Friday, October 18, 2019

California Fish Passage Forum

Project Name	Watkins Crossing Fish Passage Improvement Project
Contact Name	Justin Hopkins
Lead Organization	Stockton East Water District
Contact Email	jhopkins@sewd.net
Phone Number	(209) 444-3150
Date	Friday, October 18, 2019

PROJECT INFORMATION

1. Location of Project

38.0402N, 121.0281W

2. Attach a map of your project

pdf Location Map.pdf

3. Describe your project and include the deliverables and outcomes you seek to achieve. Please clearly describe which portion of the project Forum funding would be applied to, and the specific deliverables and outcomes expected to result from this funding.

The proposed project will design an improved low water crossing to provided sufficient water depth and flow velocity to foster the passage of fish. The existing water crossing will be removed and the new crossing constructed. Construction will occur during the summer and seasonal irrigation water flows will be bypassed around the construction site. Upon completion, the project will deliver improved fish passage for adult and juvenile fish at the crossing.

4. List all partner organizations.

United States Fish and Wildlife Service
California Department of Water Resources

5. Does the barrier(s) being addressed through this project have a Passage Assessment Database (PAD) database identification number(s)?

NO

6. Describe the barrier(s) under "average" conditions, if it is a complete, temporal, or partial barrier, how often passage is provided for both adult and juvenile anadromous fish, and if the information is available (e.g., meets fish passage criteria for adults 45% of the time and 0% of the time for juveniles). Please specify which species you are referring to when describing barrier status.

According to the California Department of Fish and Game (DFG) exceedance flow criteria, adult Chinook should have unimpaired passage between 15 and 1590 cfs. However, adult Chinook have unimpaired passage at Watkins only at 380 cfs and greater. From Table 5-33 of the Calaveras River Fish Migration Barriers Assessment Report (Report), it is apparent that Watkins is a temporal barrier to adult Chinook passage. Adult Chinook have unimpaired passage at this structure about 5% of the time during their migration period. In the 20 adult Chinook migration seasons that were analyzed for structures on Mormon Slough upstream of MSRR Bridge, flows reached or exceeded 380 cfs only during 10 of the migration seasons.

According to the DFG exceedance flow criteria, adult O. mykiss should have unimpaired passage between 19 and 5460 cfs. However, adult O. mykiss have unimpaired passage at Watkins only when flow is 380 cfs and higher. From Table 5-34 of the Report, it is apparent that Watkins is a temporal barrier to adult O. mykiss passage. Adult O. mykiss have unimpaired passage about 16% of the time during their migration period. In the 21 adult O. mykiss migration seasons that were analyzed for structures on Mormon Slough upstream of MSRR Bridge, flows reached or exceeded 380 cfs during 20 of the migration seasons.

The passage flow range for juveniles is between 1 and 1,248 cfs. Juvenile salmonids have unimpaired passage at Watkins only at 120 cfs and above. It is apparent from the Table 5-35 of the Report that Watkins is a temporal barrier to juvenile salmonid passage. Juveniles have unimpaired passage past the structure about 27% of the time during their migration period. In the 21 juvenile salmonid migration seasons that were analyzed for structures on Mormon Slough upstream of MSRR Bridge, flows reached or exceeded 120 cfs during 20 of the migration seasons.

7. Indicate how you determined that this barrier is a high priority project. (Please check all that apply.)

- [x] Barrier is listed in a key restoration plan for the region (see question 8 below)
- [x] Endorsed by an agency

8. Include the name(s) of the recovery plans and the specific task that name this barrier(s) as a high priority, the agency that endorsed this project, or the local representative that names this project as a priority.

The Watkins Crossing is identified as a priority location for improved fish passage in the Calaveras River Fish Migration Barriers Assessment Report and is endorsed by the California Department of Water Resources and the U.S. Fish and Wildlife Service.

9. The California Fish Passage Forum (Forum) has seven (7) overall objectives. Please check each objective your project will help to address. (check all that apply)

- [x] 1. Remediate barriers to effective fish migration.
- [x] 2. Facilitate coordination and communication among agencies, agency staff, and other entities that may propose, review, or promulgate fish passage criterial within California.
- [x] 3. Coordinate funding mechanisms to remove fish passage barriers.

4. Promote state and federal permit coordination and streamlining.

6. Promote state and national policy and actions that support fish passage improvement in California.

10. Provide a brief explanation of how your project addresses all of the checked boxes in question 9.

The proposed project will remove the existing Watkins Water Crossing, an impediment to fish passage, and construct a new crossing designed to facilitate fish passage.

11. Identify the anadromous fish species that will benefit from your project (select multiple if applicable).

Chinook salmon

Steelhead/rainbow trout

12. How many miles of stream will be opened and/or acres of habitat restored as a result of implementing your project?

0

13. Provide the location and distance in stream miles to downstream river structures, and whether each structure represents an insignificant, partial, or total barrier to fish passage.

Motoike Dam between N. Fine Road and Escalon-Bellota Road, 0.28 stream miles downstream, partial barrier

14. Provide the location and distance in stream miles to upstream river structures, and whether each structure represents an insignificant, partial, or total barrier to fish passage.

Bellota Weir between Escalon-Bellota Road and N. Shelton Road, 1.33 stream miles upstream, partial barrier

15. Select each of the Forum's priority habitats that will have improved access available as a result of your project.

Rearing habitat

16. Has the owner and/or responsible organization/agency of the barrier(s) proposed for removal and/or remediation been identified, notified, and given permission for this project to proceed as proposed?

YES

If YES, please provide the name of the entity that owns/is responsible, and describe how consent to proceed was obtained/documented, and their role (if any) in any monitoring.

Anne Albrecht provided verbal consent. The owner is aware of the project and is agreeable to a new crossing as current proposed.

***The Forum recommends, as a bare minimum, applicants use the [NOAA Restoration Center's Fish Passage Barrier*

Removal Performance Measures and Monitoring Worksheet, and one year minimum pre- and post-project monitoring.

18. Will your project be implemented within 12-18 months?

YES

19. Attach a document that provides a description of the project's timeline (including permits), as well as implementation and monitoring dates. Please describe any issues that exist, if any, that could delay project implementation.

xlsx Construction Schedule - Watkins Crossing.xlsx

20. Attach any designs of your project as well as any photos.

pdf Water Crossing Representative Plan Set.pdf

21. If you have already submitted an application to the Fisheries Restoration Grant Program (FRGP) for this project, please copy and paste information from the "Project Objective" Form of that FRGP application below.

No.

PROJECT BUDGET

22. All projects seeking Forum funding are required to submit a budget that includes the following:

- Total cost of project
- Total funding request from the Forum, how those funds will be spent, what will be accomplished, and what deliverables are expected.
- Any seed or other funding that exists to support project implementation.
- Other funding committed or pending, and what those funds will support.
- Amounts and names of partners contributing matching support (dollars and in-kind)
- Monitoring costs
- Indicated whether or not project will be fully funded if funding being requested from the Forum is recieved.

If you do not have a detailed budget for your project, you can find a template and other resources on the Funding page of the Forum's website.

Attach a project budget, including a narrative that describes the overall project budget and a detailed budget breakdown. (Word, .pdf, or .xls)

xls Water Crossing Construction Estimate.xls

23. Total dollar amount being requested from the Forum.

150000

24. Total cost of project.

787000

PROJECT TEAM CAPABILITIES

25. Describe the experience and capabilities of up to three of the project leaders relative to their ability to implement this project. Please also include any other Forum-supported projects project leaders have been involved with.

The District's Engineer has over 11 years of experience managing projects and design/design review and has overseen the completion of one fish passage improvement project. The District's Construction Supervisor has 25 years of construction experience and has completed the prior construction of three fish passage improvement projects. The designer of the project will either be the California Department of Water Resources or an Engineering Consulting firm, either of which will have decades of engineering experience and specific fish passage project design experience.

OUTREACH

26. Does your project have a public and/or community outreach component? If so, please describe (e.g., social media, website, press release, newsletter, volunteers, schools, etc.)

No.

ALIGNMENT WITH NATIONAL PRIORITIES

27. Which National Fish Habitat Partnership (NFHP) National Conservation Strategies will be addressed by your project? (select all that apply)

- 2. Restore hydrologic conditions for fish.
- 3. Reconnect fragmented fish habitats.

Review the *NFHP National Conservation Strategies*.

28. What U.S. Fish & Wildlife Service (USFWS) Climate Change Strategies will be addressed by your project? (select all that apply)

- 3.1 Take conservation action for climate-vulnerable species.
- 3.2 Promote habitat connectivity and integrity.

Review the *USFWS: Rising to the Urgent Challenge – Strategic Plan for Responding to Accelerating Climate Change*.

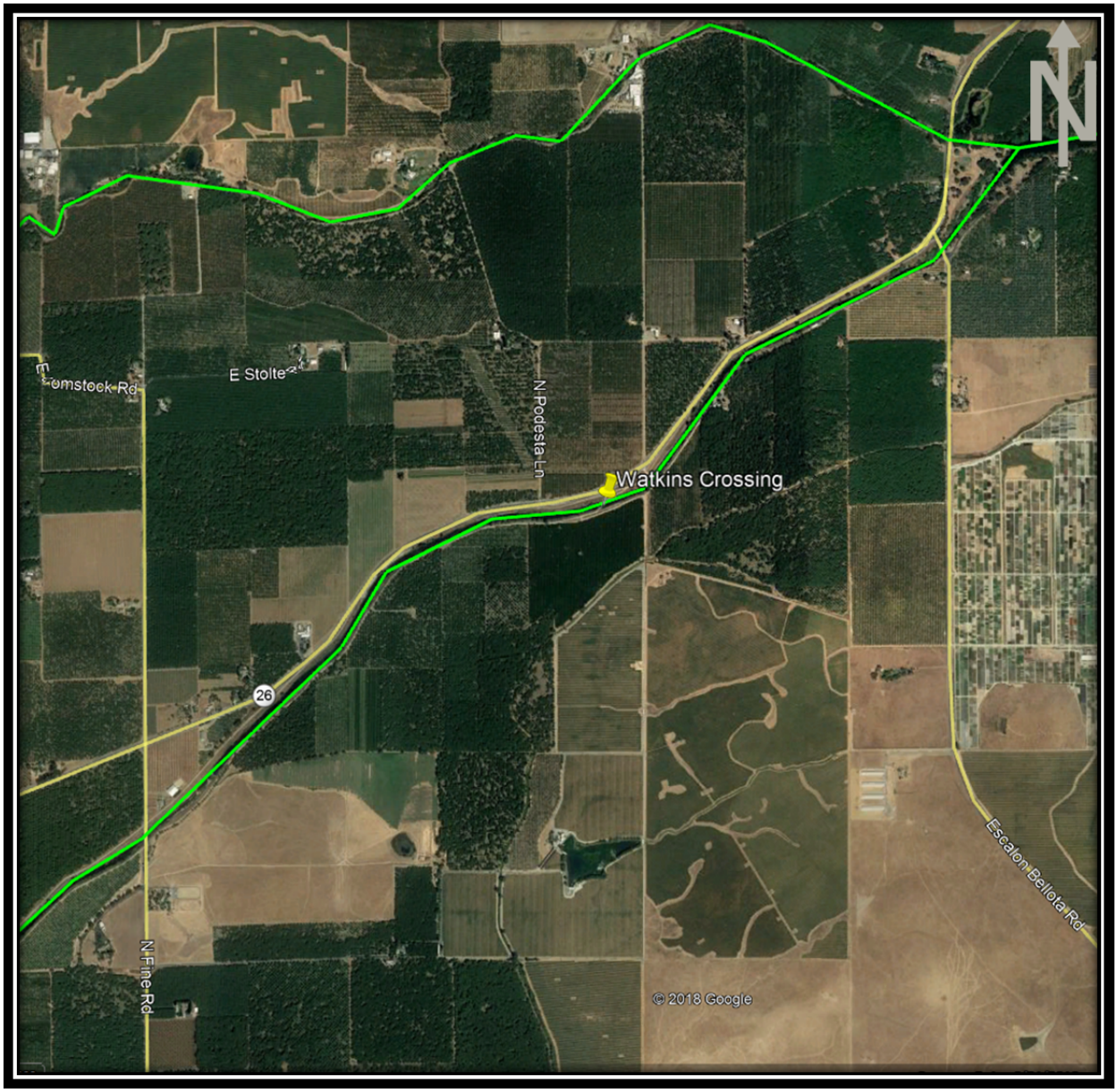
29. Provide specific information about how your project addresses the climate change strategy you checked in question 28.

The Calaveras River system, including the Calaveras River and Mormon Slough, contain several impediments to fish passage. This project is just one of a programmatic effort by the California Department of Water Resources and the U.S. Fish and Wildlife Service to improve the ability for anadromous fish to spawn in upstream reaches of the system and migrate downstream into the Delta.

30. Would an existing commercial, recreational, or subsistence fishery be enhanced as a result of the project? If yes, please describe. If not, is there a future fishery that would potentially be restored through increased habitat as a result of this project? If so, describe.

Yes. The Lower Calaveras River between New Hogan Dam and the Bellota Weir, upstream of the proposed project's location, is identified an area of rearing opportunities for salmonids within the draft Calaveras River Habitat Conservation Plan.

Thank you for your interest in the Forum, and for taking the time to submit this proposal. You will be contacted by the Forum to discuss the outcome of this funding process.



Location Map – Watkins Crossing Fish Passage Improvement Project

Line	Task Description	3/30	4/6	4/13	4/20	4/27	5/4	5/11	5/18	5/25	6/1	6/8	6/15	6/22	6/29	7/6	7/13	7/20	7/27	8/3	8/10
1	Grant Award																				
2	Design																				
3	CEQA/NEPA																				
4	Permitting																				
5	Site Prep																				
6	Demolition																				
7	Construction																				
8	Site Restoration																				

2020																				2021
8/17	8/24	8/31	9/7	9/14	9/21	9/28	10/5	10/12	10/19	10/26	11/2	11/9	11/16	11/23	11/30	12/7	12/14	12/21	12/28	

2022	2023	2024																						
		1/4	1/11	1/18	1/25	2/1	2/8	2/15	2/22	3/1	3/8	3/15	3/22	3/29	4/5	4/12	4/19	4/26	5/3	5/10	5/17	5/24	5/31	6/7

6/14	6/21	6/28	7/5	Notes
				Preliminary design concurrent with CEQA/NEPA Preparation; complete design before end of permitting processes: hyd
				25 days for doc prep & surveys; 35 days AB52/Sec 7/Sec 106; 35 days Public Comment; 14 days to file
				9 months for permits: Lake & Streambed Alteration Permit, Section 401 Permit, Section 404 Permit, Section 408 Permit
				Mobilization; clear & grub; install temporary bypass facilities
				Remove and haul away existing crossing
				Construct new crossing
				Finished grading; excess material & trash removal; revegetation; demobilization

ocesses: hydraulic modeling, structural design

n 408 Permit, Flood Board Permit

CAPRINI LOW-WATER CROSSING
FISH PASSAGE IMPROVEMENT PROJECT

This plan set is representative of the proposed improvements but is not specific to the proposed project. A project specific plan set will be developed after the potential grant award.

VICINITY MAP

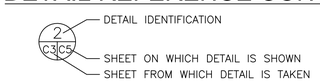
NOT TO SCALE

SHEET INDEX

ABBREVIATIONS

AB	AGGREGATE BASE	L	LENGTH
APN	ASSESSOR'S PARCEL NUMBER	LF	LINEAR FEET
BMP	BEST MANAGEMENT PRACTICE	MIN	MINIMUM
CMP	CORRUGATED METAL PIPE	(N)	NEW
CC	CONCRETE	NTS	NOT TO SCALE
CY	CUBIC YARD	R	RADIUS
DIA	DIAMETER	RD	ROAD
(E)	EXISTING	RSP	ROCK SLOPE PROTECTION
EG	EXISTING GROUND	SHT	SHEET
EL	ELEVATION	STA	STATION
EP	EDGE OF PAVEMENT	TBD	TO BE DETERMINED
ESM	ENGINEERED STREAMBED MATERIAL	TEMP	TEMPORARY
FG	FINISHED GRADE	TYP	TYPICAL
H	HORIZONTAL	V	VERTICAL
ID	INSIDE DIAMETER		

DETAIL REFERENCE CONVENTION



LEGEND

EXISTING GROUND CONTOURS — 31 — 30 — 29 —

FINISHED GRADE CONTOURS

EXISTING EDGE OF ROAD

SURVEYED POINT × 32.22 (DESCRIPTION)

PARCEL LINE — — — —

PROJECT OVERVIEW

SCALE: 1" = 40'

0 20' 40' 80'

REVISION NO.	DATE	DESCRIPTION

CALIFORNIA DEPARTMENT OF WATER RESOURCES
FISH PASSAGE IMPROVEMENT PROGRAM
IN PARTNERSHIP WITH
STOCKTON EAST WATER DISTRICT
6767 E. MAIN ST. STOCKTON CA 95215 PHONE: (209) 948-0333

DRAWINGS BY: COLIN HANLEY, DWR RCE NO. 74867
DESIGNED BY: RANDY BECKWITH, DWR RCE NO. 60779
APPROVED BY: TOM BERGIN, SEWD RCE NO. 48806

STOCKTON EAST WATER DISTRICT
PROVIDING SERVICE SINCE 1948

COVER SHEET

CAPRINI LOW-WATER CROSSING
FISH PASSAGE IMPROVEMENT PROJECT

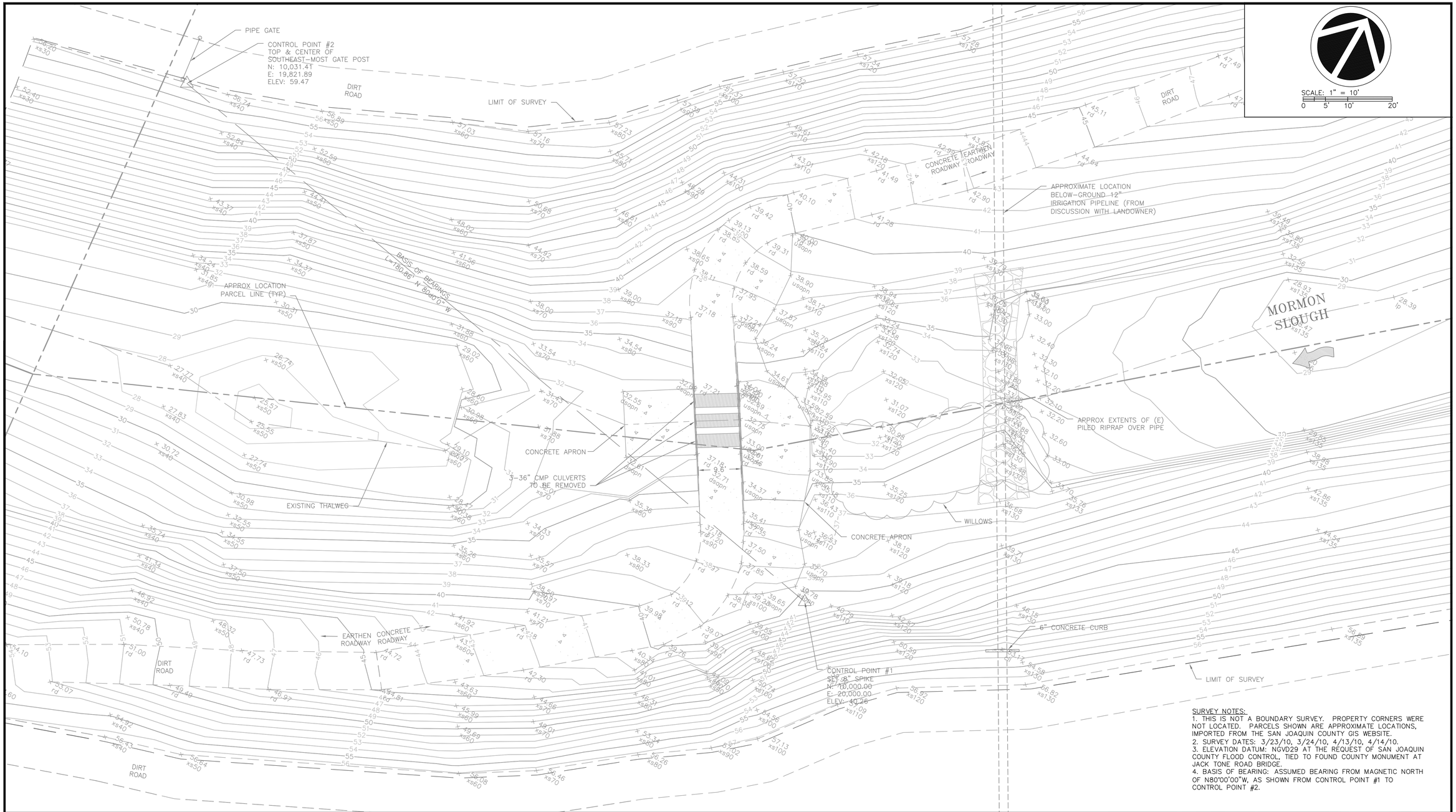
AS BUILT - 1-15-2014

BAR IS ONE INCH ON ORIGINAL DRAWINGS; ADJUST SCALE FOR REDUCED PLOTS 0 1"

DRAWN BY: CH
CHECKED BY: RB

DATE: 11/19/2013

SHEET: C1



SURVEY NOTES:
1. THIS IS NOT A BOUNDARY SURVEY. PROPERTY CORNERS WERE NOT LOCATED. PARCELS SHOWN ARE APPROXIMATE LOCATIONS, IMPORTED FROM THE SAN JOAQUIN COUNTY GIS WEBSITE.
2. SURVEY DATES: 3/23/10, 3/24/10, 4/13/10, 4/14/10.
3. ELEVATION DATUM: NGVD29 AT THE REQUEST OF SAN JOAQUIN COUNTY FLOOD CONTROL, TIED TO FOUND COUNTY MONUMENT AT JACK TONE ROAD BRIDGE.
4. BASIS OF BEARING: ASSUMED BEARING FROM MAGNETIC NORTH OF N80°00'00"W, AS SHOWN FROM CONTROL POINT #1 TO CONTROL POINT #2.

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STOCKTON EAST WATER DISTRICT
PROVIDING SERVICE SINCE 1948

EXISTING CONDITIONS BASEMAP

CAPRINI LOW-WATER CROSSING FISH PASSAGE IMPROVEMENT PROJECT

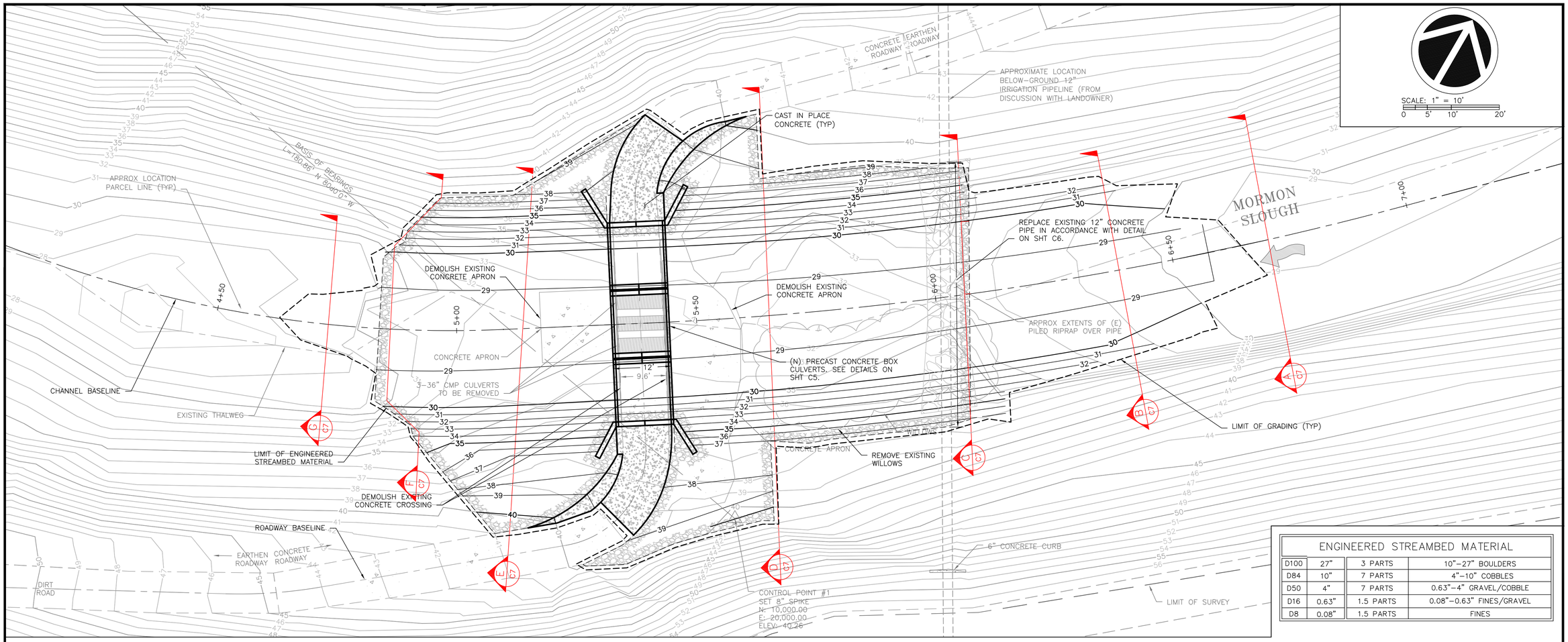
AS BUILT - 1-15-2014

BAR IS ONE INCH ON ORIGINAL DRAWINGS; ADJUST SCALE FOR REDUCED PLOTS
0 1"

DRAWN BY: CH
CHECKED BY: RB

DATE: 11/19/2013

SHEET: C2



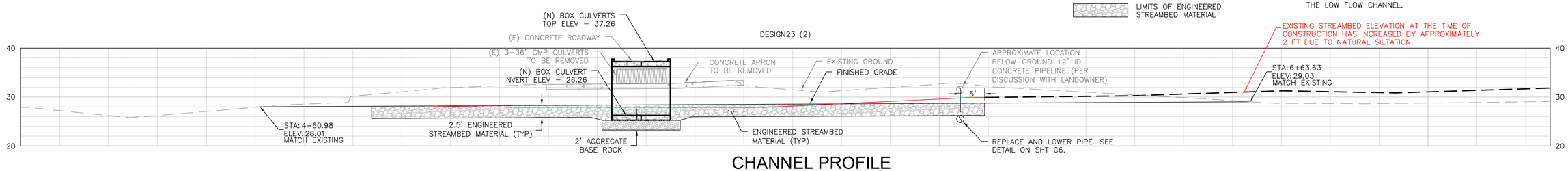
ENGINEERED STREAMBED MATERIAL			
D100	27"	3 PARTS	10"-27" BOULDERS
D84	10"	7 PARTS	4"-10" COBBLES
D50	4"	7 PARTS	0.63"-4" GRAVEL/COBBLE
D16	0.63"	1.5 PARTS	0.08"-0.63" FINES/GRAVEL
D8	0.08"	1.5 PARTS	FINES

PLAN

LEGEND

LIMITS OF ENGINEERED STREAMBED MATERIAL

NOTE: USE ROUNDED MATERIAL INSIDE THE LOW FLOW CHANNEL. ANGULAR MATERIAL MAY BE USED OUTSIDE THE LOW FLOW CHANNEL.



CHANNEL PROFILE

SCALE: 1" = 10'
0 5' 10' 20'

REVISION NO.	DATE	DESCRIPTION
1	12/17/13	AS BUILT SURVEY CONDUCTED BY J.B. AND Q.C.

CALIFORNIA DEPARTMENT OF WATER RESOURCES
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STOCKTON EAST WATER DISTRICT
PROVIDING SERVICE SINCE 1948

CHANNEL PLAN & PROFILE

CAPRINI LOW-WATER CROSSING FISH PASSAGE IMPROVEMENT PROJECT

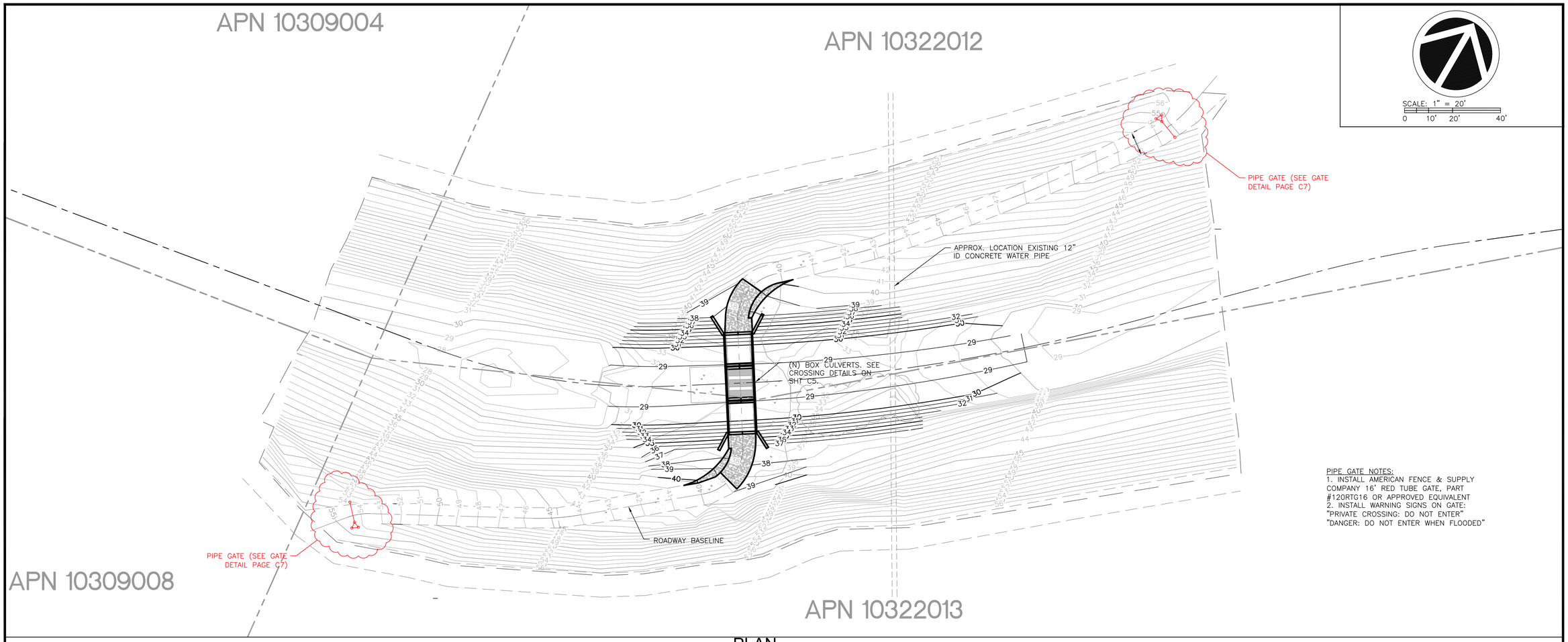
AS BUILT - 1-15-2014

BAR IS ONE INCH ON ORIGINAL DRAWINGS; ADJUST SCALE FOR REDUCED PLOTS
0 1"

DRAWN BY: CH
CHECKED BY: RB

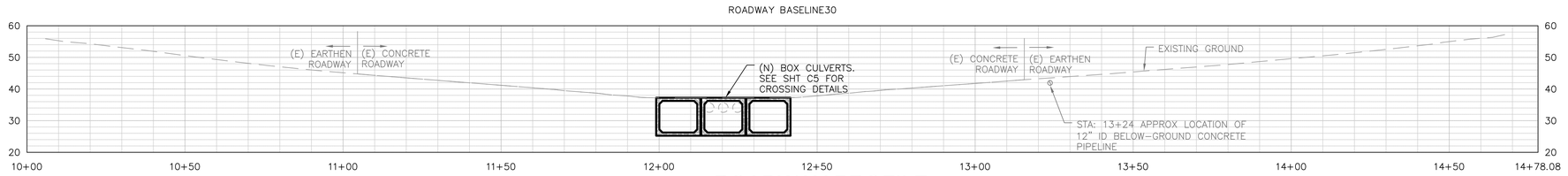
DATE: 11/19/2013

SHEET: C3



PIPE GATE NOTES:
1. INSTALL AMERICAN FENCE & SUPPLY COMPANY 16' RED TUBE GATE, PART #120RTG16 OR APPROVED EQUIVALENT
2. INSTALL WARNING SIGNS ON GATE:
"PRIVATE CROSSING: DO NOT ENTER"
"DANGER: DO NOT ENTER WHEN FLOODED"

PLAN



ROADWAY PROFILE

SCALE: 1" = 20'
0 10' 20' 40'

REVISION NO.	DATE	DESCRIPTION

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FISH PASSAGE IMPROVEMENT PROGRAM
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6767 E. MAIN ST. STOCKTON CA 95215 PHONE: (209) 948-0333
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STOCKTON EAST WATER DISTRICT
PROVIDING SERVICE SINCE 1948

ROADWAY PLAN & PROFILE

CAPRINI LOW-WATER CROSSING
FISH PASSAGE IMPROVEMENT PROJECT

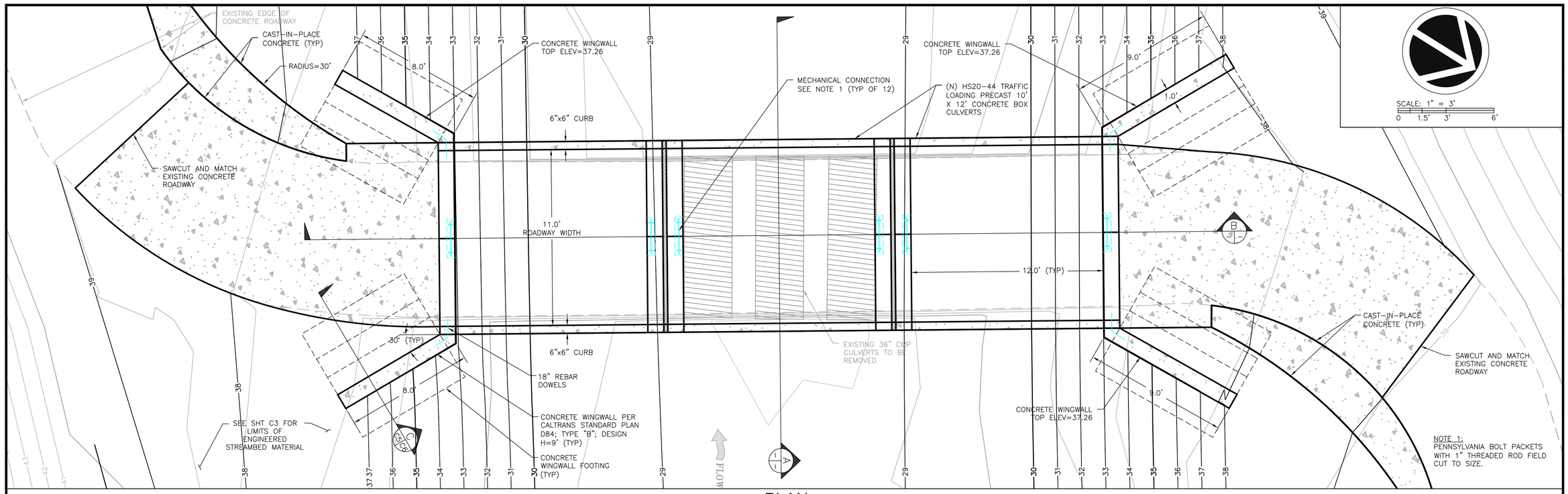
AS BUILT - 1-15-2014

BAR IS ONE INCH ON ORIGINAL DRAWINGS; ADJUST SCALE FOR REDUCED PLOTS
0 1"

DRAWN BY: CH
CHECKED BY: RB

DATE: 11/19/2013

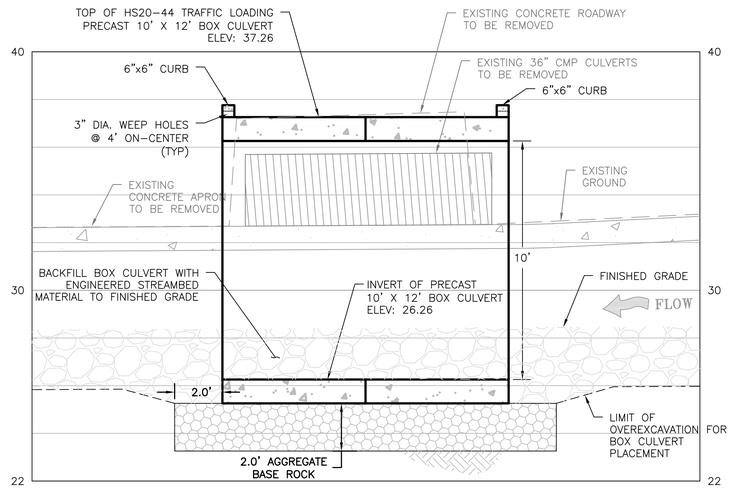
SHEET: C4



PLAN

SCALE: 1" = 3'

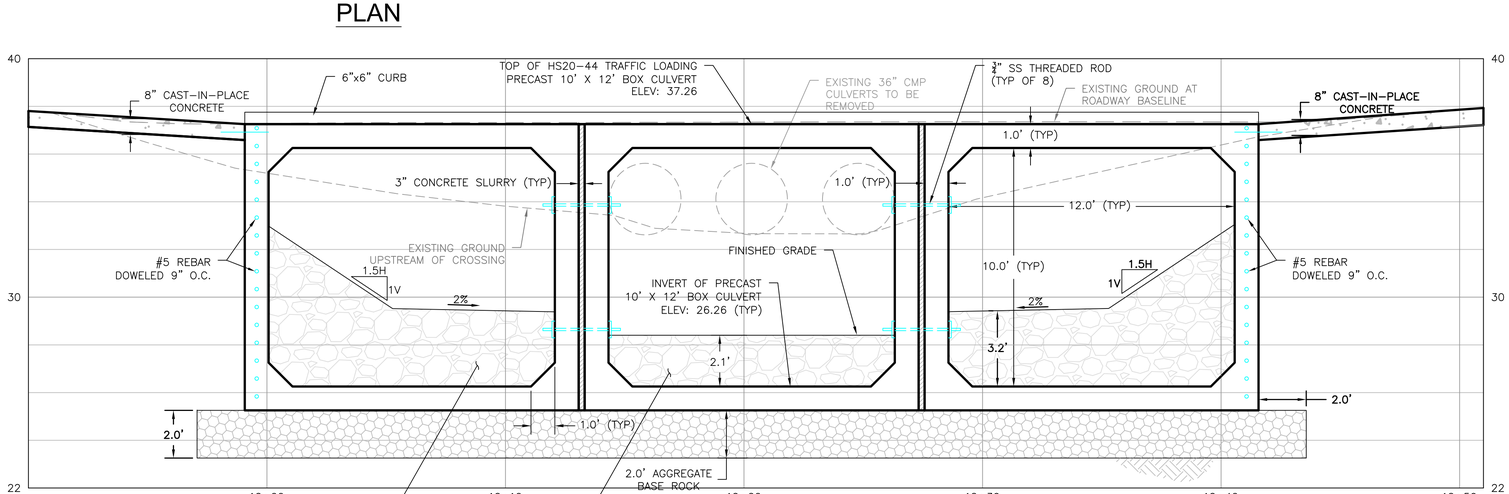
0 1.5' 3' 6'



CROSSING SECTION A

SCALE: 1" = 3'

0 1.5' 3' 6'



CROSSING SECTION B

SCALE: 1" = 3'

0 1.5' 3' 6'

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STOCKTON EAST WATER DISTRICT
PROVIDING SERVICE SINCE 1948

DETAILS 1 OF 2

CAPRINI LOW-WATER CROSSING FISH PASSAGE IMPROVEMENT PROJECT

AS BUILT - 1-15-2014

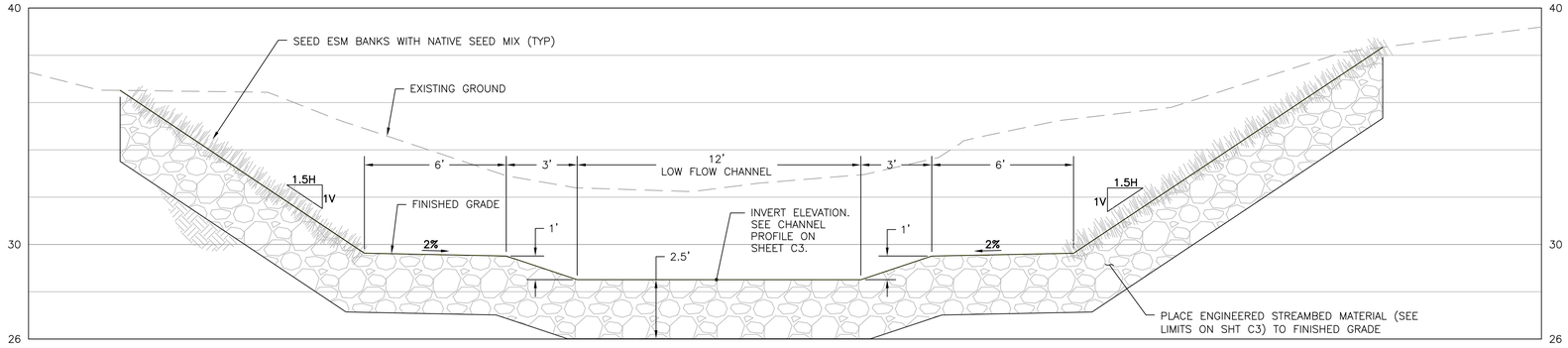
BAR IS ONE INCH ON ORIGINAL DRAWINGS; ADJUST SCALE FOR REDUCED PLOTS

0 1"

DRAWN BY: CH
CHECKED BY: RB

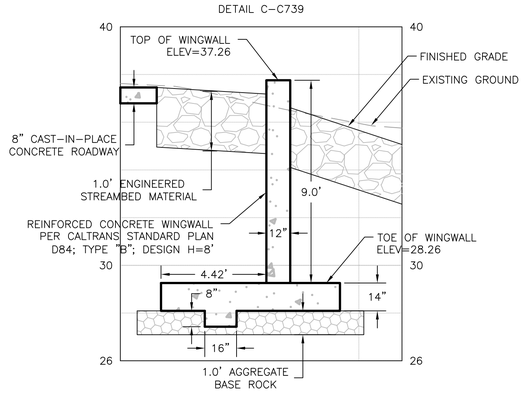
DATE: 11/19/2013

SHEET: C5



TYPICAL CHANNEL SECTION (1 / C3|C6)

STA: 4+84 TO 5+33 & 5+45 TO 6+07
SCALE: 1" = 3'
0 1.5' 3' 6'



TYPICAL WINGWALL SECTION (C / C5|C6)

SCALE: 1" = 3'
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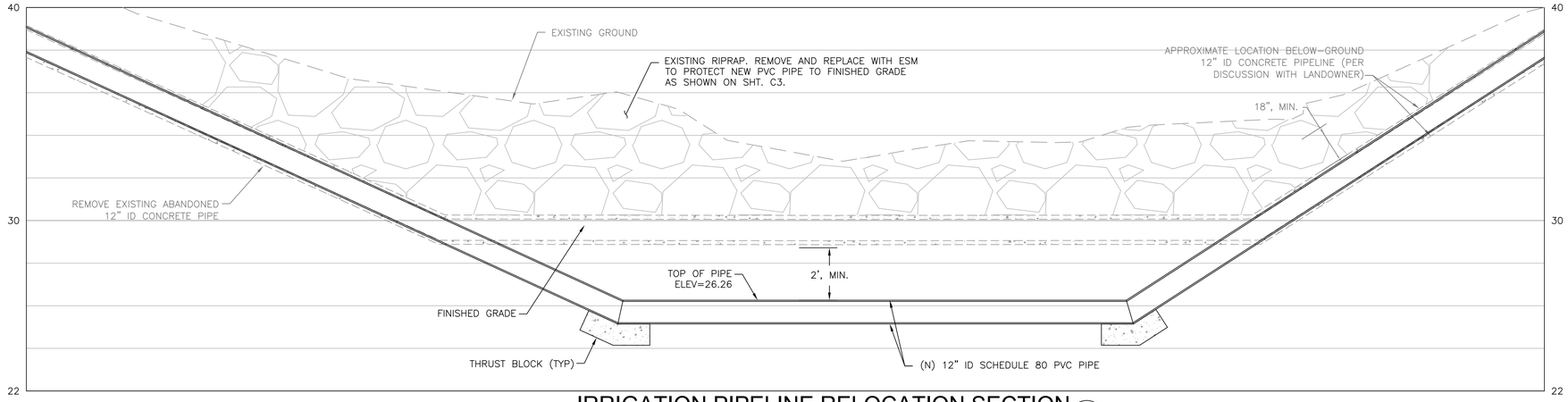

IRRIGATION PIPELINE RELOCATION SECTION (A / C3|C6)

SCALE: 1" = 3'
0 1.5' 3' 6'

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STOCKTON EAST WATER DISTRICT
PROVIDING SERVICE SINCE 1948

DETAILS 2 OF 2

CAPRINI LOW-WATER CROSSING FISH PASSAGE IMPROVEMENT PROJECT

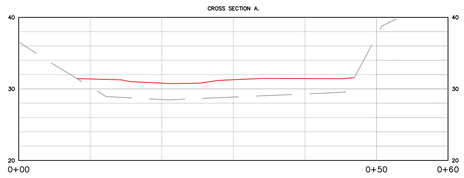
AS BUILT - 1-15-2014

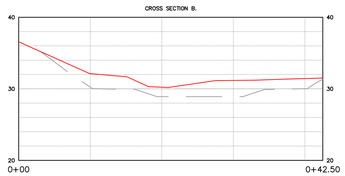
BAR IS ONE INCH ON ORIGINAL DRAWINGS; ADJUST SCALE FOR REDUCED PLOTS
0 1"

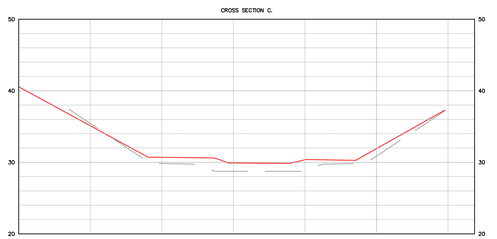
DRAWN BY: CH
CHECKED BY: RB

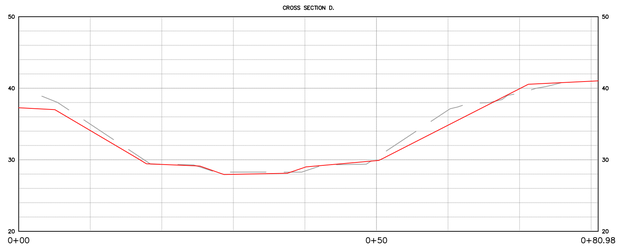
DATE: 11/19/2013

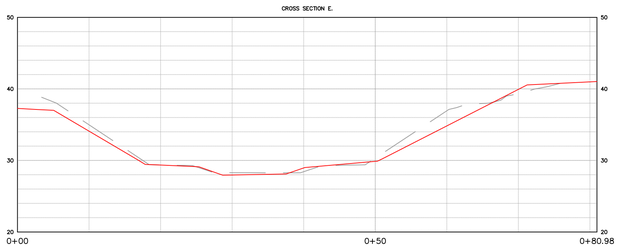
SHEET: C6

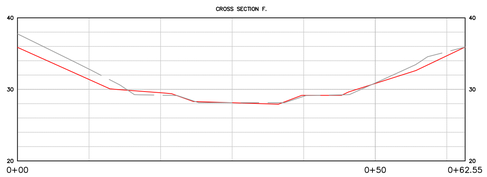


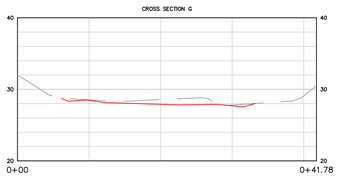




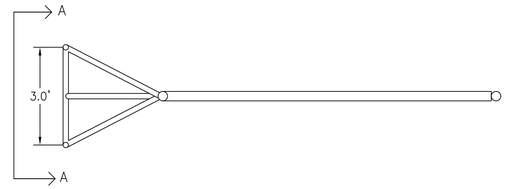




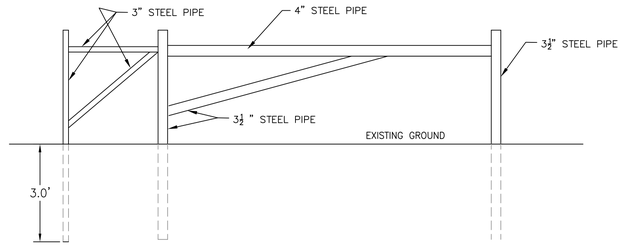




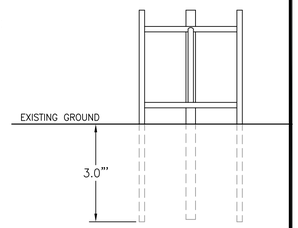
CROSS SECTIONS



PLAN VIEW



PROFILE



CROSS SECTION – A

GATE DETAIL

REVISION NO.	DATE	DESCRIPTION

CALIFORNIA DEPARTMENT OF WATER RESOURCES
FISH PASSAGE IMPROVEMENT PROGRAM
IN PARTNERSHIP WITH
STOCKTON EAST WATER DISTRICT
6767 E. MAIN ST. STOCKTON CA 95215 PHONE: (209) 948-0333
DRAWINGS BY: COLIN HANLEY, DWR RCE NO. 74867
DESIGNED BY: RANDY BECKWITH, DWR RCE NO. 60779
APPROVED BY: TOM BERGIN, SEWD RCE NO. 48806

STOCKTON EAST WATER DISTRICT
PROVIDING SERVICE SINCE 1948

CHANNEL PLAN & PROFILE

CAPRINI LOW-WATER CROSSING
FISH PASSAGE IMPROVEMENT PROJECT

AS BUILT - 1-15-2014

BAR IS ONE INCH ON ORIGINAL DRAWINGS; ADJUST SCALE FOR REDUCED PLOTS
0 1"

DRAWN BY: CH
CHECKED BY: RB

DATE: 11/19/2013

SHEET: C7

Work Order No: TBD

Prepared by JH
Reviewed by JH
Approved by JH

CONSTRUCTION ESTIMATE

Location of Work: Mormon Slough

Description of Work: Replace existing water crossing with improved crossing to facilitate fish passage.

★ **ESTIMATE GOOD UNTIL: December 16, 2019**

Line	Description and Specifications	Quantity	Unit	Unit Cost	Cost
	Material				
1	10'Hx12'Wx6'D H-20 Load Rated Box Culvert	9.00	EA	12,400.00	111,600.00
2	Reinforced Concrete	50.00	EA	150.00	7,500.00
3	Concrete Form Materials	1.00	LS	2,500.00	2,500.00
4	Base Rock	40.00	TN	26.00	1,040.00
5	Engineered Streambed Material Aggregates	1,600.00	TN	29.00	46,400.00
6	Temporary Bypass Pipeline	300.00	LF	65.00	19,500.00
7	Temporary Coffer Dam	2.00	EA	7,500.00	15,000.00
8	Hydroseeding	0.50	AC	10,000.00	5,000.00
9					-
10					-
11					-
12					-
13					-
14					-
15					-
16					-
17					-
18					-
19					-
	Equipment				
1	Excavator	560.00	HR	49.00	27,440.00
2	Loader	560.00	HR	46.00	25,760.00
3	Backhoe	240.00	HR	20.00	4,800.00
4	Water Truck	400.00	HR	29.25	11,700.00
5	Breaker	40.00	HR	74.00	2,960.00
6	Crane	24.00	HR	1,350.00	32,400.00
7	Bulldozer	240.00	HR	74.00	17,760.00
8					-
9					-
	Labor				
1	Manager	1.00	LS	2.00%	11,667.20
2	Water Supply Supervisors	1,000.00	HR	75.00	75,000.00
3	Water Supply Operators	2,400.00	HR	60.00	144,000.00
4	Engineer	400.00	HR	65.00	26,000.00
5	Trucking	56.00	HR	125.00	7,000.00
	Incidentals				
1	Mobilization	1.00	LS	0.50%	2,916.80
2	Site Work	1.00	LS	1.00%	5,833.60
3	Surveying	1.00	LS	1.50%	8,750.40
4	CEQA (Record research, historical & archaeological survey, site survey)	1.00	LS	5.00%	29,168.00
5	Engineering	1.00	LS	10.00%	58,336.00

	Estimated Subtotal:	715,411.83
10%	Contingency:	71,541.18
	Estimated Total:	$786,953.01

Estimate Breakdown:
Material Cost: $208,540.00
Equipment Cost: $125,736.80
Labor Cost: $322,003.20
Incidental Cost: $46,668.80

Estimate Given: $787,000.00

Sent: 10/17/19 via () fax; () phone; () mail; (X) e-mail; () in-person