EARTHWORK

- 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

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

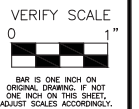
SURVEY CONTROL

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
40	6443687.50	1930068.50	136.99	3/8inRB 5520
41	6443626.97	1929668.31	148.60	3/8inRB 5520
42	6443723.87	1929532.18	148.68	3/8inRB 5520
43	6444261.99	1928991.75	145.52	3/8inRB 5520
44	6444215.80	1928703.97	147.31	3/8inRB 5520
45	6444621.26	1928228.36	147.44	3/8inRB 5520
46	6444509.42	1928342.50	148.02	3/8inRB 5520
52	6446324.34	1924571.93	135.94	3/8inRB 5520
53	6446223.30	1924674.90	136.27	3/8inRB 5520
72	6443678.64	1929705.38	154.26	WP764 3/8inRB 5520
73	6444653.85	1928229.44	142.33	WP795 3/8inRB 552
78	6446368.64	1924573.18	136.00	3/8inRB 5520
81	6446847.01	1923841.77	134.02	3/8in RB
82	6447102.44	1923477.37	130.31	3/8in RB
83	6447857.40	1923183.16	129.28	3/8in RB
84	6448062.10	1922893.83	128.65	3/8in RB
103	6448466.31	1922790.94	130.39	SPK
105	6448443.73	1922801.12	128.61	SPK
106	6448423.42	1922813.39	128.97	SPK
107	6448403.43	1922829.13	130.55	SPK
108	6448383.25	1922844.14	129.36	SPK
109	6448356.99	1922851.97	124.61	SPK
110	6448307.52	1922890.13	124.11	1/2inRB 5520 CP
111	6448232.78	1922811.24	128.92	1/2inRB 5520 CP
113	6444768.93	1927984.34	146.62	1/2inRB 552 CP
114	6444902.62	1927873.60	130.82	1X2
115	6444876.23	1927774.58	145.86	TBAR 5520 CP
116	6444918.30	1927728.82	146.06	TBAR 5520 CP
117	6444966.84	1927673.72	145.98	TBAR 5520 CP
186	6446119.07	1924800.47	137.25	T BAR N/T
187	6446225.56	1924895.35	138.39	T BAR N/T
189	6446176.26	1924760.10	138.22	T BAR N/T
190	6446209.98	1924726.13	137.12	T BAR N/T
191	6446281.86	1924649.33	136.67	T BAR N/T
192	6446319.06	1924609.93	136.19	T BAR N/T
193	6446406.44	1924526.61	136.04	T BAR N/T
194	6446451.99	1924673.84	137.28	T BAR N/T

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
259	6443579.40	1929739.72	151.97	3/8inRB 5520 CP
262	6443918.89	1929321.01	148.39	3/8inRB 5520 CP
263	6444339.70	1928562.42	144.27	3/8inRB 5520 CP
264	6444779.70	1927959.91	146.46	3/8inRB 5520 CP
265	6444804.67	1927822.56	145.85	3/8inRB 5520 CP
276	6446718.64	1924060.35	134.47	SPK
277	6446749.39	1924081.62	135.31	3/8inRB 5520 CP
278	6446604.47	1924358.43	134.16	3/8inRB 5520 CP
279	6447056.00	1923724.68	134.27	3/8inRB 5520 CP
281	6447803.46	1923323.54	131.37	3/8inRB 5520 CP
282	6448070.69	1922948.95	129.98	3/8inRB 5520 CP
463	6443723.66	1929616.76	150.13	1/2inRB 5520 CP
464	6443892.05	1929649.41	147.80	1/2inRB 5520 CP
465	6443571.67	1929966.34	148.98	SPK
467	6443933.62	1930124.33	150.39	1/2inRB 5520 CP
478	6443985.34	1930173.78	150.02	1/2inRB 5520 CP
479	6444030.27	1929208.60	147.62	1/2inRB 5520 CP
480	6444364.53	1928845.96	144.27	1/2inRB 5520 CP
481	6444348.44	1928527.57	147.66	1/2inRB 5520 CP
482	6444688.74	1928109.02	145.47	1/2inRB 5520 CP
485	6444741.83	1928610.94	147.64	3/8inRB N/T
486	6444713.65	1928578.66	147.99	1/2inRB 5520 CP
492	6447827.60	1923293.10	130.80	1/2inRB 5520 CP
493	6448071.34	1922897.89	128.53	SPK
494	6447914.19	1923347.65	134.14	1/2inRB 5520 CP
495	6448148.44	1922884.27	129.32	1/2inRB 5520 CP
496	6448185.02	1922991.85	125.61	1X2
497	6448203.37	1922998.06	129.17	1/2inRB 5520 CP
499	6447028.19	1923668.36	133.18	SPK
501	6447068.37	1923722.68	134.70	1/2inRB 5520 CP
502	6447090.61	1923870.15	134.69	1/2inRB 5520 CP
503	6446735.83	1924112.77	135.86	1/2inRB 5520 CP
504	6446765.98	1924060.28	135.48	SPK
505	6446833.11	1924200.73	135.18	1/2inRB 5520 CP
506	6446437.86	1924501.54	136.15	1/2inRB 5520 CP
507	6446550.41	1924398.18	135.36	SPK
508	6446581.69	1924592.70	135.89	1/2inRB 5520 CP

SURVEY CONTROL ABBREVIATIONS

- | | |
|-----------------|--|
| 1/2" RB 5520 CP | 1/2" REBAR STAKE W/PLASTIC CAP INDENTED WITH SURVEYORS LICENSE NUMBER (5520) |
| SPK | 8" OR 10" BRIDGE SPIKE, GALVANIZED |
| 1X2 | 1"X2" WOODEN STAKE |



1" = 100' (AS SHOWN ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.)



PREPARED BY: **ESA PWA**

GENERAL NOTES & SURVEY CONTROL

PROJECT: **NAPA RIVER RESTORATION RUTHERFORD - REACHES 5,6,7 & 9**

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



APPROVED

DESIGNED: J. BLOMBERG / B. TANAKA

DRAWN: B. TANAKA

INCHARGE: A. BORGONOVO C053102

SCALE: AS NOTED

DATE: MARCH, 2014

SHEET

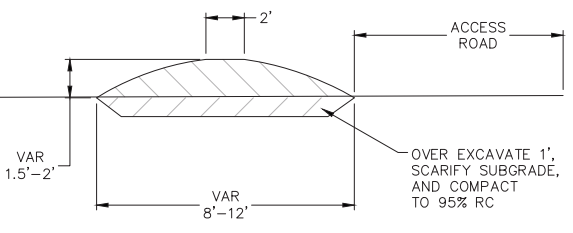
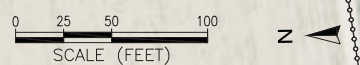
G03

3 OF 31

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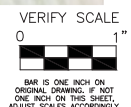
MATCHLINE STA 90+50 - SEE SHEET D01



- NOTES**
- VINEYARD REMOVAL AREAS MAY BE USED AS STAGING. COORDINATE W/ VINEYARD OWNER OR REPRESENTATIVE PRIOR TO STAGING ACTIVITIES. VINEYARD REMOVAL TO BE COMPLETED BY OWNER PRIOR TO THIS CONTRACT.
 - ACCESS ROUTE MAY REQUIRE LIMITED LIMBING OF SELECT TREES. COORDINATE WITH OWNER'S REPRESENTATIVE PRIOR TO ANY LIMBING ACTIVITIES.
 - BANK BELOW CULVERT OUTLET IS ERODED; REBAR AND CONCRETE HAS BEEN EXPOSED. TRIM EXPOSED REBAR AS NECESSARY TO WORK IN THE VICINITY. CULVERT IS CANTILEVERED FROM BANK BY APPROXIMATELY 5'.
 - EXISTING BERM CONTAINS IRRIGATION LINE. COORDINATE WITH OWNER'S REPRESENTATIVE PRIOR TO BERM REMOVAL. REPLACE IRRIGATION PER OWNERS DIRECTION BY VINEYARD MANAGEMENT.
 - 8" INTAKE VALVE FEEDS RESERVOIR TO THE WEST VIA 8" PIPE. ORIENTATION AND DEPTH OF PIPE UNKNOWN. COORDINATE WITH VINEYARD MANAGER AND POT HOLE AS NECESSARY TO DETERMINE PIPE LOCATION.

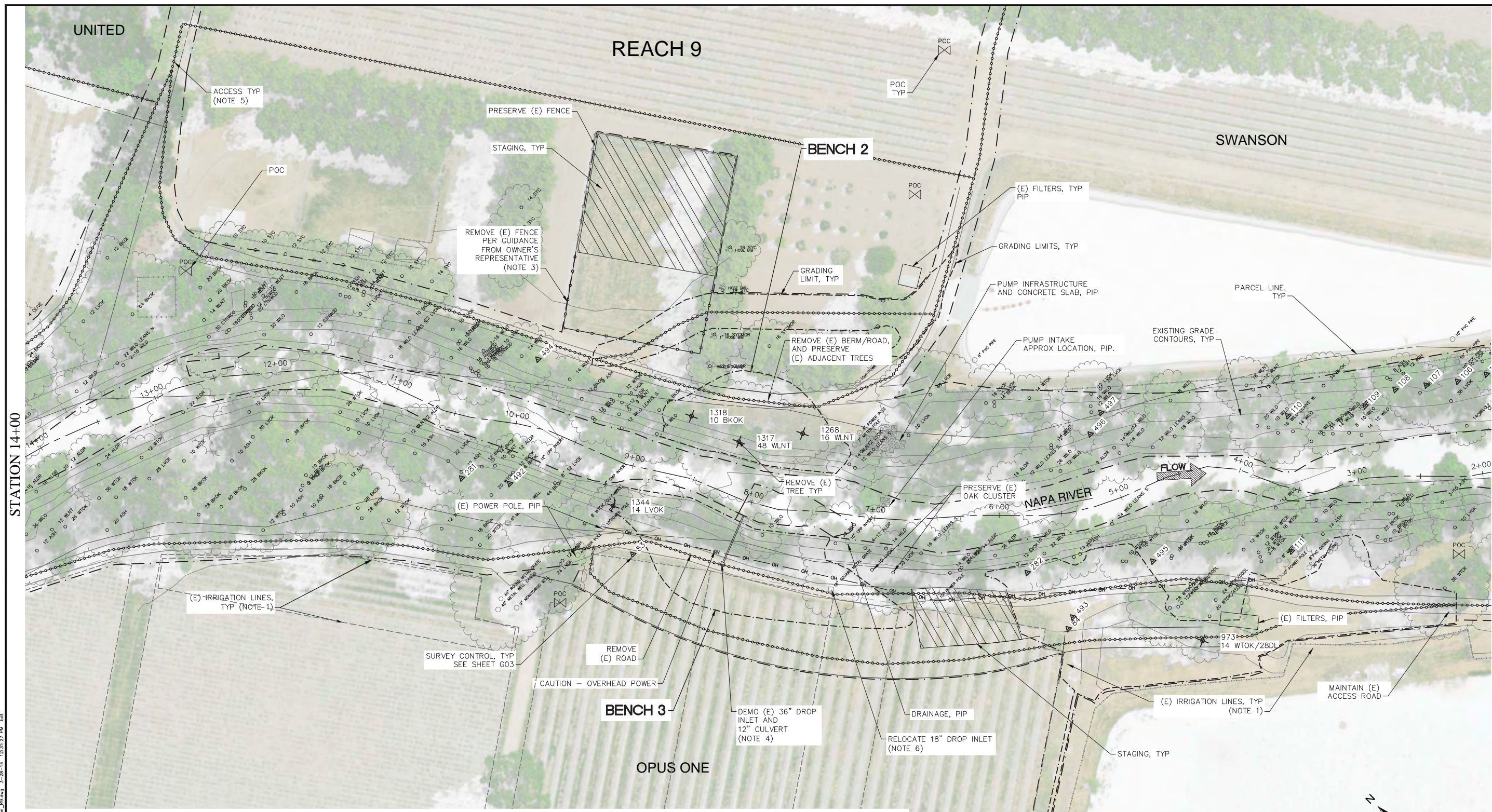
REACH 7

BERM REMOVAL, APPROX 40LF REPLACE PER DETAIL THIS SHEET, CONFORM TO (E) GRADE AT TIE-IN LOCATIONS (NOTE 4)



PREPARED BY: 550 Kearny Street, Suite 600 San Francisco, CA 94108 415.262.2303 www.esa-pwa.com	SHEET TITLE DEMOLITION, ACCESS, AND STAGING REACH 7 - STA 74+50 TO 90+50
	PROJECT NAPA RIVER RESTORATION RUTHERFORD - REACHES 5,6,7 & 9
PREPARED FOR: NAPA COUNTY DEPT OF PUBLIC WORKS 1195 Third St, Suite 201 Napa, CA 94559	STATION 74+50
APPROVED DESIGNED J. BLOMBERG / B. TANAKA	DRAWN W. STOCKARD
INCHARGE A. BORGONOVO C053102	SCALE AS NOTED
DATE MARCH, 2014	SHEET D02
6 OF 31	

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STATION 14+00

STATION 2+00

TREE REMOVAL	
BENCH 2 - SWANSON	
TREE POINT NUMBER	DIAMETER AND SPECIES
1268	16" BLACK WALNUT (JUGLANS SP)
1317	48" BLACK WALNUT (JUGLANS SP)
1318	10" BLACK OAK (QUERCUS KELLOGGI)
BENCH 3 - OPUS ONE	
TREE POINT NUMBER	DIAMETER AND SPECIES
973	14" WHITE OAK (QUERCUS LOBATA)/28DL
1344	14" LIVE OAK (QUERCUS AGRIFOLIA)

- NOTES:
- THERE ARE MULTIPLE BURIED IRRIGATION LINES ON THE OPUS ONE PROPERTY. ALIGNMENTS, DIAMETERS, AND AMOUNTS OF COVER VARY. VERIFY IN FIELD PRIOR TO DEMO, CLEARING, AND GRUBBING. COORDINATE WITH OWNER'S REPRESENTATIVE PRIOR TO ANY POTHOLES. OWNER TO RELOCATE DURING CONSTRUCTION PERIOD; COORDINATE CONSTRUCTION ACTIVITIES WITH OWNERS REP.
 - AREA EAST OF VINEYARD AVENUE MAY BE USED AS STAGING.
 - SALVAGE (E) FENCING MATERIALS. STAGE PER GUIDANCE FROM OWNER'S REPRESENTATIVE.
 - SALVAGE DRAINAGE MATERIALS & STAGE PER GUIDANCE FROM OWNER.
 - ACCESS ROUTE MAY REQUIRE LIMITED LIMBING OR SELECT TREES. COORDINATE WITH OWNER'S REPRESENTATIVE PRIOR TO ANY LIMBING ACTIVITIES.
 - SALVAGE DROP INLET AND PROTECT PIPE IN PLACE. FOLLOWING FINISH GRADING, RE-INSTALL DROP INLET FLUSH TO FINISH GRADE
 - PIPE IS LOCATED 10' SOUTH OF ROW #73. POT HOLE TO VERIFY LOCATION, DEPTH, AND ORIENTATION. COORDINATE POTHOLES WITH VINEYARD MANAGEMENT STAFF.

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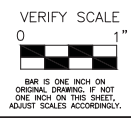
SHEET TITLE
DEMOLITION, ACCESS, AND STAGING
 REACH 9 - STA 2+00 TO 14+00
 PROJECT
NAPA RIVER RESTORATION
 RUTHERFORD - REACHES 5,6,7 & 9

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



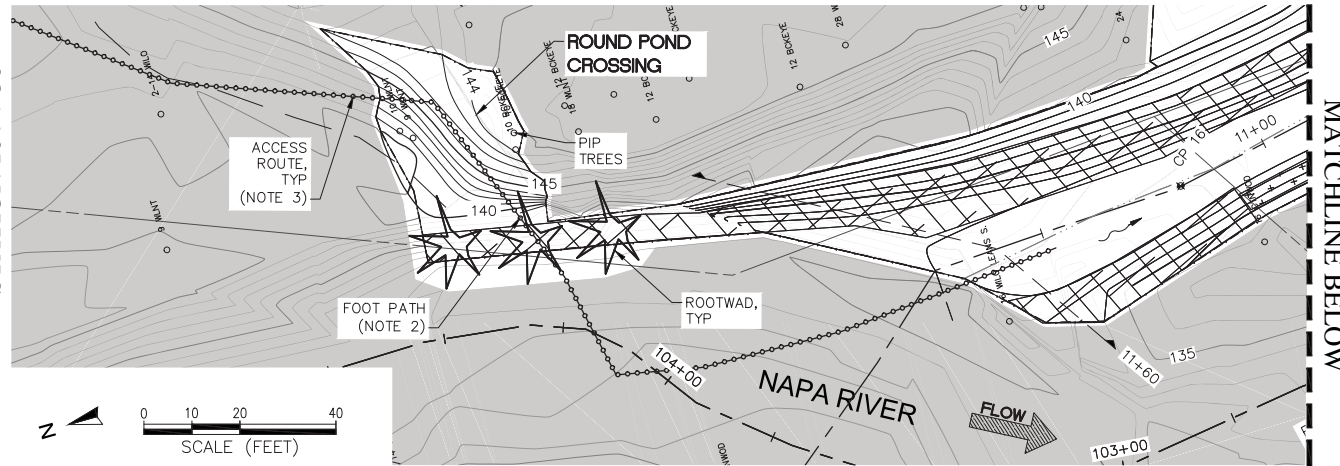
APPROVED
 DESIGNED J. BLUMBERG / B. TANAKA
 DRAWN J. WHITE
 INCHARGE A. BORGONOVO
 C053102
 SCALE AS NOTED
 DATE MARCH, 2014
 SHEET

D04
 8 OF 31



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STATION 104 + 50

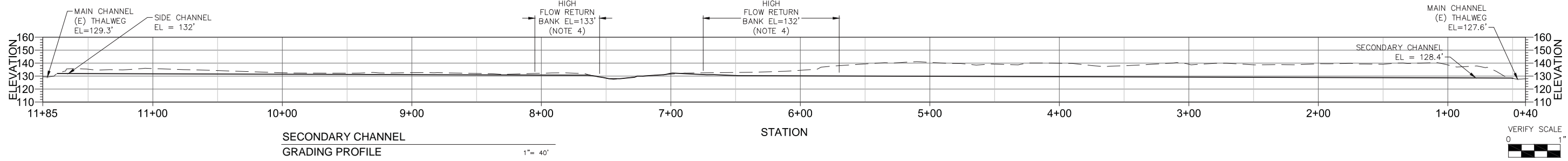
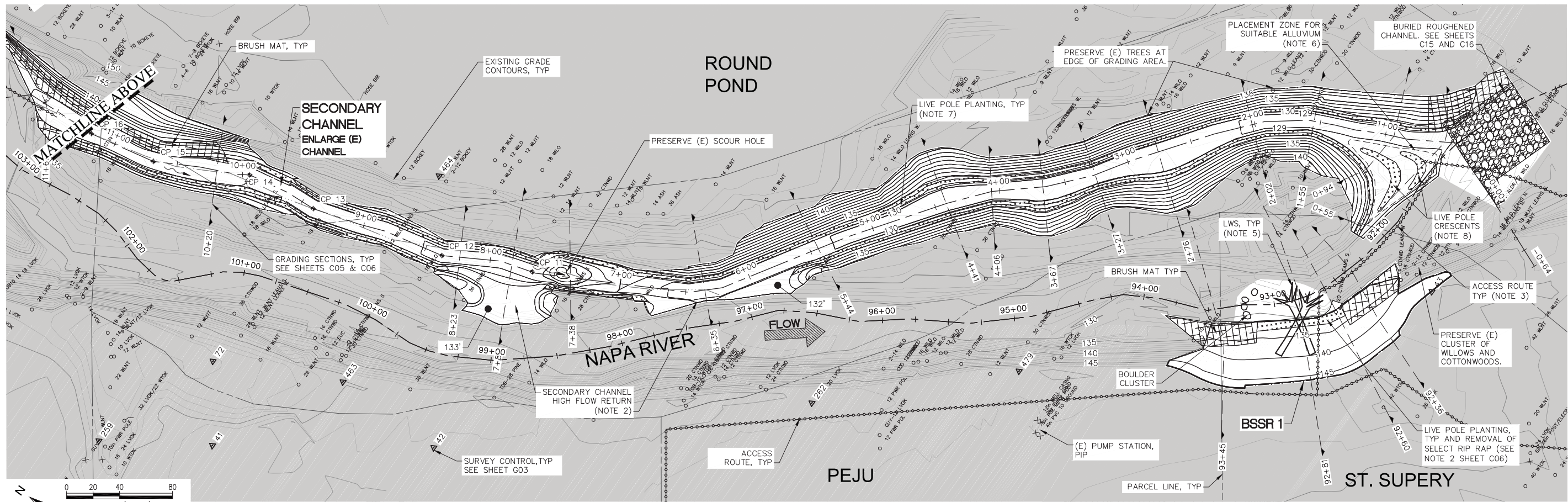


ROUND POND CROSSING
DETAILED GRADING PLAN
1" = 20'

CONTROL POINT TABLE				
POINT	STATION	EASTING	NORTHING	ELEVATION
CP 03	0+50	6444361.62	1929045.74	128.4
CP 04	1+59	6444311.90	1929142.97	128.8
CP 05	1+93	6444291.29	1929169.45	128.9
CP 06	2+76	6444225.83	1929220.77	129.2
CP 07	3+28	6444182.62	1929249.95	129.4
CP 08	4+06	6444127.77	1929304.91	129.6
CP 09	5+17	6444038.86	1929371.45	130.0
CP 10	6+35	6443940.56	1929436.45	130.3
CP 11	7+37	6443874.81	1929549.90	130.7
CP 12	8+36	6443844.70	1929612.28	131.0
CP 13	9+40	6443816.20	1929711.72	131.3
CP 14	9+95	6443808.66	1929765.45	131.4
CP 15	10+69	6443774.08	1929830.34	131.7
CP 16	11+20	6443763.63	1929880.46	131.8
CP 17	11+74	6443760.41	1929934.66	132.0

- NOTES**
- VEGETATION MANAGEMENT AREAS NOT SHOWN, SEE ASSOCIATED PLAN SET BY RESTORATION RESOURCES.
 - SUBSEQUENT TO ROUGH GRADING, RESTORATION ENGINEER TO STAKE ALIGNMENT OF FOOT PATH.
 - CHANNEL CROSSING REQUIRED TO ACCESS US & DS ENDS OF SECONDARY CHANNEL. COMPLY WITH SPECS AND ALL PERMITS. MINIMIZE CHANNEL DISTURBANCE.
 - CLEAR VEGETATION AND EXCAVATE BANK TO DESIGN ELEVATIONS. SEE SECTIONS 7+83 AND 6+35
 - TYPE I OR II LWS TO BE DETERMINED BY RESTORATION ENGINEER AFTER COMPLETION OF ROUGH GRADING.
 - EXCAVATION FROM SECONDARY CHANNEL & BURIED ROUGHENED CHANNEL TO BE DISPOSED OF OFF SITE. AS EXCEPTION SUITABLE ALLUVIUM (UP TO 100 CY) MAY BE PLACED, AS DIRECTED BY RESTORATION ENGINEER.
 - SECONDARY CHANNEL BANK TOE LINED WITH LIVE POLE PLANTINGS THREE VERTICAL FEET ABOVE THALWEG ON BOTH SIDES OF THE CHANNEL
 - STAKE OUTLINE OF CRESCENTS, ALLOW 3 WORKING DAYS FOR REVIEW AND ADJUSTMENT BY RESTORATION ENGINEER.

- LEGEND**
- WILLOW BAFFLE SEE SHEET C10, DETAIL 1
 - LARGE WOOD STRUCTURE (TYPES 1 OR 2) SEE SHEET C11, DETAIL 1 OR 2
 - ROOTWAD SEE SHEET C13, DETAIL 1
 - BOULDER CLUSTER SEE SHEET C13, DETAIL 2
 - LIVE POLE PLANTING SEE SHEET C10, DETAIL 2
 - BRUSH MAT SEE SHEET C14, DETAIL 2

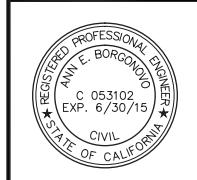


SECONDARY CHANNEL
GRADING PROFILE
1" = 40'

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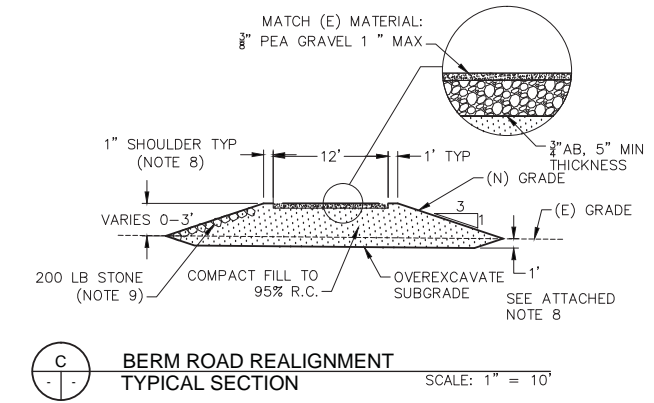
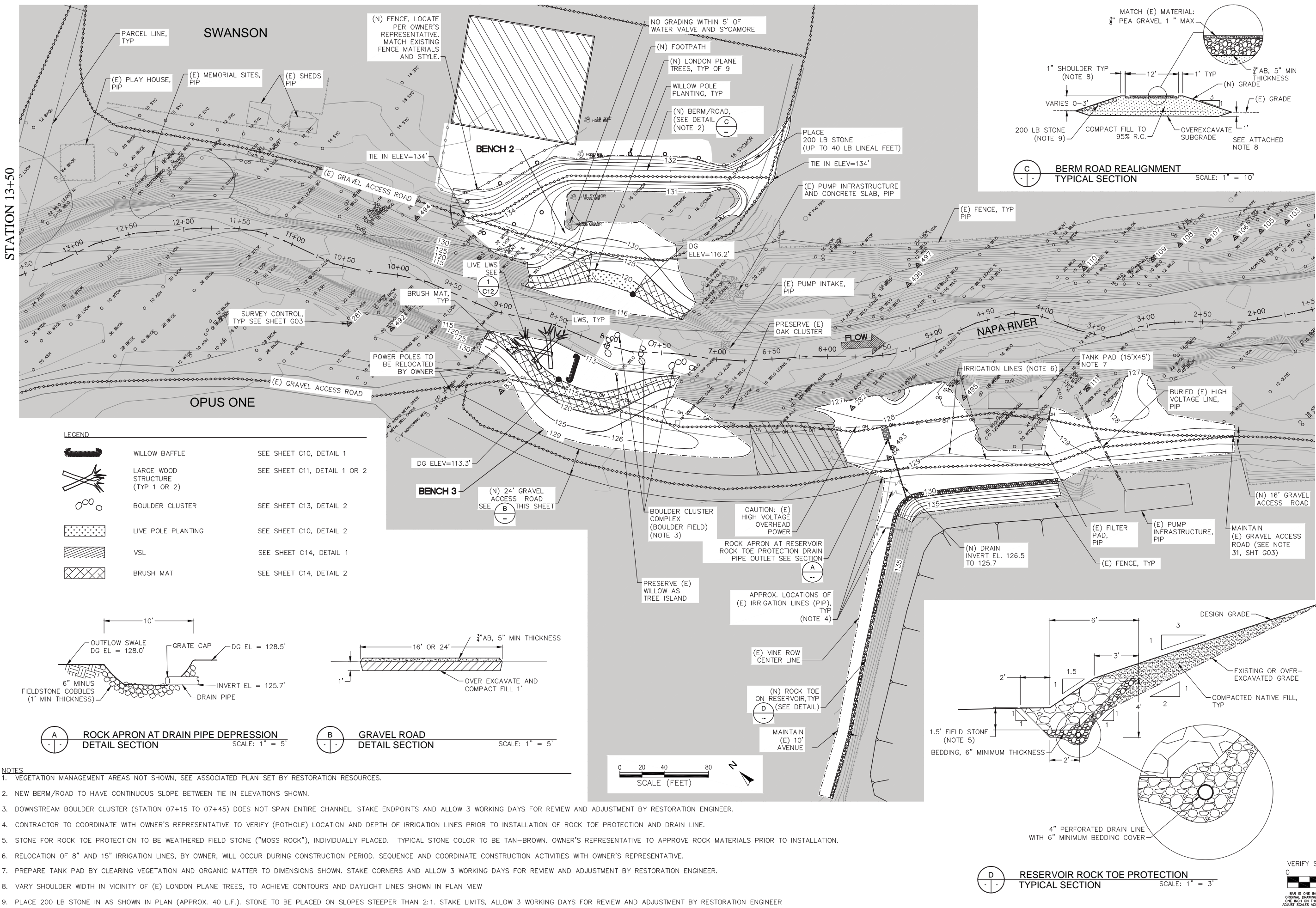
SHEET TITLE
GRADING PLAN-REACH 6
STA 90+50 TO 104+50
PROJECT
NAPA RIVER RESTORATION
RUTHERFORD - REACHES 5,6,7 & 9

STATION FOR:
NAPA COUNTY
DEPT OF PUBLIC WORKS
1195 Third St, Suite 201
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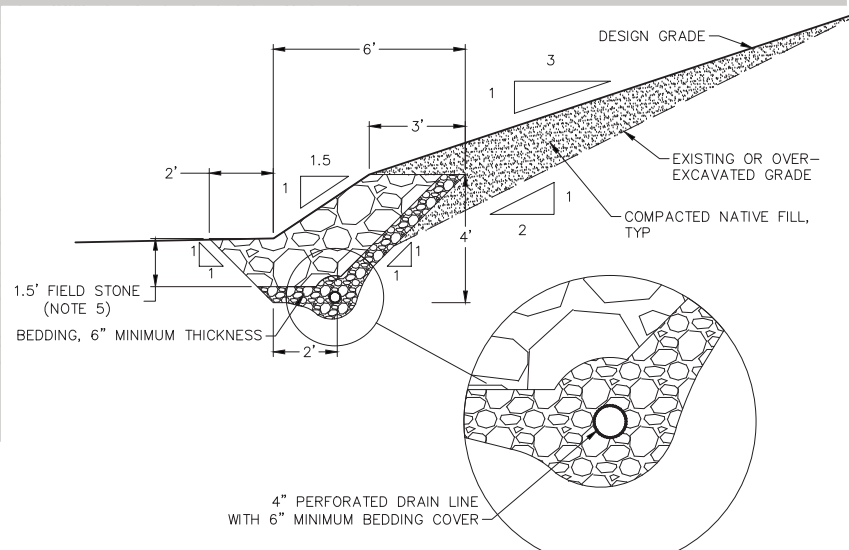
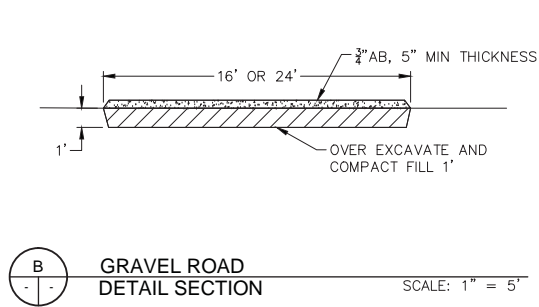
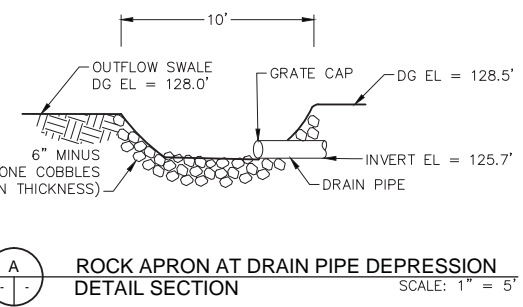
APPROVED
DESIGNED J. BLONBERG / B. TANAKA
DRAWN J. WHITE
INCHARGE A. BORGONOVO
C053102
SCALE AS NOTED
DATE MARCH, 2014
SHEET

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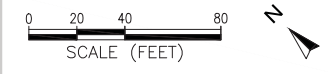


LEGEND

	WILLOW BAFFLE	SEE SHEET C10, DETAIL 1
	LARGE WOOD STRUCTURE (TYP 1 OR 2)	SEE SHEET C11, DETAIL 1 OR 2
	BOULDER CLUSTER	SEE SHEET C13, DETAIL 2
	LIVE POLE PLANTING	SEE SHEET C10, DETAIL 2
	VSL	SEE SHEET C14, DETAIL 1
	BRUSH MAT	SEE SHEET C14, DETAIL 2



- NOTES**
1. VEGETATION MANAGEMENT AREAS NOT SHOWN, SEE ASSOCIATED PLAN SET BY RESTORATION RESOURCES.
 2. NEW BERM/ROAD TO HAVE CONTINUOUS SLOPE BETWEEN TIE IN ELEVATIONS SHOWN.
 3. DOWNSTREAM BOULDER CLUSTER (STATION 07+15 TO 07+45) DOES NOT SPAN ENTIRE CHANNEL. STAKE ENDPOINTS AND ALLOW 3 WORKING DAYS FOR REVIEW AND ADJUSTMENT BY RESTORATION ENGINEER.
 4. CONTRACTOR TO COORDINATE WITH OWNER'S REPRESENTATIVE TO VERIFY (POTHOLE) LOCATION AND DEPTH OF IRRIGATION LINES PRIOR TO INSTALLATION OF ROCK TOE PROTECTION AND DRAIN LINE.
 5. STONE FOR ROCK TOE PROTECTION TO BE WEATHERED FIELD STONE ("MOSS ROCK"), INDIVIDUALLY PLACED. TYPICAL STONE COLOR TO BE TAN-BROWN. OWNER'S REPRESENTATIVE TO APPROVE ROCK MATERIALS PRIOR TO INSTALLATION.
 6. RELOCATION OF 8" AND 15" IRRIGATION LINES, BY OWNER, WILL OCCUR DURING CONSTRUCTION PERIOD. SEQUENCE AND COORDINATE CONSTRUCTION ACTIVITIES WITH OWNER'S REPRESENTATIVE.
 7. PREPARE TANK PAD BY CLEARING VEGETATION AND ORGANIC MATTER TO DIMENSIONS SHOWN. STAKE CORNERS AND ALLOW 3 WORKING DAYS FOR REVIEW AND ADJUSTMENT BY RESTORATION ENGINEER.
 8. VARY SHOULDER WIDTH IN VICINITY OF (E) LONDON PLANE TREES, TO ACHIEVE CONTOURS AND DAYLIGHT LINES SHOWN IN PLAN VIEW
 9. PLACE 200 LB STONE IN AS SHOWN IN PLAN (APPROX. 40 L.F.). STONE TO BE PLACED ON SLOPES STEEPER THAN 2:1. STAKE LIMITS, ALLOW 3 WORKING DAYS FOR REVIEW AND ADJUSTMENT BY RESTORATION ENGINEER



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SHEET TITLE
**GRADING PLAN - REACH 9
STA 1+50 TO 13+50**

PROJECT
**NAPA RIVER RESTORATION
RUTHERFORD - REACHES 5,6,7 & 9**

PREPARED FOR:
**NAPA COUNTY
DEPT OF PUBLIC WORKS
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Napa, CA 94559**



APPROVED

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J. WHITE

INCHARGE
A. BORGONOVO
C053102

SCALE
AS NOTED

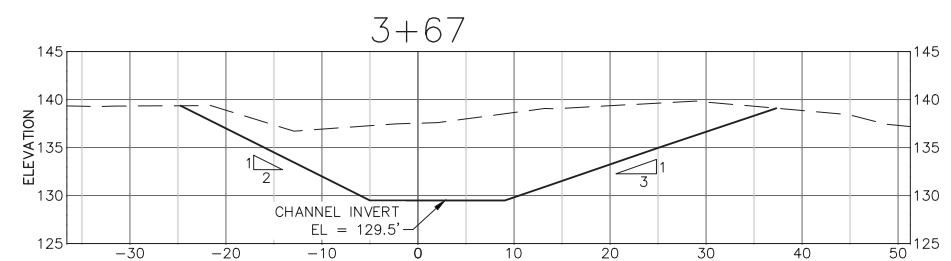
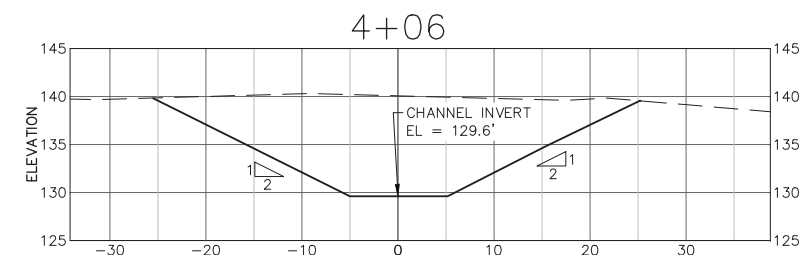
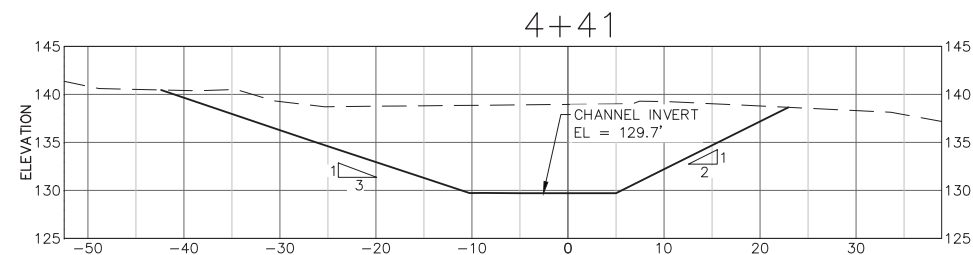
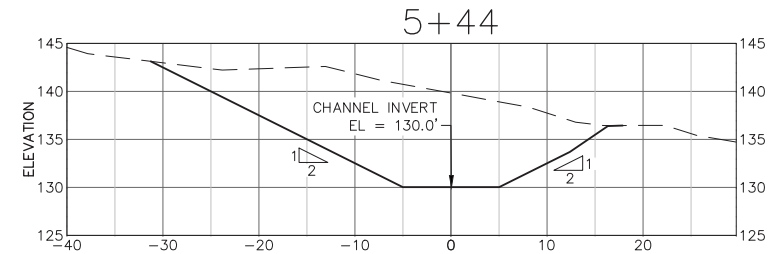
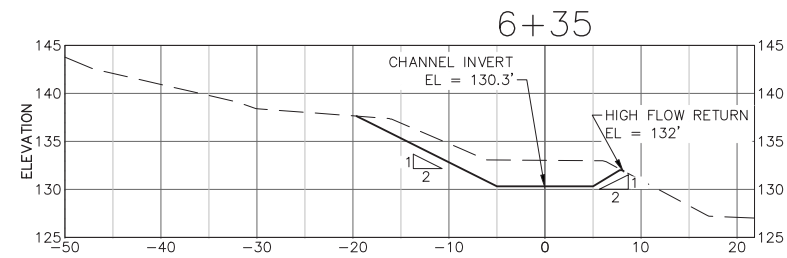
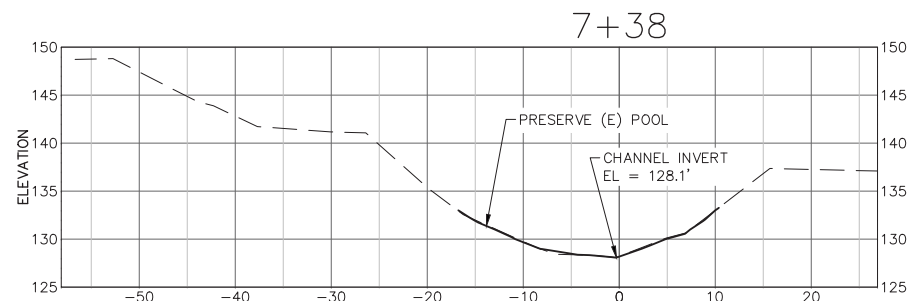
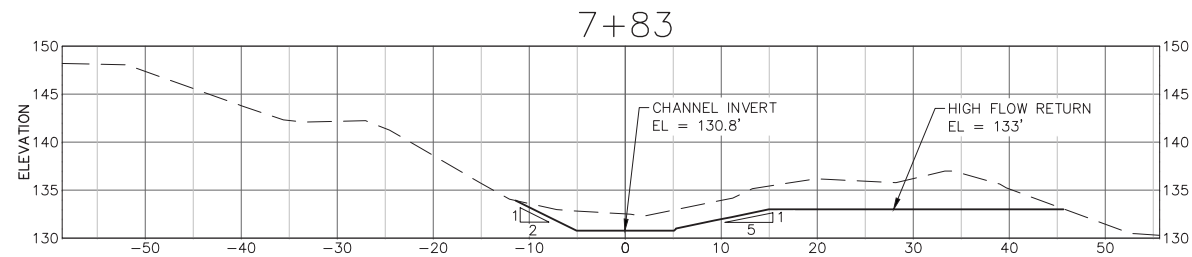
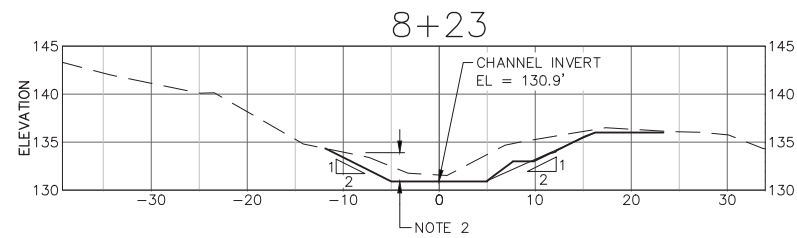
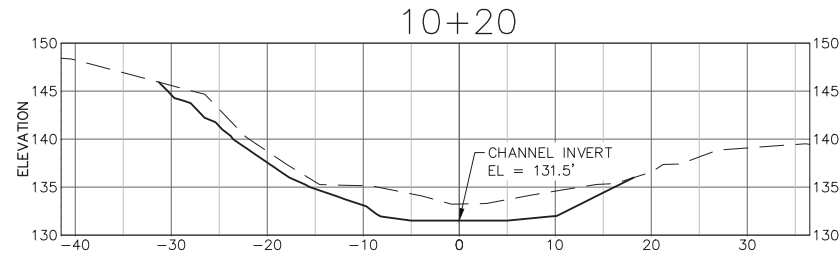
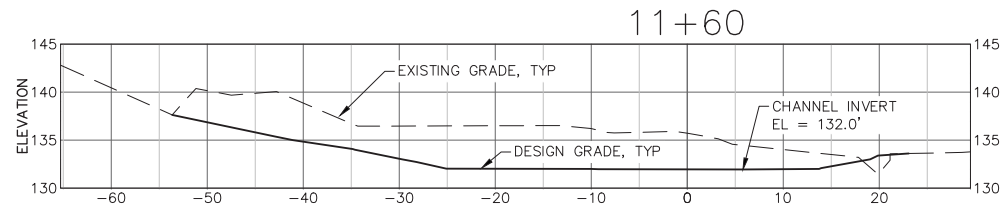
DATE
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VERIFY SCALE

C04

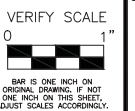
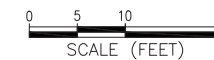
12 OF 31



- NOTES:
- SECTIONS ARE SHOWN LOOKING DOWNSTREAM,
 - SECONDARY CHANNEL BANK TOE LINED WITH LIVE POLE PLANTINGS THREE VERTICAL FEET ABOVE THALWEG ON BOTH SIDES OF THE CHANNEL.

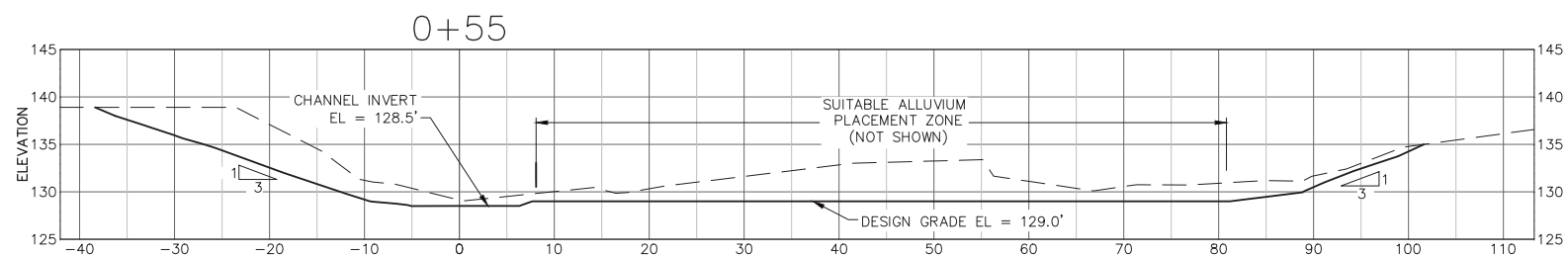
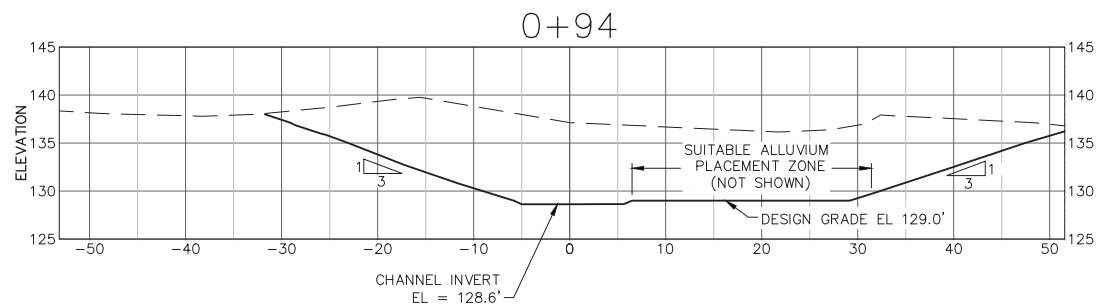
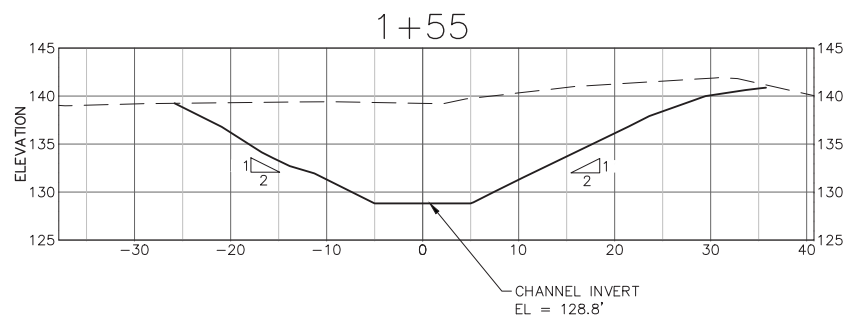
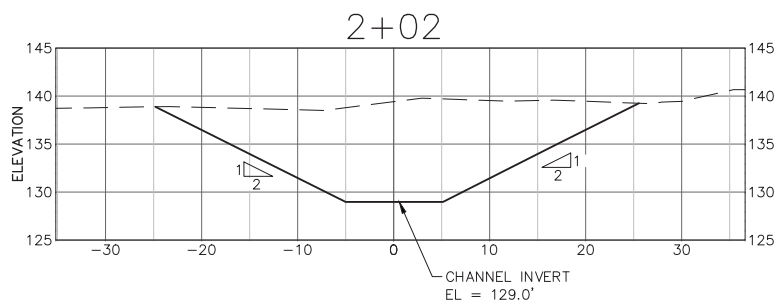
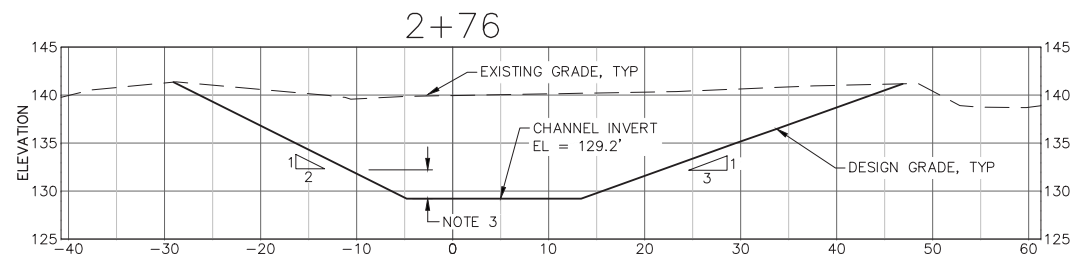
SECONDARY CHANNEL (SEE SHEET C01)
STA 3+67 TO 11+60

SCALE: 1" = 10'

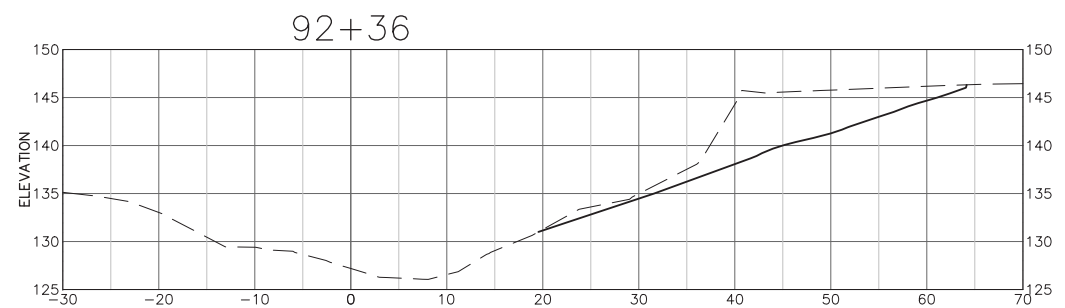
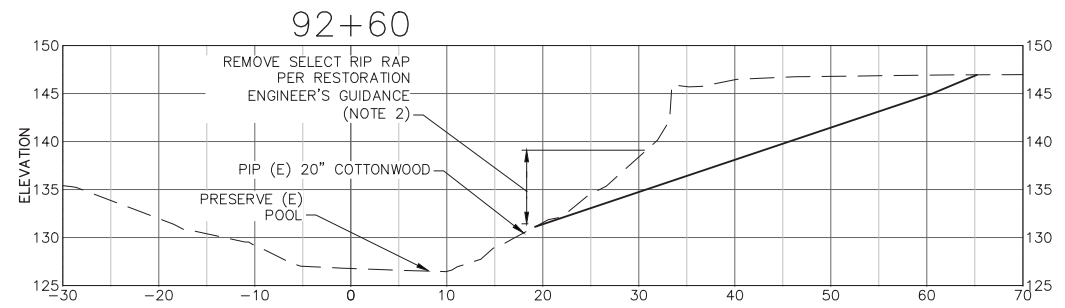
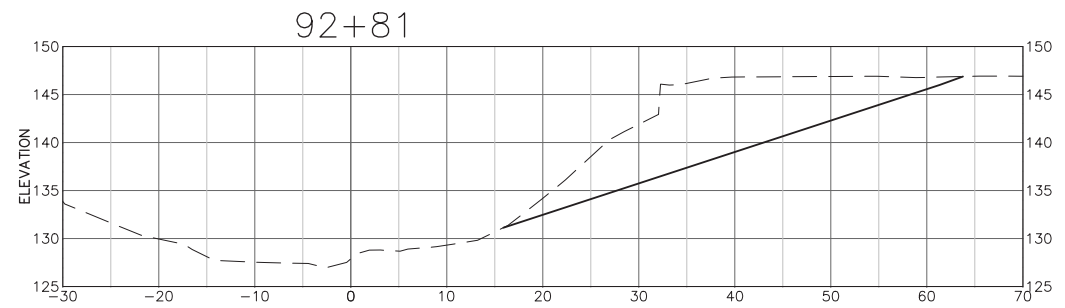
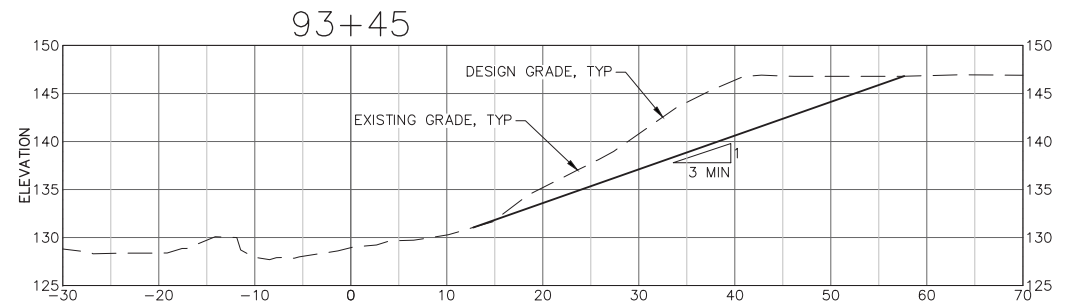


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INCHARGE A. BORGONOVO C053102
SCALE AS NOTED
DATE MARCH, 2014
SHEET

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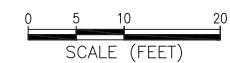


SECONDARY CHANNEL (SEE SHEET C01)
STA 0+55 TO 02+76 SCALE: 1" = 10'



BSSR 1 (SEE SHEET C01)
STA 92+36 TO 93+45 SCALE: 1" = 10'

- NOTES:
- SECTIONS ARE SHOWN LOOKING DOWNSTREAM.
 - CONTRACTOR SHALL COORDINATE WITH RESTORATION ENGINEER AND PROVIDE A MINIMUM OF THREE WORKING DAYS ADVANCE NOTICE PRIOR TO RIP RAP REMOVAL.
 - SECONDARY CHANNEL BANK TOE LINED WITH LIVE POLE PLANTINGS THREE VERTICAL FEET ABOVE THALWEG ON BOTH SIDES OF THE CHANNEL.

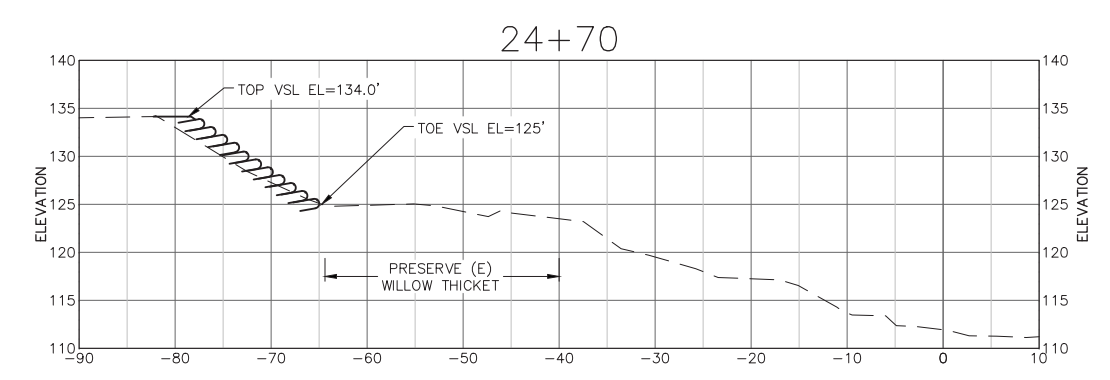
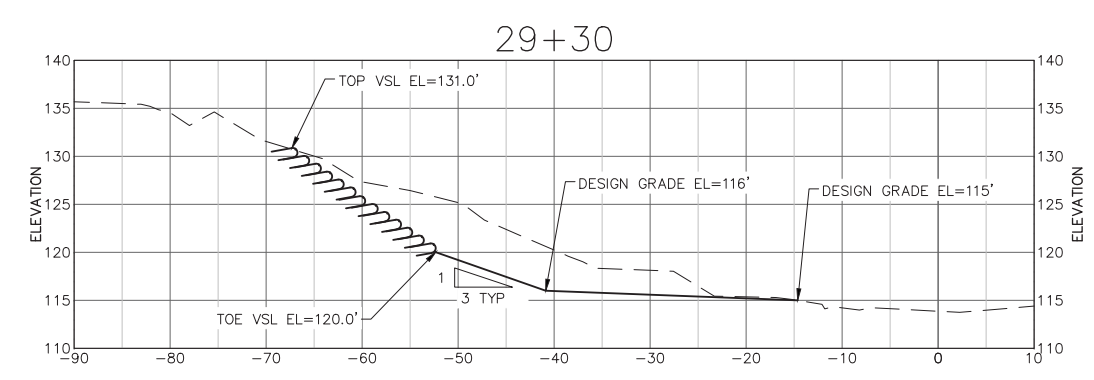
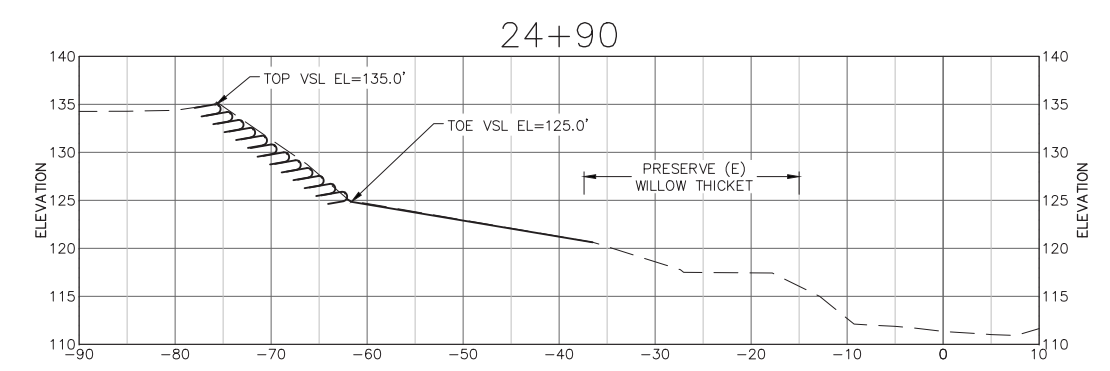
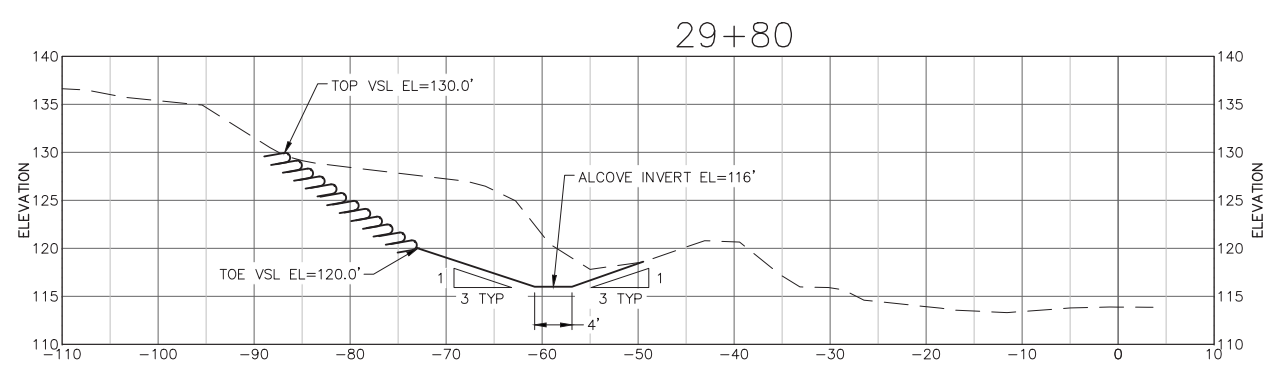
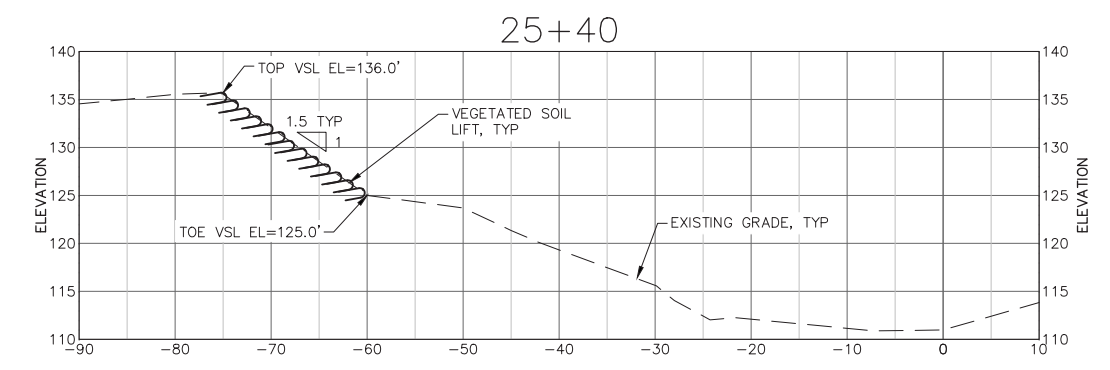
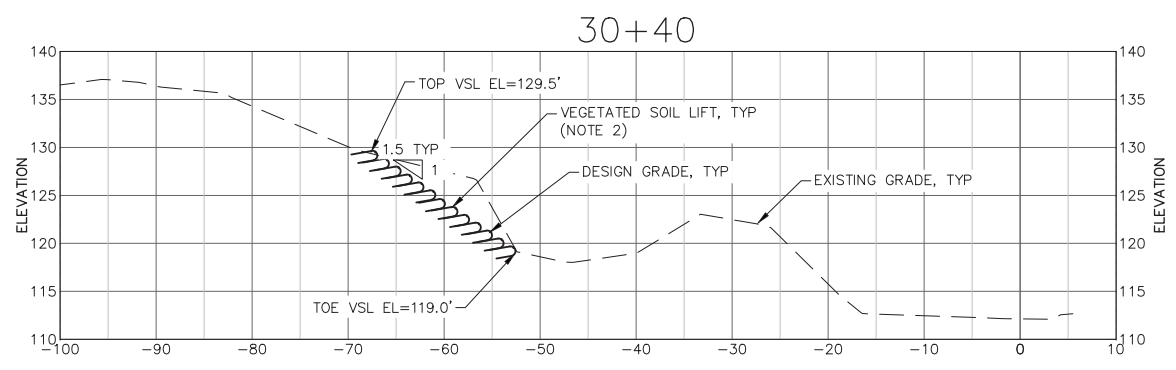


VERIFY SCALE
0 1"
1" IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET. ADJUST SCALES ACCORDINGLY.



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DATE MARCH, 2014
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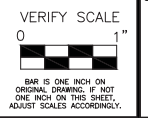
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BSSR2 (SEE SHEET C03)
STA 29+30 TO 30+40 SCALE: 1" = 10'

BSSR3 (SEE SHEET C03)
STA 24+70 TO 25+40 SCALE: 1" = 10'

- NOTES:
1. SECTIONS ARE SHOWN LOOKING DOWNSTREAM.
2. SEE DETAIL 1, SHEET C14.



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SHEET TITLE
**GRADING SECTIONS
REACH 9 - BSSR 2 & 3**

PROJECT
**NAPA RIVER RESTORATION
RUTHERFORD - REACHES 5, 6, 7 & 9**

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



APPROVED

DESIGNED
J. BLUMBERG / B. TANAKA

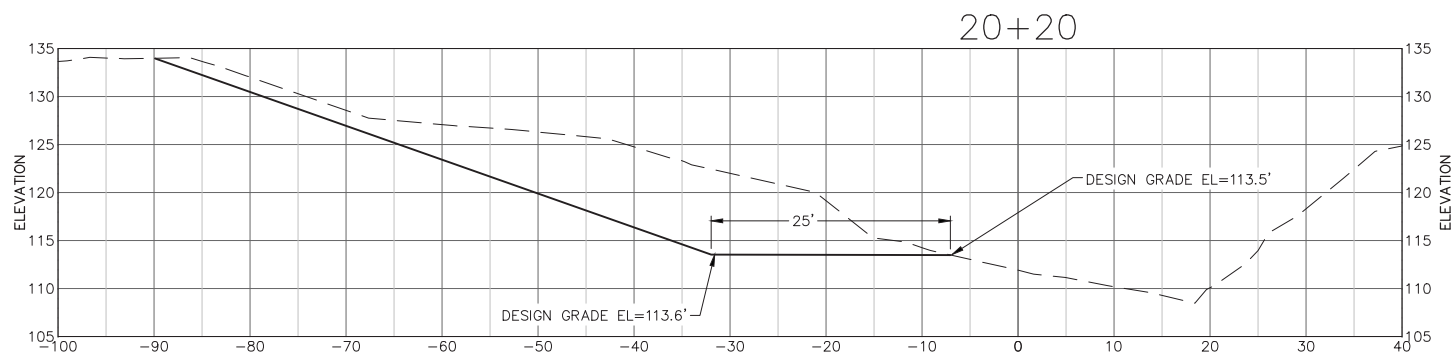
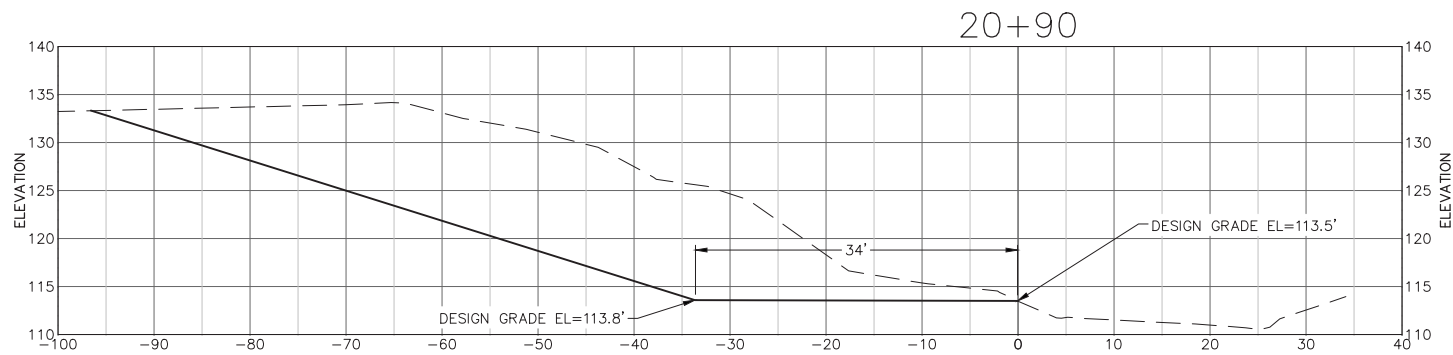
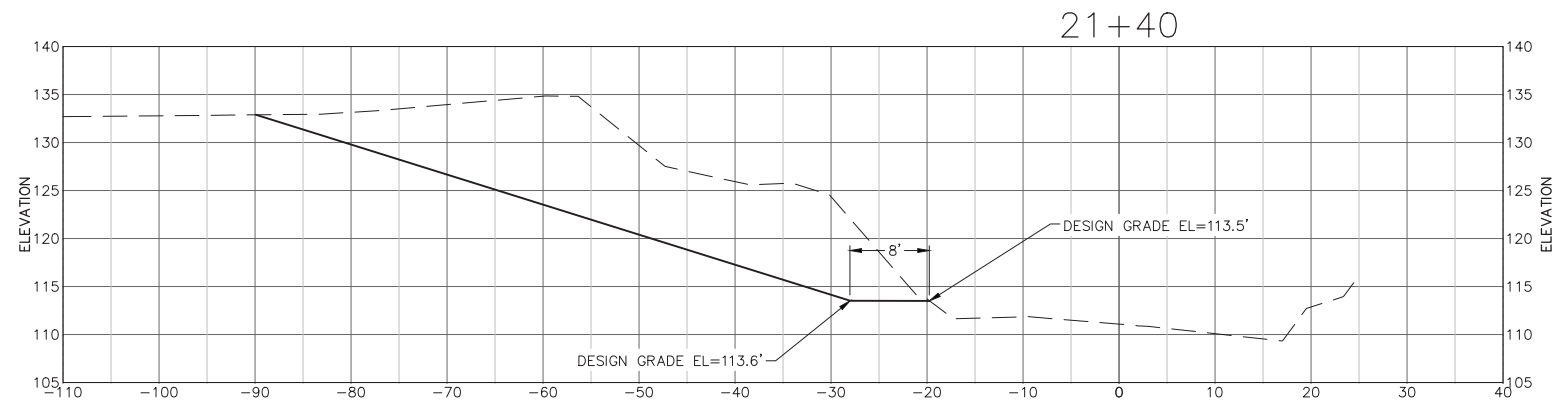
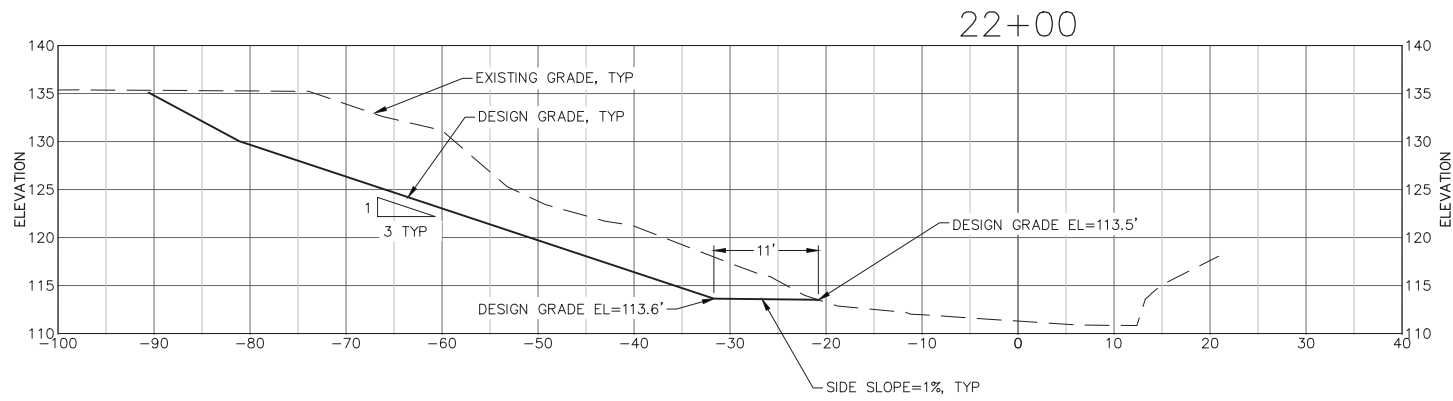
DRAWN
J. WHITE

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C053102

SCALE
AS NOTED

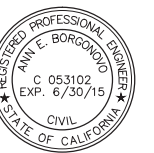
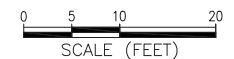
DATE
MARCH, 2014

SHEET



BENCH 1 (SEE SHEET C03)
STA 20+20 TO 22+00 SCALE: 1" = 10'

NOTES:
1. SECTIONS ARE SHOWN LOOKING DOWNSTREAM,
STATION 0 IS THE CHANNEL BASELINE.



APPROVED

DESIGNED J. BLUMBERG / B. TANAKA

DRAWN J. WHITE

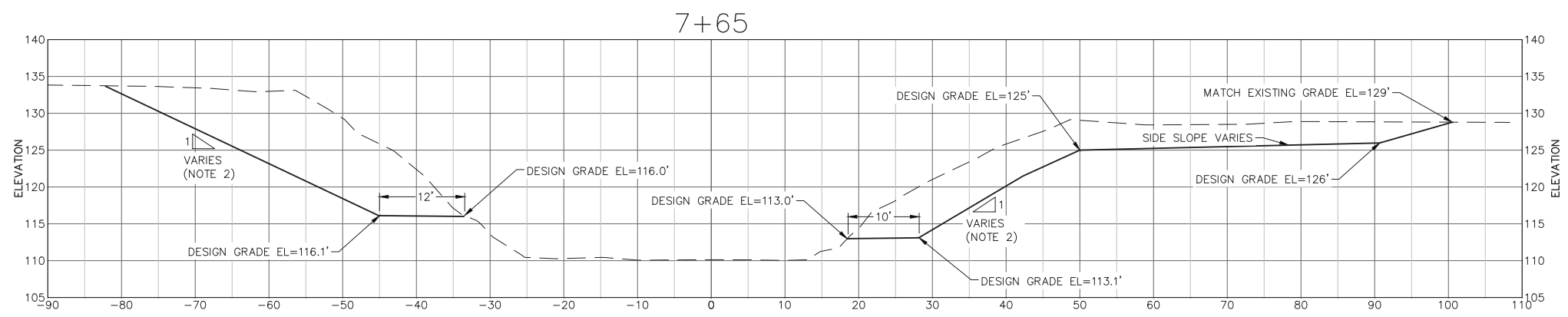
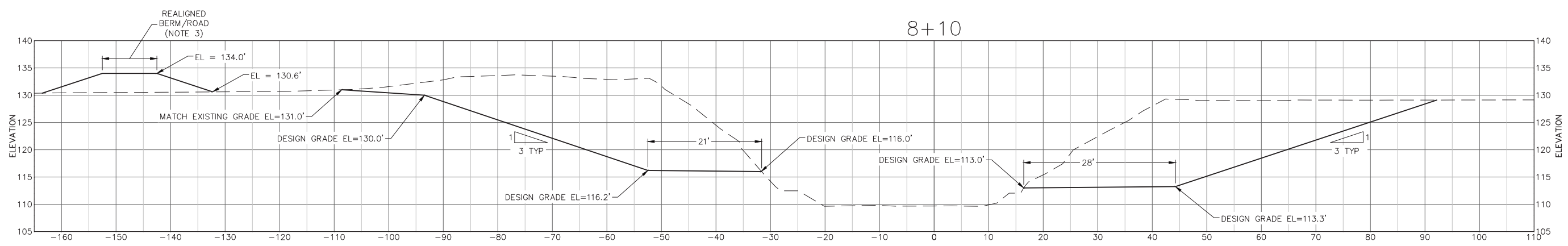
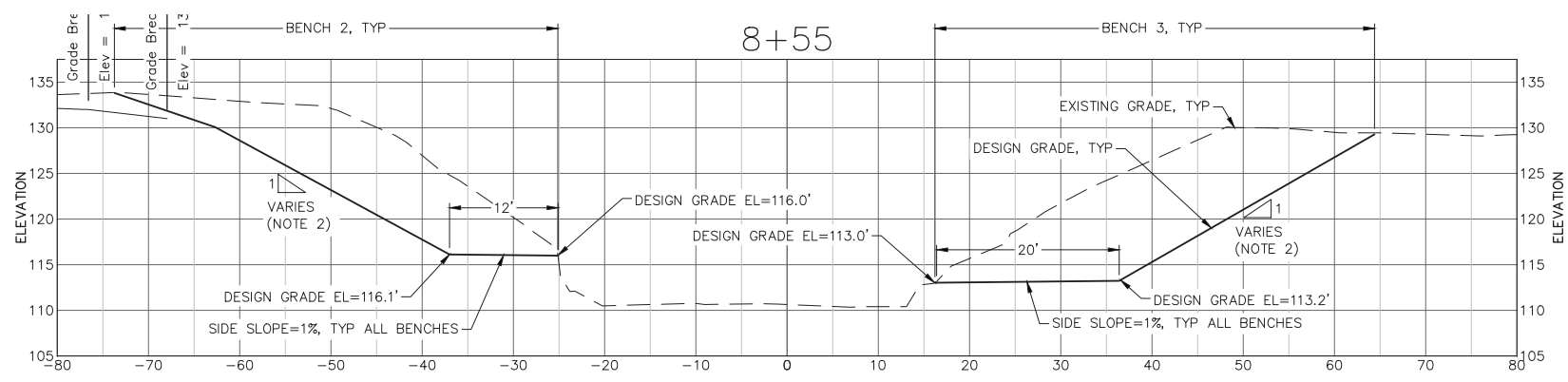
INCHARGE A. BORGONOVO
C053102

SCALE AS NOTED

DATE MARCH, 2014

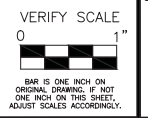
SHEET

C08



- NOTES:
- SECTIONS ARE SHOWN LOOKING DOWNSTREAM, STATION 0 IS THE CHANNEL BASELINE.
 - SLOPES SHOWN AT STA 7+65 AND 8+55 TRANSITION BETWEEN TYPICAL SLOPES OF 3:1 AND EXISTING GRADE SLOPES.
 - SEE TYPICAL SECTION, SHEET C04.

BENCH 2 & 3 (SEE SHEET C04)
 STA 07+65 TO 08+55 SCALE: 1" = 10'



PREPARED BY:
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 550 Kenny Street, Suite 900
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SHEET TITLE
GRADING SECTIONS
REACH 9 - BENCH 2 & 3
 PROJECT
NAPA RIVER RESTORATION
RUTHERFORD - REACHES 5,6,7 & 9

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



APPROVED
 DESIGNED J. BLUMBERG / B. TANAKA
 DRAWN J. WHITE
 INCHARGE A. BORGONOVO
 C053102
 SCALE AS NOTED
 DATE MARCH, 2014
 SHEET

C09
 17 OF 31

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STRUCTURE SCHEDULE				
TREATMENT	STATION/RANGE	BANK	ELEVATION RANGE	NOTE
SECONDARY CHANNEL	STA 0+50 TO STA 11+75	-	-	1
BRUSH MAT	10+20 TO 12+00	LEFT	132 TO 137	1
BRUSH MAT	11+15 TO 11+65	RIGHT	132 TO 134	1
WILLOW POLE PLANTINGS	0+00 TO 10+20	LEFT	-	1
WILLOW POLE PLANTINGS	8+25 TO 11+65	RIGHT	-	1
WILLOW POLE PLANTINGS	6+75 TO 7+50	RIGHT	-	1
WILLOW POLE PLANTINGS	0+50 TO 5+75	RIGHT	-	1
WILLOW POLE CRESCENTS	0+50 TO 1+20	RIGHT	-	1
ROUND POND CROSSING	STA 104+20 TO STA 104+50	LEFT	-	-
ROOTWAD	104+50	-	-	-
ROOTWAD	104+35	-	-	-
ROOTWAD	104+10	-	-	-
BRUSH MAT	103+75 TO 104+55	-	134 TO 140	2
BSSR #1 - ST SUPERY	STA 92+10 TO STA 93+80	RIGHT	-	-
BRUSH MAT	93+15 TO 93+80	-	131 TO 138	-
BOULDER CLUSTER	93+25	CENTER	-	-
LARGE WOOD STRUCTURE TYPE I OR II	93+20	-	-	-
WILLOW POLE PLANTINGS	92+60 TO 93+15	-	-	-
BRUSH MAT	92+10 TO 92+60	-	131 TO 138	-
BURIED ROUGHENED CHANNEL	90+50 TO 91+10	-	-	-
DISSIPATION BASIN - ST SUPERY	STA 78+00 TO STA 78+72	RIGHT	-	-
SNOWBERRY PLANTING	78+00	-	132 TO 140	3
BRUSH MAT	78+07	-	132 TO 136	3
SEDGE PLANTING	78+30	-	130 TO 132	3
VEGETATED SOIL LIFT	78+06	-	138 TO 146	3
BRUSH MAT	78+53	-	132 TO 136	3
SNOWBERRY PLANTING	78+65	-	132 TO 138	3
SWALE OUTLET - FOLEY JOHNSON	STA 76+96 TO STA 77+50	RIGHT	-	-
SEDGE PLANTING	77+21	-	133 TO 138	4
BRUSH MAT	77+28	-	138 TO 142	4
BSSR #2 - LAIRD	STA 28+70 TO STA 32+00	LEFT	-	-
BRUSH MAT	30+20 TO 32+00	-	118 TO 130	-
ROOTWAD	30+00	-	-	-
ROOTWAD	29+55	-	-	-
ROOTWAD	29+25	-	-	-
BOULDER CLUSTER	29+60	CENTER	-	-
BOULDER CLUSTER	29+30	CENTER	-	-
VEGETATED SOIL LIFT	29+20 TO 30+40	-	120 TO 130	-
WILLOW POLE PLANTINGS	29+20 TO 30+60	-	117 TO 120	-
BRUSH MAT	28+90 TO 29+20	-	116 TO 130	-
BSSR #3 - UNITED	STA 24+35 TO STA 26+20	LEFT	-	-
BRUSH MAT	25+05 TO 26+20	-	125 TO 135	-
VEGETATED SOIL LIFT	24+55 TO 25+05	-	125 TO 135	-
BRUSH MAT	24+25 TO 24+55	-	125 TO 135	-
BENCH #1 - UNITED	STA 19+25 TO STA 22+80	LEFT	-	-
BRUSH MAT	19+25 TO 19+90	-	114 TO 121	-
LARGE WOOD STRUCTURE TYPE I OR II	20+20	-	-	-
WILLOW BAFFLE	20+60	-	-	-
WILLOW BAFFLE	21+05	-	-	-
WILLOW BAFFLE	21+60	-	-	-
LARGE WOOD STRUCTURE TYPE I OR II	22+20	-	-	-
WILLOW POLE PLANTINGS	19+90 TO 22+40	-	114 TO 118	-
BRUSH MAT	22+40 TO 22+80	-	114 TO 121	-
BENCH #2 - SWANSON	STA 07+30 TO STA 08+90	LEFT	-	-
BRUSH MAT	07+30 TO 07+90	-	116 TO 125	-
WILLOW POLE PLANTINGS	07+90 TO 08+40	-	116 TO 120	-
BRUSH MAT	08+40 TO 08+90	-	116 TO 125	-
BENCH #3 - OPUS ONE	STA 07+30 TO STA 09+10	RIGHT	-	-
BRUSH MAT	07+30 TO 09+10	-	112 TO 120	-
LIVE LARGE WOOD STRUCTURE	08+70	-	-	-
LARGE WOOD STRUCTURE TYPE I OR II	08+50	-	-	-
WILLOW BAFFLE	08+20	-	-	-
BOULDER CLUSTER	08+00	-	-	-
BOULDER CLUSTER	07+65	-	-	-

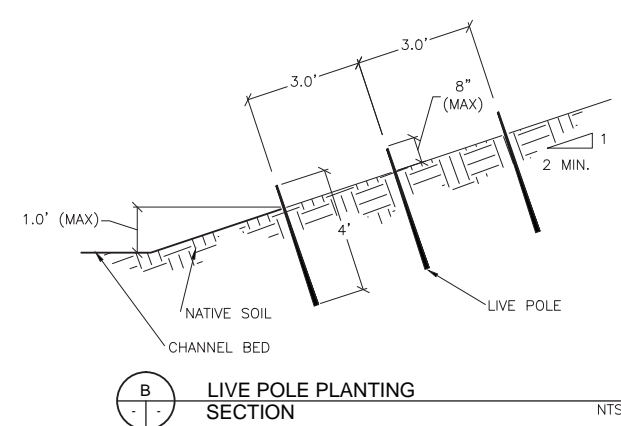
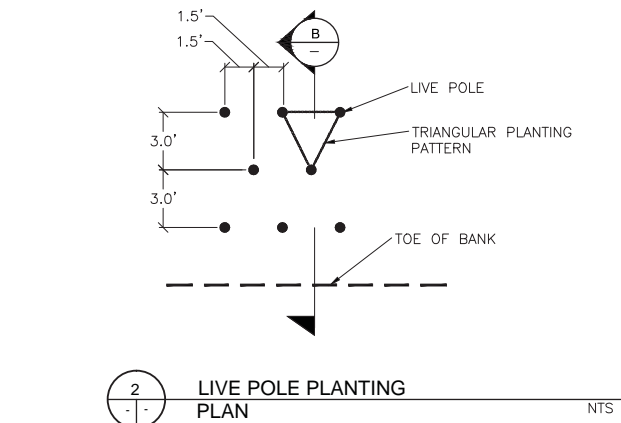
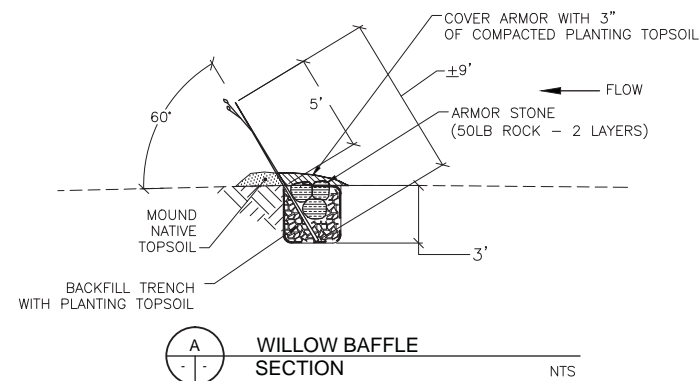
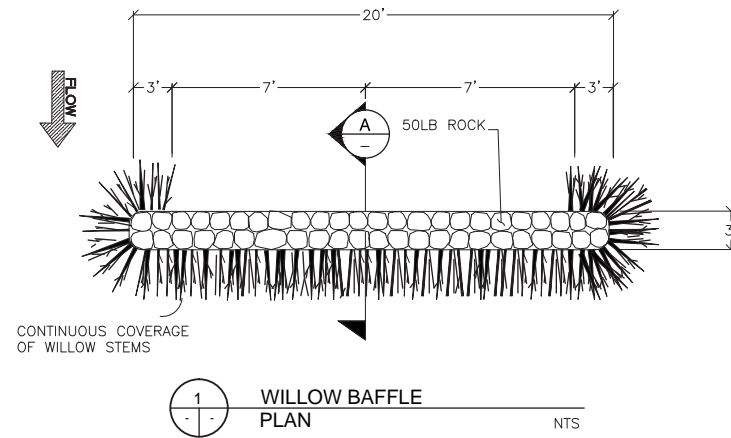


TABLE NOTES

- SEE SHEET C01 FOR SECONDARY CHANNEL STATIONING AND CONTROL POINTS.
- ROUND POND CROSSING BRUSHMAT IS CONTIGUOUS WITH SECONDARY CHANNEL BRUSHMAT ON CHANNEL LEFT.
- SNOWBERRY PLANTING IS 15' AT STATION 78+00 AND 35' AT STATION 78+65. BRUSH MAT TREATMENTS ARE 18' LONG. SEDGE PLANTING IS 26' LONG. VEGETATED SOIL LIFT IS 25' LONG.
- SEDGE PLANTING IS 50' LONG. BRUSH MAT IS 68 FEET LONG.



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SHEET TITLE: **DETAILS - SCHEDULE OF STRUCTURES & BIOTECHNICAL FEATURES**
 PROJECT: **NAPA RIVER RESTORATION - REACHES 5, 6, 7 & 9**

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

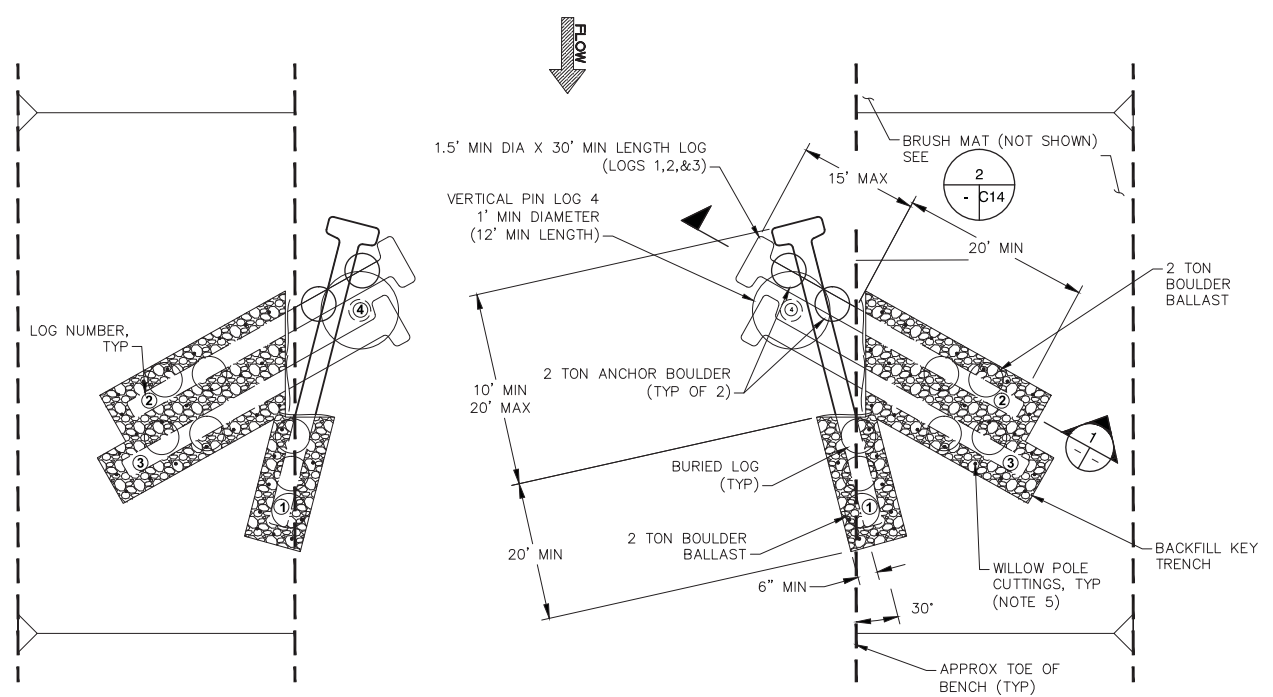


APPROVED: _____
 DESIGNED: J. BLOMBERG / B. TANAKA
 DRAWN: B. TANAKA
 INCHARGE: A. BORGONOVO
 SCALE: AS NOTED
 DATE: MARCH, 2014
 SHEET: _____

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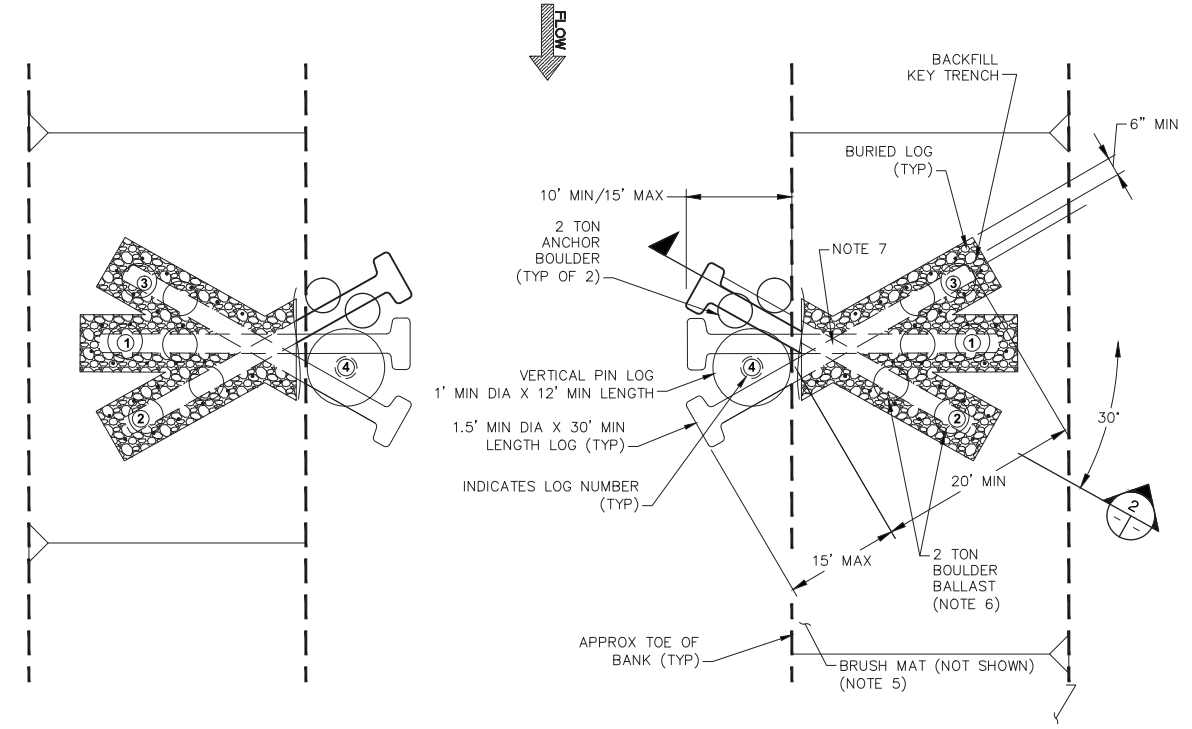


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INCHARGE A. BORGONOVO C053102
SCALE AS NOTED
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SHEET



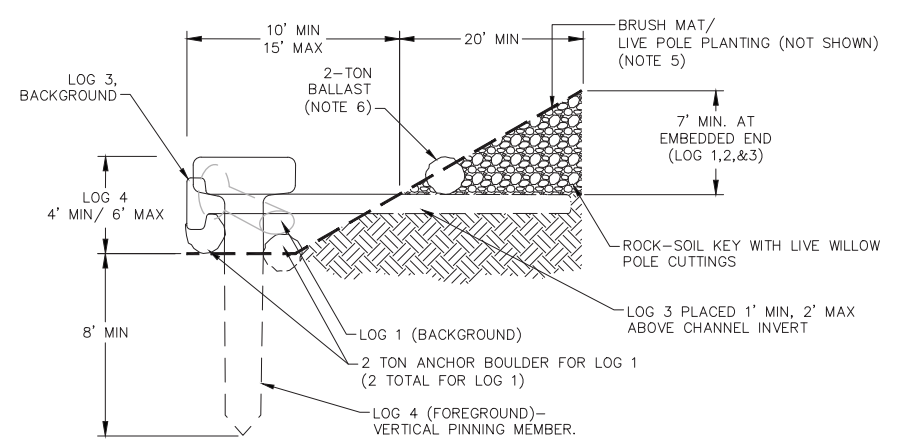
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 SCHEMATIC PLAN - RIVER RIGHT NTS

1 LW STRUCTURE - TYPE 1
 SCHEMATIC PLAN - RIVER LEFT NTS

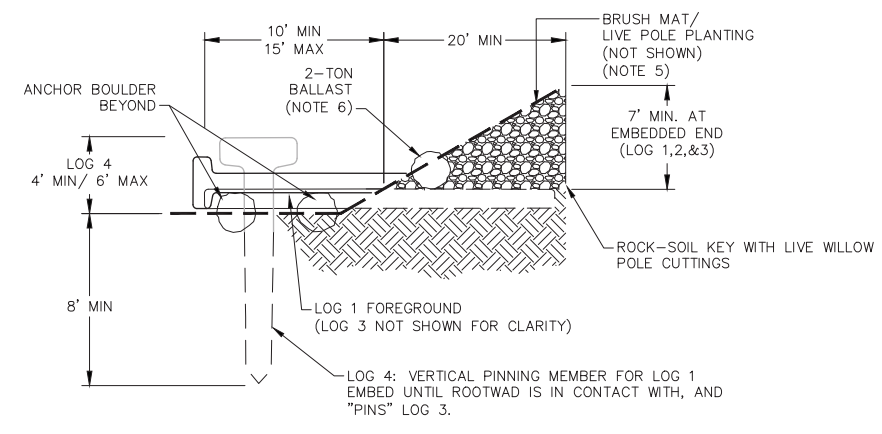


2 LW STRUCTURE - TYPE 2
 SCHEMATIC PLAN - RIVER RIGHT NTS

2 LW STRUCTURE - TYPE 2
 SCHEMATIC PLAN - RIVER LEFT NTS



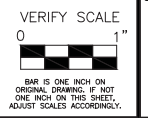
A LW STRUCTURE, TYPE 1
 SECTION - UPSTREAM VIEW, RIVER LEFT NTS



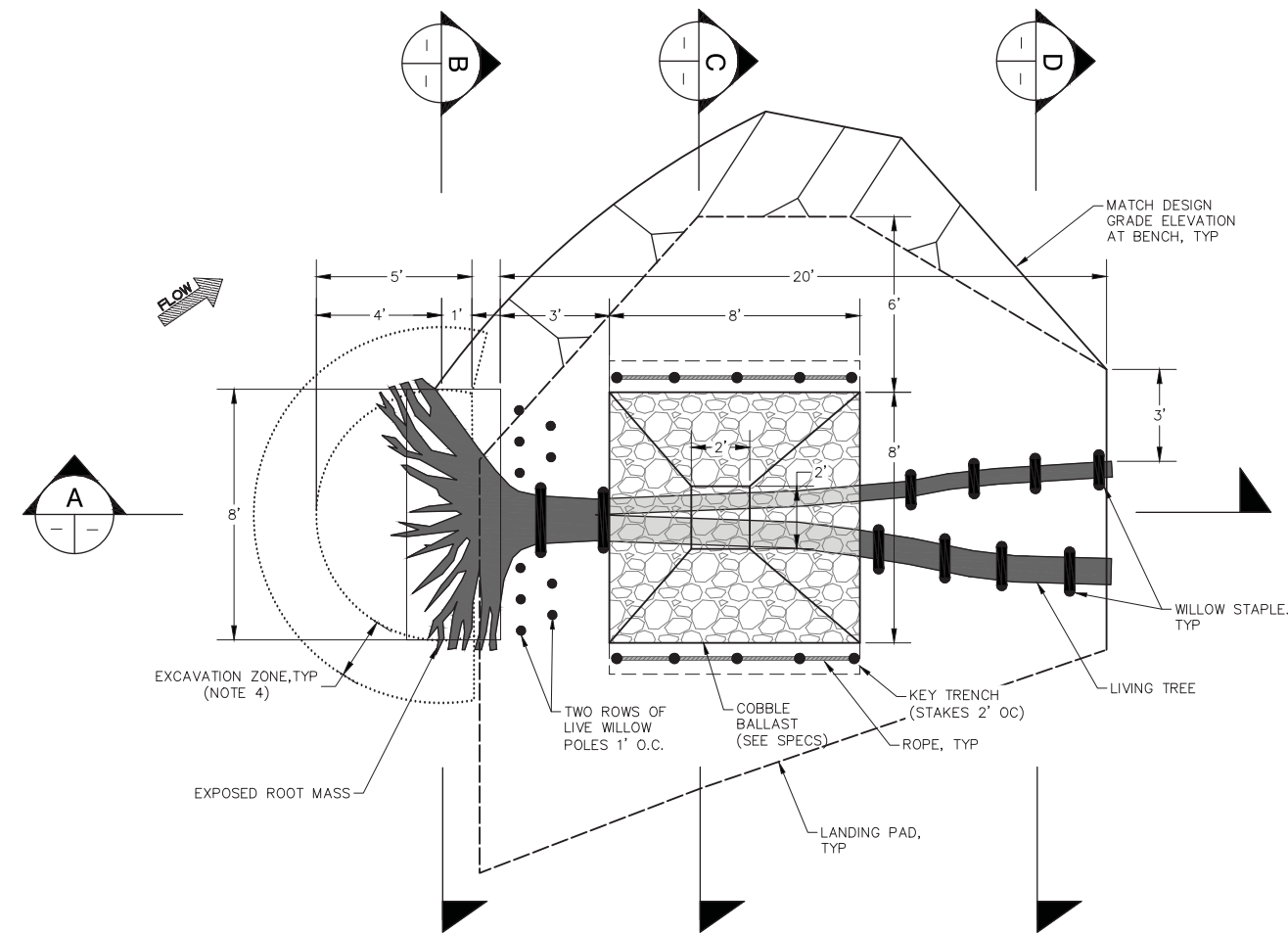
B LW STRUCTURE, TYPE 2
 SECTION AT LOG 2 - UPSTREAM VIEW, RIVER LEFT NTS

SHEET NOTES

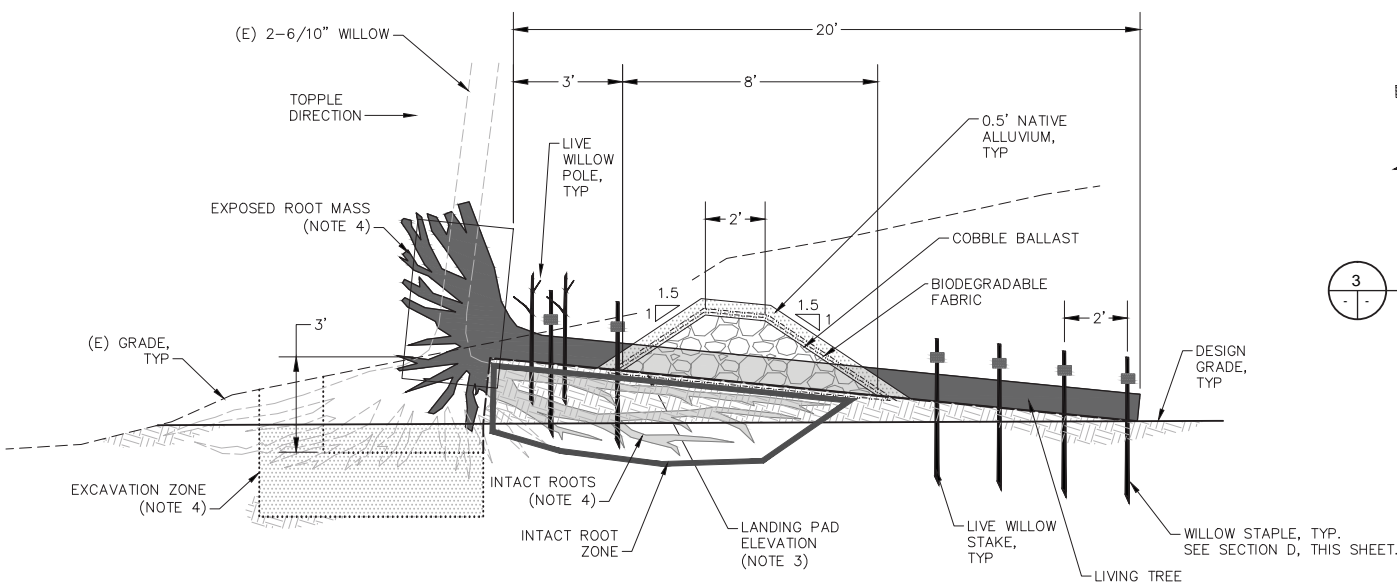
- PRIOR TO INSTALLATION, FIELD STAKE LARGE WOOD STRUCTURE LOCATIONS (LOG ENDPOINTS) FOR REVIEW BY THE OWNER'S REPRESENTATIVE. ALLOW 3 WORKING DAYS FOR REVIEW AND ADJUST STAKES AS DIRECTED.
- LOGS SHALL BE PLACED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. FIELD FIT AND ADJUST AS NEEDED TO CONFORM IRREGULAR LOGS TO NEAT DIMENSIONS SHOWN AND TO ACHIEVE LOG INTERLOCKING.
- 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.
- BACKFILL TRENCH WITH ROCK-SOIL MIX AND COMPACT TO 90% RC. STAKE THE ENDPOINTS OF THE BURIED LOG TO GUIDE BALLAST PLACEMENT.
- INSTALL BRUSH MAT OVER FINISHED GRADE PER SHEET C14. INSTALL LIVE POLE PLANTING (PER SHEET C10) ON ANY PORTION OF THE DISTURBED BANK NOT COVERED WITH BRUSH MAT.
- BALLAST BOULDERS CAN EITHER BE ONE 2-TON ROCK OR TWO 1-TON ROCKS AT CONTRACTOR'S OPTION. PLACE DIRECTLY OVER THE EMBEDDED LOG. BALLAST MUST BEAR DIRECTLY UPON LOG AND MAY REQUIRE SMALLER BOULDERS TO PROVIDE SUFFICIENT SUPPORT SUCH THAT BALLAST CANNOT ROLL OFF OF LOG. BALLAST BOULDERS MAY BE BURIED WITHIN KEY TRENCH. FIELD LOCATE AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
- LOGS MAY BE NOTCHED (3" MAX) TO ACHIEVE ORIENTATION AND EMBEDMENT AS SHOWN.



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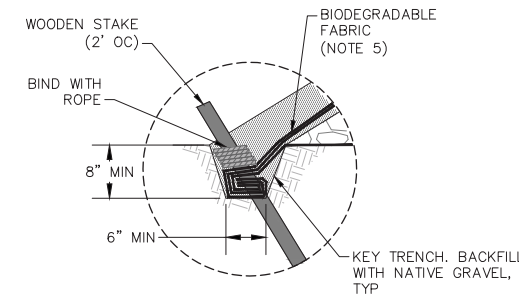
1 LIVE LARGE WOOD STRUCTURE SCHEMATIC PLAN SCALE: 1"=3'



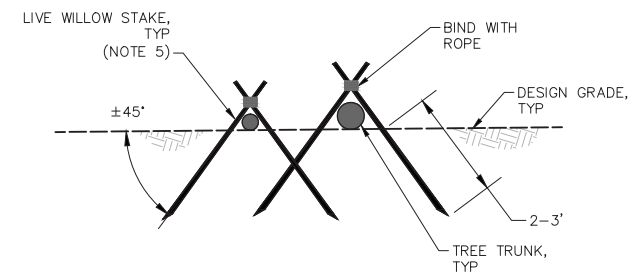
A LIVE LARGE WOOD STRUCTURE SCHEMATIC PROFILE SCALE: 1"=3'

SHEET NOTES

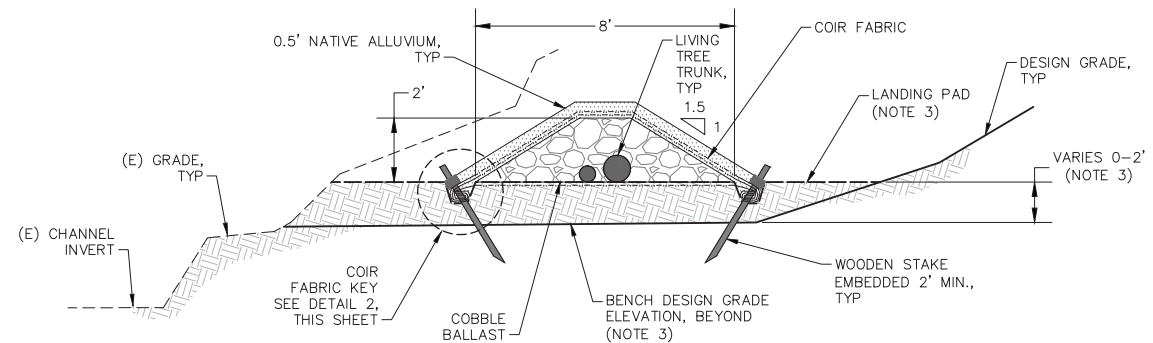
1. PRIOR TO INSTALLATION, FIELD STAKE STRUCTURE LOCATION (LOG ENDPOINTS) FOR REVIEW BY OWNER'S REPRESENTATIVE. ALLOW 3 WORKING DAYS FOR REVIEW, ADJUST STAKES AS DIRECTED.
2. LOG SHALL BE PLACED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. FIELD FIT AND ADJUST AS NEEDED TO CONFORM TO NEAT DIMENSIONS SHOWN AND TO ACHIEVE ORIENTATION SHOWN.
3. BASE OF TREE IS ABOVE DESIGN GRADE ELEVATION. EXCAVATE A LANDING PAD FOR TREE TRUNK TO ENSURE LENGTH OF TREE IS IN CONTACT WITH SOIL. EXACT ELEVATIONS OF TREE TRUNK LANDING PAD TO BE DETERMINED IN THE FIELD BY STARTING AT BASE OF LOG AND GRADING BACK LENGTH OF LOG TO THE ELEVATION OF THE PROPOSED BENCH. WHERE FEASIBLE, PROTECT IN PLACE ALL ROOTS OUTSIDE OF EXCAVATION ZONE.
4. TOPPLE TREE IN SAFE MANNER. MAINTAIN ROOT MASS AS SHOWN AND RETAIN APPROX. 35% OF THE ROOTS INTACT IN PLACE. BACKFILL EXCAVATED TRENCH WITH NATIVE ALLUVIUM TO APPROX. DESIGN GRADE ELEVATION AND COMPACT TO 85% RC.
5. WILLOW STAPLES SHALL BEAR DIRECTLY UPON TREE TRUNKS.



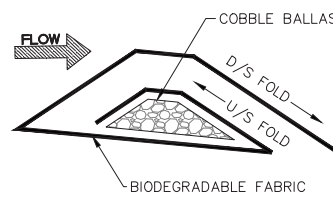
2 COIR FABRIC KEY TYPICAL SECTION NTS



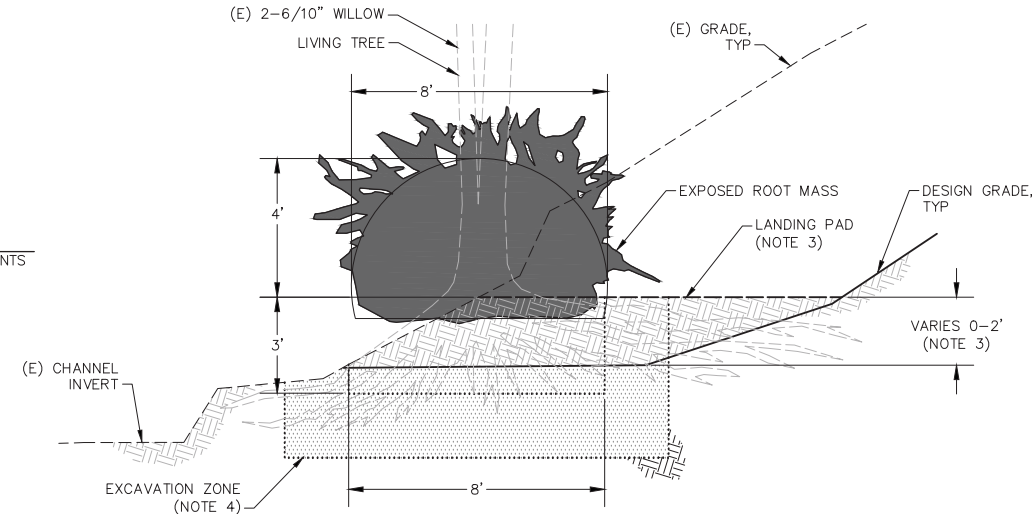
D WILLOW STAPLE TYPICAL SECTION SCALE: 1"=3'



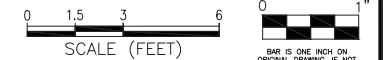
C COBBLE BALLAST TYPICAL SECTION SCALE: 1"=3'



3 COIR FABRIC FOLD FOLDING DIAGRAM NTS



B EXPOSED ROOT MASS TYPICAL SECTION SCALE: 1"=3'



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DESIGNED J. BLONBERG / B. TANAKA

DRAWN J. WHITE

INCHARGE A. BORGONOVO

SCALE AS NOTED

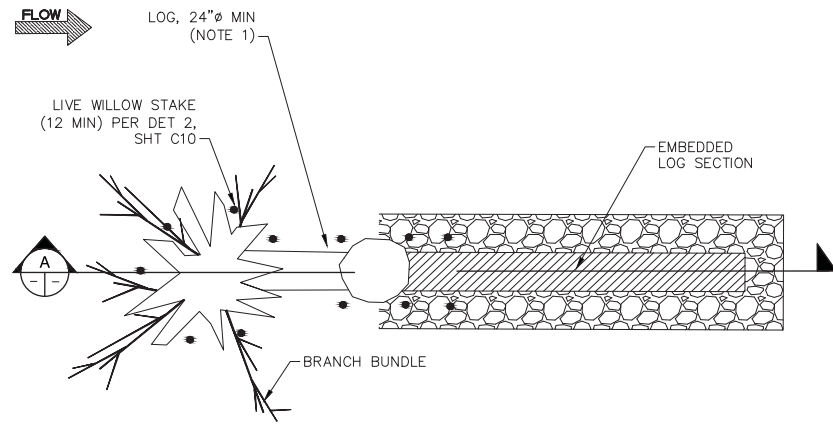
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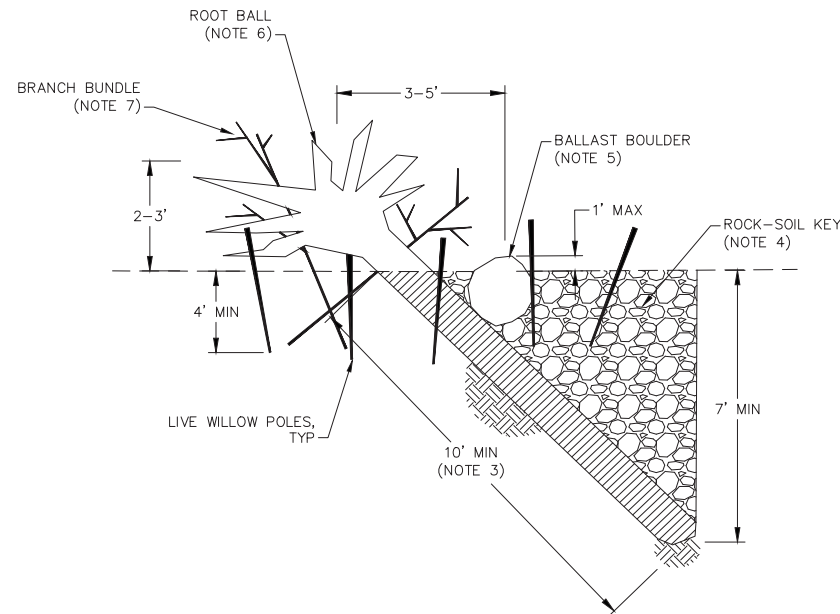
C12

20 OF 31

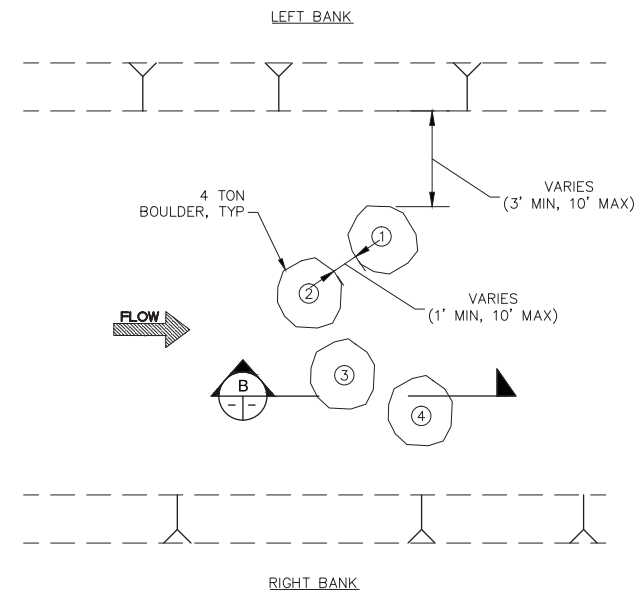
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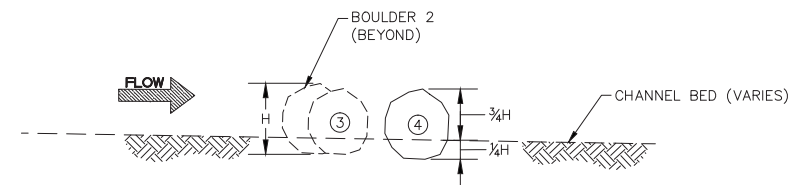
1 ROOTWAD SCHEMATIC PLAN NTS



A ROOTWAD SECTION NTS



2 BOULDER CLUSTER PLAN SCALE: NTS



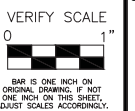
B BOULDER CLUSTER PROFILE SCALE: NTS

SHEET NOTES

1. PRIOR TO INSTALLATION, FIELD STAKE STRUCTURE LOCATION (LOG ENDPOINTS) FOR REVIEW BY THE OWNER'S REPRESENTATIVE. ALLOW 3 WORKING DAYS FOR REVIEW AND ADJUST STAKES AS DIRECTED.
2. LOG 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.
3. DETAIL SHOWS EMBEDMENT DEPTH ASSUMING THE LOG IS THE MINIMUM LENGTH SPECIFIED. IF LONGER LOG IS 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. BALLAST CAN EITHER BE ONE 2-TON ROCK OR TWO 1-TON BOULDERS AT CONTRACTOR'S OPTION. PLACE DIRECTLY ON LOG AND EMBED MIN 6 INCHES BELOW GRADE.
6. CONTRACTOR TO EXERCISE CARE DURING HANDLING OF LOGS DURING HARVEST AND TRANSPORT TO PRESERVE ROOT STRUCTURE (MAINTAIN MINIMUM ROOT LENGTHS OF 3').
7. CONTRACTOR TO HARVEST AND PLACE 4-5 BRANCH BUNDLES. BUNDLE COMPOSED OF 6-8 BRANCHES. BUNDLE DIAMETER 2'-3'. BRANCH LENGTH 8', MAXIMUM LENGTH 12', AND MINIMUM EMBEDMENT IS 4'. MINIMUM BASAL DIAMETER IS 4". SMALL TREES MAY ALSO BE USED. PLACE BRANCH BUNDLES UNDER ROOT BALL.
8. INBANK CONDITIONS, TREE MAY BE PLACE HORIZONTALLY. CONFIRM DESIGN INTENT WITH RESTORATION ENGINEER PRIOR TO INSTALLATION

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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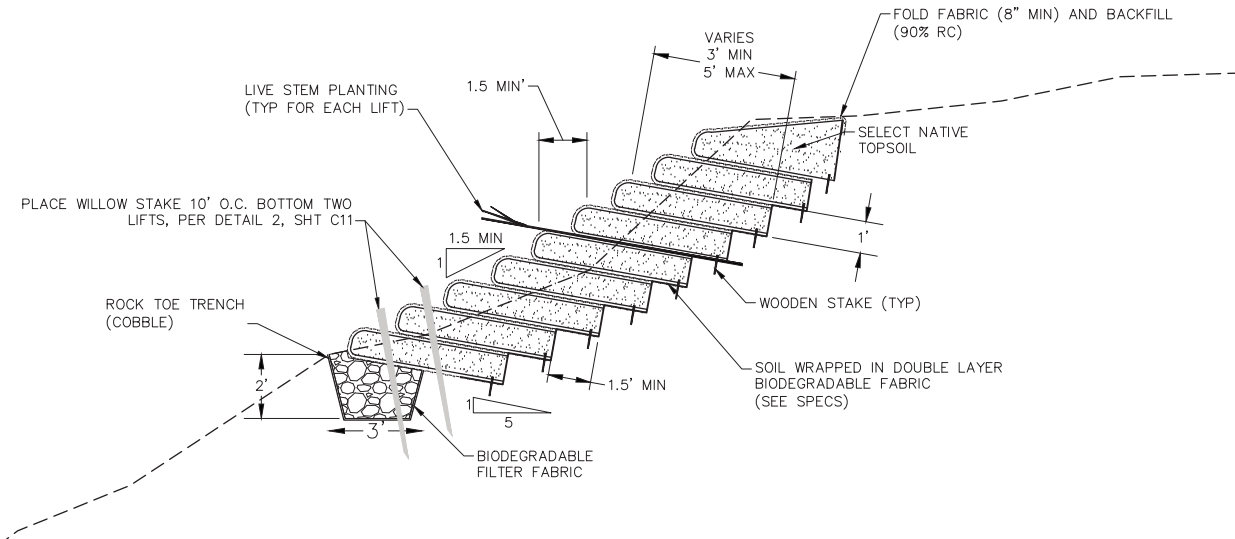
DRAWN B. TANAKA

INCHARGE A. BORGONOVO C053102

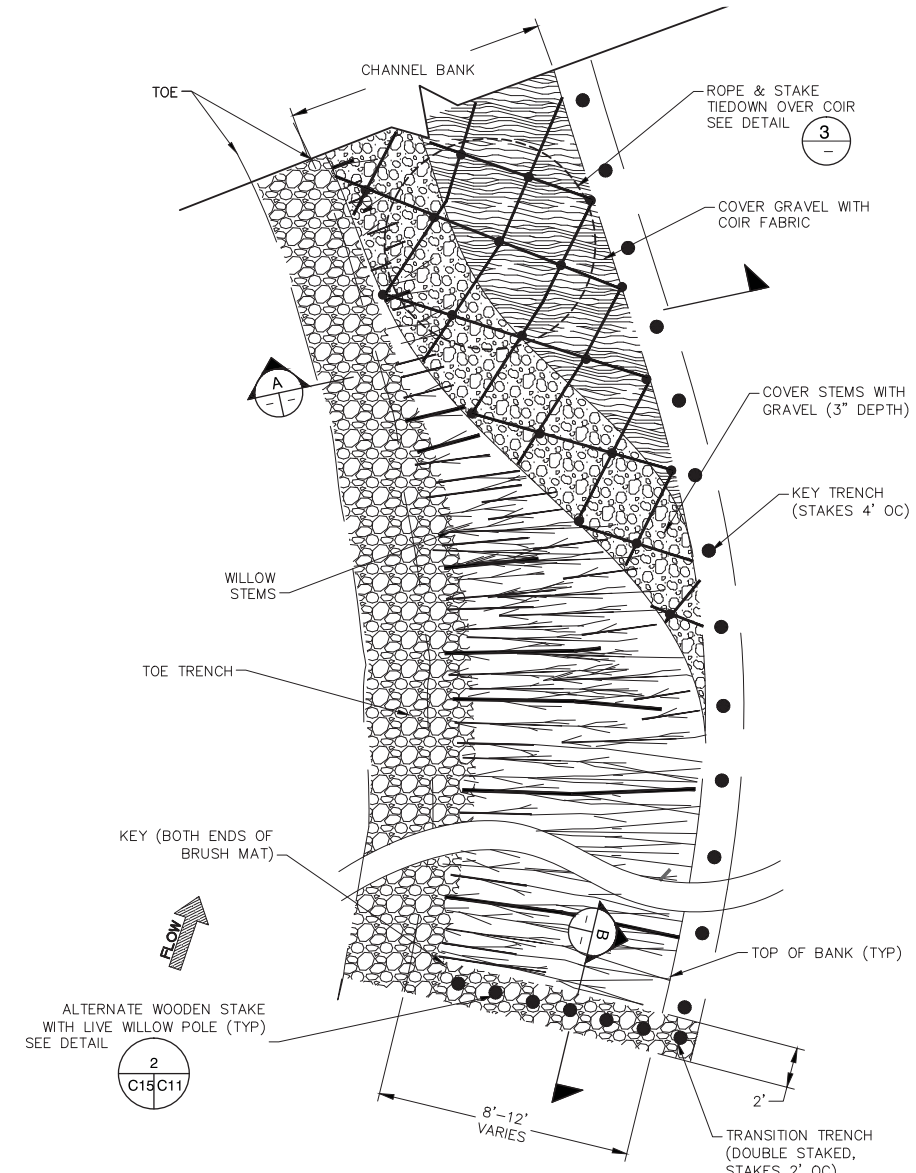
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DATE MARCH, 2014

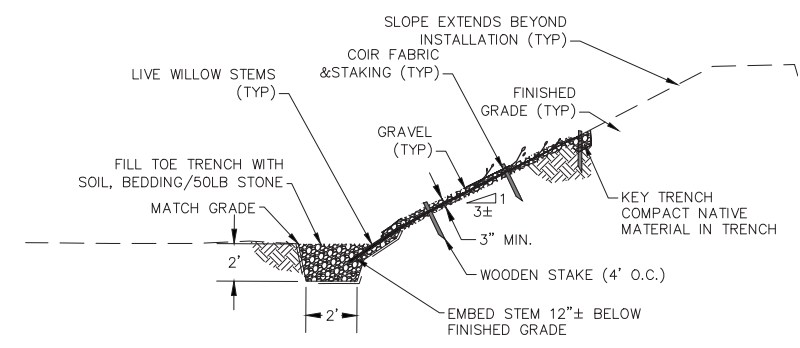
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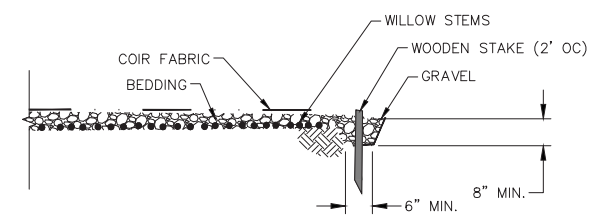
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C12
VEGETATED SOIL LIFTS SECTION
SCALE: 1" = 3'



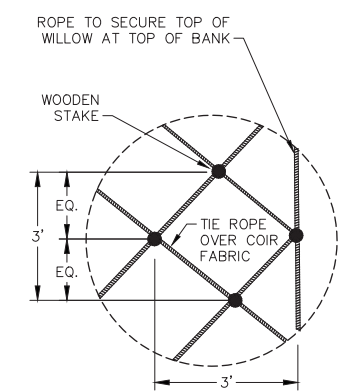
2
C11
BRUSH MAT TYPICAL PLAN
NTS



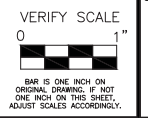
A
BRUSH MAT TYPICAL SECTION
NTS



B
BRUSH MAT TRANSITION TRENCH TYPICAL CROSS SECTION
NTS



3
ROPE AND STAKE TIEDOWN DETAIL TYPICAL PLAN
NTS



VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

PREPARED BY:
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SHEET TITLE
DETAILS - BRUSH MATTRESS & VEGETATED SOIL LIFT
PROJECT
NAPA RIVER RESTORATION RUTHERFORD - REACHES 5,6,7 & 9

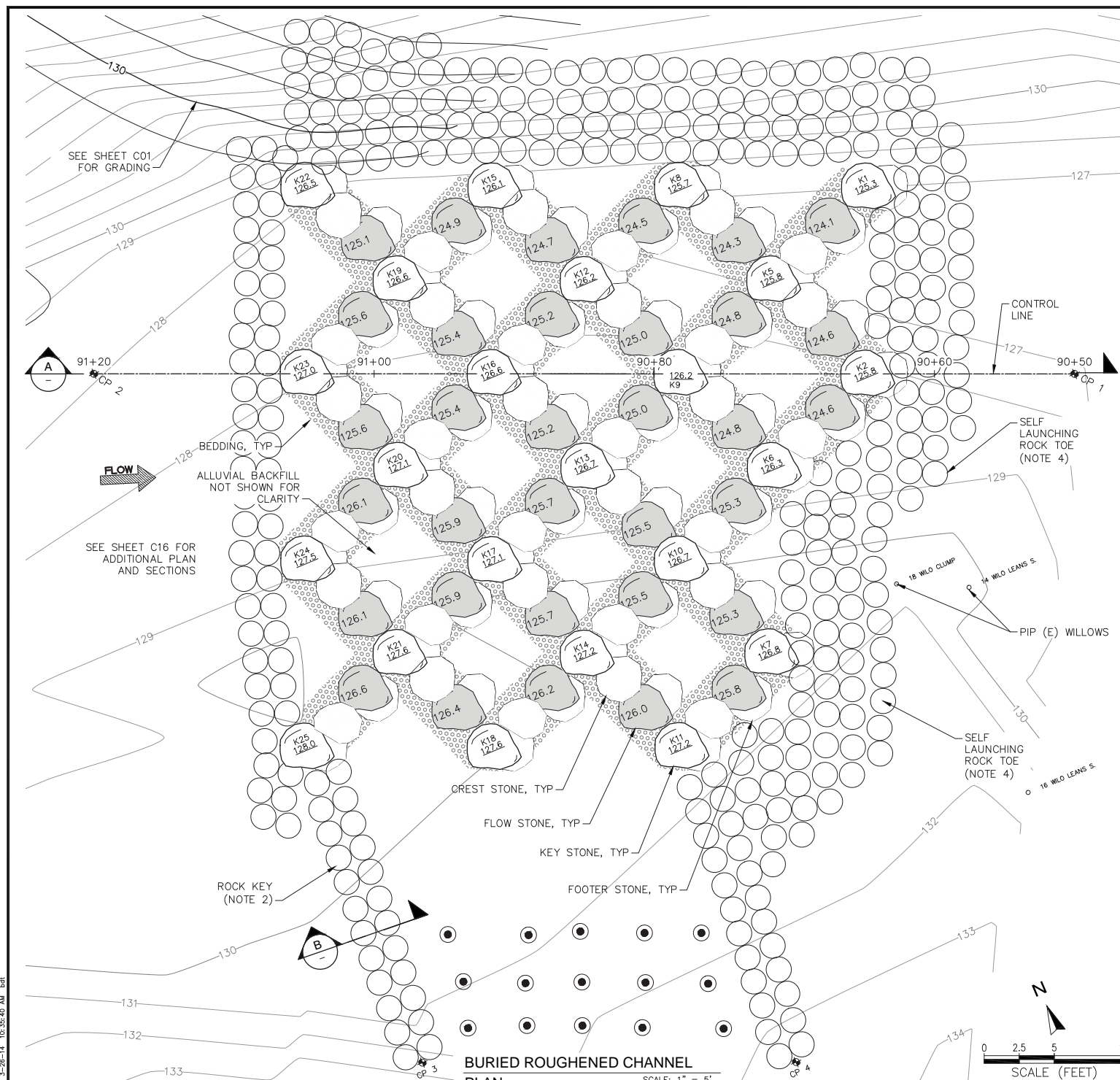
PREPARED FOR:
NAPA COUNTY DEPT OF PUBLIC WORKS
1195 Third St, Suite 201
Napa, CA 94559



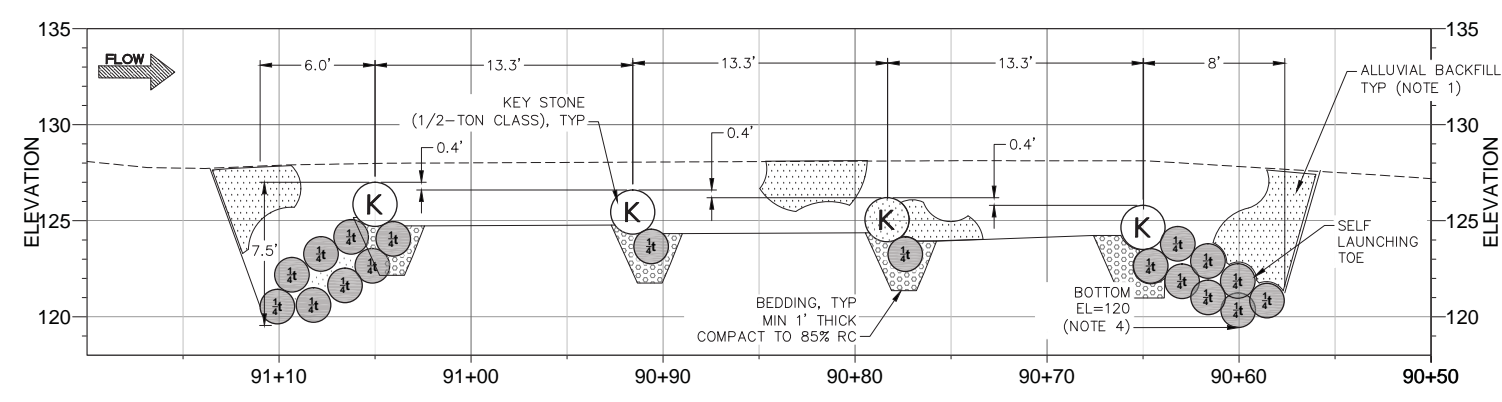
APPROVED
DESIGNED J. BLUMBERG / B. TANAKA
DRAWN B. TANAKA
INCHARGE A. BORGONOVO
SCALE AS NOTED
DATE MARCH, 2014
SHEET

C14
22 OF 31

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BURIED ROUGHENED CHANNEL PLAN
SCALE: 1" = 5'



BURIED ROUGHENED CHANNEL PROFILE THROUGH KEYSTONES
SCALE: 1" = 5'

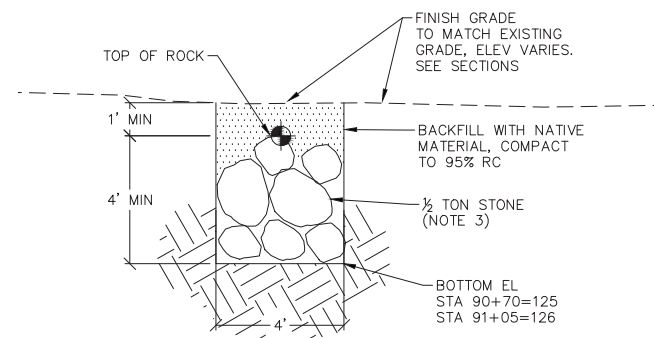
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K2	6444404.3	1929021.0
K5	6444400.7	1929029.8
K6	6444395.6	1929017.5
K7	6444390.3	1929005.3
K8	6444397.2	1929038.5
K9	6444392.0	1929026.2
K10	6444386.9	1929013.9
K11	6444381.8	1929001.6
K12	6444388.4	1929034.9
K13	6444383.3	1929022.6
K14	6444378.1	1929010.3
K15	6444384.9	1929043.6
K16	6444379.7	1929031.3
K17	6444374.6	1929019.0
K18	6444369.4	1929006.7
K19	6444376.1	1929040.1
K20	6444371.0	1929027.8
K21	6444365.8	1929015.5
K22	6444372.6	1929048.8
K23	6444367.4	1929036.5
K24	6444362.3	1929024.2
K25	6444357.1	1929011.9

CONTROL POINT TABLE			
POINT	EASTING	NORTHING	ELEVATION
CP 1	6444418.1	1929015.3	N/A
CP 2	6444353.5	1929042.3	N/A
CP 3	6444356.2	1928987.9	130*
CP 4	6444380.8	1928977.6	129*

* ELEVATION IS TOP OF ROCK, SEE DETAIL B, THIS SHEET.

NOTES

- BACKFILL ROUGHENED CHANNEL TO APPROXIMATE EXISTING GRADE ELEVATION WITH ALLUVIAL BACKFILL COMPACTED TO 85% R.C. CONTRACTOR TO SURVEY MINIMUM SIX (6) EXISTING GRADE CROSS SECTIONS, INCLUDING ONE (1) IMMEDIATELY UPSTREAM AND DOWNSTREAM OF EXCAVATION AREA TO GUIDE FINE GRADING OPERATIONS.
- ROCK KEYS EXTEND 50' FROM CONTROL LINE. CONTRACTOR TO STAKE ENDPOINTS, AND ALLOW 3 WORKING DAYS FOR REVIEW AND ADJUSTMENT PRIOR TO INSTALLATION.
- SEGREGATE SMALLER STONES FROM 1/2-TON CLASS FOR USE IN ROCK KEY.
- SELF-LAUNCHING ROCK TOE EXTENDS ENTIRE WIDTH OF STRUCTURE. BOTTOM ELEVATION IS 120.0



ROCK KEY DETAIL SECTION
SCALE: 1" = 3'

- LEGEND**
- KEYSTONE (1 TON CLASS)
 - FLOW STONE/ROCK KEY (1/2 TON CLASS)
 - FOOTER STONE/CREST STONE/ROCK TOE (1/4 TON CLASS)
 - BEDDING
 - WILLOW POST

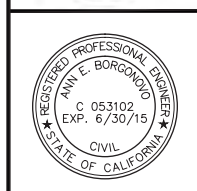
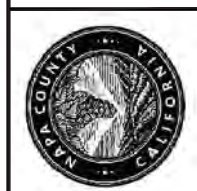
**90% DRAFT
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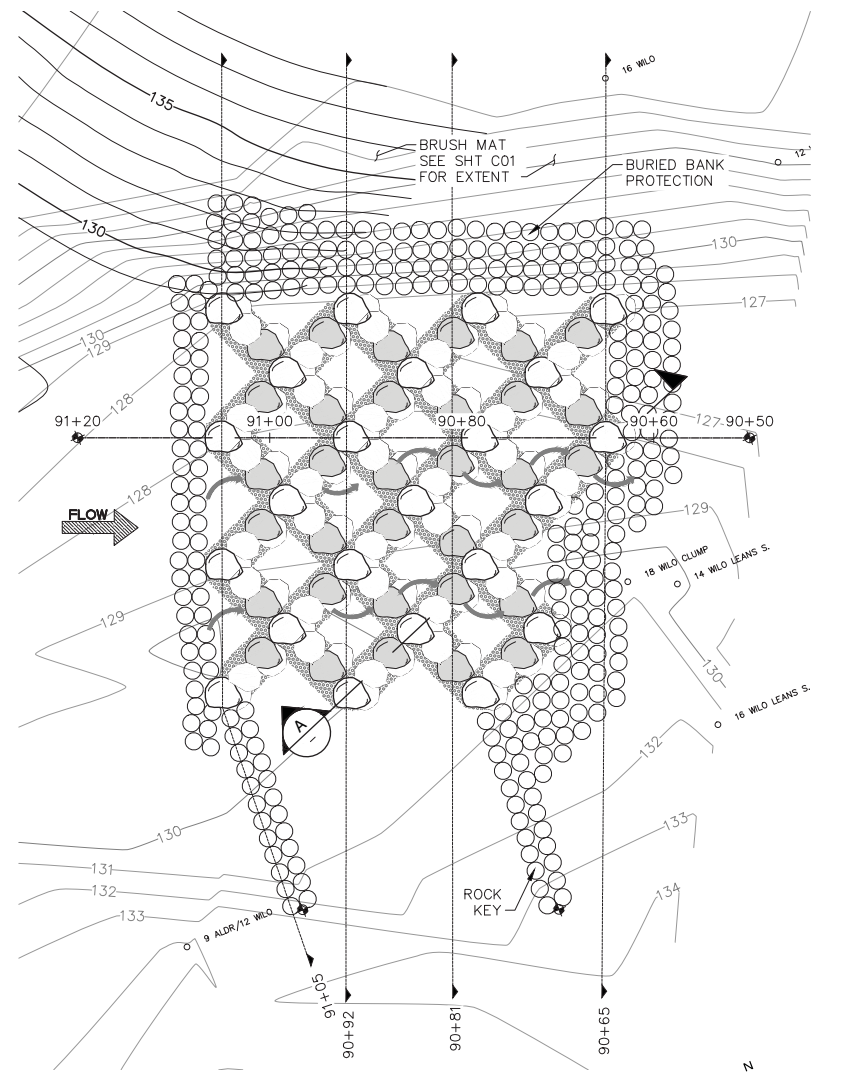
SHEET TITLE
DETAILS - BURIED ROUGHENED CHANNEL PLAN & PROFILE
PROJECT
NAPA RIVER RESTORATION RUTHERFORD - REACHES 5,6,7 & 9

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

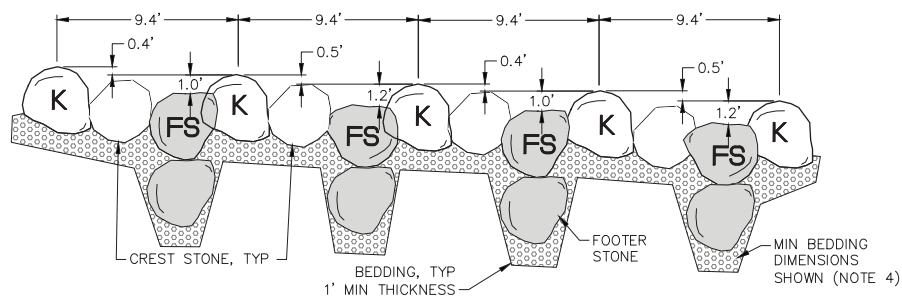
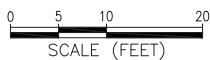


APPROVED
DESIGNED J. BLUMBERG / B. TANAKA
DRAWN B. TANAKA
INCHARGE A. BORGONOVO C053102
SCALE AS NOTED
DATE MARCH, 2014
SHEET

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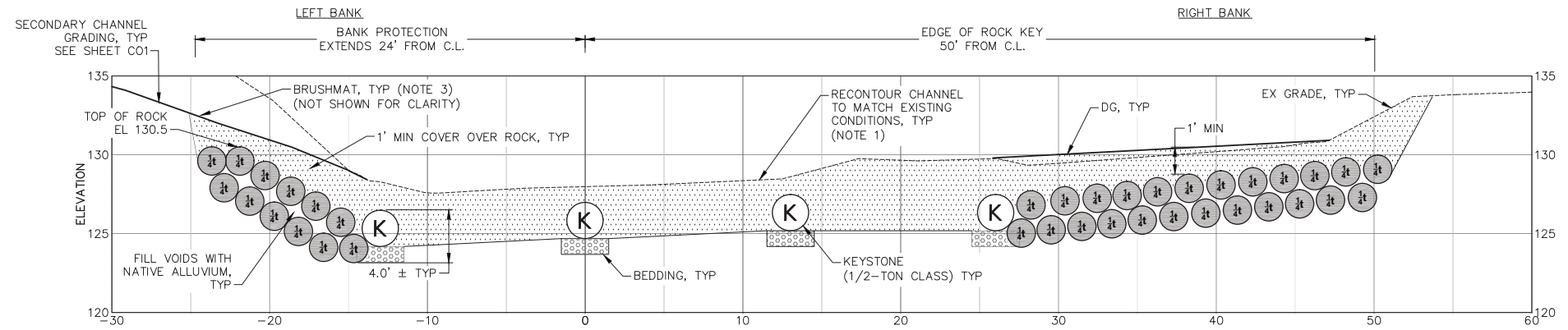
**BURIED ROUGHENED CHANNEL
PLAN**
SCALE: 1" = 10'



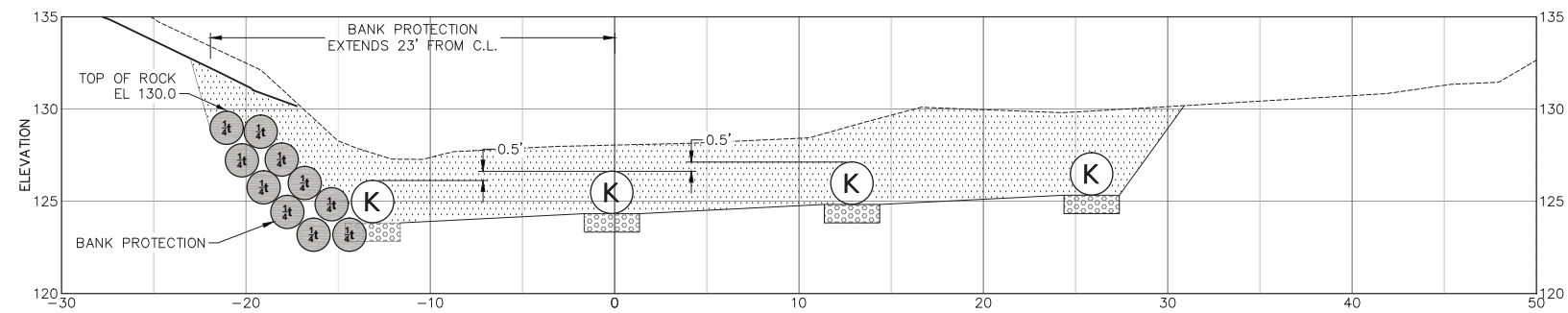
**A BOULDER LAYOUT
DIAGONAL SECTION**
SCALE: 1" = 5'

NOTES

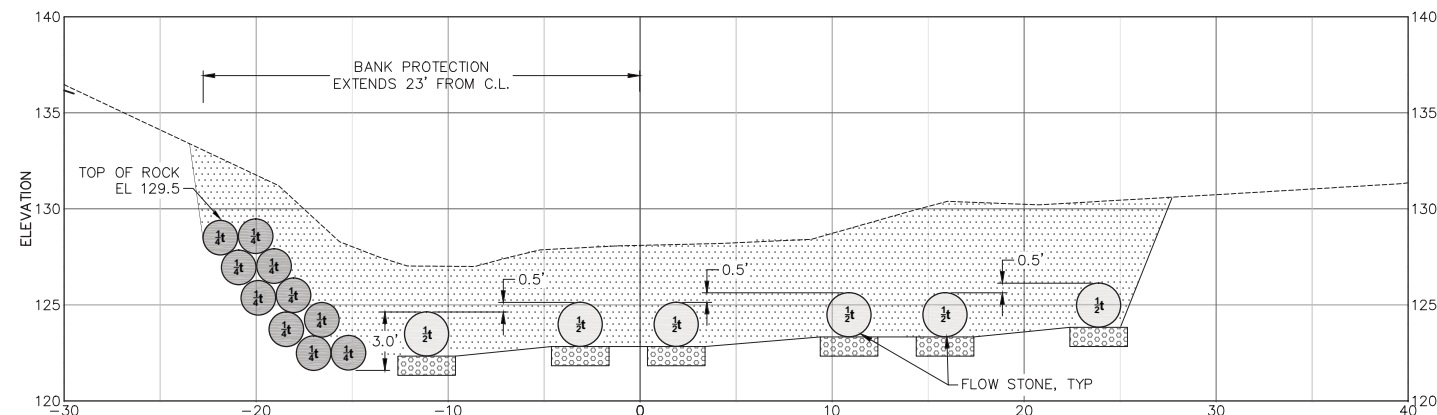
- ROUGHENED CHANNEL STRUCTURE IS COMPLETELY BURIED. BACKFILL OVER ROUGHENED CHANNEL TO APPROXIMATE EXISTING GRADE ELEVATION WITH NATIVE ALLUVIAL BACKFILL COMPACTED TO 85% R.C. PRIOR TO CONSTRUCTION. CONTRACTOR TO SURVEY MINIMUM SIX (6) EXISTING GRADE CROSS SECTIONS, INCLUDING ONE (1) IMMEDIATELY UPSTREAM AND DOWNSTREAM OF EXCAVATION AREA TO GUIDE FINE GRADING OPERATIONS.
- BOTTOM OF BANK PROTECTION TO SLOPE CONTINUOUSLY FROM UPSTREAM TO DOWNSTREAM.
- INSTALL BRUSH MAT ALONG ENTIRE LENGTH OF DISTURBED LEFT BANK. EXTENDING FROM ELEVATION 129 TO 138. SEE SHEET C01.
- OVER EXCAVATE AS NEEDED TO INSTALL STONES AND MIN BEDDING LAYER. BACKFILL OVEREXCAVATED AREAS WITH BEDDING OR NATIVE ALLUVIUM. SEE NOTE 6, SHEET C01.



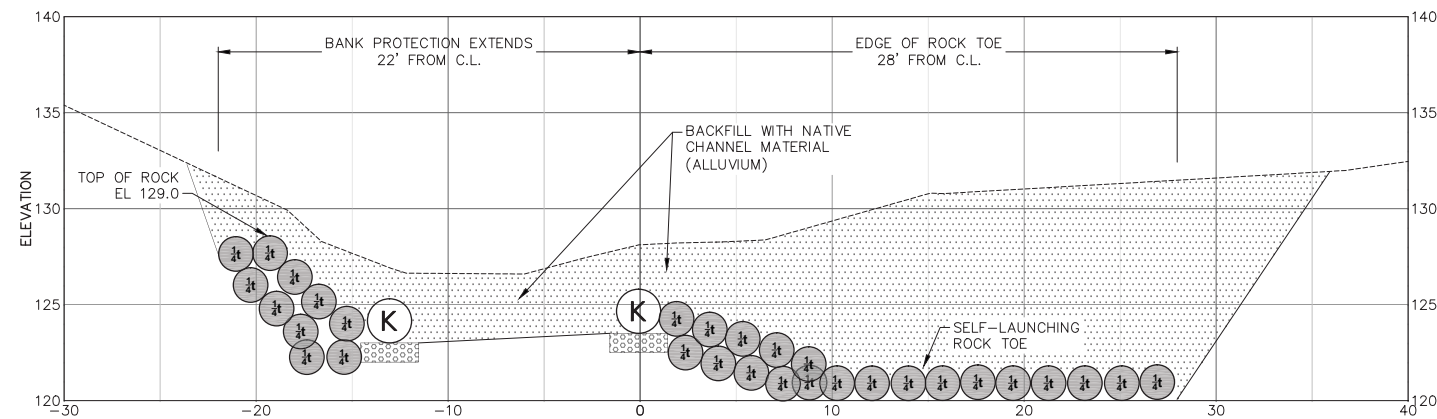
**BURIED ROUGHENED CHANNEL - STA 91+05
UPSTREAM SECTION THROUGH ROCK KEY**
SCALE: 1" = 5'



**BURIED ROUGHENED CHANNEL - STA 90+92
SECTION THROUGH KEY STONES**
SCALE: 1" = 5'



**BURIED ROUGHENED CHANNEL - STA 90+81
SECTION THROUGH FLOW STONES**
SCALE: 1" = 5'



**BURIED ROUGHENED CHANNEL - STA 90+65
DOWNSTREAM SECTION THROUGH ROCK KEY**
SCALE: 1" = 5'

LEGEND

- KEYSTONE (1 TON CLASS)** K18 127.6 K
- FLOW STONE/ROCK KEY (1/2 TON CLASS)** 125.8
- FOOTER STONE/CREST STONE/ROCK TOE (1/2 TON CLASS)** 124.8
- FLOW PATH** (arrow symbol)
- BEDDING** (dotted pattern symbol)



**90% DRAFT
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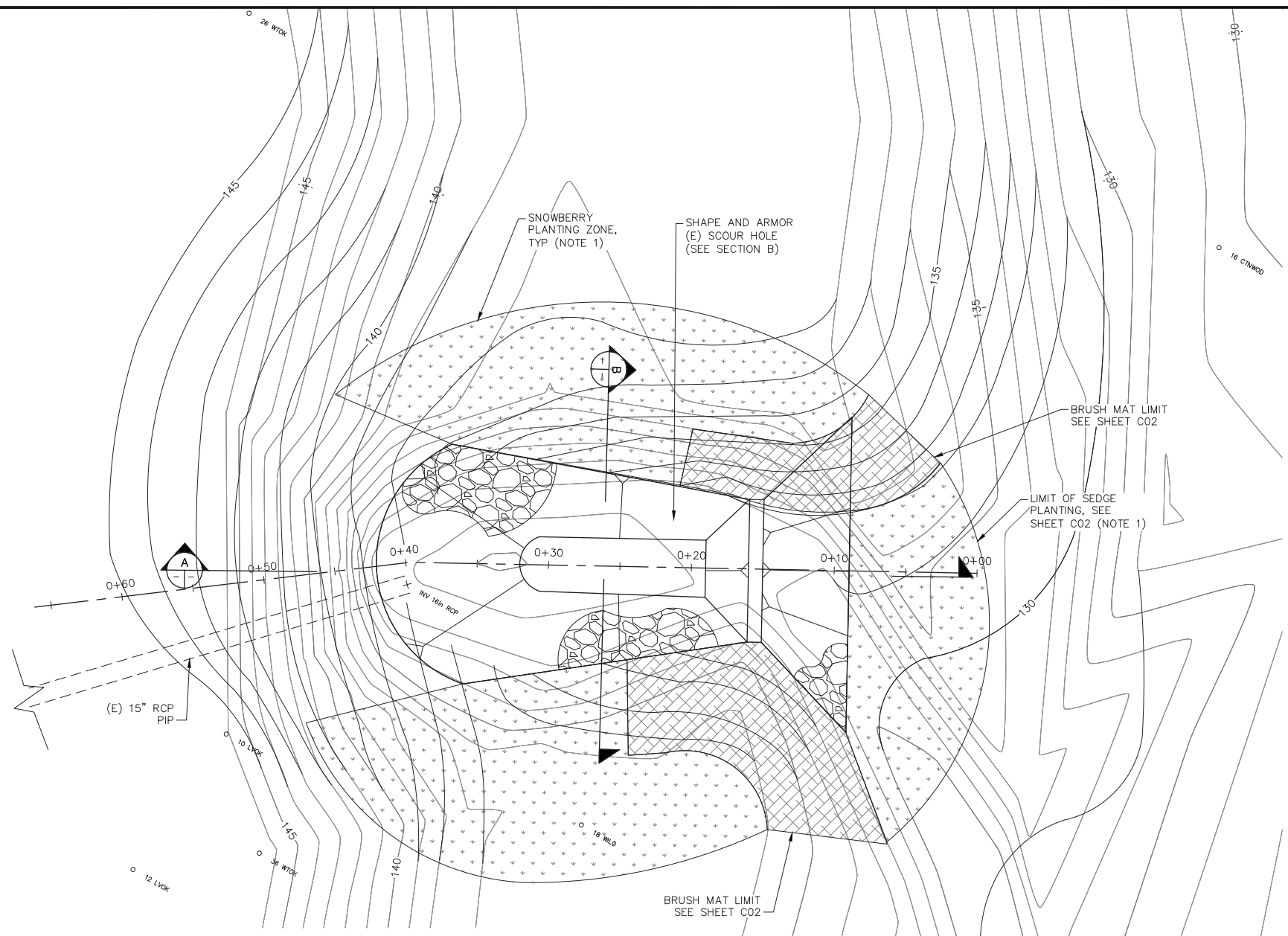
PREPARED BY:
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SHEET TITLE
**DETAILS - BURIED ROUGHENED
CHANNEL SECTIONS**
PROJECT
**NAPA RIVER RESTORATION
RUTHERFORD - REACHES 5,6,7 & 9**

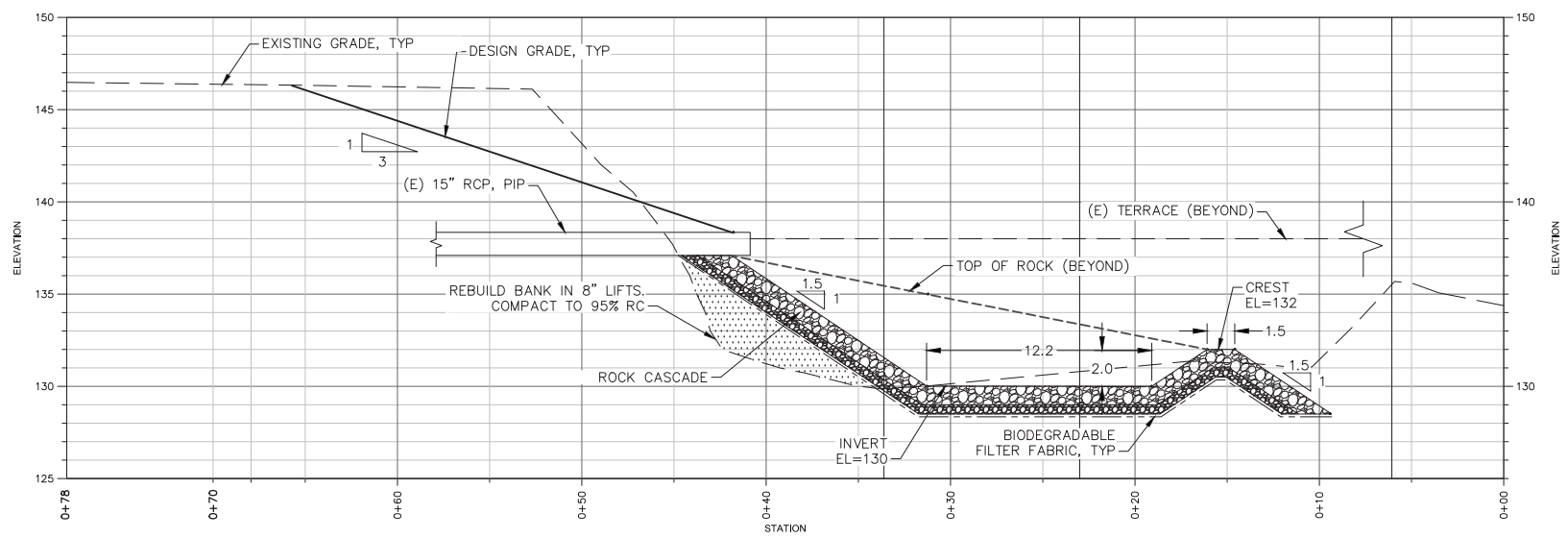
PREPARED FOR:
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Napa, CA 94559**



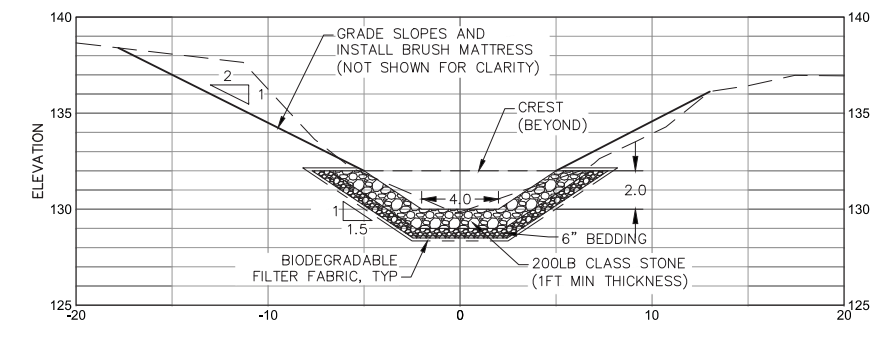
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DESIGNED J. BLUMBERG / B. TANAKA
DRAWN B. TANAKA
INCHARGE A. BORGONOVO
SCALE AS NOTED
DATE MARCH, 2014
SHEET



ST SUPERY DISSIPATION BASIN
PLAN VIEW
 SCALE: 1" = 5'

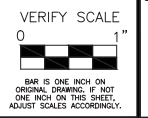


A
ST SUPERY DISSIPATION BASIN
GRADING PROFILE
 SCALE: 1" = 5'



B
ST SUPERY DISSIPATION BASIN
GRADING SECTION
 SCALE: 1" = 5'

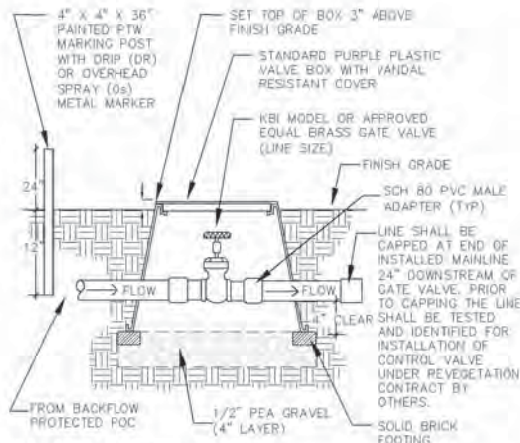
NOTES:
 1. STAKE LIMITS OF SNOWBERRY AND SANTA BARBARA SEDGE PLANTING AREAS. ALLOW UP TO THREE (3) WORKING DAYS FOR REVIEW AND ADJUSTMENT BY RESTORATION ENGINEER. TOTAL AREA IS 1000 SQUARE FEET.



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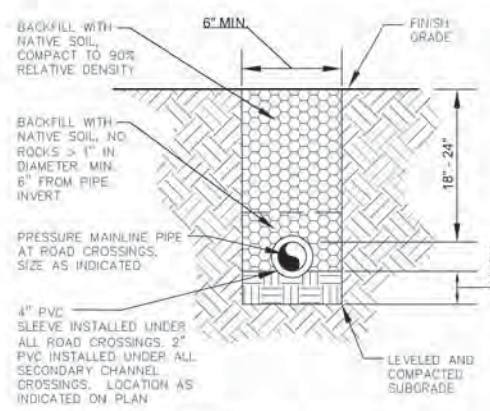
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MANUAL ISOLATION VALVE

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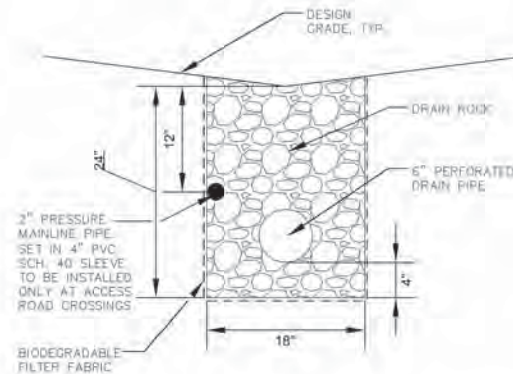
01
L01



MAIN LINE TRENCHING

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02
L01



FOLEY JOHNSON MAINLINE & DRAINAGE DITCH

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03
L01

EROSION CONTROL SEEDING MIXES AND RATES

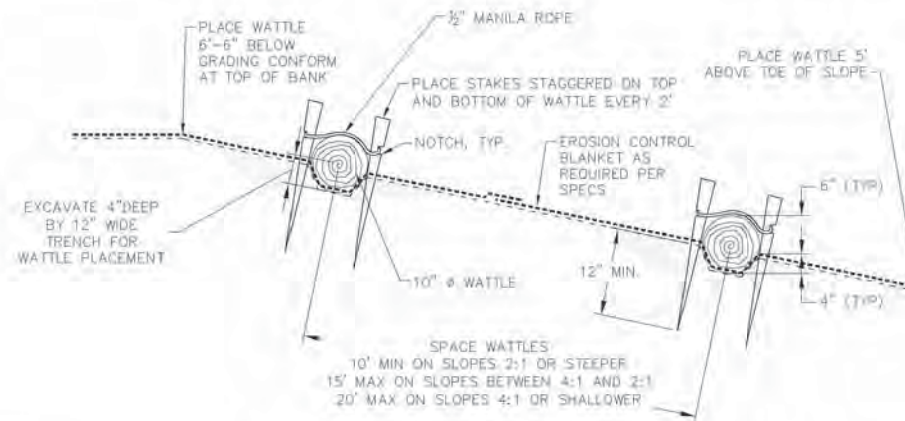
Habitat Type: Lower Bank		Acres 1.00	
Biological Name / Common Name	Seeding Method	lbs / ac	lbs. Req.
<i>Elymus triticoides</i> / Creeping Wildrye	Broadcast Seed	10	10
<i>Festuca idahoensis</i> / Idaho Fescue	Broadcast Seed	4	4
<i>Hordeum brachyantherum</i> var. <i>brachyantherum</i> / Meadow Barley	Broadcast Seed	8	8
<i>Symphoricarpos</i> / Common Aster	Broadcast Seed	6	6
Totals		28	28

Habitat Type: Upper Bank		Acres 2.50	
Biological Name / Common Name	Seeding Method	lbs / ac	Qty
<i>Bromus carinatus</i> / California Brome	Hydroseed	3	8
<i>Elymus glaucus</i> / Blue Wildrye	Hydroseed	8	20
<i>Elymus triticoides</i> / Creeping Wildrye	Hydroseed	8	20
<i>Eschscholzia californica</i> / California Poppy	Hydroseed	2	5
<i>Festuca idahoensis</i> / Idaho Fescue	Hydroseed	6	15
<i>Festuca microstachys</i> / Small Fescue	Hydroseed	6	15
<i>Hordeum brachyantherum</i> var. <i>californicum</i> / California Meadow Barley	Hydroseed	6	15
<i>Lupinus bicolor</i> / Miniature Lupine	Hydroseed	4	10
<i>Trifolium vilidenovii</i> / Tomcat Clover	Hydroseed	2	5
Totals		45	113

Habitat Type: Upland Seed Mix		Acres 2.00	
Biological Name / Common Name	Seeding Method	lbs / ac	Qty
<i>Bromus carinatus</i> / California Brome	Hydroseed	3	8
<i>Elymus glaucus</i> / Blue Wildrye	Hydroseed	8	16
<i>Eschscholzia californica</i> / California Poppy	Hydroseed	2	4
<i>Festuca idahoensis</i> / Idaho Fescue	Hydroseed	6	12
<i>Festuca microstachys</i> / Small Fescue	Hydroseed	6	12
<i>Layia chrysanthemoides</i> / Tidy Tips	Hydroseed	2	4
<i>Lupinus bicolor</i> / Miniature Lupine	Hydroseed	4	8
<i>Lupinus formosus</i> / Summer Lupine	Hydroseed	2	4
<i>Nemophila menziesii</i> / Baby Blue Eyes	Hydroseed	3	6
<i>Stipa pulchra</i> / Purple Needlegrass	Hydroseed	8	16
<i>Trifolium vilidenovii</i> / Tomcat Clover	Hydroseed	2	4
Totals		46	92

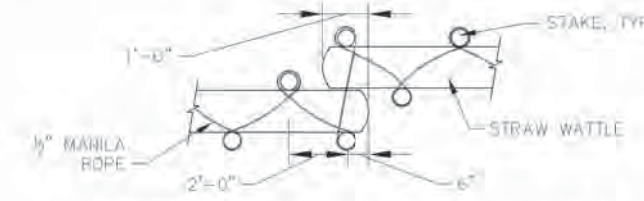
Habitat Type: Erosion Control Seed Mix (Staging Areas)		Acres 0.50	
Biological Name / Common Name	Seeding Method	lbs / ac	Qty
<i>Eschscholzia californica</i> / California Poppy	Hydroseed	2	1
<i>Lupinus bicolor</i> / Miniature Lupine	Hydroseed	4	2
<i>Trifolium vilidenovii</i> / Tomcat Clover	Hydroseed	2	1
<i>Triticum X Elymus</i> "Regreen" / Sterile Wheat	Hydroseed	24	12
Totals		32	16

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



WATTLE DETAIL SECTION VIEW

NTS
04
L01

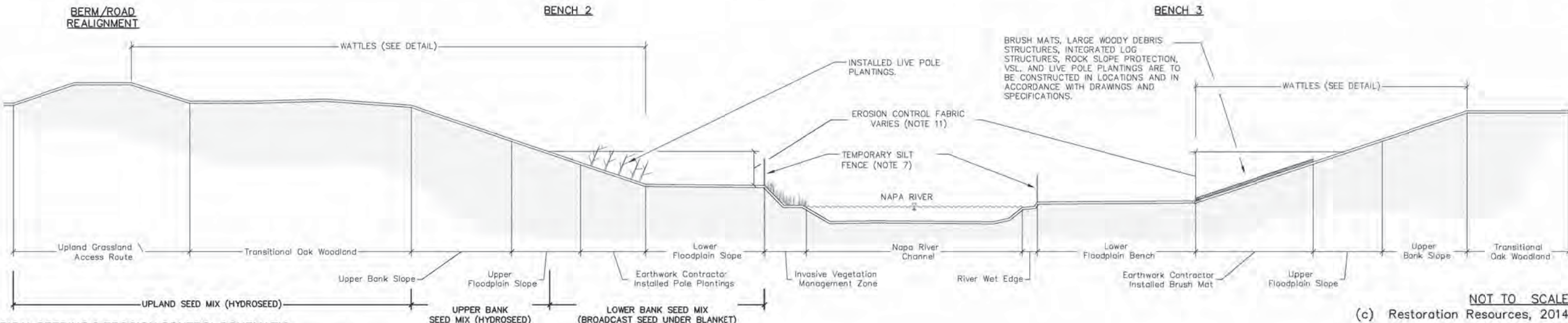


WATTLE DETAIL CONT. SECTION AND PLAN VIEW

NTS
05
L01

SHEET NOTES

- THIS SHEET SHOWS MINIMUM REQUIRED EROSION CONTROL MEASURES. INSTALL ADDITIONAL MEASURES AS NEEDED FOR SEDIMENT AND EROSION CONTROL AND SWPPP COMPLIANCE.
- THE SECTION SHOWS DESIGNATIONS OF SEEDING & EROSION CONTROL ZONES FOR GRADED AREAS. BROADCAST OR HYDROSEED ALL DISTURBED AREAS PER THE EROSION CONTROL SEEDING MIXES AND RATES TABLE SHOWN ON THIS SHEET. FOR MATERIALS AND METHODS REFER TO THE WRITTEN TECHNICAL SPECIFICATIONS.
- UPON COMPLETION OF THE WORK, RESTORE STAGING AREA(S) AND ACCESS ROUTES BY APPLYING THE EROSION CONTROL HYDROSEED MIX (PER TABLE), MYCORRHIZAL INOCULUM, FERTILIZER, GRASS STRAW, MULCH, AND TACKIFIER PER WRITTEN TECHNICAL SPECIFICATIONS.
- SEE SEED MIX TABLE FOR SPECIES, QUANTITIES AND APPLICATION METHOD BY SEEDING ZONE.
- FOR ALL SEEDED AREAS APPLY SEED AT RATES SHOWN PER ZONE WITH MYCORRHIZAL INOCULUM, FERTILIZER, COMMERCIALY AVAILABLE WEED-FREE STRAW/FIBER MULCH, AND ORGANIC TACKIFIER 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.
- INSTALL BIODEGRADABLE EROSION CONTROL FABRIC OVER BROADCAST SEEDED AREA AT LOCATIONS / ELEVATIONS SPECIFIED. SECURE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS, AND THE SPECS (USE MOST STRINGENT REQUIREMENTS).
- INSTALL AND MAINTAIN SILT FENCE ALONG THE TOP OF THE ACTIVE CHANNEL BANK DURING BENCH GRADING. SILT FENCE LOCATIONS SHALL BE VERIFIED BY COUNTY REPRESENTATIVE. REMOVE BY OCTOBER 15TH WITH APPROVAL OF COUNTY REPRESENTATIVE.
- INSTALL IRRIGATION MAINLINES WHERE SHOWN ON SHEETS L02 - L05. IRRIGATION MAINLINES SHALL BE LOCATED AT LEAST 3- FEET FROM DRIVABLE PORTION OF TOP OF BANK AND 10' FROM BANK EDGE. 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 IN 6" LIFTS AND COMPACT TO 90% RELATIVE DENSITY. IRRIGATION SLEEVES SHALL BE INSTALLED AT A MIN. DEPTH OF 18" UNDER ALL VEHICLE ACCESS CROSSINGS, 12" UNDER THE FOLEY JOHNSON SWALE WHERE VEHICLE CROSSING OCCUR, AND 24" UNDER ALL SECONDARY CHANNEL CROSSINGS. SEE PLANS AND DETAILS FOR ADDITIONAL NOTES ON SLEEVE REQUIREMENTS.
- POINTS OF CONNECTION (POC) LOCATIONS WILL BE CONFIRMED BY OWNERS.
- DISTURBED AREAS WILL BE PLANTED UNDER SEPARATE REVEGETATION CONTRACT. IN THE EVENT THAT CONTRACT SCHEDULES OVERLAP, THE CIVIL CONTRACTOR COOPERATE AND COORDINATE WITH REVEGETATION CONTRACTOR TO ENSURE A SEAMLESS TRANSITION.
- 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.
- ALL EROSION CONTROL WORK AND SEEDING SHALL BE COMPLETED BY OCTOBER 15TH.



TYPICAL SEEDING & EROSION CONTROL SCHEMATIC

BENCH 2 & 3 SECTION (NOTE 2)

NTS

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PROJECT
EROSION CONTROL PLAN & IRRIGATION DETAILS
NAPA RIVER RESTORATION RUTHERFORD PHASE 5&6

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



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L.PIPER
DRAWN L.PIPER
INCHARGE R. SWIFT
PRESIDENT
SCALE AS NOTED
DATE MARCH 2014
SHEET
L01
27 OF 31