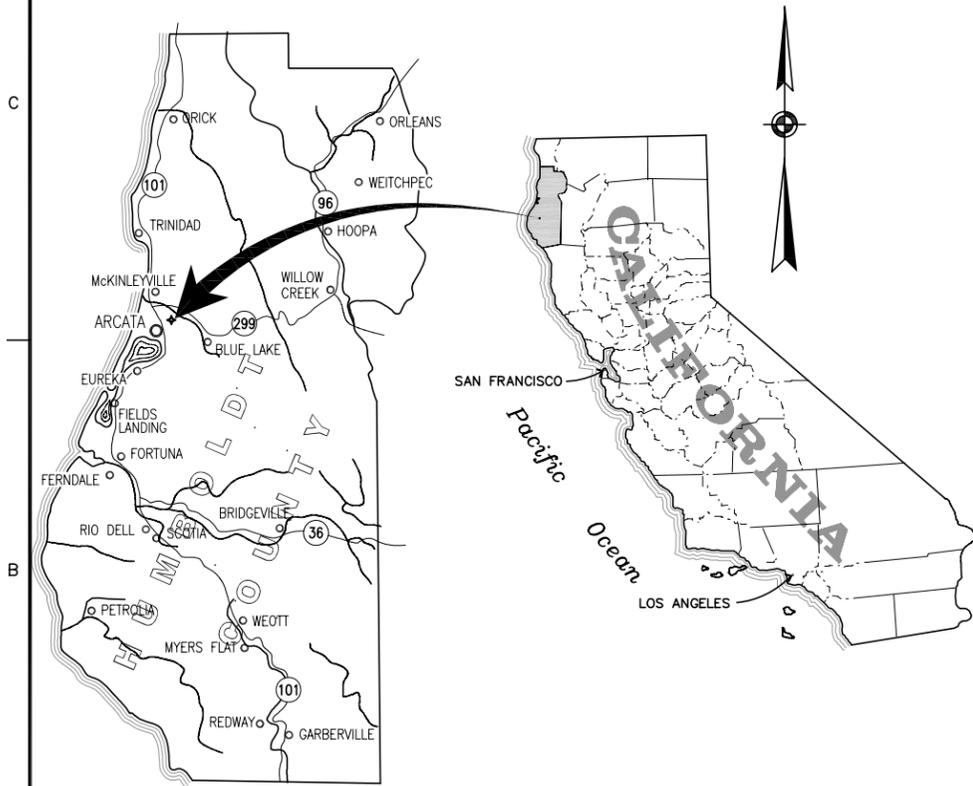


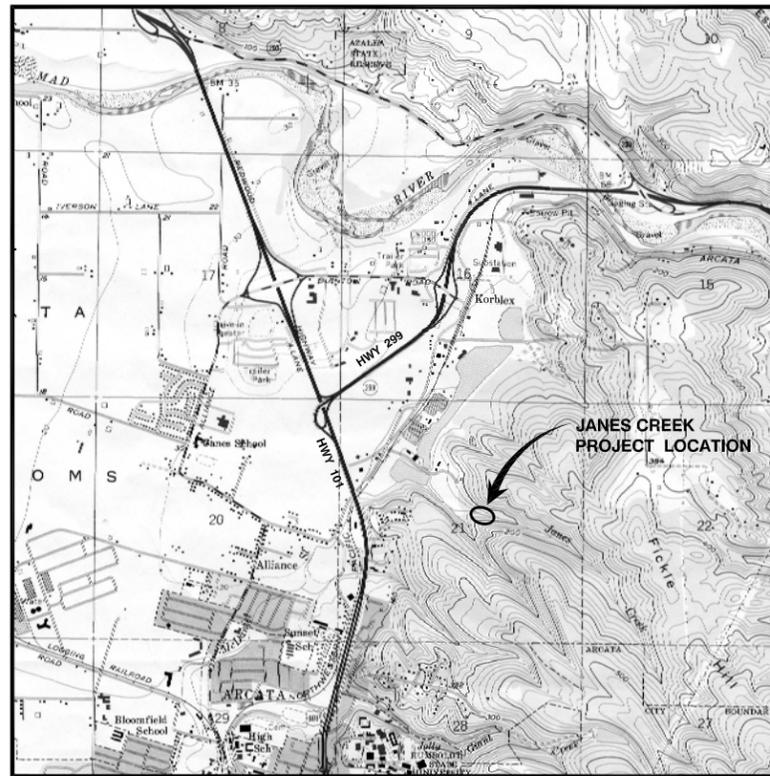
# HUMBOLDT FISH ACTION COUNCIL

## JANES CREEK FISH PASSAGE CHANNEL DESIGN PROJECT

AUGUST 2005



**LOCATION MAP**  
N.T.S.



**VICINITY MAP**

### SHEET INDEX

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### PROJECT FUNDING:

CALIFORNIA DEPARTMENT OF FISH AND GAME, PROJECT AGREEMENT No.

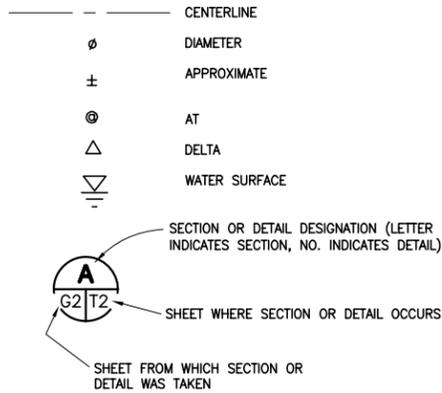
ENGINEER: WINZLER & KELLY CONSULTING ENGINEERS  
STEVEN ALLEN, PROJECT MANAGER

APPROVAL \_\_\_\_\_ SIGNED \_\_\_\_\_ DATE \_\_\_\_\_

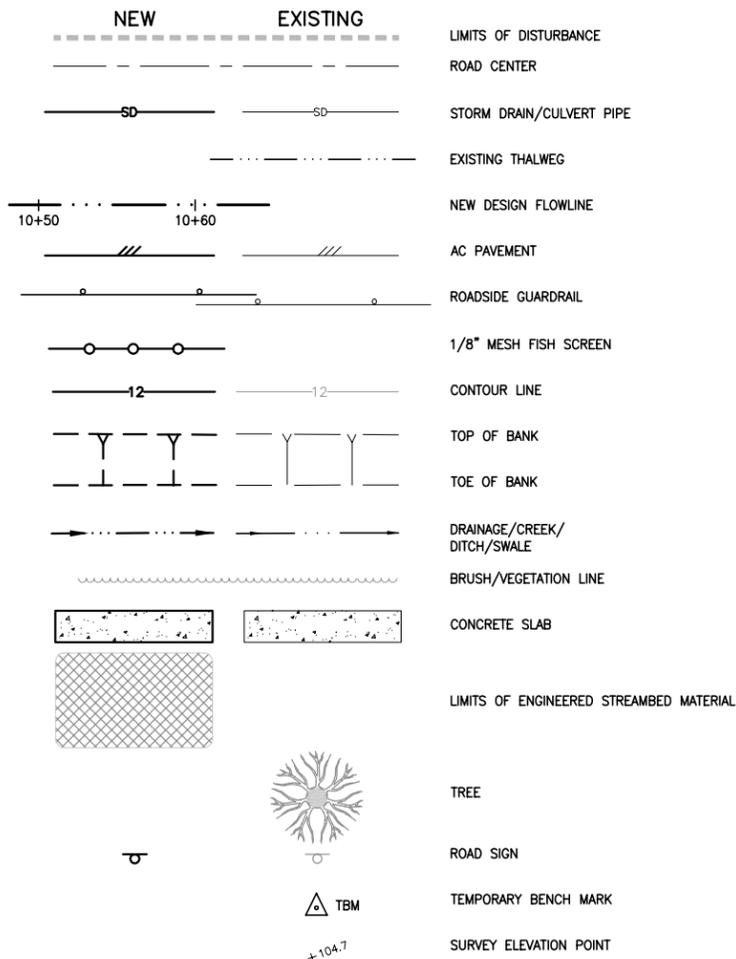
 633 THIRD STREET EUREKA, CA 95501-0417 FAX (707) 443-8326 FAX (707) 444-8330		 Hydrologic Solutions PO Box 4477 Arcata, CA 95518 (707) #6-8938	
ISS TL/ML/SA SUPV.	JRN SUD CHK AUC	RES SAA AUC	DRAWING SCALE AS SHOWN
HUMBOLDT FISH ACTION COUNCIL JANES CREEK FISH PASSAGE CHANNEL DESIGN PROJECT GENERAL COVER SHEET			
JOB NUMBER 1008305001			
SHEET 1 of 8			
G-1			
REVISIONS DESCRIPTION DATE SYN.			

**SYMBOLS:**

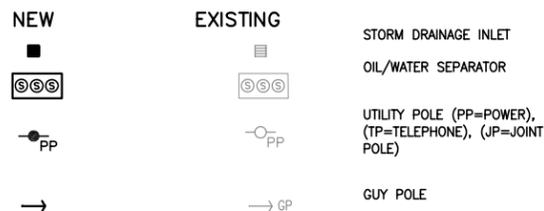
**GENERAL:**



**TOPOGRAPHIC:**



**UTILITY:**



**ABBREVIATIONS:**

AB ANCHOR BOLT	EP EDGE PAVING	MH MAN HOLE	RT RIGHT
AC AGGREGATE BASE	EQ EQUAL	MIN MINIMUM	R/W RIGHT-OF-WAY
AGG ASPHALT CONCRETE AGGREGATE	ER EDGE ROAD ELEVATION	MISC MISCELLANEOUS	S SLOPE
AT AT	EL/ELEV ELEVATION	MILLION GALLON	SAT SATURATED
B- BORING	ENGR ENGINEER	N NORTH	SCH, SCHED SCHEDULE
BC BEGIN CURVE	EVC END VERTICAL CURVE	(N) NEW	SD STORM DRAIN
BM BENCH MARK	EW EACH WAY	NIC NOT IN CONTRACT	SDMH STORM DRAIN MANHOLE
BO BLOW OFF	FIN FINISH	NO NUMBER	SHT SHEET
BOT BOTTOM	FF FINISH FLOOR	NTS NOT TO SCALE	SIM SIMILAR
BVC BEGIN VERTICAL CURVE	FG FINISH GRADE	OC ON CENTERS	SO SOUTH
CL, CLR CENTERLINE CLEAR, CLEARANCE	FL, FLR FLOW LINE FLOOR	OPNG OPENING	S STL STAINLESS STEEL
CMP CORRUGATED METAL PIPE	FS FINISHED SURFACE	PCC PORTLAND CONCRETE CEMENT	STA STATION
CMU CONCRETE MASONRY UNIT	FT FOOT OR FEET	PE POLYETHYLENE	STD STANDARD
CONC CONCRETE	FTG FOOTING	PL PLATE	STL STEEL
CONT CONTINUOUS	GAL GALLON	P/L, PL PROPERTY LINE	THK THICK
CONT'D CONTINUED	GALV GALVANIZED	PLCS PLACES	TG TOP GRATE
COORD COORDINATE	GR GRADE	PLYWOOD PLYWOOD	TP TEST PIT
COR CORNER	GRD GROUND	POC POINT OF CONNECTION	TS TOP OF SLAB
CU CUBIC	HORZ HORIZONTAL	PP POWER POLE	TW TOP OF WALL
d PENNY (NAIL SIZE) DIAMETER	HWY HIGHWAY	PSI POUNDS PER SQUARE INCH	TYP TYPICAL
DIA, ∅ DIAMETER	IP IRON PIPE	PT PRESSURE TREATED	UBC UNIFORM BUILDING CODE
DTL DETAIL	INV INVERT	PVC POLYVINYL CHLORIDE PLASTIC PIPE	UNO UNLESS OTHERWISE NOTED
DI DROP (DRAINAGE) INLET	JCT JUNCTION	R, RAD RADIUS	VERT VERTICAL
DF DOUGLAS FIR	L LENGTH	RAC RIGHT ACTIVE CHANNEL	W/ WITH
DWG DRAWING	LAC LEFT ACTIVE CHANNEL	RC RELATIVE COMPACTION	WD WIDE
(E) EXISTING	LT LEFT	RCP REINFORCED CONCRETE PIPE	XING CROSSING
E EAST	LWD LARGE WOODY DEBRIS	RD ROAD	YD YARD
EA EACH	MAX MAXIMUM	RDWD REDWOOD	
EC END CURVE	MFR MANUFACTURER	REQ'D REQUIRED	
EF EACH FACE		REQ'T REQUIREMENT	
		RSP ROCK SLOPE PROTECTION	

**NOTE:** CONTACT ENGINEER FOR ABBREVIATIONS NOT LISTED.

**GENERAL NOTES:**

- TOPOGRAPHIC SURVEY CONDUCTED BY SPENCER ENGINEERING 12/13/04. VERTICAL DATUM ASSUMED AND HORIZONTAL ALIGNMENT BASED ON MAGNETIC NORTH BEARING. TBM #1 = NAIL AND SHINER IN GRAVEL ROAD ELEV = 100.00 FT, TBM #2 ELEV = 109.43
- CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL PROJECT PERMITS. OWNER IS RESPONSIBLE FOR OBTAINING AND PROVIDING COPIES OF ALL NECESSARY PROJECT PERMITS.
- PRIOR TO COMMENCING ANY EXCAVATION OR DEMOLITION WORK, THE FISH SCREENS AND COFFER DAMS MUST BE INSTALLED AND FISH REMOVED FROM THE PROJECT AREA. CONTRACTOR SHALL COORDINATE WITH FISHERIES BIOLOGIST RESPONSIBLE FOR REMOVING FISH FOR SCHEDULING PLACEMENT OF FISH SCREENS, COFFER DAM AND DEWATERING PLAN. FISHERIES BIOLOGIST IS RESPONSIBLE FOR SITING THE BEST LOCATION FOR FISH SCREENS.
- EXISTING VEGETATION SHALL BE PROTECTED AND LEFT UNDISTURBED AS MUCH AS PRACTICAL. EXISTING FERNS AND THIMBLE BERRY PLANTS IN AREAS TO BE DISTURBED SHALL BE TRANSPLANTED PRIOR TO GROUND DISTURBANCE FOR REPLANTING AFTER FINAL GRADING HAS OCCURED.
- ALL UTILITIES SHOWN (IF ANY) WERE TAKEN FROM ABOVE GROUND VISUAL STRUCTURES. NO UTILITY RESEARCH WAS CONDUCTED FOR THIS SITE. NOTIFY UNDERGROUND SERVICE ALERT PRIOR TO ANY GRADING OR EXCAVATION WITHIN THE SITE AT 1-800-227-2600.
- NATIVE TOPSOIL THAT IS EXCAVATED TO BE SEGREGATED AND STOCKPILED ON SITE FOR RE-USE AFTER ROUGH GRADING IS COMPLETE.
- NATIVE STREAMBED MATERIAL THAT IS EXCAVATED SHALL BE SEGREGATED AND STOCKPILED ON SITE FOR RE-USE IN CHANNEL REGRADING.
- UNSUITABLE EXCAVATED MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A MANNER CONSISTENT WITH APPLICABLE REGULATIONS SUCH AS COUNTY GRADING ORDINANCES AND COASTAL GRADING PLANS. CONTRACTOR IS RESPONSIBLE FOR PROPER DISPOSAL OF UNSUITABLE MATERIALS TAKEN FROM SITE.
- ANY PUMPS USED ON-SITE (DEWATERING ETC) SHALL BE PLACED ON ABSORBANT PADS. THE CONTRACTOR SHALL HAVE SPILL CONTAINMENT MATERIALS LOCATED AT THE SITE, WITH OPERATORS TRAINED IN SPILL CONTROL PROCEDURES.
- ALL LARGE WOODY DEBRIS FOUND IN PROJECT AREA SHALL BE STOCKPILED ON SITE FOR RE-USE AS DIRECTED BY THE ENGINEER.
- WORK PHASING SHALL OCCUR AS FOLLOWS:
  - INSTALLATION OF FISH SCREENS, COFFER DAM CONSTRUCTION, DEWATERING AND FISH REMOVAL,
  - DEMOLITION AND EXCAVATION WORK,
  - INSTREAM CHANNEL WORK DOWNSTREAM OF STRUCTURE,
  - PLACEMENT OF PREFABRICATED STEEL BRIDGE AND FOOTINGS,
  - STRUCTURAL BACKFILL,
  - FINAL GRADING, PAVING, REVEGETATION, DEMOBILIZATION.

**ROUGHENED CHANNEL NOTES**

- CONSTRUCTION OF ROUGHENED CHANNEL AND STREAM RESTORATION PROJECTS IS NOT ROUTINE AND CONSTRUCTION INSPECTION IS NECESSARY TO HELP ENSURE THAT CONSTRUCTION CONFORMS WITH THE DESIGN INTENT.
- CONSTRUCTION OF NEW CHANNEL SHALL START FROM THE DOWNSTREAM END AND CONTINUE UPSTREAM. ENGINEER SHALL APPROVE ANY NECESSARY CHANGES REQUIRED TO ACCOMMODATE UNFORESEEN OBSTACLES THAT COULD BE ENCOUNTERED DURING CONSTRUCTION OR EXCAVATION SUCH AS BURIED BEDROCK, BURIED TIMBER, ACCESS LIMITATIONS, AND PRESERVATION OF EXISTING TREES.
- ALL ROCK LARGER THAN ONE FOOT DIAMETER USED FOR ROCK STRUCTURES SHALL BE ANGULAR QUARRY ROCK. NO ROUNDED ROCKS WILL BE ALLOWED FOR THE CONSTRUCTION OF ROCK STRUCTURES UNLESS APPROVED BY THE ENGINEER IN THE FIELD. LARGE NATIVE STREAM ROCK EXCAVATED AS PART OF THE WORK WILL BE UTILIZED IN THE PROJECT AS DIRECTED BY THE ENGINEER.
- ALL LARGE ROCKS USED IN STRUCTURES AND IN THE CHANNEL ARE TO BE INDIVIDUALLY PLACED BY HAND AND/OR MACHINE AND SECURED IN DESIRED POSITION BY MACHINE TAMPING OF ROCK AND SURROUNDING SUPPORT MATERIAL. FILL ALL VOIDS WITH SPECIFIED SMALLER MATERIAL AS CONSTRUCTION PROGRESSES TO MINIMIZE PERMEABILITY.
- COMPACTION OF PREPARED SUBGRADE AND THE CRUSHED AGGREGATE BASE COURSE SHALL BE A MINIMUM OF 90% MAXIMUM DENSITY PER CALIFORNIA TEST 216 AND 231.
- BANKLINE ROCKS, 1/2 TO 2 TON, SHALL BE PLACED ON PREPARED NATIVE MATERIAL AND AGAINST EXCAVATED BANKS. WORK SMALLER ROCKS AND FINES IN WITH THE LARGER ROCKS TO FILL VOIDS. CONSTRUCTED BANK FACES SHOULD BE UNEVEN, PROTRUDE INTO THE CHANNEL AND BE ROUGH IN APPEARANCE. CONSTRUCTED BANKLINES SHALL BE TIED BACK INTO EXISTING BANKS AND MEET EXISTING GROUND.
- TRENCH FOR FOOTER ROCKS IN ROCK STRUCTURES MUST BE DEEP ENOUGH THAT TOP OF FOOTER ROCKS WILL LIE FLUSH WITH THE ENGINEERED STREAMBED MATERIAL. FORCING ROCKS SHALL BE EXPOSED AT LEAST 30% AND NO MORE THAN 50% OF THEIR DIAMETER ABOVE FINISHED GRADE.

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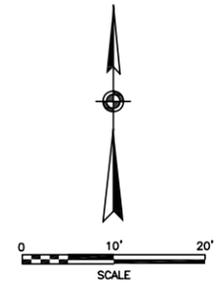
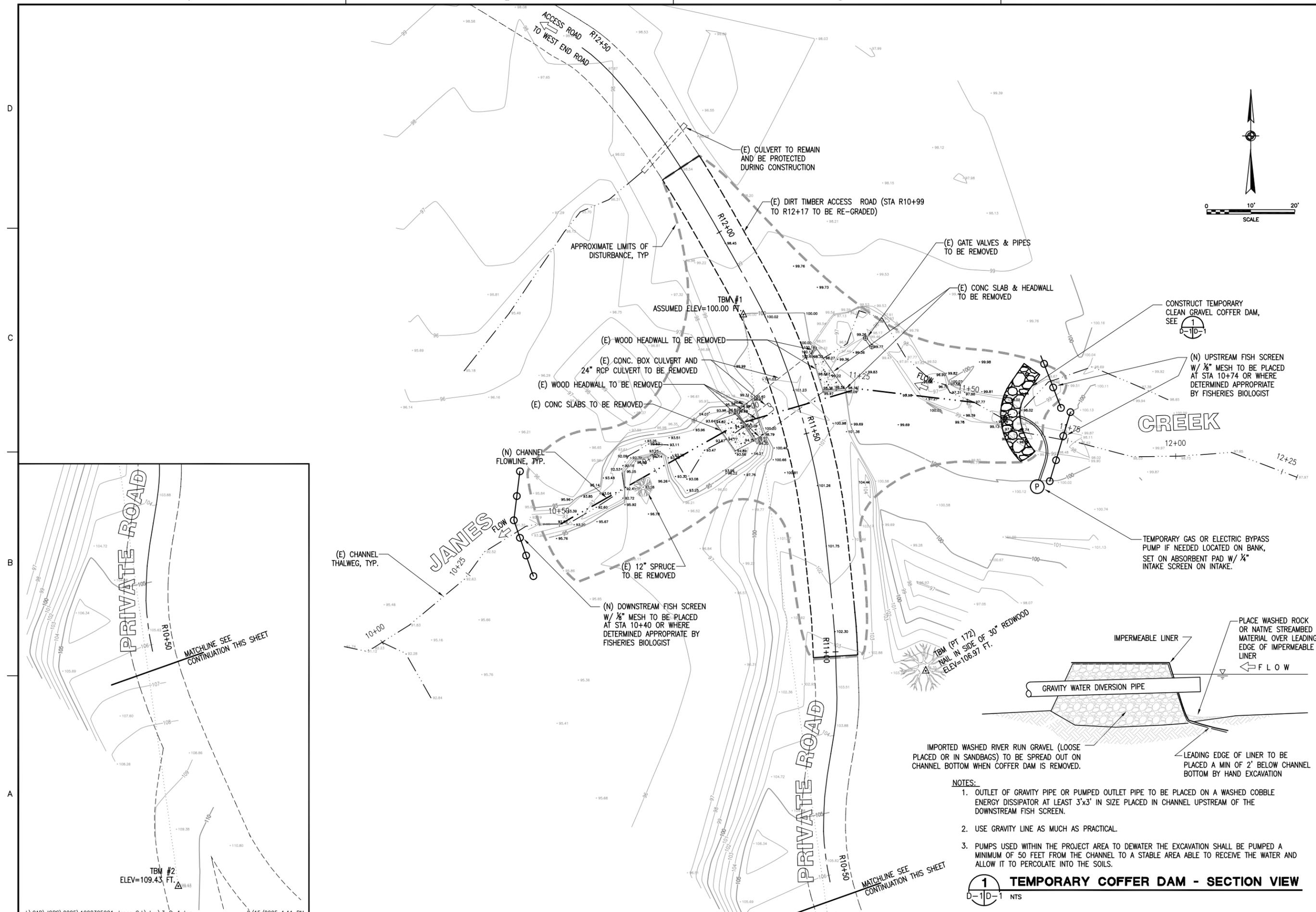
DES SAA SUBV SAA DRN SJD CHK AUC  
 DRAWING SCALE AS SHOWN

REGISTERED PROFESSIONAL ENGINEER  
 SERENA ALEX  
 No. 68021  
 CIVIL  
 STATE OF CALIFORNIA

HUMBOLDT FISH ACTION COUNCIL  
 JAMES CREEK FISH PASSAGE  
 CHANNEL DESIGN PROJECT

GENERAL NOTES, SYMBOLS & ABBREVIATIONS

JOB NUMBER 04113201  
 SHEET 2 OF 8  
 G-2



IMPORTED WASHED RIVER RUN GRAVEL (LOOSE PLACED OR IN SANDBAGS) TO BE SPREAD OUT ON CHANNEL BOTTOM WHEN COFFER DAM IS REMOVED.

PLACE WASHED ROCK OR NATIVE STREAMBED MATERIAL OVER LEADING EDGE OF IMPERMEABLE LINER

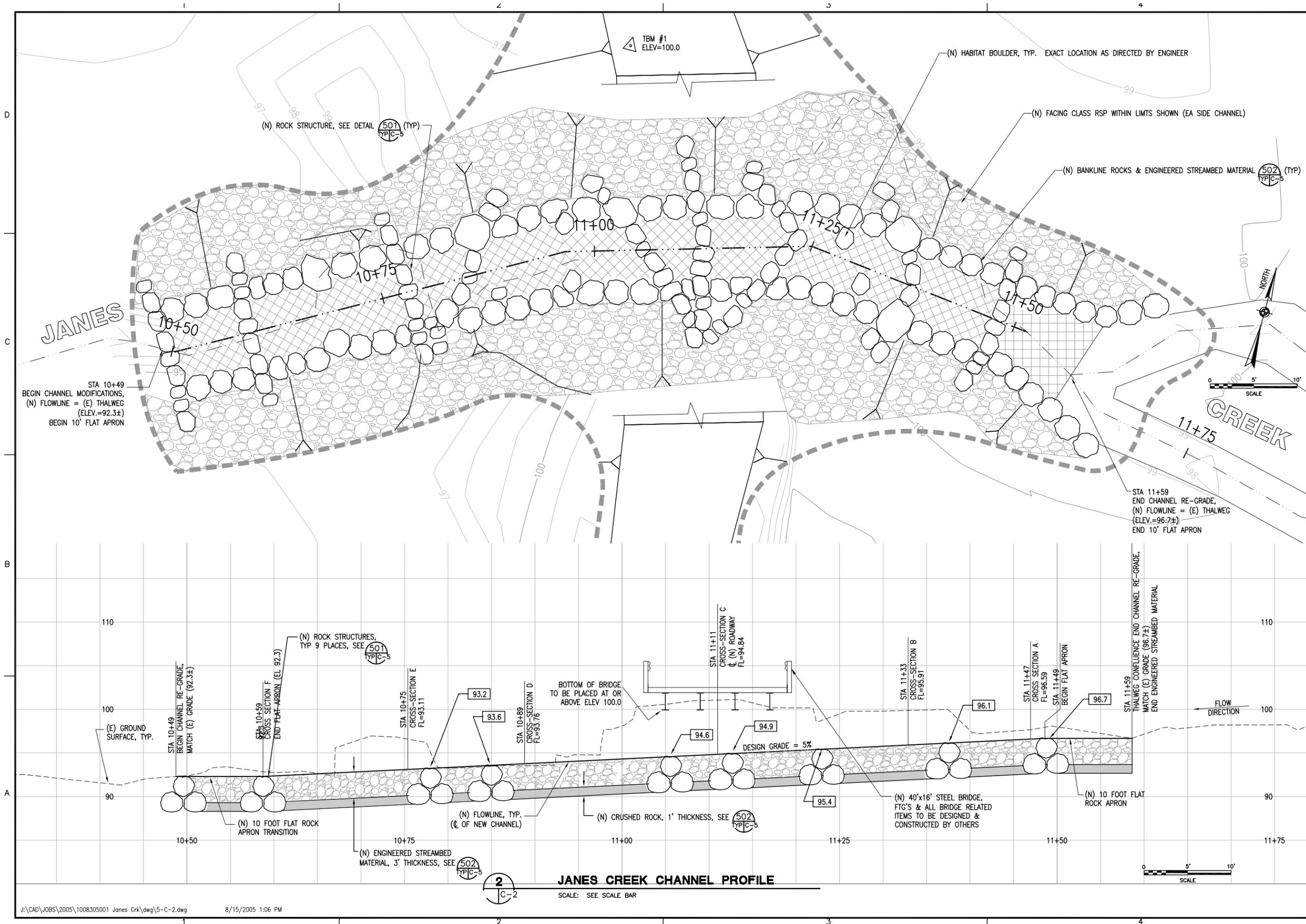
LEADING EDGE OF LINER TO BE PLACED A MIN OF 2' BELOW CHANNEL BOTTOM BY HAND EXCAVATION

- NOTES:**
1. OUTLET OF GRAVITY PIPE OR PUMPED OUTLET PIPE TO BE PLACED ON A WASHED COBBLE ENERGY DISSIPATOR AT LEAST 3'x3' IN SIZE PLACED IN CHANNEL UPSTREAM OF THE DOWNSTREAM FISH SCREEN.
  2. USE GRAVITY LINE AS MUCH AS PRACTICAL.
  3. PUMPS USED WITHIN THE PROJECT AREA TO DEWATER THE EXCAVATION SHALL BE PUMPED A MINIMUM OF 50 FEET FROM THE CHANNEL TO A STABLE AREA ABLE TO RECEIVE THE WATER AND ALLOW IT TO PERCOLATE INTO THE SOILS.

**1**  
D-1D-1 NTS  
**TEMPORARY COFFER DAM - SECTION VIEW**

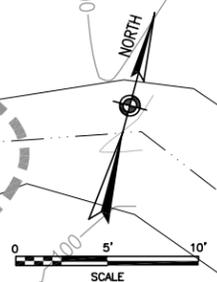
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SYN	DESCRIPTION	
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DES: SA/ML	CHK: A/JC	DRAWING SCALE AS SHOWN
DES: JS/SJD	CHK: A/JC	DRAWING SCALE AS SHOWN
<b>HUMBOLDT FISH ACTION COUNCIL</b> <b>JANES CREEK FISH PASSAGE</b> <b>CHANNEL DESIGN PROJECT</b> CIVIL <b>EXISTING CONDITIONS &amp; DEMOLITION PLAN</b>		
JOB NUMBER 1008305001		
SHEET 3 OF 8		
D-1		



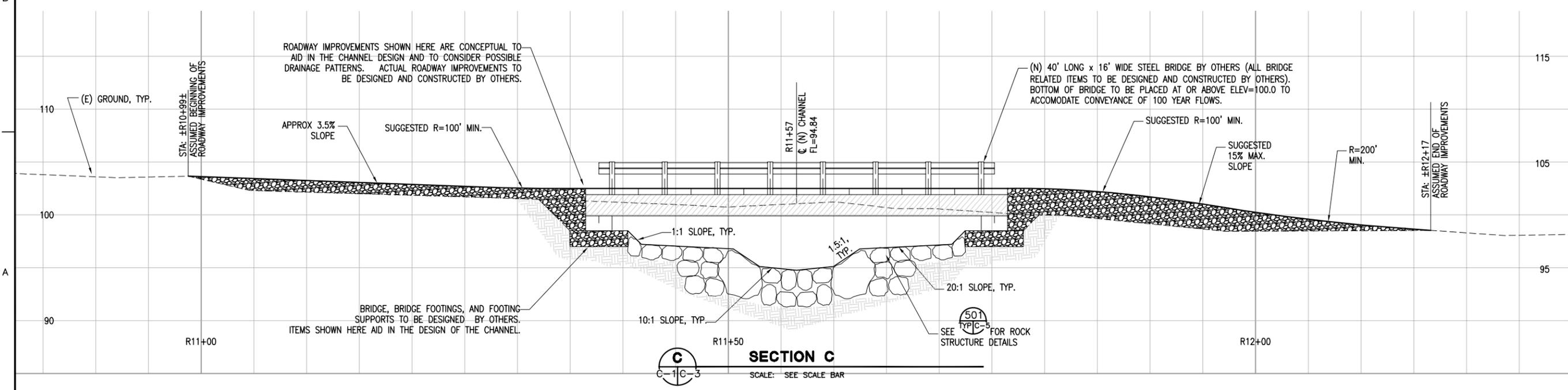
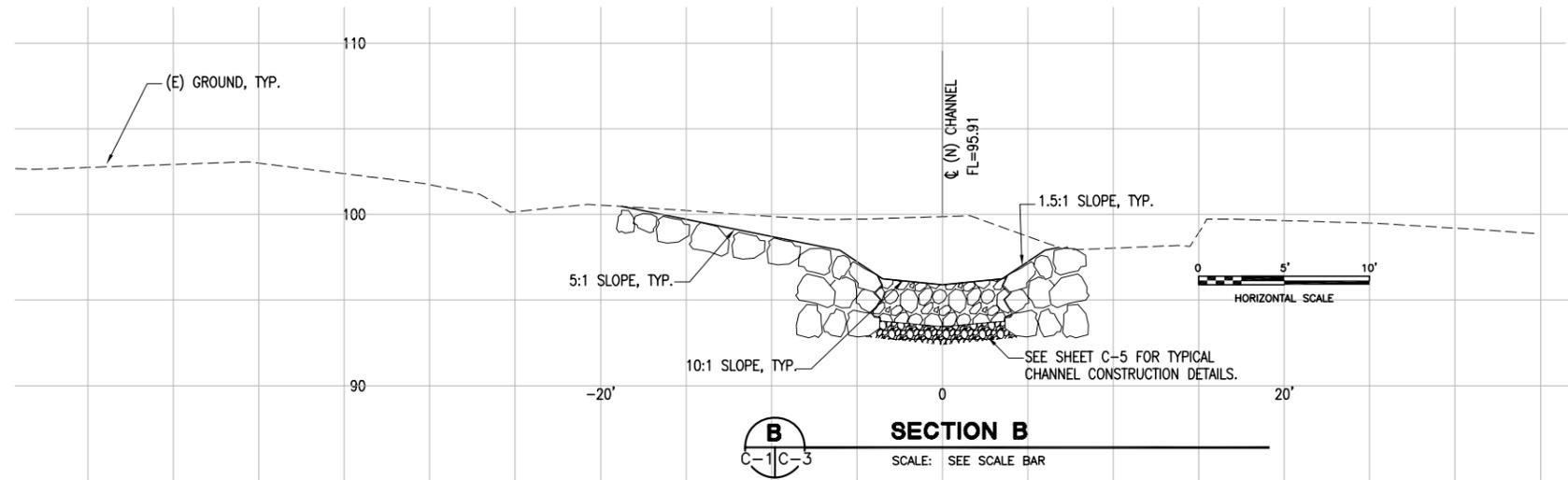
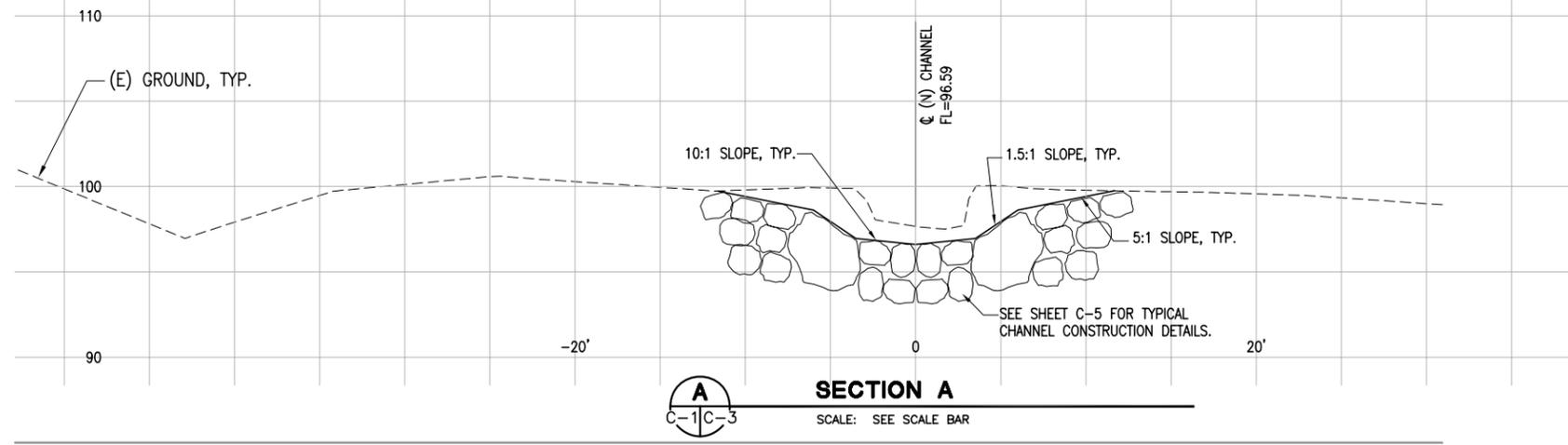


STA 10+49  
BEGIN CHANNEL MODIFICATIONS,  
(N) FLOWLINE = (E) THALWEG  
(ELEV.=92.3±)  
BEGIN 10' FLAT APRON

STA 11+59  
END CHANNEL RE-GRADE,  
(N) FLOWLINE = (E) THALWEG  
(ELEV.=96.7±)  
END 10' FLAT APRON



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<b>Michael Love &amp; Associates</b> Hydrologic Solutions PO Box 4477 • Arcata, CA 95518 • (707) 476-8938		STA. APPROVED
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HUMBOLDT FISH ACTION COUNCIL JANES CREEK FISH PASSAGE CHANNEL DESIGN PROJECT CIVIL		
<b>PLAN &amp; PROFILE</b>		
JOB NUMBER: 1008305001 SHEET 5 OF 8		
<b>C-2</b>		

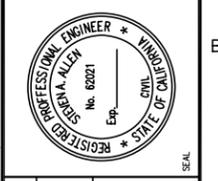


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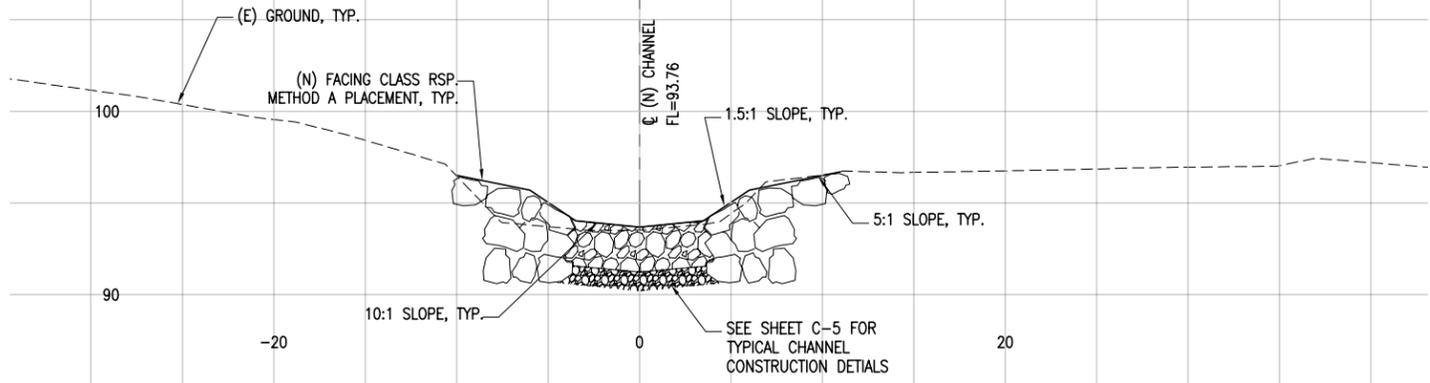
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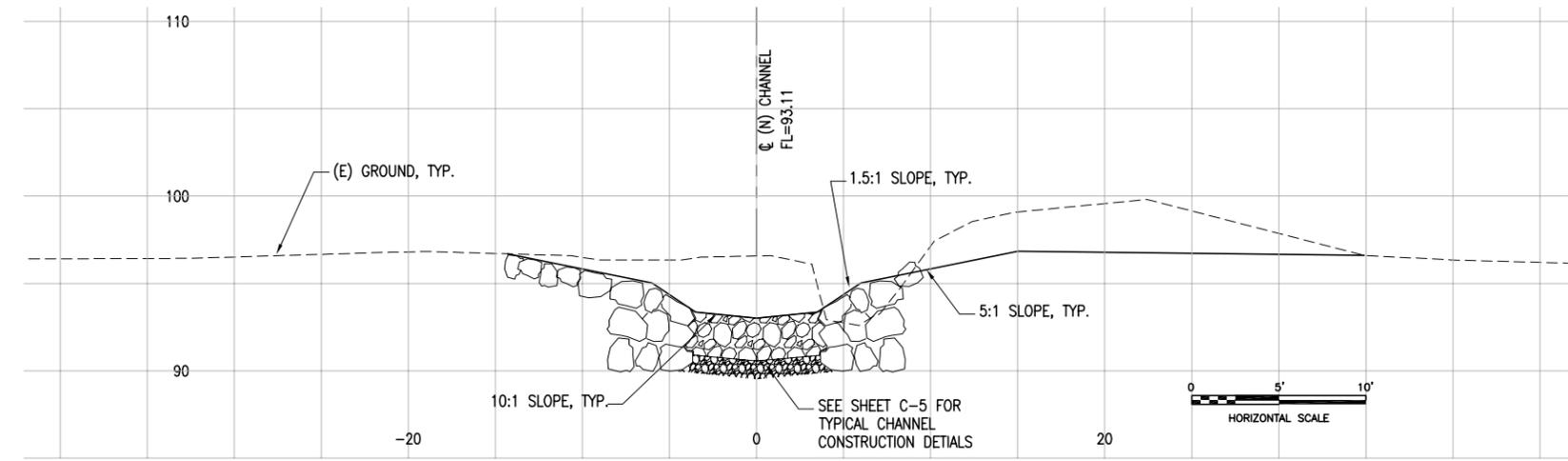
HUMBOLDT FISH ACTION COUNCIL  
JANES CREEK FISH PASSAGE  
CHANNEL DESIGN PROJECT  
CIVIL  
CROSS SECTIONS

JOB NUMBER 1008305001  
SHEET 6 OF 8

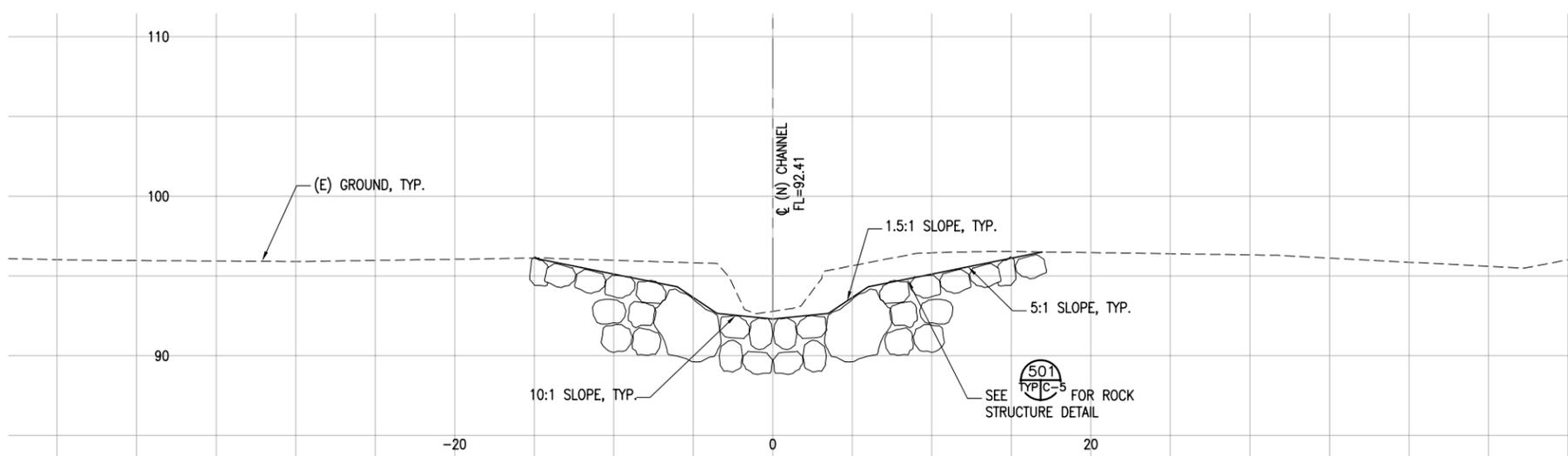
C-3



**D**  
C-1|C-4  
**SECTION D**  
SCALE: SEE SCALE BAR



**E**  
C-1|C-4  
**SECTION E**  
SCALE: SEE SCALE BAR



**F**  
C-1|C-4  
**SECTION F**  
SCALE: SEE SCALE BAR

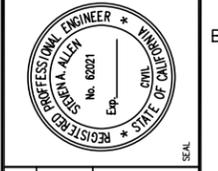
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	REVISIONS		

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DES SA/ML	DRN JS	CHK AC
SUPV SA	DRN JS	CHK AC

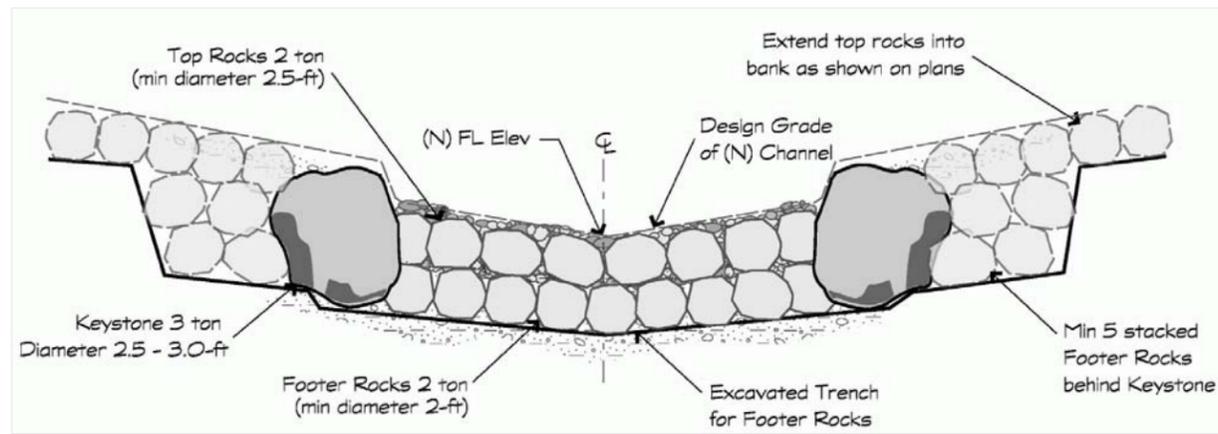
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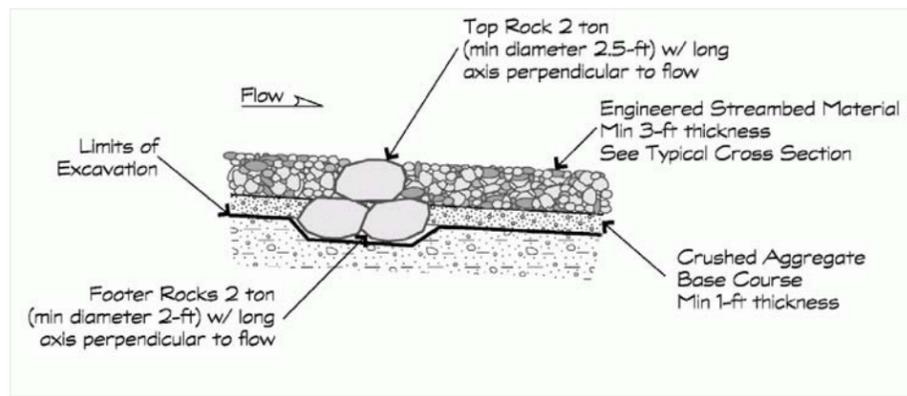
HUMBOLDT FISH ACTION COUNCIL  
JANES CREEK FISH PASSAGE  
CHANNEL DESIGN PROJECT  
CIVIL  
**CROSS SECTIONS**

JOB NUMBER	1008305001
SHEET	7 OF 8

**C-4**



**SECTION VIEW**

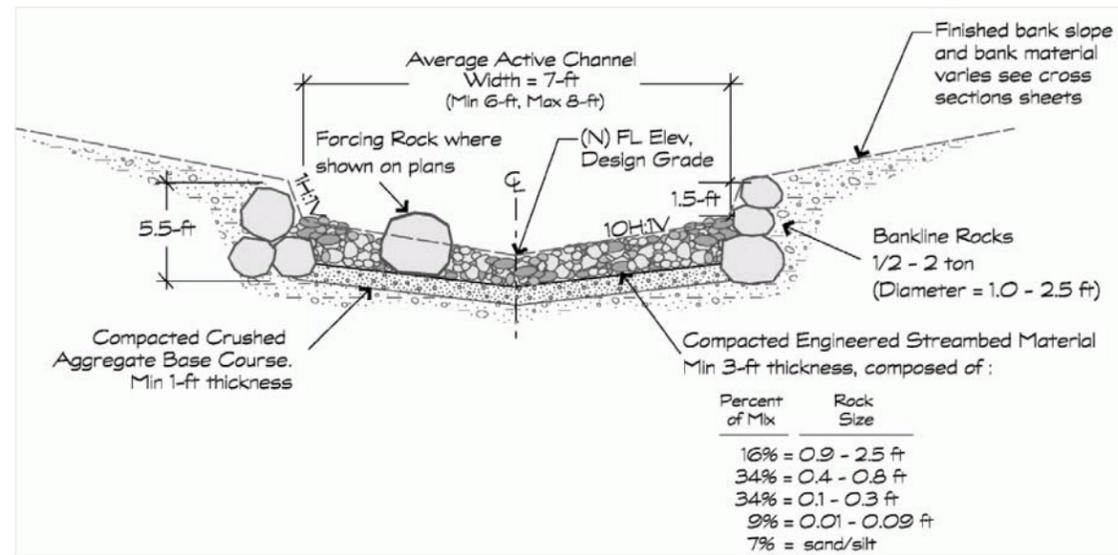


**PROFILE VIEW**

**501**  
C-1|C-5

**TYPICAL ROCK STRUCTURE DETAIL**

NTS



**502**  
C-1|C-5

**TYPICAL BANKLINE ROCKS & ENGINEERED STREAMBED MATERIAL**

NTS

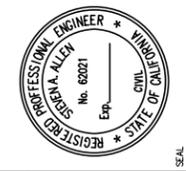
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DES	SA/ML	CHK	AJC
DRN	SUD	CHK	AJC

DRAWING SCALE AS SHOWN



HUMBOLDT FISH ACTION COUNCIL  
JANES CREEK FISH PASSAGE  
CHANNEL DESIGN PROJECT  
CIVIL  
CIVIL DETAILS

JOB NUMBER 1008305001  
SHEET 8 OF 8

C-5