MORRO BAY
NATIONAL ESTUARY PROGRAM

April 12, 2019

RE: **Chorro Creek Ecological Reserve Floodplain Restoration Project, Addendum No.1**

This Addendum shall be considered part of the bid documents for the above-mentioned project. In the case of any conflicting information, the provisions of this addendum supersede the original bid documents and any prior addenda. Bidders must acknowledge the addendum with the bid submittal.

ADDENDUM NUMBER 1

A. Bid Documents and Specifications Updates

The following changes have been made:

1. Article 6.03 Contractors Insurance- The General Conditions of the Construction Contract (Section 00 72 15) has been updated to include further information on insurance and liability (6.03 K). The following information has been added after 6.03 J.

K. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not le than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation:

State:	Statutory
Federal, if applicable (e.g., Longshoreman's):	Statutory
Employer's Liability:	
Bodily injury, each accident	$ 1,000,000
Bodily injury by disease, each employee	$ 1,000,000
Bodily injury/disease aggregate	$ 1,000,000

2. Contractor's Commercial General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions:

General Aggregate	$ 2,000,000
Products - Completed Operations Aggregate	$ 2,000,000
Personal and Advertising Injury	$ 2,000,000
Each Occurrence (Bodily Injury and Property Damage)	$ 1,000,000

3. Automobile Liability under Paragraph 6.03.D. of the General Conditions:

Bodily Injury:

Each person	$ 1,000,000
Each accident	$ 1,000,000

Property Damage:

Each accident	$ 1,000,000

4. Excess or Umbrella Liability:

General Aggregate	$ 2,000,000

5. Contractor's Pollution Liability:

Each Occurrence	$
General Aggregate	$

☒ If box is checked, Contractor is not required to provide Contractor's Pollution Liability insurance under this Contract

6. Additional Insureds: In addition to Owner and Engineer, include as additional insureds the following entities and their officers, directors, and employees: Morro Bay National Estuary Program, The Bay Foundation of Morro Bay.

2. Sheets EC-1 and EC-2 have been amended as follows and shown on the attached drawings:

a. Sheet EC-1: Lines shown in red indicate fiber roll that has been removed from the project. In general, this corresponds to fiber roll shown:
   i. at the top of bank on the north side of the channel
   ii. at the edge of the active channel
b. Sheet EC-1: Notes and detail modified to indicate fiber roll at top of slope to be installed as shown on EC-1.
c. Note, even if not shown explicitly on the drawings, slopes 3:1 or steeper will require installation of erosion control fabric.
d. Sheet EC-2: Notes and detail modified to indicate fiber roll at top of slope to be installed as shown on EC-1.

3. Sheet G-2 has been amended as follows:

a. Within the 'Contractor Coordination with Project Sponsor' table:
   Remove the text "Rehabilitate the existing well, install 2" valve point of connection for irrigation system" under contractor activity for irrigation.

4. Sheet C-4 has been amended as follows:

a. Remove Detail A – Access Road Crossing: Alternative A.

B. Responses to Questions:

1. Are there multiple options for channel de-watering?

Yes, there are two options for controlling water along Chorro Creek. These can be found under 3.03 Control of Water within the Excavation and Fill documentation (Section 31 23 00).

2. Is there a survey control point available at the project site?

Yes, the survey control point is shown on sheet G-2 of the design sheets.

3. Will CAD files of the design sheets be available to reference?

Yes, a sub-set of the CAD file design sheets have been posted to the website.

4. What are the insurance requirements for the project?

Insurance requirements have now been updated and included above.

6. Is pollution insurance required for the project?

No, pollution insurance is not required for the project.

7. What is the engineers estimated cost for the project?

The engineers estimate for the project is $850,000 to 900,000.

8. Can ungalvanized metal pins be substituted for the wooden ecostakes for the fastening of the netting?

No, ungalvanized metal pins cannot be substituted.

9. How much of the 8.9 acres will be drill seeded? Hydroseeded? Or hand seeded?

Drill seed shall be used at all feasible locations. Where the slope is too steep or floodplain is too narrow for equipment access, then those areas shall be hydroseeded. Areas that are inaccessible to drill seed or hydroseed equipment shall be seeded with broadcast seed.

10. Will the straw mulching be required on all seeded areas regardless of method used?

Straw mulching is only required on drill seed or broadcast seed areas. Hydroseed shall include mulch in the application.

11. Will straw mulch be installed below the netted surfaces?

Erosion control fabric (netted surfaces) are required on all slopes 3:1 or steeper. If these areas are drill seeded or broadcast seeded, then straw mulch will need to be installed below erosion control fabric. If these areas are hydroseeded, then straw mulch is not required.

12. Can 100% biodegradable straw fiber rolls be substituted for coir/straw fiber rolls specified?

Contractor may propose substituting a 100% biodegradable straw fiber roll that meets or exceeds the specification for NA Green SediMax-SWB9.

Thank you for your interest in this project. If you have any questions regarding this addendum, please contact Carolyn Geraghty (cgeraghty@mbnep.org, 805-772-3834 ext.12)

Sincerely,

Carolyn Geraghty, Restoration Projects Manager Morro Bay National Estuary Program

DEFINITIONS

PROJECT SPONSOR: MORRO BAY NATIONAL ESTUARY PROGRAM (MBNEP)
CONTACT: CAROLYN DOEHRING, (805) 772-3834

PROPERTY OWNER: CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW)
CONTACT: BOB STAFFORD

RESTORATION ENGINEER: ENVIRONMENTAL SCIENCE ASSOCIATES (ESA) –
CONTACT: SCOTT STOLLER, P.E., (415) 262-2337

OWNER'S REPRESENTATIVE: THE DESIGNATED CONSTRUCTION MANAGER AND PRIMARY CONTACT FOR THE CONTRACTOR (TO BE IDENTIFIED AT THE TIME OF CONSTRUCTION). THE OWNER'S REPRESENTATIVE WILL COORDINATE AS NEEDED WITH THE PROJECT SPONSOR, PROPERTY OWNER, AND RESTORATION ENGINEER.

GENERAL

1. THESE NOTES HIGHLIGHT KEY REQUIREMENTS OF THE SPECIFICATIONS AND PROVIDE ADDITIONAL PROJECT INFORMATION. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS CONTAINED IN THE PLANS, TECHNICAL SPECIFICATION (SEPARATE DOCUMENT), AND OTHER CONTRACT DOCUMENTS, INCLUDING PERMITS.
2. THE CONSTRUCTION SPECIFICATIONS FOR THIS PROJECT ARE IN BOOK FORM AND, IN ADDITION TO THESE CONSTRUCTION DRAWINGS, ARE AN INTEGRAL PART OF THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR CONFORMANCE TO ALL REQUIREMENTS PRESCRIBED IN THESE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL HAVE READ AND FULLY UNDERSTAND THE SPECIFICATIONS BEFORE GIVING A BID PRICE AND EXECUTING THE CONTRACT TO CONDUCT THE WORK CONTAINED THEREIN.
3. LOCATION: THE PROJECT IS LOCATED IN THE CHORRO CREEK ECOLOGICAL RESERVE (CCER) WHICH IS OWNED AND MANAGED BY CDFW. COOPERATE WITH ALL ACTIVITIES CONDUCTED BY THE OWNER.
4. PROJECT GOAL: TO IMPROVE RIPARIAN FLOODPLAIN HABITAT AND REDUCE EROSION AND FINE SEDIMENT TRANSPORT IN CHORRO CREEK BY FORMALIZING SECONDARY CHANNELS AND CREATING A FUNCTIONAL FLOODPLAIN.
5. PROJECT SCOPE INCLUDES, BUT IS NOT LIMITED TO:
   A. EXCAVATE TWO SIDE CHANNELS ON THE SOUTH FLOODPLAIN OF CHORRO CREEK.
   B. GRADE AND REVEGETATE FLOODPLAINS TO ESTABLISH RIPARIAN HABITAT.
   C. IMPROVE AN AT-GRADE CREEK CROSSING.
   D. INSTALL EROSION CONTROL, TEMPORARY IRRIGATION, AND ANCILLARY WORK AS DESCRIBED ON THESE DRAWINGS AND TECHNICAL SPECIFICATIONS.
6. THE PROJECT IS A "BALANCED" EARTHWORK PROJECT. EXCAVATED MATERIAL SHALL BE PLACED AS SHOWN ON THE DRAWINGS. ANY EXCESS FILL GENERATED SHALL BE PLACED ONSITE AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
7. COMPLIANCE: THE CONTRACTOR IS RESPONSIBLE FOR BEING AWARE OF AND COMPLYING WITH ALL LAWS AND REGULATIONS AND PERMITS APPLICABLE TO PERFORMING THE WORK, INCLUDING THE REQUIREMENTS OF PERMITS OBTAINED BY PROJECT SPONSOR.
8. SAFETY: CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY AND SECURITY AT ALL TIMES THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL ASSESS RISK AND MAINTAIN SAFE OPERATIONS AT ALL TIMES.
9. THE SITE INCLUDES OVERHEAD POWER LINES, EXERCISE EXTREME CAUTION. PG&E WILL BE REMOVING JUNCTION POLE(S) AND POWER LINES IN CONJUNCTION WITH THE PROJECT. COORDINATE WORK ACTIVITIES TO ENSURE THAT THERE ARE NO CONFLICTS.
10. A SET OF SIGNED WORKING DRAWINGS AND A SET OF SPECIFICATIONS SHALL 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 PROJECT SPONSOR WHEN THE WORK TO BE DONE IS COMPLETED.
11. CONTRACTOR SHALL CONTACT THE OWNER'S REPRESENTATIVE TO ARRANGE A PRE-CONSTRUCTION MEETING FOR THE PURPOSE OF REVIEWING JOB REQUIREMENTS AND PROCEDURES.
12. CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF ANY PART OF WORK.
13. ALL MATERIAL SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
14. ANY REVISIONS OR ADDITIONAL WORK REQUIRED AS A RESULT OF FIELD CONDITIONS OR OTHER REQUIREMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. WORK PERFORMED BY THE CONTRACTOR WITHOUT WRITTEN AUTHORIZATION SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR WHO BEARS ALL COSTS. ALL REVISIONS SHALL BE IN WRITTEN CHANGE ORDER FORM AND APPROVED AND AUTHORIZED BY THE OWNER'S REPRESENTATIVE BEFORE BEGINNING WORK.

SITE ACCESS

15. SITE ACCESS WILL BE FROM LOCKED GATE AT GILARDI ROAD AND TOMASINI ROAD. THE PRIMARY ACCESS ROUTE IS SHOWN ON THE PLANS (SHEET G-3). THE CONTRACTOR SHALL COORDINATE ALL SITE ACCESS AND STAGING WITH THE OWNER.
16. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING FACILITIES, INFRASTRUCTURE, IMPROVEMENTS AND VEGETATION NOT PLANNED FOR DEMOLITION OR REMOVAL, AND SHALL REPLACE IN-KIND ANY DAMAGED FACILITIES OR VEGETATION AT ITS OWN EXPENSE AND TO THE OWNER'S SATISFACTION.
17. THE CONTRACTOR SHALL LOCATE ITS STAGING, STORAGE AND PROCESSING AREA(S) OUTSIDE THE LIMITS OF EARTHWORK AT LOCATION(S) SHOWN ON THE DRAWINGS AND/OR APPROVED BY THE OWNER'S REPRESENTATIVE.

UTILITIES

18. IDENTIFY, LOCATE, AND PROTECT ALL EXISTING UTILITIES WITHIN THE LIMITS OF WORK, INCLUDING ONSITE AND OFFSITE ACCESS ROUTES.
19. THE LOCATION OF EXISTING UTILITIES KNOWN TO THE OWNER ARE SHOWN IN THEIR APPROXIMATE LOCATION BASED ON INFORMATION AVAILABLE. THE ACTUAL LOCATION, SIZE, TYPE, AND NUMBER OF UTILITIES MAY DIFFER FROM THAT SHOWN, AND UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN.
20. PROTECT ALL EXISTING UTILITIES WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
21. CALL UNDERGROUND SERVICE ALERT FOR BURIED UTILITY INFORMATION AT LEAST 48 HOURS IN ADVANCE OF BEGINNING WORK.
22. COORDINATE POWER POLE RELOCATION WITH PG&E AND OWNER.

TOPOGRAPHIC DATA

23. ELEVATIONS ARE REFERENCED TO NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). HORIZONTAL CONTROL IS NORTH AMERICAN DATUM 1983 (NAD83, 2011), CALIFORNIA STATE PLANE COORDINATE SYSTEM, ZONE 5, US FEET.
24. ALL ELEVATIONS AND HORIZONTAL COORDINATES ARE IN FEET.
25. THE SURVEY CONTROL AVAILABLE IN THE PROJECT AREA IS SHOWN ON SHEET G-3. CONTROL POINT FV0393 (E 259 RESET 1965) IS A USGS BENCHMARK. NORTHING = 2,326,204.22; EASTING = 5,733,062.12; ELEVATION = 125.05.
26. VOLBRECHT SURVEYS, INC. CONDUCTED A SURVEY OF THE SITE ROADS, FENCES, UTILITIES, CROSSINGS, AND CHORRO CREEK MAIN STEM THALWEG IN JUNE 2005.
27. THE AERIAL PHOTO IS FROM UNITED STATES GEOLOGICAL SURVEY (USGS). ORTHO-RECTIFIED MOSAIC TILES WERE CAPTURED FROM JULY TO SEPTEMBER 2011.
28. EXISTING CONDITIONS TOPOGRAPHY BASED ON TWO BARE-EARTH LIDAR DATA SETS FROM THE PG&E DIABLO CANYON POWER PLANT (SAN SIMEON, CA 2013 AND LOS OSOS, CA 2011).
29. SPOT ELEVATIONS SHOWN ON THE DRAWINGS ARE BASED ON GROUND SURVEY CONDUCTED BY ESA IN JULY 2015. THESE ELEVATIONS POINTS HAVE NOT BEEN INCORPORATED INTO THE TOPOGRAPHIC SURFACE.
30. ELEVATION CONTOURS ARE APPROXIMATE AND PROVIDED FOR GENERAL REFERENCE ONLY. THE ACCURACY OF THE ELEVATION CONTOURS IS LIMITED BY DISTORTION DUE TO EXISTING VEGETATION AND THE PRESENCE OF WATER WITHIN THE MAIN CHANNEL AT THE TIME OF LIDAR SURVEY.
31. CONTRACTOR SHALL ESTIMATE QUANTITIES AND INCLUDE SUFFICIENT CONTINGENCY IN ITS BID TO COVER TOPOGRAPHIC AND BATHYMETRIC VARIABILITY.
32. CONTRACTOR MAY OPT, AT THEIR OWN EXPENSE, TO PERFORM PRE-CONSTRUCTION SURVEYS AND SITE INVESTIGATIONS AS DESCRIBED IN THE TECHNICAL SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT THE PRE-CONSTRUCTION SURVEY TO THE OWNER'S REPRESENTATIVE TO FORM THE BASIS OF EARTHWORK QUANTITIES.
33. SURVEY AND GRADE CONTROL: THE CONTRACTOR IS RESPONSIBLE FOR ALL SURVEY CONTROL AND LAYOUT NEEDED TO PERFORM THE WORK. THE CONTRACTOR'S SURVEYING METHODS SHALL BE IN ACCORDANCE WITH STANDARD SURVEY PRACTICES AND SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCING THE SURVEY.

ENVIRONMENTAL PROTECTION

34. REGULATORY PERMITS: THE CLIENT WILL OBTAIN PERMITS FROM RESOURCE AGENCIES FOR THIS PROJECT. COMPLY WITH ALL PERMIT REQUIREMENTS FOR PROTECTION OF WATER QUALITY, WILDLIFE, AND VEGETATION.
35. CONTRACTOR TO OBTAIN ALL OTHER PERMITS NOT PROVIDED BY OWNER.
36. FISH PROTECTION: THE PROJECT SITE SUPPORTS PROTECTED POPULATIONS OF STEELHEAD. THE CONTRACTOR SHALL PERFORM THE WORK IN A MANNER THAT IS PROTECTIVE OF THESE AND OTHER FISH SPECIES.
37. COMPLY WITH ALL SCHEDULE RESTRICTIONS INCLUDED IN PROJECT PERMITS FOR PROTECTION OF OTHER PROTECTED FISH AND WILDLIFE.
38. CONTRACTOR SHALL PREPARE AND IMPLEMENT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AS REQUIRED BY THE REGIONAL WATER RESOURCES CONTROL BOARD. INCORPORATE SEDIMENT CONTROL AND EROSION CONTROL BEST MANAGEMENT PRACTICES (BMPS) TO PREVENT EROSION, SEDIMENT, AND HAZARDOUS MATERIALS RUNOFF FROM THE CONSTRUCTION SITE.
39. ALL MATERIALS THAT COULD CAUSE WATER POLLUTION (I.E., MOTOR OIL, FUELS, PAINTS, ETC.) SHALL BE STORED IN A CONTAINED AREA 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.

WATER MANAGEMENT

40. SITE ACCESS REQUIRES MOBILIZATION OF EQUIPMENT THROUGH THE EXISTING AT-GRADE CREEK CROSSING. CONTRACTOR SHALL PROVIDE DRY PASSAGE FOR VEHICLES: EITHER THROUGH DEWATERING OR INSTALLATION OF A TEMPORARY CROSSING ABOVE THE WATER SURFACE. ACCESS WITH CONVENTIONAL EQUIPMENT INCLUDING WHEELED SCRAPERS MAY BE DIFFICULT OR NOT POSSIBLE. CONTRACTOR TO UTILIZE EQUIPMENT APPROPRIATE FOR PASSAGE OVER THE EXISTING CROSSING.
41. THE CONTRACTOR IS RESPONSIBLE FOR ALL WATER MANAGEMENT THROUGHOUT CONSTRUCTION, INCLUDING DEWATERING AND DRAINAGE. KEEP THE SITE REASONABLY DEWATERED TO PERFORM AND CONTROL THE WORK.
42. CONSTRUCTION REQUIRES WORK IN THE ACTIVE CHANNEL; THE PROJECT MAY REQUIRE DEWATERING AND FLOW DIVERSION. COMPLY WITH PERMIT REQUIREMENTS FOR WILDLIFE AND WATER QUALITY PROTECTION (SEE SPECS).
43. TREAT AND DISPOSE OF REMOVED WATER IN COMPLIANCE WITH ALL PERMITS. AT A MINIMUM, TREAT ALL REMOVED WATER AS NEEDED TO REMOVE SUSPENDED SEDIMENT PRIOR TO DISCHARGE AWAY FROM THE CREEK CHANNEL.

EARTHWORK

44. CONTRACTOR IS RESPONSIBLE FOR ESTIMATED ALL EARTHWORK QUANTITIES. APPROXIMATE EARTHWORK QUANTITIES ARE PROVIDED FOR CONTRACTOR'S REFERENCE ONLY.
45. WHEN ESTIMATED EARTHWORK QUANTITIES, THE CONTRACTOR SHALL ACCOUNT FOR VARIATIONS BETWEEN CUT AND FILL VOLUMES DUE TO ALL FACTORS INCLUDING, BUT NOT LIMITED TO, SHRINKAGE, BULKING, TOPOGRAPHIC UNCERTAINTIES, AND COMPACTION.
46. GRADE ALL DISTURBED AREAS TO CREATE SMOOTH SURFACES AND TO DRAIN TO THE NEW AND/OR EXISTING CHANNEL.
47. SEE DRAWINGS AND SPECIFICATIONS FOR COMPACTION REQUIREMENTS AND VERTICAL TOLERANCES.
48. CONTRACTOR SHALL SALVAGE NATIVE MATERIAL FROM 6 TO 12 INCHES BELOW GRADE FOR USE AS TOPSOIL. SEGREGATE AND STOCKPILE TOPSOIL SEPARATELY FOR REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE FOR REUSING AS PLANTING TOPSOIL.
49. OVER-EXCAVATE CUT AREAS OF FLOODPLAIN BY 0.5 FEET TO ALLOW PLACEMENT OF TOPSOIL.
50. 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 TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
51. DIMENSIONS: DIMENSIONS CAN BE SCALED FROM THESE PLANS. THE CONTRACTOR SHALL CONFIRM DIMENSIONS OF ALL GRADING ACTIVITIES WITH THE RESTORATION ENGINEER BEFORE WORK COMMENCEMENT. IF DIMENSIONING IS UNCLEAR OR INSUFFICIENT CONTACT THE RESTORATION ENGINEER FOR CLARIFICATION.

EROSION CONTROL AND SEEDING

52. FOLLOWING GRADING, ALL DISTURBED AREAS SHALL BE SEEDED AND STABILIZED AS SHOWN ON THE EROSION CONTROL PLANS.
53. ALL AREAS OF SOIL PREPARATION AND PLANTING ARE SUBJECT TO IN-FIELD DESIGN VERIFICATION AND ADJUSTMENTS AS DIRECTED BY THE OWNER.
54. CONTRACTOR SHALL ENSURE WATER SOURCE IS FUNCTIONING AND PROVIDE A 2" VALVE AS POINT OF CONNECTION FOR TEMPORARY IRRIGATION SYSTEM.
55. PROJECT SPONSOR AND REVEGETATION CONTRACTOR WILL PARTICIPATE IN INSTALLATION OF SELECT PROJECT FEATURES SHOWN IN THE DRAWINGS. THE TABLE BELOW PROVIDES A DETAILED BREAKDOWN OF THE CONTRIBUTIONS AND RESPONSIBILITIES OF THE CONTRACTOR, THE PROJECT SPONSOR, AND THE REVEGETATION CONTRACTOR FOR THESE PROJECT FEATURES.
56. THE CONTRACTOR SHALL COORDINATE ACTIVITIES WITH THE PROJECT SPONSOR AND THE REVEGETATION CONTRACTOR REGARDING TIMING AND PERSONNEL.
57. SHEETS L-1 THROUGH L-5 ARE NOT IN CONTRACT, BUT ARE PROVIDED AS REFERENCE. WORK DEPICTED ON SHEETS L-1 THROUGH L-5 ARE THE RESPONSIBILITY OF THE REVEGETATION CONTRACTOR.

ABBREVIATIONS

APPROX	– APPROXIMATE	MAX	– MAXIMUM
℄	– CENTERLINE	MIN	– MINIMUM
DEMO	– DEMOLISH/DEMOLITION	(N)	– NEW
DBH	– DIAMETER AT BREAST HEIGHT	NIC	– NOT IN CONTRACT
DIA	– DIAMETER	OC	– ON CENTER
(E)	– EXISTING	P.I.P.	– PROTECT IN PLACE
EL.	– ELEVATION	STA	– STATION
EQ	– EQUAL	TBD	– TO BE DETERMINED
FT	– FEET, FOOT	TYP.	– TYPICAL
GB	– GRADE BREAK	VAR	– VARIES
HORIZ.	– HORIZONTAL	VERT.	– VERTICAL
INV	– INVERT	V.I.F.	– VERIFY IN FIELD
LWS	– LARGE WOOD STRUCTURE(S)	3:1	– SLOPE, HORIZONTAL: VERTICAL

CONTRACTOR COORDINATION WITH PROJECT SPONSOR

ITEM/ ACTION	CONTRACTOR ACTIVITY	PROJECT SPONSOR ACTIVITY (MBNEP AND REVEGETATION CONTRACTOR)
SITE PREPARATION	CLEARING, GRUBBING, TREE SALVAGE AND REMOVAL, CONCRETE REMOVAL AND OFFHAUL	DEMOLISH EXISTING FENCE
TEMPORARY CROSSING	GRADE CROSSING APPROACHES, ADD STONE AND AGGREGATE BASE, CONSTRUCT WATER DIVERSION AND TEMPORARY DRY CROSSING.	N/A
LOG STRUCTURES	TRENCH, PLACE LOGS AND BALLAST, BACKFILL.	PROCURE, ASSEMBLE, AND INSTALL LIVE POLES AND BRANCH BUNDLES.
EROSION CONTROL	AS NEEDED FOR SWPPP COMPLIANCE, DURING CONSTRUCTION. AFTER CONSTRUCTION: DRILL SEEDING, EROSION CONTROL FABRIC AND COIR LOG INSTALLATION.	N/A
WILLOW BAFFLE	PROCURE QUARRY MATERIALS. PROVIDE EQUIPMENT AND OPERATOR FOR TRENCH WORK AND TO PLACE ROCK/SOIL MIX.	PROCURE AND INSTALL LIVE POLES. PROVIDE HAND LABOR TO ASSIST IN TRENCH BACKFILL.
BRUSH MAT	PROCURE QUARRY MATERIALS. PROVIDE EQUIPMENT AND OPERATOR FOR TRENCH WORK.	PROCURE LIVE WILLOW STEMS. INSTALL WILLOW STEMS, COIR FABRIC, AND ROPE AND STAKE TIE-DOWN.
PLANTED COBBLE TRANSITION	PROCURE AND INSTALL QUARRY MATERIALS AND PLANTING TUBES	PROCURE AND INSTALL PLANT MATERIAL.
REVEGETATION	N/A	PROCURE AND INSTALL CONTAINER PLANTS AND WILLOW CUTTINGS. PLANT MAINTENANCE RESPONSIBILITY FOR 3 YEARS. INSTALL AND MAINTAIN PLANT PROTECTION CAGES.
IRRIGATION	[illegible] 2" VALVE [illegible] FOR [illegible] SYSTEM.	INSTALL AND MAINTAIN TEMPORARY IRRIGATION SYSTEM.

LEGEND

- PROPERTY BOUNDARY
- PROJECT LIMIT
- GRADING LIMIT
- CONSTRUCTION ACCESS ROUTE
- (E) GRADE (PROFILE & SECTION)
- DESIGN GRADE (PROFILE & SECTION)
- (N) CHANNEL ALIGNMENT
- (E) CHANNEL ALIGNMENT
- TOP OF SLOPE
- TOE OF SLOPE
- 5 (E) MAJOR CONTOUR LINE
- 4 (E) MINOR CONTOUR LINE
- 5 (N) MAJOR CONTOUR LINE
- 4 (N) MINOR CONTOUR LINE
- E (E) OVERHEAD POWER LINE(S)
- T (E) BURIED TELECOM LINE(S)
- X (E) FENCE
- X DEMO FENCE
- COIR FABRIC ROLL

1 / C-3 – INDICATES SECTION OR DETAIL NUMBER; SHEET NUMBER ON WHICH SECTION OR DETAIL APPEARS

- (E) POWER POLE
- ×5.23 SURVEYED SPOT ELEVATION (FT NAVD88)
- SURVEY BENCHMARK
- GRADING CONTROL POINT
- FLOW FLOW DIRECTION
- FLOODPLAIN/RIPARIAN SEED MIX
- UPLAND SEED MIX
- PLANTED COBBLE TRANSITION
- BRUSH MAT
- CLASS 2 AGGREGATE BASE
- WILLOW BAFFLE
- HABITAT LARGE WOOD STRUCTURE
- LOW PROFILE LARGE WOOD STRUCTURE

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

PREPARED BY: ESA
550 Kearny Street
Suite 800
San Francisco, CA 94108
415.262.2300 phone

SHEET TITLE: LEGEND, ABBREVIATIONS, AND NOTES

PROJECT: CHORRO CREEK ECOLOGICAL RESERVE FLOODPLAIN RESTORATION

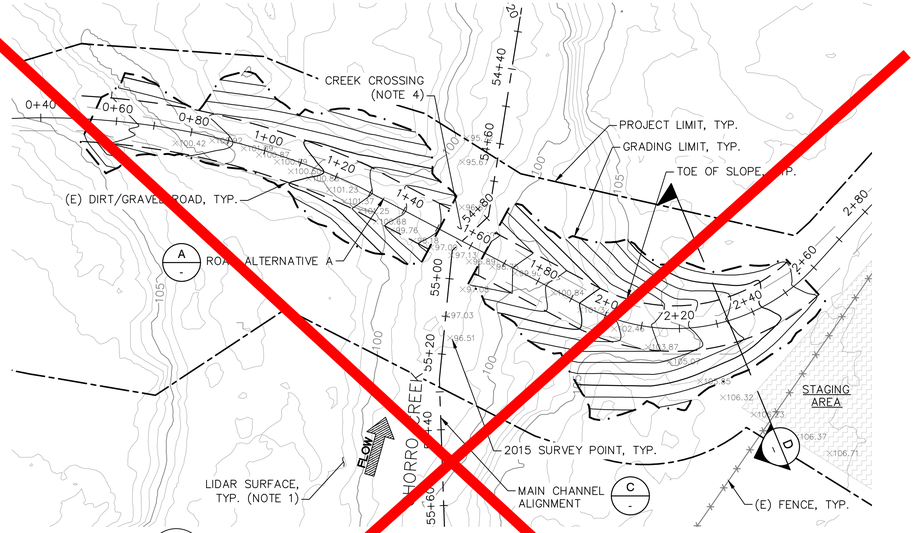
PREPARED FOR: MORRO BAY NATIONAL ESTUARY PROGRAM
601 EMBARCADERO #11
MORRO BAY, CA

MORRO BAY NATIONAL ESTUARY PROGRAM

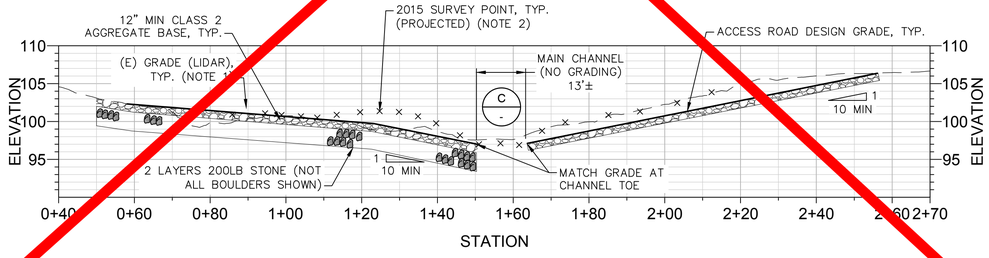
REGISTERED PROFESSIONAL ENGINEER SCOTT L. STOLLER C 71728 CIVIL STATE OF CALIFORNIA

APPROVED	
DESIGNED	ESA
DRAWN	M.LANDICHO
INCHARGE	S. STOLLER C71728
SCALE	AS NOTED
DATE	4/20/2017
SHEET	G-2

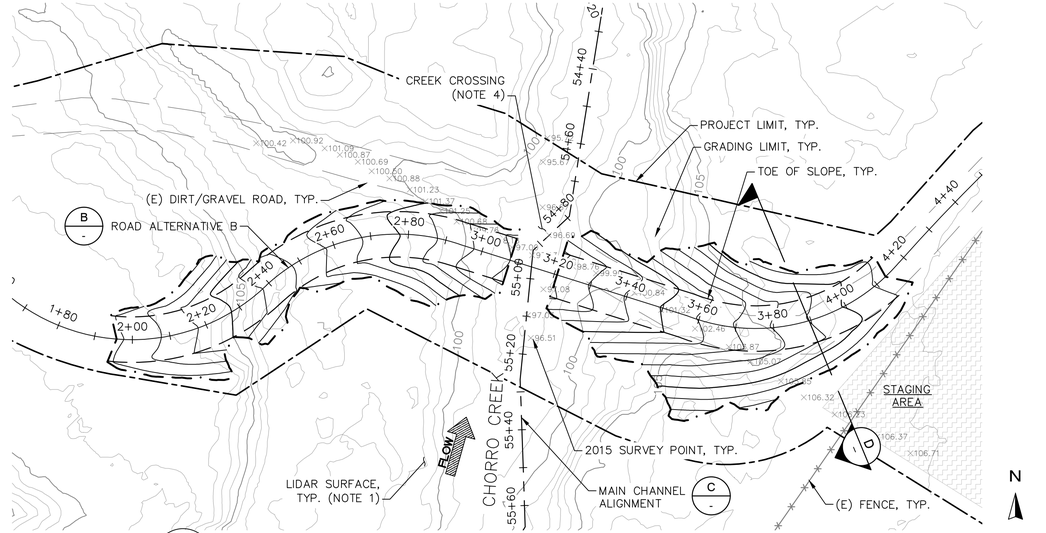
2 OF 22



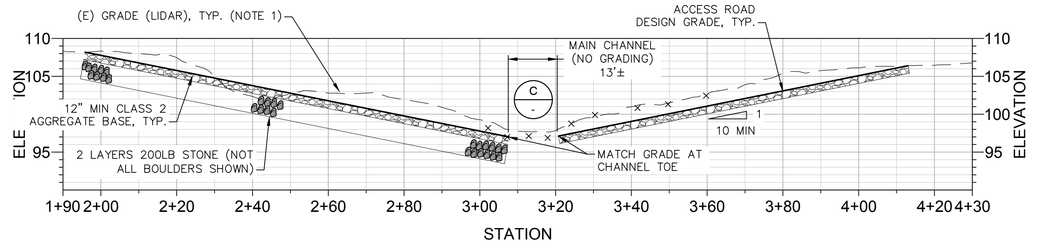
1 - ACCESS ROAD CROSSING GRADING PLAN - ALTERNATIVE A
PLAN VIEW
SCALE: 1"=20'



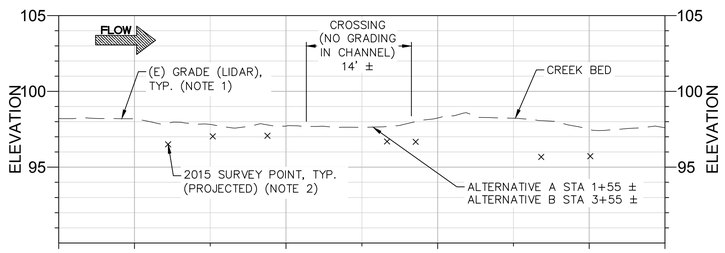
A - ACCESS ROAD CROSSING - ALTERNATIVE A
PROFILE VIEW
SCALE: HORIZ. 1"=20' VERT. 1"=10'



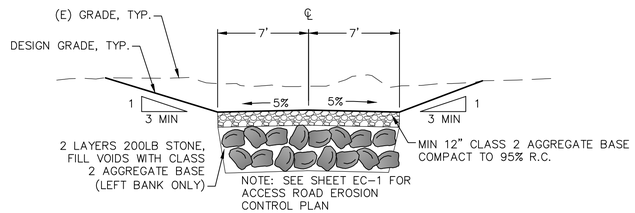
2 - ACCESS ROAD CROSSING GRADING PLAN - ALTERNATIVE B
PLAN VIEW
SCALE: 1"=20'



B - ACCESS ROAD CROSSING - ALTERNATIVE B
PROFILE VIEW
SCALE: HORIZ. 1"=20' VERT. 1"=10'



C - MAIN CHANNEL THALWEG
PROFILE VIEW
SCALE: HORIZ. 1"=10' VERT. 1"=5'



D - ACCESS ROAD
TYPICAL SECTION
SCALE: 1"=5'

SHEET NOTES

1. EXISTING GRADE SURFACE IS BASED ON LIDAR (PG&E 2011–2013) AND REFLECTS THE WATER SURFACE ELEVATION WITHIN THE MAIN CHANNEL. REFER TO 2015 SURVEY SPOT ELEVATIONS FOR DATA WITHIN THE MAIN CHANNEL.
2. TOPOGRAPHIC POINTS SHOWN WERE GROUND SURVEYED BY ESA IN JULY 2015.
3. SEE SHEET G–5 FOR LAYOUT CONTROL.
4. CONSTRUCTION ACCESS ROAD CROSSES THE CREEK CHANNEL. CONTRACTOR SHALL ANTICIPATE BASEFLOW (APPROXIMATE FLOW AND WATER DEPTH: 1 CFS, 0.5 FT DEPTH) CONDITIONS AND PROVIDE DRY CROSSING FOR VEHICLES AND EQUIPMENT THROUGHOUT CONSTRUCTION PERIOD. DRY CROSSING MUST BE REMOVED PRIOR TO OCTOBER 1. WET CROSSING MAY ONLY BE USED DURING MAINTENANCE PERIOD.
5. THIS SHEET PRESENTS TWO ALTERNATIVES FOR CONSTRUCTION ACCESS CROSSING THE CHANNEL. THE PREFERRED CROSSING ALTERNATIVE WILL BE SELECTED BY OWNER'S REPRESENTATIVE WITH CONTRACTOR INPUT AT THE PRE–CONSTRUCTION MEETING.
6. CONTRACTOR SHALL REPAIR ROAD TO DESIGN CONDITION AT CONCLUSION OF THE PROJECT.

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

PREPARED BY:
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550 Kearny Street
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SHEET TITLE: GRADING PLAN AND PROFILE - ROAD CROSSING

PROJECT: CHORRO CREEK ECOLOGICAL RESERVE FLOODPLAIN RESTORATION

PREPARED FOR:
MORRO BAY NATIONAL ESTUARY PROGRAM
601 EMBARCADERO #11
MORRO BAY, CA

MORRO BAY NATIONAL ESTUARY PROGRAM

REGISTERED PROFESSIONAL ENGINEER SCOTT L. STOLLER C 71728 CIVIL STATE OF CALIFORNIA

APPROVED	
DESIGNED	ESA
DRAWN	M.LANDICHO
INCHARGE	S. STOLLER C71728
SCALE	AS NOTED
DATE	4/20/2017
SHEET	C-4
	9 OF 22

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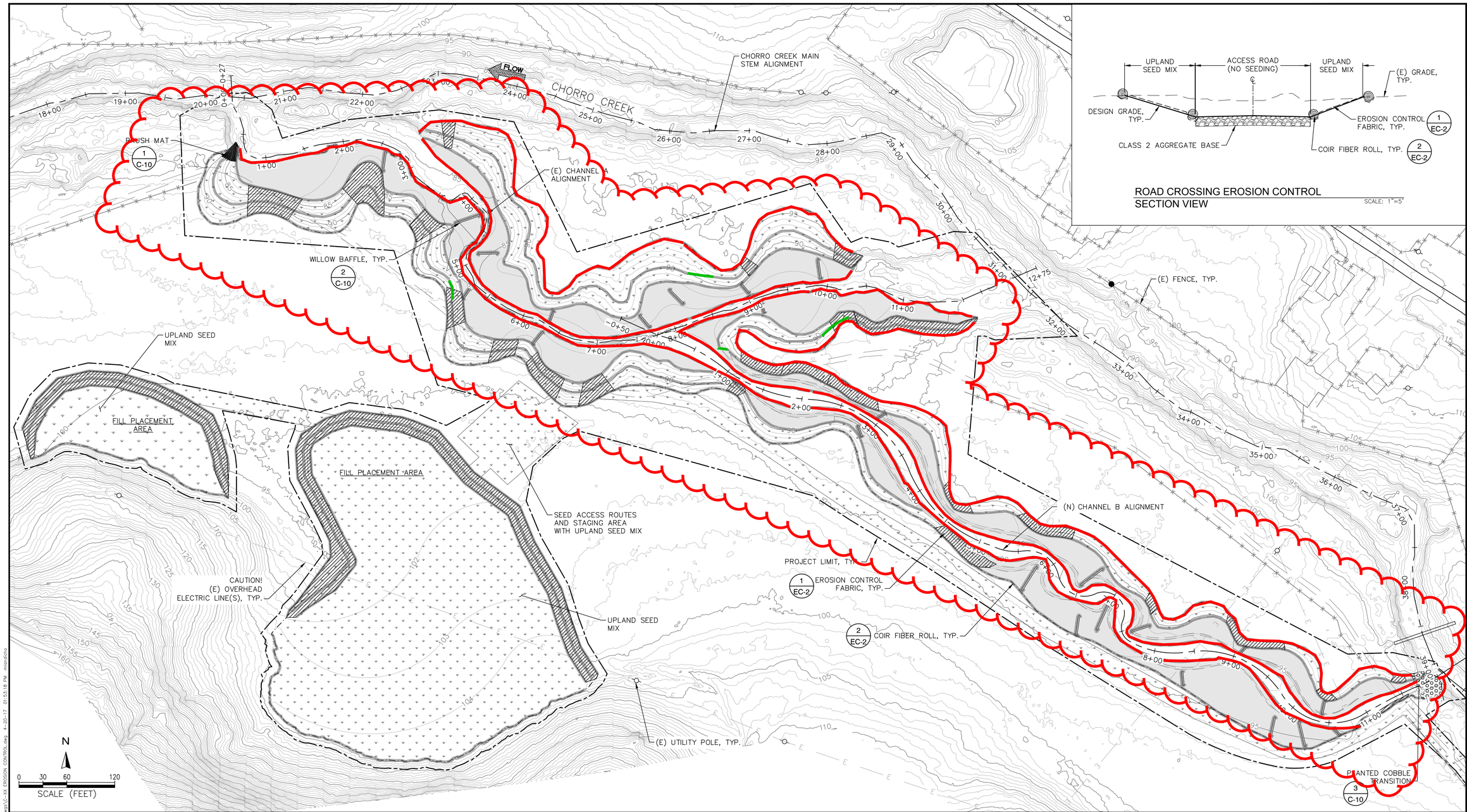

ROAD CROSSING EROSION CONTROL
SECTION VIEW

SCALE: 1"=5'

EROSION CONTROL PLAN
PLAN VIEW

SCALE: 1"=60'

SHEET NOTES

1. THIS SHEET CONTAINS MINIMUM EROSION CONTROL MEASURES. INSTALL ADDITIONAL MEASURES AS NEEDED FOR SEDIMENT AND EROSION CONTROL.
2. THE PLAN AND ROAD CROSSING SECTION SHOWS DESIGNATIONS OF SEEDING AND EROSION CONTROL ZONES FOR GRADED AREAS. DRILL SEED ALL DISTURBED AREAS PER THE EROSION CONTROL SEEDING MIXES AND RATES TABLE SHOWN ON SHEET EC-2. FOR MATERIALS AND METHODS REFER TO THE WRITTEN TECHNICAL SPECIFICATIONS.
3. INSTALL BIODEGRADABLE EROSION CONTROL FABRIC OVER DRILL-SEEDED AREA ALONG ALL SLOPES AT OR STEEPER THAN 3:1.
4. INSTALL FIBER ROLLS AT THE TOP AND TOE OF GRADED SLOPES, AS WELL AS MID-SLOPE, PER DETAIL SHOWN ON EC-2.
5. LIMITS OF GRADING SLOPES VARY. PRIOR TO SEEDING AN INSTALLATION OF EROSION CONTROL FABRIC, CONTRACTOR SHALL STAKE LIMIT OF FLOODPLAIN BENCHES AND SLOPES AND VERIFY WITH OWNER'S REPRESENTATIVE.
6. ALL EROSION CONTROL WORK AND SEEDING SHALL BE COMPLETED BY OCTOBER 15TH.

4. INSTALL FIBER ROLLS AT THE TOP AND TOE OF GRADED SLOPES AS WELL AS MID-SLOPE AS SHOWN ON THIS SHEET, AND PER DETAIL SHOWN ON SHEET EC-2.

LEGEND

- UPLAND SEED MIX (6.7 ACRE)
- RIPARIAN SEED MIX (2.2 ACRE)
- EROSION CONTROL FABRIC OVER UPLAND SEED MIX
- COIR FIBER ROLL
- WILLOW BAFFLE

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

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SHEET TITLE
EROSION CONTROL PLAN

PROJECT
CHORRO CREEK ECOLOGICAL RESERVE
FLOODPLAIN RESTORATION

PREPARED FOR:
MORRO BAY NATIONAL ESTUARY PROGRAM
601 EMBARCADERO #11
MORRO BAY, CA

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SCALE	AS NOTED
DATE	4/20/2017
SHEET	EC-1
	16 OF 22

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EROSION CONTROL NOTES

1. THIS SHEET CONTAINS MINIMUM EROSION CONTROL MEASURES. INSTALL ADDITIONAL MEASURES AS NEEDED FOR SEDIMENT AND EROSION CONTROL.
2. INSTALL EROSION CONTROL FABRIC ON ALL SIDE SLOPES AT OR STEEPER THAN 3:1.
3. FIBER ROLLS SHALL BE PLACED AT TOP AND TOE OF GRADED SLOPES, AS WELL AS MID-SLOPE AS SHOWN ON SHEET L-1.
4. SEEDING AND EROSION CONTROL FABRIC SHALL BE INSTALLED IN AREAS AS SHOWN ON SHEET EC-1.
5. ALL EROSION CONTROL WORK AND SEEDING SHALL BE COMPLETED BY OCTOBER 15TH.

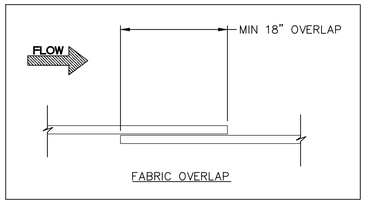
3. INSTALL FIBER ROLLS AT THE TOP AND TOE OF GRADED SLOPES AS WELL AS MID-SLOPE AS SHOWN ON SHEET EC-1, AND PER DETAIL 1, THIS SHEET.

RIPARIAN SEED MIX

SYMBOL	BOTANICAL NAME	COMMON NAME	GROWTH FORM	POUNDS OF PURE LIVE SEED (PLS)/ACRE
RIPARIAN SEED MIX (2.2 ACRE)				
	Artemesia douglasiana	MUGWORT	PERENNIAL SHRUB	4
	Baccharis salicifolia	MULEFAT	PERENNIAL SHRUB	3
	Elymus glaucus	BLUE WILD RYE	PERENNIAL GRASS	8
	Elymus triticoides	CREEPING WILD RYE	PERENNIAL GRASS	6
	Festuca microstachys	SMALL FESCUE	PERENNIAL GRASS	6
	Hordeum brachyantherum	MEADOW BARLEY	PERENNIAL GRASS	4
	Hordeum depressum	LOW BARLEY	PERENNIAL GRASS	5
	Stipa pulchra	PURPLE NEEDLEGRASS	PERENNIAL GRASS	2
SUBTOTAL				**38**

UPLAND SEED MIX

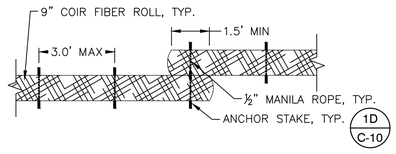
SYMBOL	BOTANICAL NAME	COMMON NAME	GROWTH FORM	POUNDS OF PURE LIVE SEED (PLS)/ACRE
UPLAND SEED MIX (6.7 ACRE)				
	Bromus carinatus	CALIFORNIA BROME	PERENNIAL GRASS	12
	Elymus glaucus	BLUE WILD RYE	PERENNIAL GRASS	8
	Eschscholzia californica	CALIFORNIA POPPY	ANNUAL/ PERENNIAL FORB	2
	Lupinius succulentus	ARROYO LUPINE	ANNUAL LEGUME	6
	Stipa pulchra	PURPLE NEEDLEGRASS	PERENNIAL GRASS	4
	Vulpia microstachys	THREE WEEKS FESCUE	ANNUAL GRASS	8
SUBTOTAL				**40**



EROSION CONTROL FABRIC NOTES

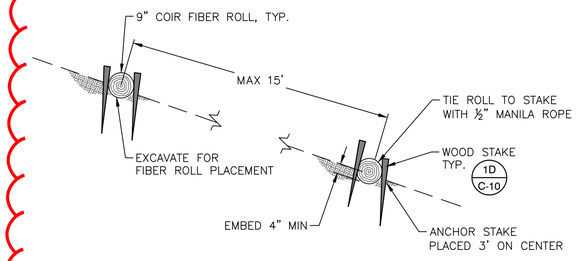
1. SLOPE SURFACE SHALL BE SMOOTH BEFORE PLACEMENT FOR PROPER SOIL CONTACT.
2. DRILL SEED SLOPE BEFORE INSTALLATION OF EROSION CONTROL FABRIC.
3. DO NOT STRETCH FABRIC TIGHT.

1 / EC-1 EROSION CONTROL FABRIC TYPICAL DETAIL NTS



2 / EC-1 COIR FIBER ROLLS PLAN VIEW SCALE: 1"=3"

100% STRAW FIBER ROLL, MEETING THE SPECIFICATION FOR NA GREEN SediMax-SWB9, MAY BE SUBSTITUTED FOR COIR FIBER ROLL.



B / EC-1 COIR FIBER ROLLS SECTION VIEW SCALE: 1"=3"

0 1.5 3 6
SCALE (FEET)

VERIFY SCALE
0 1"
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PREPARED BY:
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SHEET TITLE: EROSION CONTROL DETAILS

PROJECT: CHORRO CREEK ECOLOGICAL RESERVE FLOODPLAIN RESTORATION

PREPARED FOR: MORRO BAY NATIONAL ESTUARY PROGRAM 601 EMBARCADERO #11 MORRO BAY, CA

MORRO BAY NATIONAL ESTUARY PROGRAM

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	17 OF 22