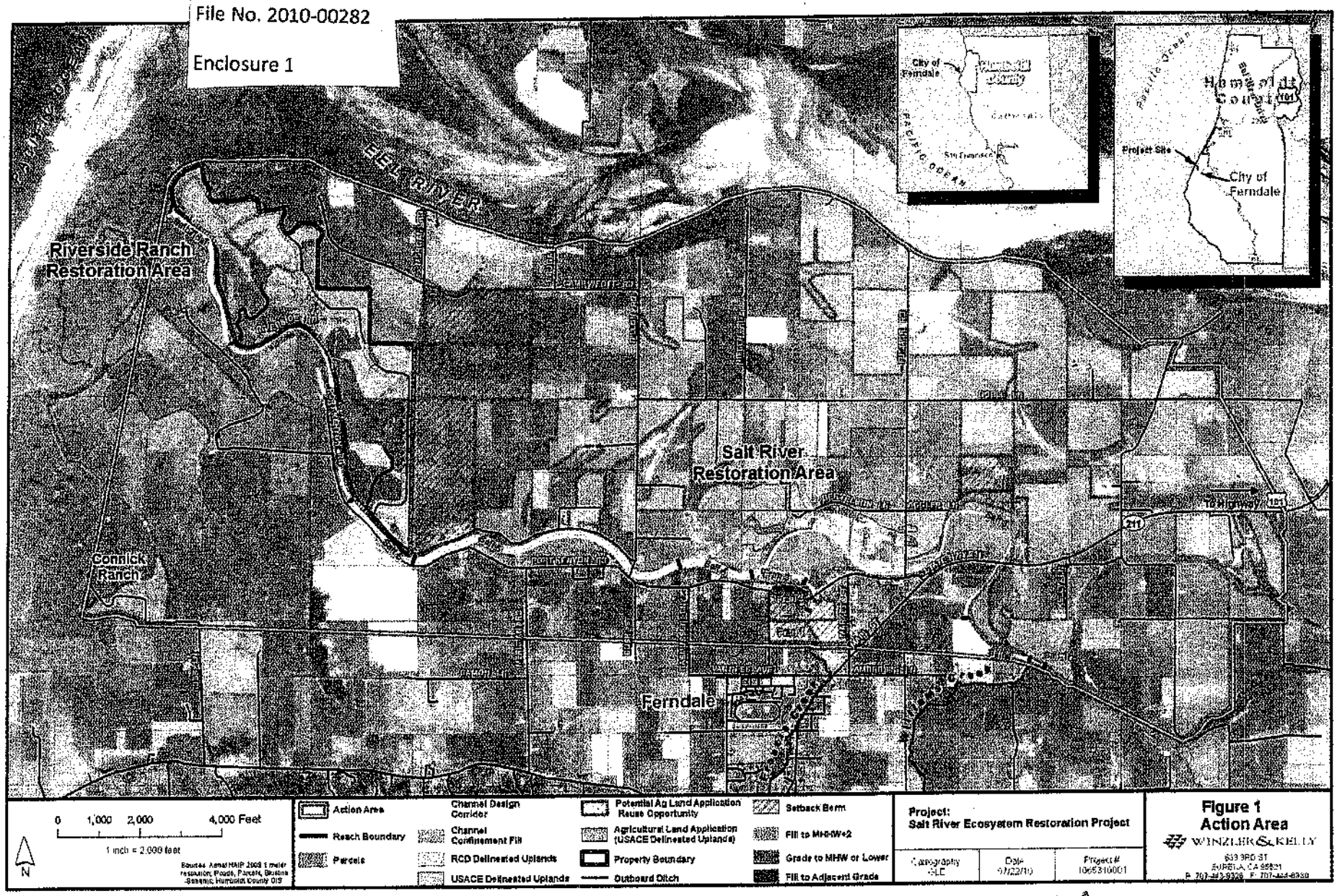
File No. 2010-00282

Enclosure 1



Sheet 1A of 39

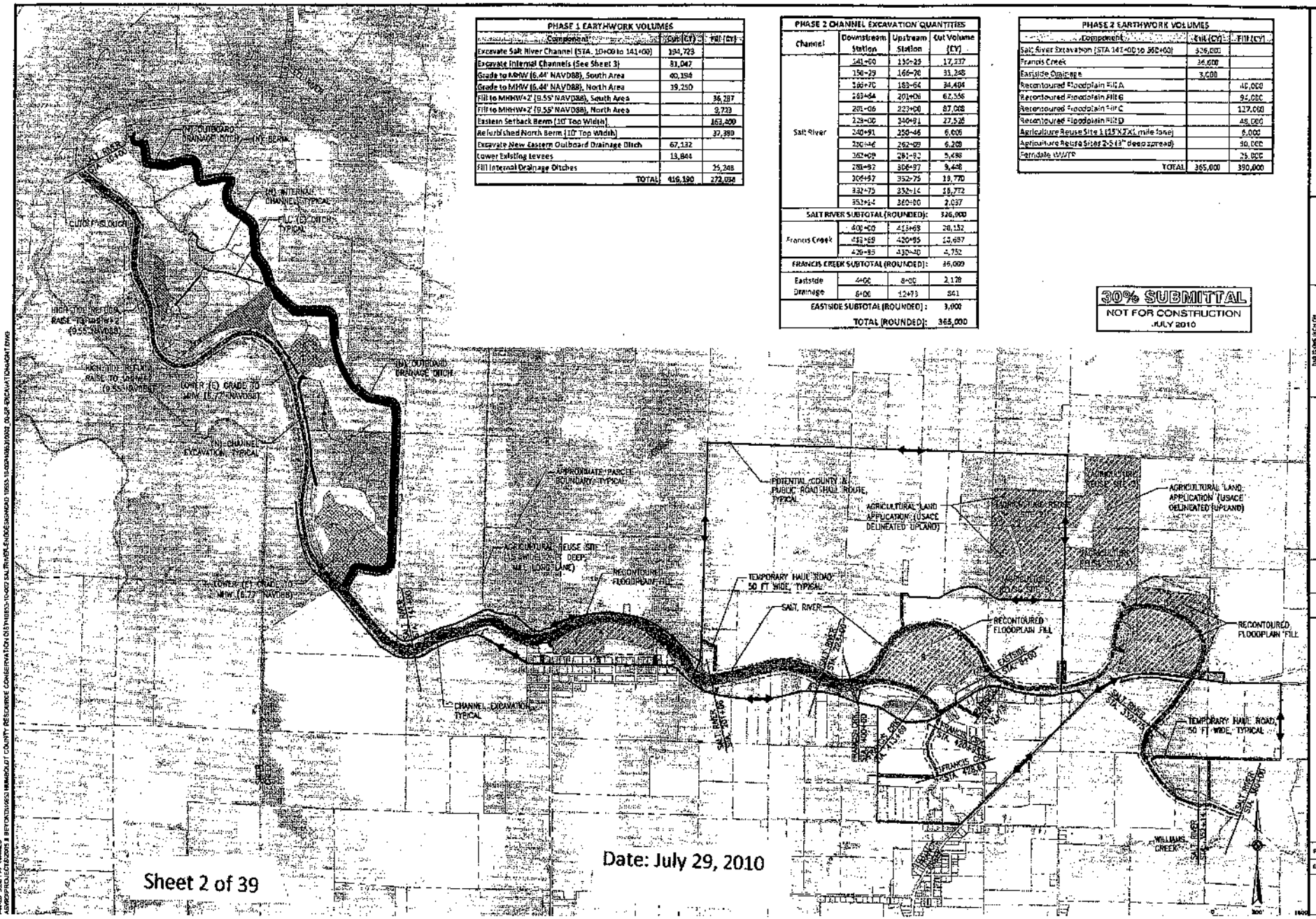
File No. 2010-00282

Enclosure 1

PHASE 1 EARTHWORK VOLUMES		
Component	Cut (CY)	Fill (CY)
Excavate Salt River Channel (STA. 10+00 to 141+00)	194,723	
Excavate Internal Channels (See Sheet 3)	81,047	
Grade to MHW (6.44' NAVD88), South Area	40,194	
Grade to MHW (6.44' NAVD88), North Area	39,250	
Fill to MHHW+2' (9.55' NAVD88), South Area		36,287
Fill to MHHW+2' (9.55' NAVD88), North Area		9,723
Eastern Setback Berm (10' Top Width)		163,400
Refurbished North Berm (10' Top Width)		37,380
Excavate New Eastern Outboard Drainage Ditch	67,132	
Lower Existing Levees	13,844	
Fill Internal Drainage Ditches		25,248
TOTAL	416,190	272,038

PHASE 2 CHANNEL EXCAVATION QUANTITIES			
Channel	Downstream Station	Upstream Station	Cut Volume (CY)
Salt River	141+00	150+29	17,237
	150+29	160+70	33,268
	160+70	169+64	34,494
	169+64	201+06	62,556
	201+06	223+00	87,008
	223+00	240+91	27,526
	240+91	250+46	6,006
	250+46	262+09	6,209
	262+09	281+92	5,698
	281+92	306+97	9,498
	306+97	352+75	19,770
	332+75	352+14	18,772
	352+14	360+00	2,037
SALT RIVER SUBTOTAL (ROUNDED):			326,000
Frances Creek	400+00	415+69	28,152
	415+69	420+95	13,687
	420+95	430+30	4,752
FRANCIS CREEK SUBTOTAL (ROUNDED):			46,000
Eastside Drainage	4+00	8+00	2,128
	8+00	12+73	841
EASTSIDE SUBTOTAL (ROUNDED):			3,000
TOTAL (ROUNDED):			365,000

PHASE 2 EARTHWORK VOLUMES		
Component	Cut (CY)	Fill (CY)
Salt River Excavation (STA 141+00 to 360+00)	326,000	
Francis Creek	46,000	
Eastside Drainage	3,000	
Recontoured Floodplain Fill A		40,000
Recontoured Floodplain Fill B		94,000
Recontoured Floodplain Fill C		127,000
Recontoured Floodplain Fill D		48,000
Agriculture Reuse Site 1 (15'X7X1 mile lane)		6,000
Agriculture Reuse Site 2 (5-13" deep spread)		90,000
Ferndale WWTP		25,000
TOTAL	365,000	390,000



HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT

SALT RIVER ECOSYSTEM RESTORATION PROJECT

EMP-

File No. 2010-00282

Enclosure 1

HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT

SALT RIVER ECOSYSTEM RESTORATION PROJECT

RIVERSIDE RANCH AND SALT RIVER RESTORATION PLANS

JULY 2010

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G-4	4 of 38	CONCEPTUAL WATER MANAGEMENT CONTROL PLAN
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RIVERSIDE RANCH - PHASE 1

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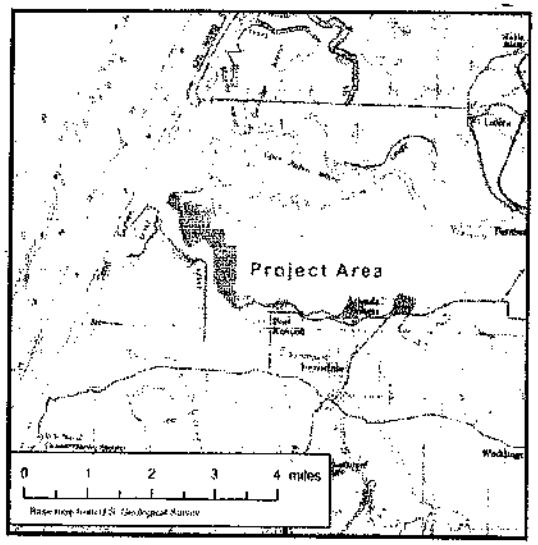
RR-2	7 of 38	RIVERSIDE RANCH SITE PLAN
RR-3	8 of 38	RIVERSIDE RANCH SITE PLAN
RR-4	9 of 38	RIVERSIDE RANCH SITE PLAN
RR-5	10 of 38	RIVERSIDE RANCH SITE PLAN
RR-6	11 of 38	RIVERSIDE RANCH SITE PLAN
RR-7	12 of 38	RIVERSIDE RANCH SITE PLAN
RR-8	13 of 38	RIVERSIDE RANCH SITE PLAN
RR-9	14 of 38	RIVERSIDE RANCH CROSS-SECTIONS
RR10	15 of 38	RIVERSIDE RANCH CROSS-SECTIONS
RR-11	16 of 38	RIVERSIDE RANCH PROFILES
RR-12	17 of 38	RIVERSIDE RANCH DETAILS

30% SUBMITTAL



VICINITY MAP

N.T.S.

SHEET INDEX CONT.

SALT RIVER - PHASE 2

SR-1	18 of 38	SALT RIVER SITE PLAN
SR-2	19 of 38	SALT RIVER SITE PLAN
SR-3	20 of 38	SALT RIVER SITE PLAN
SR-4	21 of 38	SALT RIVER SITE PLAN
SR-5	22 of 38	SALT RIVER SITE PLAN
SR-6	23 of 38	SALT RIVER SITE PLAN
SR-7	24 of 38	SALT RIVER SITE PLAN
SR-8	25 of 38	SALT RIVER SITE PLAN
SR-9	26 of 38	SALT RIVER SITE PLAN
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SR-12	29 of 38	SALT RIVER PROFILES
SR-13	30 of 38	SALT RIVER CROSS-SECTIONS
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SR-17	34 of 38	SALT RIVER CROSS-SECTIONS
EMP-1	35 of 38	SALT RIVER EARTHWORK MANAGEMENT PLAN
V-1	36 of 38	TYPICAL RE-VEG SECTIONS
V-2	37 of 38	TYPICAL RE-VEG SECTIONS
V-3	38 of 38	RE-VEGETATION PALETTE

PROJECT FUNDING:
CALIFORNIA COASTAL CONSERVANCY
CALIFORNIA WATER RESOURCES CONTROL BOARD

RECEIVED JUL 29 2010

HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER ECOSYSTEM RESTORATION PROJECT
COVER SHEET

PROJ NO: 10653-10-
DRWN: TWSG CHKD:
G-1
SHEET 1 OF

SR–SHEET LEGEND:

GENERAL:

- # DIAMETER
- ± APPROXIMATE
- @ AT
- Δ DELTA
- WATER SURFACE
- TEMPORARY BENCH MARK (TBM)
- 37 HORIZONTAL CONTROL POINT
- SECTION VIEW DIRECTION
- SECTION OR DETAIL DESIGNATION (LETTER INDICATES SECTION, NO. INDICATES DETAIL)
- SHEET WHERE SECTION OR DETAIL OCCURS
- SHEET FROM WHICH SECTION OR DETAIL WAS TAKEN

TOPOGRAPHY

NEW | EXISTING

- AC PAVEMENT
- FENCE
- CONTOUR LINE (10, 12)
- PROPOSED THALWEG AND STATION (100+00)
- TOP OF BANK
- TOE OF BANK
- LIMITS OF CHANNEL EXCAVATION
- LIMITS OF TEMP. CONSTRUCTION DISTURBANCE
- TREE
- ROCK SLOPE PROTECTION
- CHANNEL TERRACE
- TEMPORARY ACCESS ROAD
- TEMPORARY COFFER DAM
- DEMOLITION

UTILITIES

- W — WATER MAIN
- SD — STORM DRAIN/CULVERT
- SS — SANITARY SEWER MAIN
- FM — SANITARY SEWER FORCE MAIN
- E — UNDERGROUND ELECT CONDUIT
- E OHD — OVERHEAD ELECTRICAL LINE
- TV — CABLE TELEVISION (COMM) LINE
- G — GAS MAIN

RR–SHEET LEGEND

- CONSTRUCTION BOUNDARY
- TOP OF PROPOSED SLOPE
- TOE OF PROPOSED SLOPE
- PROPOSED GRADE
- EXISTING GRADE
- PROPOSED 12-FT WIDE BERM (ELEV. 14.0' NAVD88)
- REFURBISHED EXISTING BERM (ELEV. 14.0' NAVD88)
- PROPOSED OUTBOARD DRAINAGE DITCH
- PROPOSED NEW CHANNELS
- PROPOSED DITCH FILL AREAS
- FILL TO ELEV. 9.55' NAVD88
- GRADE TO ELEV. 6.77' NAVD88
- EXISTING FENCE
- FENCE REMOVAL
- NEW WATER LINE
- EXISTING WATER LINE

GENERAL NOTES:

1. COFFER DAMS AND FISH SCREENS 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.
2. EXISTING VEGETATION SHALL BE PROTECTED AND LEFT UNDISTURBED AS MUCH AS PRACTICAL. EXISTING NATIVE PLANTS IN AREAS TO BE DISTURBED SHALL BE REPLACED AFTER FINAL GRADING HAS OCCURRED.
3. ALL UTILITIES SHOWN (IF ANY) WERE LOCATED 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. CONTACT ADJACENT PROPERTY OWNERS TO DETERMINE IF THERE ARE ANY UTILITIES TO CONSIDER.
4. NATIVE TOPSOIL THAT IS EXCAVATED TO BE SEGREGATED AND STOCKPILED ON SITE FOR RE-USE. STOCKPILES TO BE LOCATED WITHIN THE STAGING AREA WHEN PRACTICAL AND COMPLETELY WITHIN THE LIMITS OF DISTURBANCE AT ALL TIMES.
5. ANY MATERIAL NOT UTILIZED ON SITE SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A MANNER CONSISTENT WITH APPLICABLE REGULATIONS SUCH AS COUNTY GRADING ORDINANCES AND PROJECT PERMITS. CONTRACTOR IS RESPONSIBLE FOR PROPER DISPOSAL OF MATERIALS TAKEN FROM SITE.
6. ANY PUMPS USED ON-SITE (DEWATERING ETC) SHALL BE PLACED ON ABSORBENT PADS. THE CONTRACTOR SHALL HAVE SPILL CONTAINMENT MATERIALS LOCATED AT THE SITE, WITH OPERATORS TRAINED IN SPILL CONTROL PROCEDURES.
7. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERING DISCREPANCIES, ERRORS OR OMISSIONS IN THE PLANS. PRIOR TO PROCEEDING, THE DISCREPANCY SHALL BE RESOLVED TO THE SATISFACTION OF THE ENGINEER.
8. PERFORM GRADING IN ACCORDANCE WITH THE LATEST EDITION OF APPENDIX CHAPTER 33 OF THE CALIFORNIA BUILDING CODE AND APPLICABLE HUMBOLDT COUNTY REGULATIONS.
9. IN THE EVENT CULTURAL RESOURCES (I.E., HISTORICAL, ARCHAEOLOGICAL, AND PALEONTOLOGICAL RESOURCES, AND HUMAN REMAINS) ARE DISCOVERED DURING GRADING OR OTHER CONSTRUCTION ACTIVITIES, WORK SHALL BE HALTED WITHIN A 100 FOOT RADIUS OF THE FIND. A QUALIFIED ARCHEOLOGIST SHALL BE CONSULTED FOR AN ON-SITE EVALUATION. ADDITIONAL MITIGATION MAY BE REQUIRED BY THE COUNTY PER THE ARCHEOLOGIST'S RECOMMENDATIONS. IF HUMAN BURIALS OR HUMAN REMAINS ARE ENCOUNTERED, THE CONTRACTOR SHALL ALSO NOTIFY THE COUNTY CORONER.
10. SHOULD GRADING OPERATIONS ENCOUNTER HAZARDOUS MATERIALS, OR WHAT APPEAR TO BE HAZARDOUS MATERIALS, STOP WORK IN THE AFFECTED AREA IMMEDIATELY AND CONTACT 911 OR THE APPROPRIATE AGENCY FOR FURTHER INSTRUCTION.

30% SUBMITTAL
NOT FOR CONSTRUCTION
JULY 2010

TRAFFIC CONTROL NOTES:

1. CONTRACTOR TO SUBMIT TRAFFIC CONTROL PLAN TO BE APPROVED BY ENGINEER.
2. TEMPORARY LANE CLOSURE TRAFFIC CONTROL TO BE CONSISTENT W/ LANE CLOSURE FOR LOW VOLUME, TWO LANE ROADS PER CURRENT EDITION OF CALTRANS MANUAL OF TRAFFIC CONTROLS AND IN CONFORMANCE WITH THE PROJECT SPECIFICATIONS.

TOPOGRAPHIC SURVEY NOTES:

1. TOPOGRAPHIC DATA IS BASED ON USACE PHOTOGRAMMETRY (NAVD88)

DESIGN NOTES:

1. CHANNEL DESIGN COMPLETED BY NATIONAL MARINE FISHERIES SERVICE, ARCATA, CA, APRIL 2010.
2. CULVERT LOCATIONS ARE APPROXIMATE AND PROVIDED BY NORTHERN HYDROLOGY AND ENGINEERING, MAY 2010.
3. BRIDGE CROSSING DIMENSIONS ARE APPROXIMATE AND PROVIDED BY NORTHERN HYDROLOGY AND ENGINEERING, MAY 2010.
4. PORT KENYON ROAD CROSSING REPLACEMENT CONCEPT DESIGN PROVIDED BY COUNTY OF HUMBOLDT, APRIL 2010.

ABBREVIATIONS:

AC	ASPHALT CONCRETE PAVING	(N)	NEW
APPROX	APPROXIMATE	OC	ON CENTER
CL	CENTER LINE	PP	POWER POLE
CMP	CORRUGATED METAL PIPE		
CONC	CONCRETE	RSP	ROCK SLOPE PROTECTI
E	ELECTRICAL	STA	STATION
(E)	EXISTING	SD	STORM DRAIN
EL	ELEVATION	SS	SANITARY SEWER
E OHD	OVERHEAD ELECTRICAL LINES	SST	STAINLESS STEEL
EW	ELECTRIC STREET WELL		
FT	FOOT or FEET	T	TELEPHONE
		TBD	TO BE DETERMINED
		TBM	TEMPORARY BENCH MA
HYD	FIRE HYDRANT	TYP	TYPICAL
INV	INVERT ELEVATION	W/	WITH
IE	INVERT ELEVATION	W	WATER
MAX	MAXIMUM	XS	CROSS SECTION
MH	MANHOLE		
MIN	MINIMUM		

NOTE: CONTACT ENGINEER FOR ABBREVIATIONS NOT LISTED.

MARK	DATE	DESCRIPTION

HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER ECOSYSTEM RESTORATION PROJECT

GENERAL NOTES, SYMBOLS & ABBREVIATIONS

PROJ NO: 10653-10-002
DRAWN: TJ/SG CHKD: JS/J

G-2

SHEET 2 OF 38

RIBBON/SALTRIVER
SAVE AS ONE INCH ON ORIGINAL DRAWING
0 1"
REUSE OF DOCUMENTS
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EROSION, SEDIMENT, POLLUTION, & WASTE CONTROL NOTES:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MINIMIZE EROSION AND PREVENT THE TRANSPORT OF SEDIMENT TO THE ADJACENT STREAM AND SENSITIVE AREAS.

2. PERFORM EROSION PREVENTION AND SEDIMENT CONTROL IN ACCORDANCE WITH THE LATEST EDITION OF CHAPTER 33 OF THE CALIFORNIA BUILDING CODE, APPLICABLE HUMBOLDT COUNTY REGULATIONS, AND SECTION 20 OF THE CALTRANS STANDARD SPECIFICATIONS.

3. AT A MINIMUM, THE CONTRACTOR SHALL EMPLOY THE FOLLOWING BEST MANAGEMENT PRACTICES (BMPS) AS DESCRIBED IN THE CURRENT CALTRANS STORM WATER QUALITY HANDBOOK AS NEEDED:

SS-2 PRESERVATION OF EXISTING VEGETATION	NS-5 CLEAR WATER DIVERSION
SS-6 REDWOOD MULCH	NS-9 VEHICLE EQUIPMENT AND FUELING
SS-10 OUTLET PROTECTION/VELOCITY DISSIPATION DEVICES	WM-1 MATERIALS DELIVERY AND STORAGE
SC-1 SILT FENCE	WM-2 MATERIAL USE
NS-2 DEWATERING OPERATIONS	WM-4 SPILL PREVENTION AND CONTROL
NS-3 PAVING AND GRADING OPERATIONS	WM-8 CONCRETE WASTE MANAGEMENT
	WM-9 SANITARY/SEPTIC WASTE MANAGEMENT

4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIX ANY EROSION, SEDIMENT, POLLUTION, & WASTE CONTROL DEFICIENCIES IDENTIFIED BY THE OWNER OR THE OWNERS REPRESENTATIVE.

5. PRIOR TO FINAL ACCEPTANCE ALL AREAS OF THE SITE WILL BE VEGETATED OR PERMANENTLY STABILIZED AND ALL TEMPORARY SEDIMENT CONTROL MEASURES SHALL BE REMOVED.

6. ALL DISTURBED EARTH AREAS SHALL BE MULCHED AND SEEDED PER THE RE-VEGETATION AND PLANTING SPECIFICATIONS.

7. IF DISCREPANCIES OCCUR BETWEEN THESE NOTES, MATERIAL REFERENCED HEREIN OR MANUFACTURERS RECOMMENDATIONS, THEN THE MOST PROTECTIVE SHALL APPLY.

8. THE OWNER IS RESPONSIBLE FOR OBTAINING AND COMPLYING WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES OF STORM WATER RUNOFF ASSOCIATED WITH CONSTRUCTION ACTIVITY. THE SITE DISTURBANCE IS GREATER THAN 1 ACRE, THEREFORE THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE PROJECT.

9. PRESERVATION OF EXISTING VEGETATION SHALL OCCUR TO THE MAXIMUM EXTENT PRACTICABLE.

10. DISCHARGES OF POTENTIAL POLLUTANTS FROM CONSTRUCTION SITES SHALL BE PREVENTED USING SOURCE CONTROLS TO THE MAXIMUM EXTENT PRACTICABLE. POTENTIAL POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO: SEDIMENT, TRASH, NUTRIENTS, PATHOGENS, PETROLEUM HYDROCARBONS, METALS, CONCRETE, CEMENT, ASPHALT, LIME, PAINT, STAINS, GLUES, WOOD PRODUCTS, PESTICIDES, HERBICIDES, CHEMICALS, HAZARDOUS WASTE, SANITARY WASTE, VEHICLE OR EQUIPMENT WASH WATER AND CHLORINATED WATER.

11. WHENEVER IT IS NOT POSSIBLE TO UTILIZE EROSION PREVENTION MEASURES, EXPOSED SLOPES SHALL EMPLOY SEDIMENT CONTROL DEVICES, SUCH AS FIBER ROLLS AND SILT FENCES. FIBER ROLLS AND SILT FENCES SHALL BE TRENCHED AND KEYED INTO THE SOIL AND INSTALLED ON CONTOUR. SILT FENCES SHALL BE INSTALLED APPROXIMATELY 2 TO 5 FEET FROM TOE OF SLOPE.

12. THE CONTRACTOR SHALL PROTECT STORM DRAIN INLETS FROM POTENTIAL POLLUTANTS UNTIL DRAINAGE CONVEYANCE SYSTEMS ARE FUNCTIONAL, THE SITE IS STABILIZED, AND CONSTRUCTION HAS BEEN COMPLETED.

13. ENERGY DISSIPATERS SHALL BE INSTALLED AT STORM DRAIN OUTLETS WHICH MAY CONVEY STORM WATER FLOW LEADING TO SOIL EROSION.

14. SOIL AND MATERIAL STOCKPILES SHALL BE PROPERLY PROTECTED TO MINIMIZE SEDIMENT AND POLLUTANT TRANSPORT FROM THE CONSTRUCTION SITE.

15. SOLID WASTE, SUCH AS TRASH AND DEBRIS, SHALL BE PLACED IN DESIGNATED COLLECTION AREAS OR CONTAINERS. THE CONSTRUCTION SITE SHALL BE CLEARED OF SOLID WASTE DAILY, OR AS NECESSARY, AND REGULAR REMOVAL AND PROPER DISPOSAL SHALL BE ARRANGED.

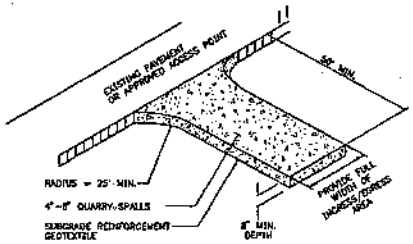
16. PROPER APPLICATION, CLEANING AND STORAGE OF POTENTIALLY HAZARDOUS MATERIALS, SUCH AS PAINTS AND CHEMICALS, SHALL BE CONDUCTED TO PREVENT THE DISCHARGE OF POLLUTANTS.

17. WHEN UTILIZED, TEMPORARY RESTROOMS AND SANITARY FACILITIES SHALL BE LOCATED AND MAINTAINED TO PREVENT THE DISCHARGE OF POLLUTANTS.

18. APPROPRIATE VEHICLE STORAGE, FUELING, MAINTENANCE AND CLEANING AREAS SHALL BE DESIGNATED AND MAINTAINED TO PREVENT DISCHARGE OF POLLUTANTS.

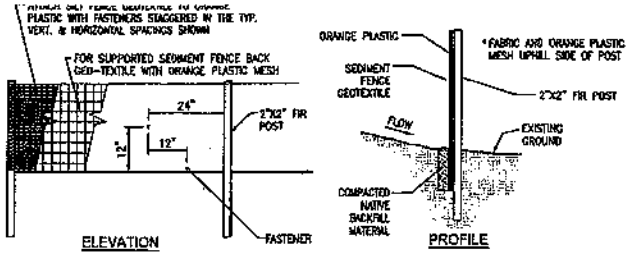
19. ENTRANCE(S) TO THE CONSTRUCTION SITE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF POTENTIAL POLLUTANTS OFFSITE. POTENTIAL POLLUTANTS DEPOSITED ON PAVED AREAS WITHIN THE COUNTY RIGHT-OF-WAY, SUCH AS ROADWAYS AND SIDEWALKS, SHALL BE PROPERLY DISPOSED OF EACH WORKING DAY OR MORE FREQUENTLY AS NECESSARY.

20. CHANGES TO THE STORM WATER POLLUTION PREVENTION PLAN MAY BE MADE TO RESPOND TO FIELD CONDITIONS. CHANGES SHALL BE NOTED ON THE PLAN WHEN MADE.



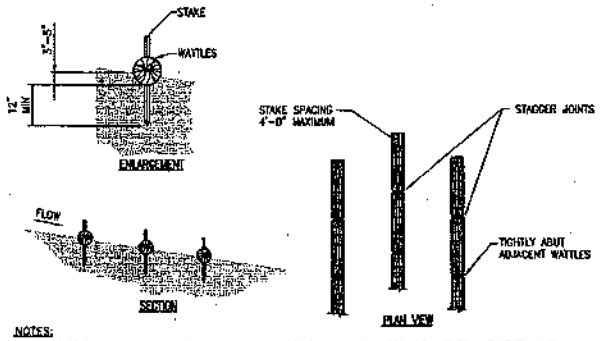
NOTES:
1. ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC ROADWAY.
2. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS MUST BE REMOVED IMMEDIATELY.
3. ACCESSES SHALL BE INSPECTED MONTHLY AND AFTER EACH RAINFALL WITH MAINTENANCE PROVIDED AS NECESSARY.

3 GRAVEL CONSTRUCTION ENTRANCE
NTS



NOTES:
1. FILTER FABRIC SHALL BE INSTALLED IN A CONTINUOUS ROLL TO AVOID THE USE OF JOINTS. WHERE JOINTS ARE NECESSARY SPLICE FABRIC TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6" OVERLAP, SECURELY FASTEN BOTH ENDS TO THE POST.
2. POSTS SHALL BE SPACED A MAXIMUM OF 6' APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 12".
3. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4" WIDE AND 6" DEEP ALONG THE LINE OF POSTS UPHILL FROM THE BARRIER. TRENCH SHALL FOLLOW THE CONTOUR.
4. TRENCH SHALL BE BACKFILLED WITH NATIVE MATERIAL.
5. INSPECT AND REPAIR AFTER EACH RAINFALL. INSPECT DAILY DURING PROLONGED RAINFALL.
6. REMOVE SEDIMENT WHEN IT REACHES APPROXIMATELY ONE THIRD THE HEIGHT ABOVE GROUND PORTION OF THE FENCE.
7. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE FILTER FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE AND SEEDED.

1 SILT FENCE DETAIL
NTS



NOTES:
1. CONTRACTOR SHALL INSPECT WATTLES WEEKLY AND AFTER EACH RAINFALL. REPLACE WATTLES WHEN THEY HAVE DECOMPOSED, COLLAPSED, OR BEEN DAMAGED. REMOVE SEDIMENT FROM BEHIND THE WATTLE WHEN IT REACHES ONE INCH OF DEPTH.
2. WATTLES SHOULD BE PLACED ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT WATTLE.
3. THE DIRECTION OF RUNOFF FLOW TO THE WATTLES SHOULD BE PERPENDICULAR TO THE STAKED WATTLE LOCATION.
4. REMOVE UPON COMPLETION OF CONSTRUCTION SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

2 STRAW WATTLE/FIBER ROLL SEDIMENT BARRIER
NTS

30% SUBMITTAL
NOT FOR CONSTRUCTION
JULY 2010

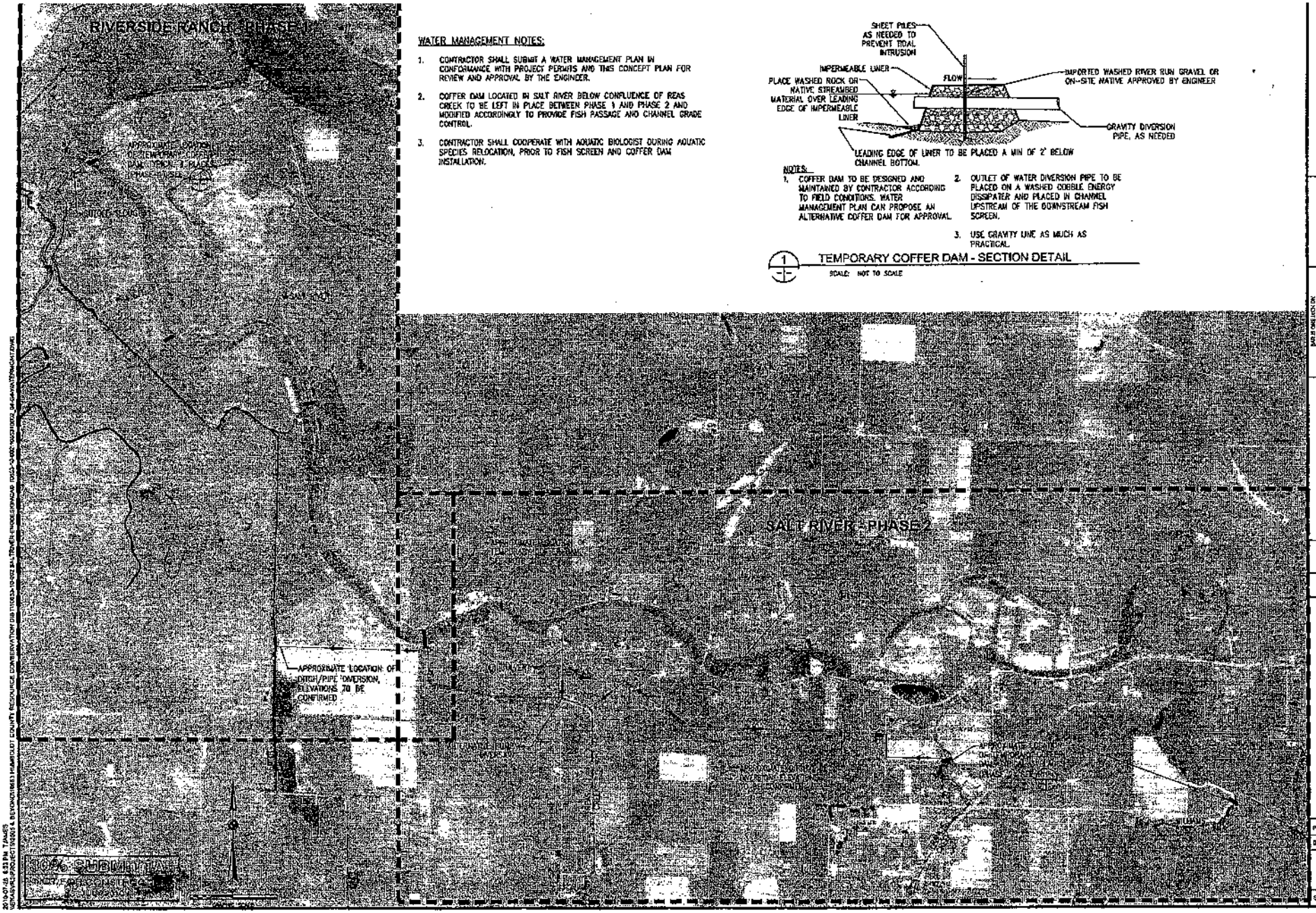
MARK	DATE	DESCRIPTION

HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER ECOSYSTEM RESTORATION PROJECT
EROSION MANAGEMENT PLAN

PROJ NO. 10653-10-002
DRWN TJGG CHKD. JSM

G-3

SHEET 3 OF 38



WATER MANAGEMENT NOTES:

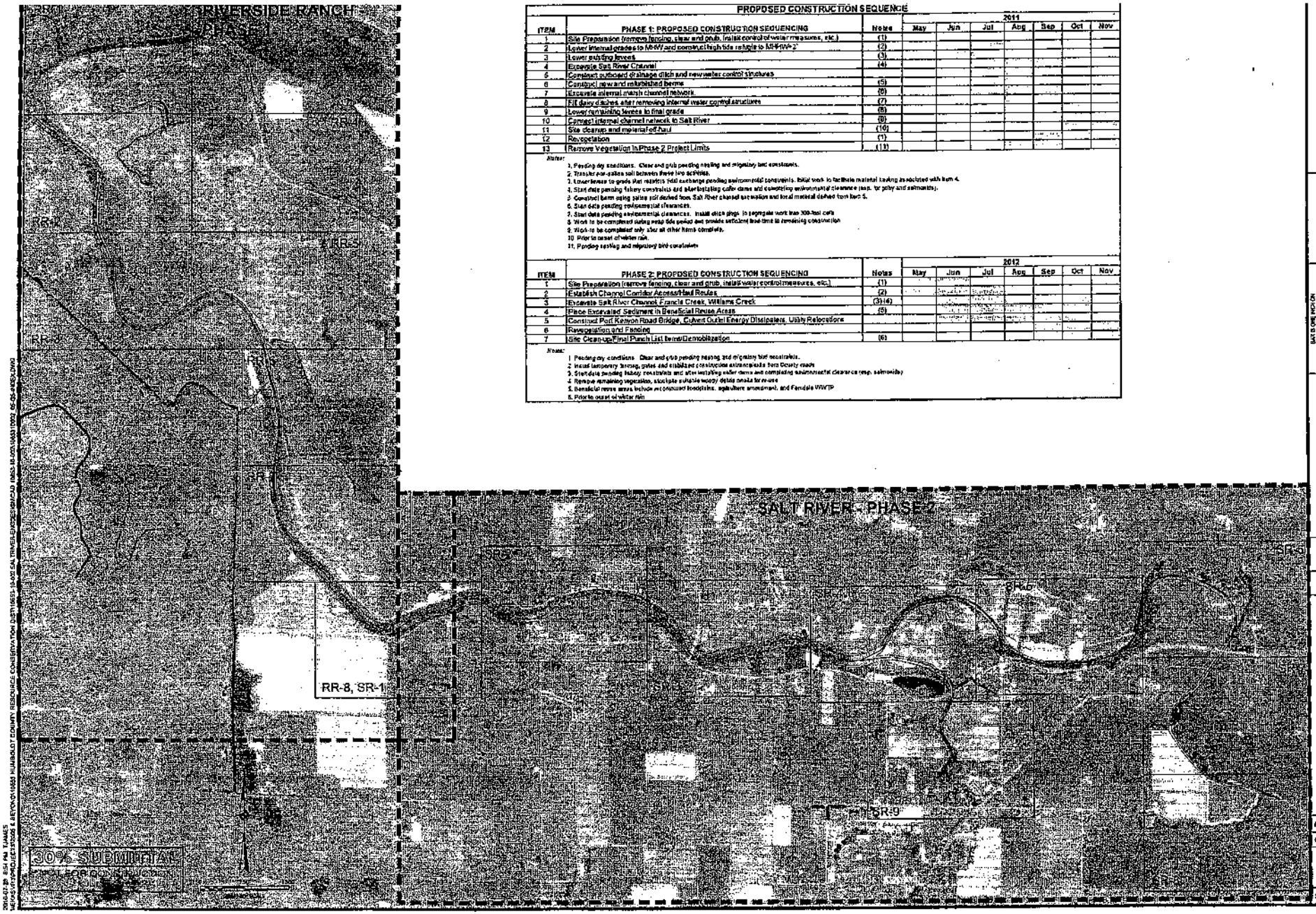
1. CONTRACTOR SHALL SUBMIT A WATER MANAGEMENT PLAN IN CONFORMANCE WITH PROJECT PERMITS AND THIS CONCEPT PLAN FOR REVIEW AND APPROVAL BY THE ENGINEER.
2. COFFER DAM LOCATED IN SALT RIVER BELOW CONFLUENCE OF REAS CREEK TO BE LEFT IN PLACE BETWEEN PHASE 1 AND PHASE 2 AND MODIFIED ACCORDINGLY TO PROVIDE FISH PASSAGE AND CHANNEL GRADE CONTROL.
3. CONTRACTOR SHALL COOPERATE WITH AQUATIC BIOLOGIST DURING AQUATIC SPECIES RELOCATION, PRIOR TO FISH SCREEN AND COFFER DAM INSTALLATION.

NOTES:

1. COFFER DAM TO BE DESIGNED AND MAINTAINED BY CONTRACTOR ACCORDING TO FIELD CONDITIONS. WATER MANAGEMENT PLAN CAN PROPOSE AN ALTERNATIVE COFFER DAM FOR APPROVAL.
2. OUTLET OF WATER DIVERSION PIPE TO BE PLACED ON A WASHED COBBLE ENERGY DISSIPATER AND PLACED IN CHANNEL UPSTREAM OF THE DOWNSTREAM FISH SCREEN.
3. USE GRAVITY LINE AS MUCH AS PRACTICAL.

1 TEMPORARY COFFER DAM - SECTION DETAIL

SCALE: NOT TO SCALE



PROPOSED CONSTRUCTION SEQUENCE

ITEM	PHASE 1: PROPOSED CONSTRUCTION SEQUENCING	Notes	2011 May	Jun	Jul	Aug	Sep	Oct	Nov
1	Site Preparation (remove fencing, clear and grub, install control of water measures, etc.)	(1)							
2	Lower internal grades to MHW and construct high tide refugia to MHHW+2'	(2)							
3	Lower existing levees	(3)							
4	Excavate Salt River Channel	(4)							
5	Construct outboard drainage ditch and new water control structures								
6	Construct new and rehabilitated berms	(5)							
7	Excavate internal marsh channel network	(6)							
8	Fill dairy ditches after removing internal water control structures	(7)							
9	Lower remaining levees to final grade	(8)							
10	Connect internal channel network to Salt River	(9)							
11	Site cleanup and material off-haul	(10)							
12	Revegetation	(11)							
13	Remove Vegetation in Phase 2 Project Limits	(12)							

Notes:

1. Pending dry conditions. Clear and grub pending nesting and migratory bird constraints.
2. Transfer non-saline soil between these two activities.
3. Lower levees to grade that restricts tidal exchange pending environmental constraints. Initial work to facilitate material taking associated with Item 4.
4. Start date pending fishery constraints and after installing culvert dams and completing environmental clearance (esp. for goby and salmonids).
5. Construct berm using saline soil derived from Salt River channel excavation and local material derived from Item 5.
6. Start date pending environmental clearances.
7. Start date pending environmental clearances. Install ditch plugs in segregate work into 300-foot cells
8. Work to be completed during neap tide period and provide sufficient lead-time to remaining construction
9. Work to be completed only after all other items complete.
10. Prior to onset of winter rain.
11. Pending nesting and migratory bird constraints

ITEM	PHASE 2: PROPOSED CONSTRUCTION SEQUENCING	Notes	2012 May	Jun	Jul	Aug	Sep	Oct	Nov
1	Site Preparation (remove fencing, clear and grub, install water control measures, etc.)	(1)							
2	Establish Channel Corridor Access/Haul Routes	(2)							
3	Excavate Salt River Channel, Francis Creek, Williams Creek	(3)(4)							
4	Place Excavated Sediment in Beneficial Reuse Areas	(5)							
5	Construct Port Kenyon Road Bridge, Culvert Outlet Energy Dissipaters, Utility Relocations								
6	Revegetation and Fencing								
7	Site Clean-up/Final Punch List Items/Demobilization	(6)							

Notes:

1. Pending dry conditions. Clear and grub pending nesting and migratory bird constraints.
2. Install temporary fencing, gates and stabilized construction entrance/aprons from County roads
3. Start date pending fishery constraints and after installing culvert dams and completing environmental clearance (esp. salmonids)
4. Remove remaining vegetation, stockpile suitable woody debris onsite for re-use
5. Beneficial reuse areas include reconstructed floodplains, agriculture amendment, and Fendale WWTP
6. Prior to onset of winter rain

BAR IS ONE INCH ON ORIGINAL DRAWING

MARK	DATE	DESCRIPTION

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SHEDONGALTAPE

HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT

SALT RIVER ECOSYSTEM RESTORATION PROJECT

PLAN SHEET INDEX

PROJ NO. 10653-10-002

DRAW: FJ/DG CHKD: JRK

G-5

SHEET 6 OF 39

File No. 2010-00282

Enclosure 1

Date: July 29, 2010

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MARK	DATE	DESCRIPTION
0	10/22/2010	30% DESIGN PLANS

HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER CHANNEL RESTORATION

SITE PLAN

PROJ. NO.: 3042
DRWN: AJW CHKD: GRK

RR-1

SHEET 8 OF 39

File No. 2010-00282

Enclosure 1

Date: July 29, 2010

File No. 2010-00282

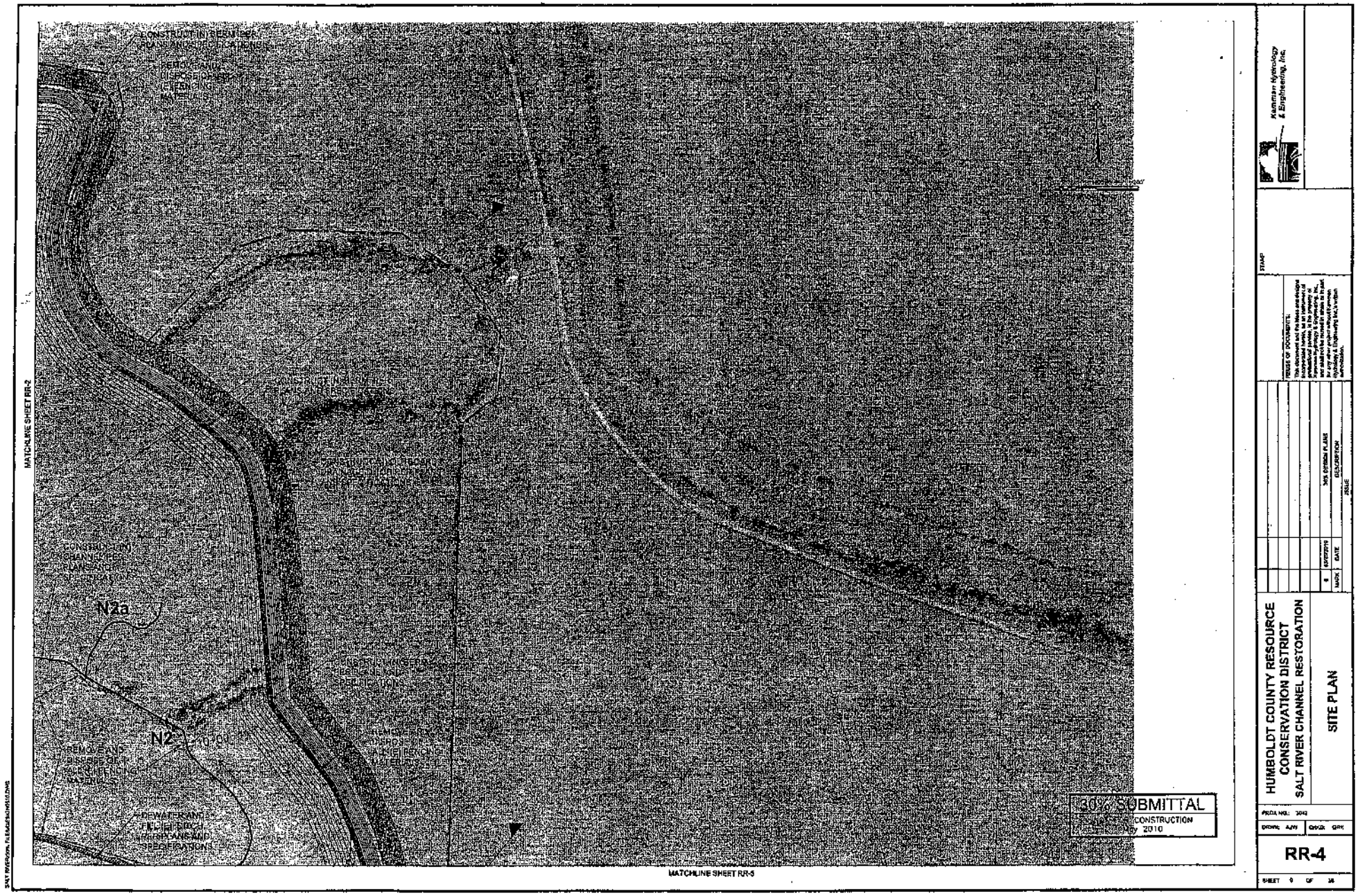
Enclosure 1

Date: July 29, 2010

File No. 2010-00282

Enclosure 1

Date: July 29, 2010



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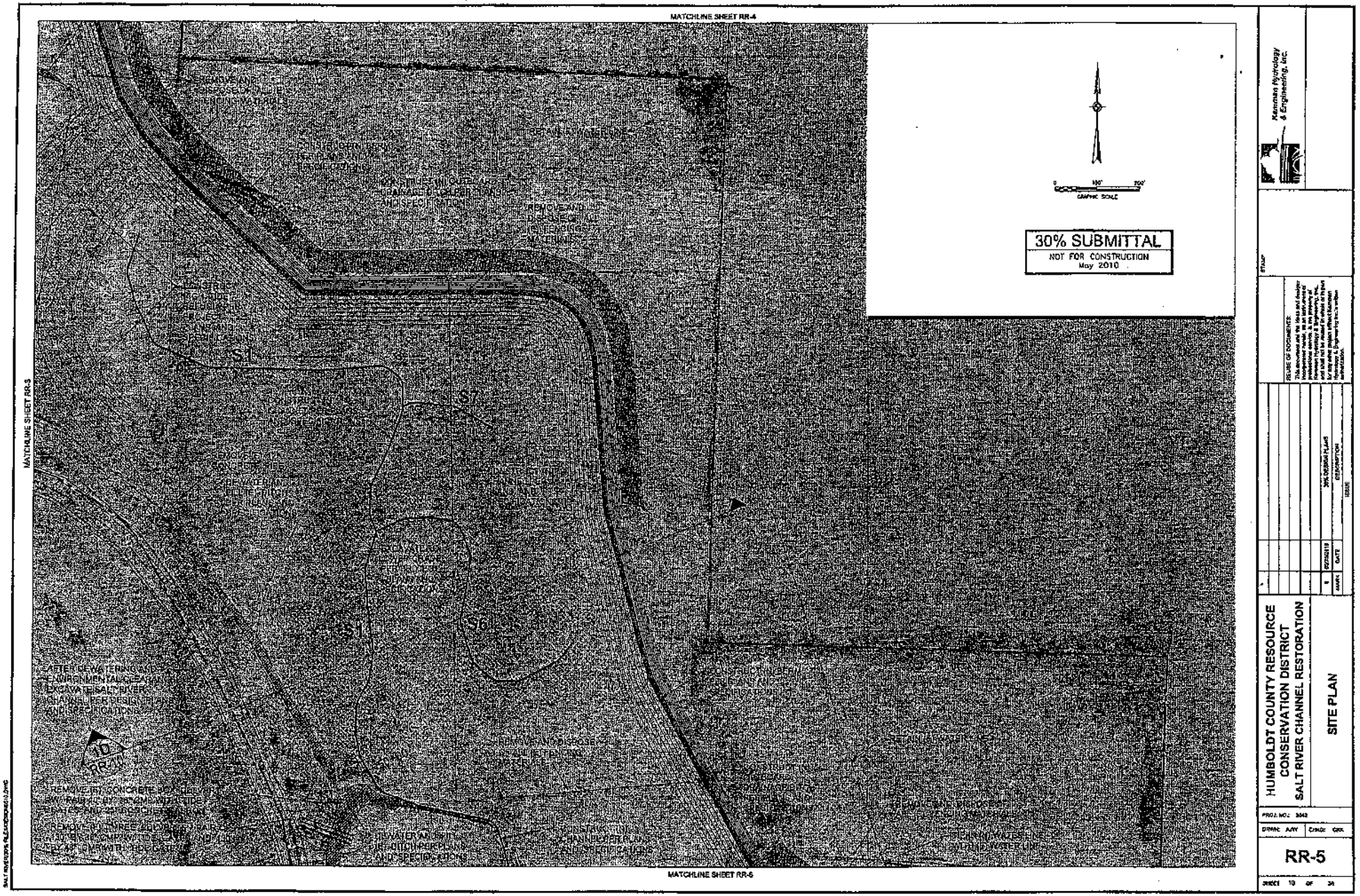

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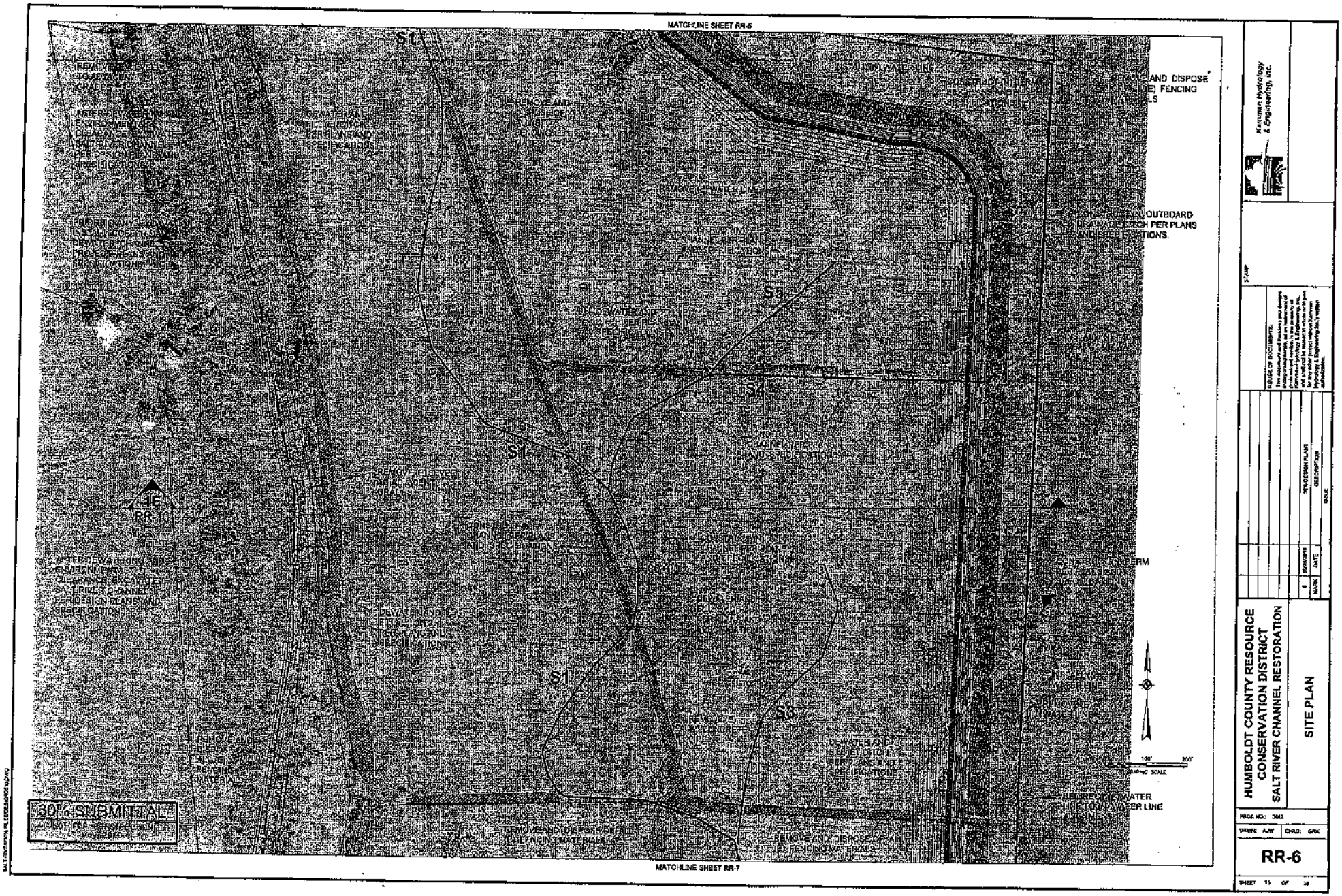

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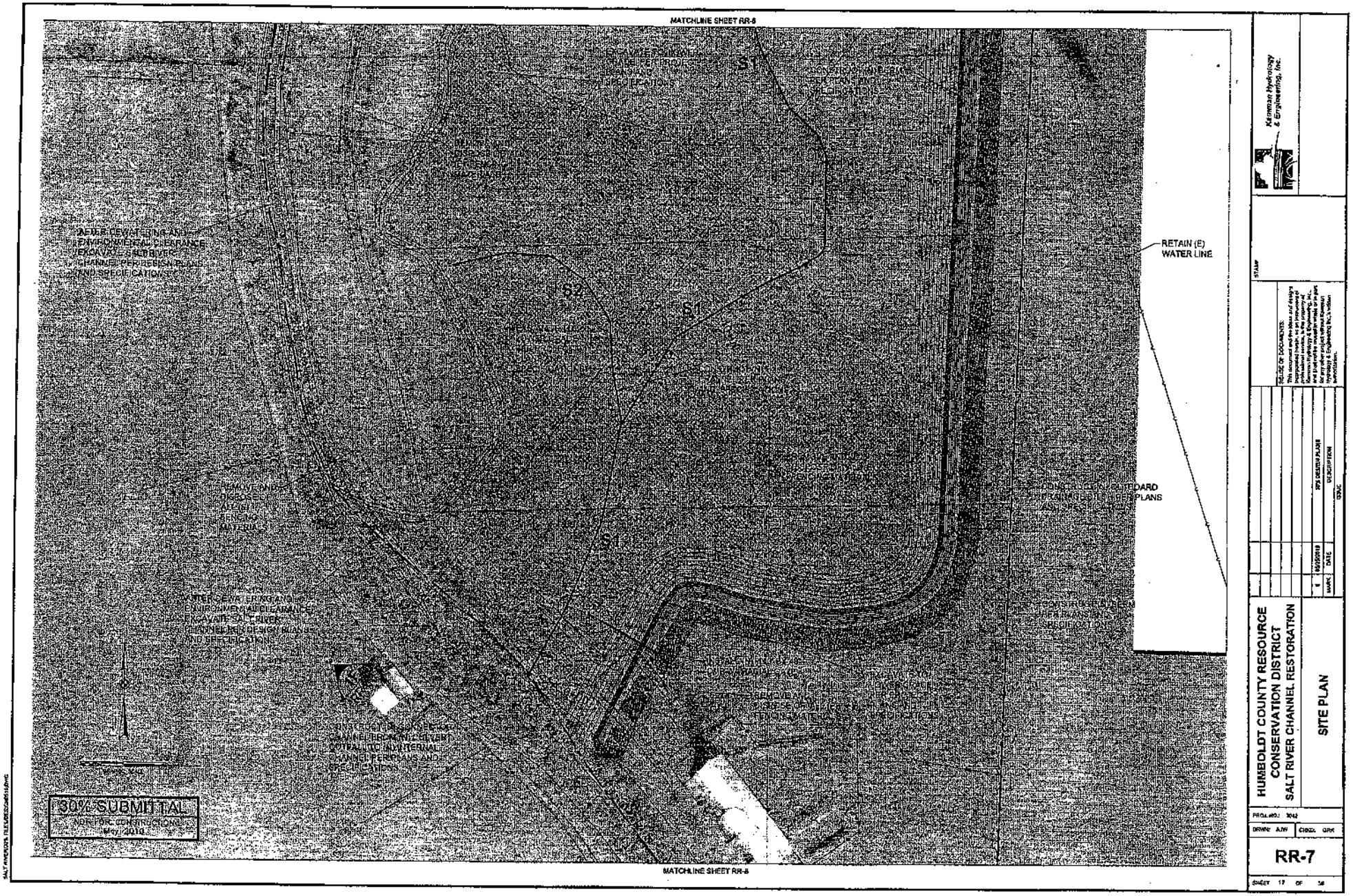

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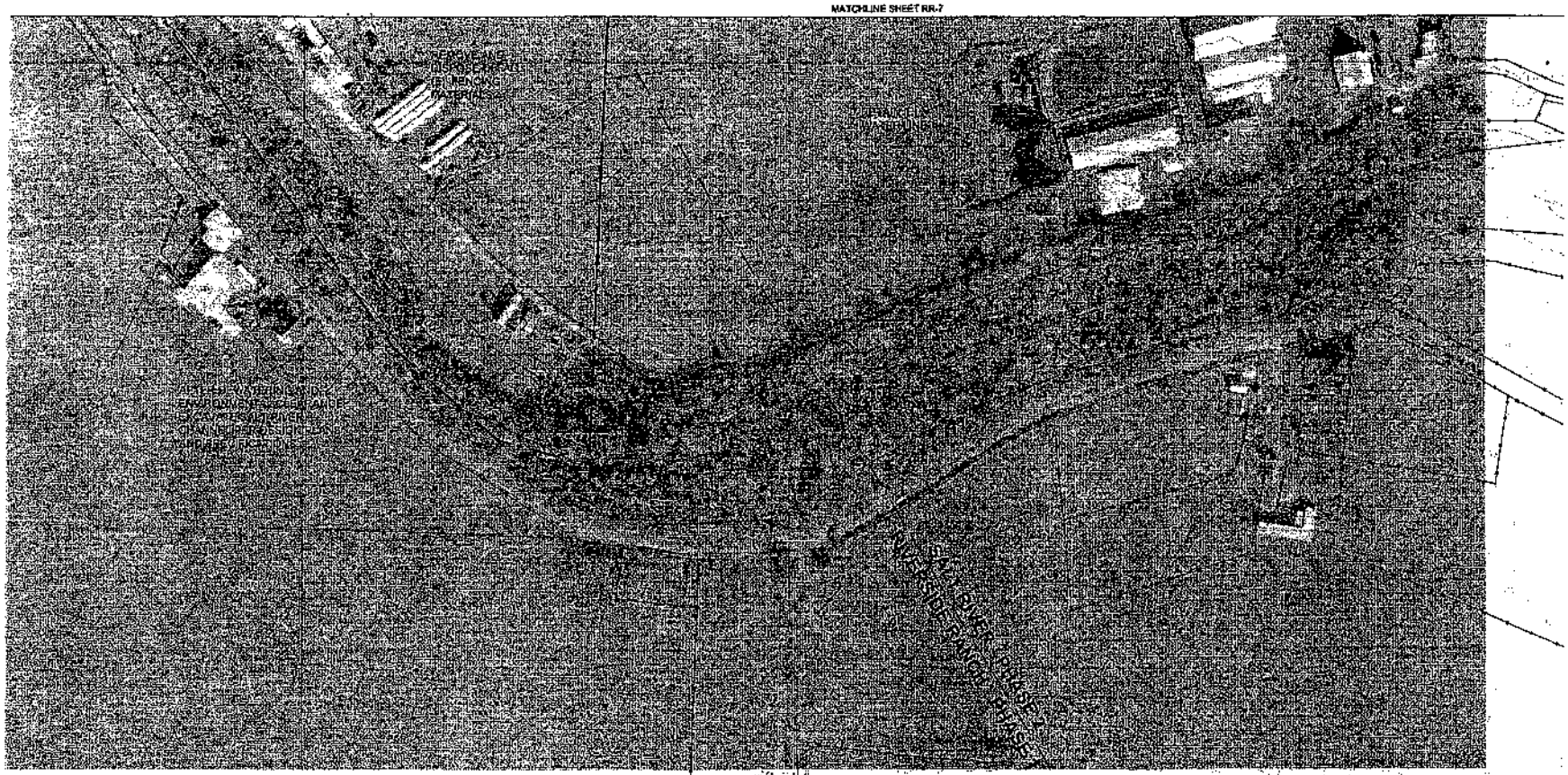
Enclosure 1

Date: July 29, 2010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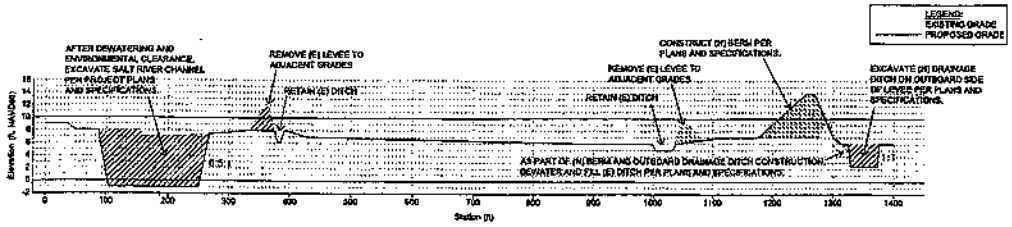
EXISTING TRAILER PARK



CROSS-SECTION 1A

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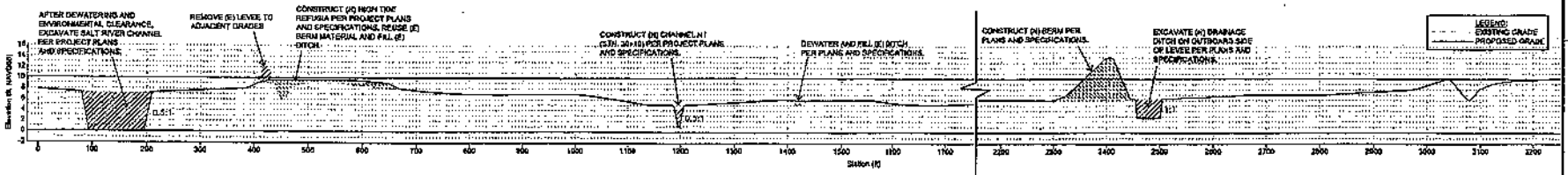

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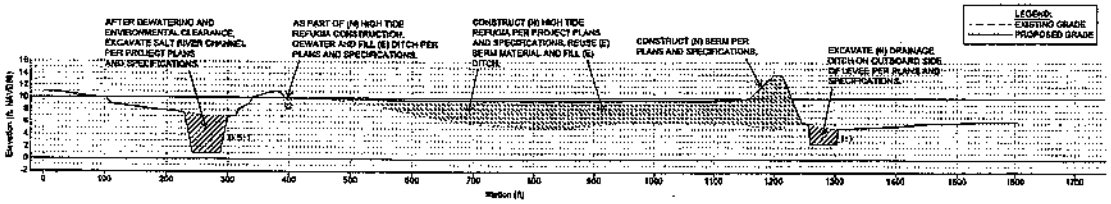

CROSS-SECTION 1C

10X VERTICAL (EXAGGERATION)

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May 2010

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ISSUE

HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER CHANNEL RESTORATION

CROSS-SECTIONS

PROJ. NO.: 3042

DRAWN: AJW CHKD: GJK

RR-9

SHEET 14 OF 30

SALT RIVER30% FILES\DESIGNS\1.DWG

File No. 2010-00282

Enclosure 1

Date: July 29, 2010

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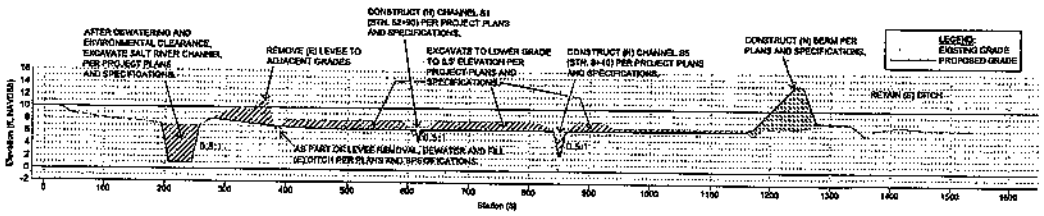
Date: July 29, 2010



CROSS-SECTION 1D

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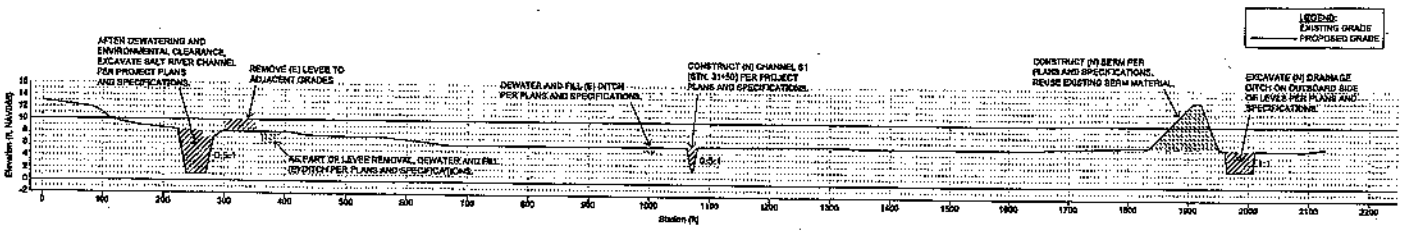

CROSS-SECTION 1E

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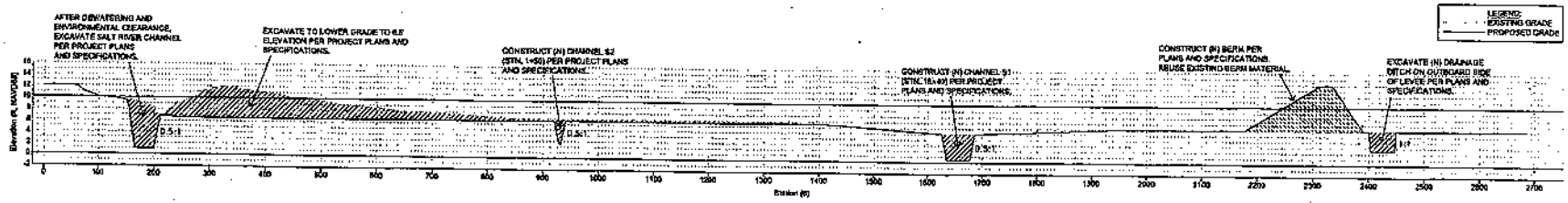

CROSS-SECTION 1F

10X VERTICAL (EXAGGERATION)

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Sheet 17 of 39

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0	06/29/2010	34% DESIGN PLANS

HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER CHANNEL RESTORATION

CROSS-SECTIONS

PROJ. NO.: 3042

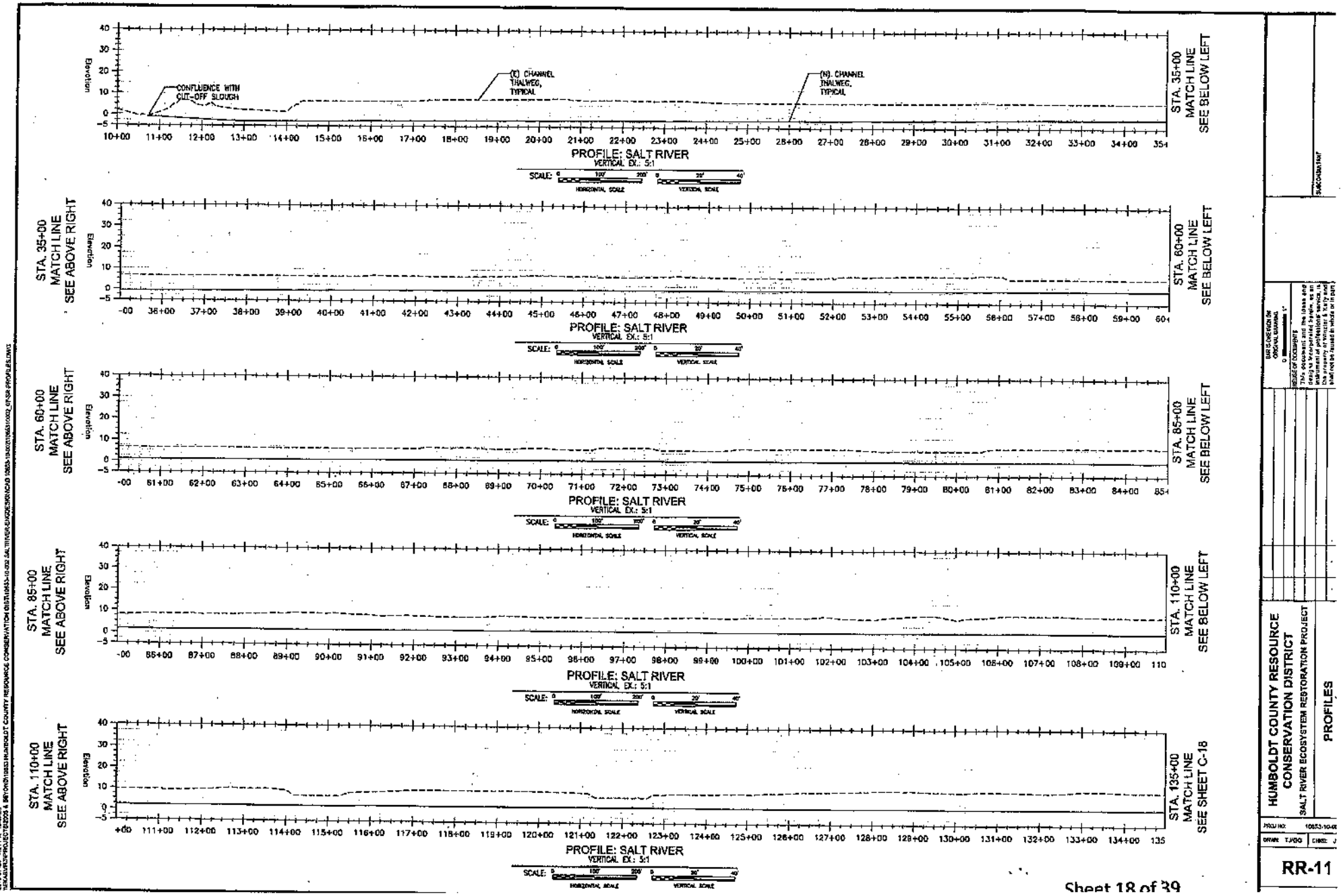
DRWN: AJY | CHKD: GRK

RR-10

File No. 2010-00282

Enclosure 1

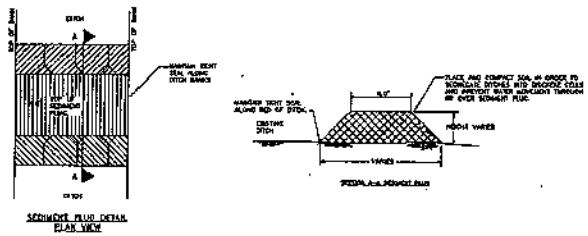
Date: July 29, 2010

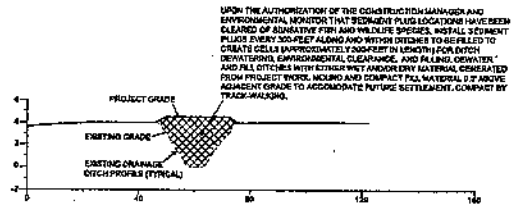


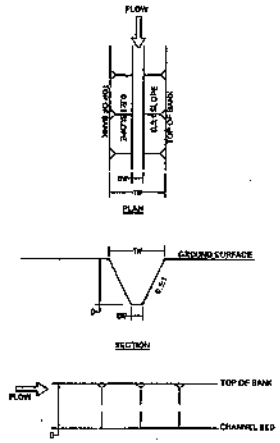
File No. 2010-00282

Enclosure 1

Date: July 29, 2010







NOTES:
1. TW = TOP WIDTH; BW = BOTTOM WIDTH; D = DEPTH
2. SEE ADJACENT TABLES FOR SALT RIVER AND INTERNAL WETLAND CHANNEL DESIGN DIMENSIONS BY RIVER STATIONING.
3. CONTRACTOR TO CREATE SMOOTH TRANSITIONS IN CHANNEL GEOMETRY BETWEEN CHANNEL STATIONS INDICATED ABOVE.

SALT RIVER CHANNEL DESIGN DETAILS

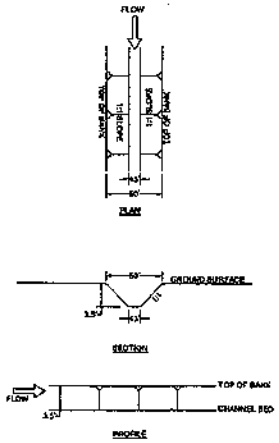
STATION (FT)	TOP WIDTH (TW) (FT)	BOTTOM ELEV. (FT NAVD88)	APPROX. WIDTH (D) (FT)	APPROX. BOTTOM WIDTH (BW) (FT)	CHANNEL BED SLOPE (%)
10+00	147	-1.4	8.6	130	0.0.1
20+00	172	-1	8.9	154	0.0.1
25+00	188	-0.8	7.9	143	0.0.1
30+00	177	-0.6	7.8	131	0.0.1
35+00	135	-0.4	7.6	102	0.0.1
40+00	124	-0.2	7.6	100	0.0.1
45+00	113	-0.1	7.4	88	0.0.1
50+00	103	-0.1	7.3	78	0.0.1
55+00	92	-0.2	7.2	79	0.0.1
60+00	84	0.3	7.8	73	0.0.1
65+00	75	0.3	6.8	61	0.0.1
70+00	68	0.2	6.8	51	0.0.1
75+00	63	0.3	6.7	50	0.0.1
80+00	57	0.2	6.6	46	0.0.1
85+00	52	0.2	6.6	42	0.0.1
90+00	48	0.1	7.1	44	0.0.1
95+00	47	-0.1	7.1	43	0.0.1
100+00	46	0.3	7.1	42	0.0.1
105+00	44	1.1	7.2	40	0.0.1
110+00	43	1.3	7.2	39	0.0.1
115+00	42	1.3	7.2	38	0.0.1
120+00	41	1.3	6.9	38	0.0.1
125+00	40	1.5	7.0	35	0.0.1
130+00	40	1.7	7.1	35	0.0.1
135+00	37	1.8	7.0	33	0.0.1
140+00	40	1.9	7.1	32	0.0.1
145+00	45	2.0	7.6	31	0.0.1
150+00	45	2.2	6.9	31	0.0.1
155+00	44	2.3	6.7	31	0.0.1
160+00	43	2.4	6.4	30	0.0.1
165+00	41	2.5	6.0	29	0.0.1
170+00	41	2.6	6.1	29	0.0.1
175+00	41	2.7	6.1	29	0.0.1
180+00	40	2.8	6.1	28	0.0.1
185+00	39	3.0	5.8	27	0.0.1
190+00	38	3.1	5.3	27	0.0.1
195+00	38	3.2	5.3	26	0.0.1

NOTES:
1. SEE DESIGN DETAIL FOR CHANNEL CROSS-SECTIONAL SHAPE.
2. CONTRACTOR TO CREATE SMOOTH TRANSITIONS IN CHANNEL GEOMETRY BETWEEN CHANNEL STATIONS INDICATED ABOVE.

INTERNAL WETLAND CHANNEL DESIGN DETAILS

CHANNEL	CHANNEL STATIONING (FT)	TOP WIDTH (TW) (FT)	DEPTH (D) (FT)	BOTTOM WIDTH (BW) (FT)	CHANNEL BED SLOPE (%)
N1	0+70	66	3.5	59.5	0.0.1
N1	20+50	90	5.5	38.5	0.0.1
N1	25+80	18	4	10	0.0.1
N1	44+00	16	5	10	0.0.1
N1	44+10	8	2	4	0.0.1
N1	52+10	8	2	4	0.0.1
N2	0+00	16	4	10	0.0.1
N2	0+00	16	4	10	0.0.1
N2	10+70	8	2	4	0.0.1
N2	17+00	8	2	4	0.0.1
N2a	0+00	8	2	4	0.0.1
N2a	3+30	8	2	4	0.0.1
N3	0+00	8	2	4	0.0.1
N3	0+00	8	2	4	0.0.1
N4	0+00	8	2	4	0.0.1
N4	0+10	8	2	4	0.0.1
N5	0+00	6	2	4	0.0.1
N5	0+10	6	2	4	0.0.1
S1	0+00	67	4.5	58.5	0.0.1
S1	19+00	68	3.5	58.5	0.0.1
S1	44+10	18	4	10	0.0.1
S1	48+00	18	4	10	0.0.1
S1	48+10	8	2	4	0.0.1
S1	50+20	8	2	4	0.0.1
S2	0+00	8	2	4	0.0.1
S2	3+40	8	2	4	0.0.1
S3	0+00	8	2	4	0.0.1
S3	1+60	8	2	4	0.0.1
S4	0+00	8	2	4	0.0.1
S4	5+00	8	2	4	0.0.1
S5	0+00	8	2	4	0.0.1
S5	0+00	8	2	4	0.0.1
S6	0+00	8	2	4	0.0.1
S6	4+20	8	2	4	0.0.1
S7	0+00	8	2	4	0.0.1
S7	4+70	8	2	4	0.0.1

NOTES:
1. SEE DESIGN DETAIL FOR CHANNEL CROSS-SECTIONAL SHAPE.
2. CONTRACTOR TO CREATE SMOOTH TRANSITIONS IN CHANNEL GEOMETRY BETWEEN CHANNEL STATIONS INDICATED ABOVE.



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May 2010

Sheet 19 of 39

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ISSUE

HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER CHANNEL RESTORATION

DETAILS

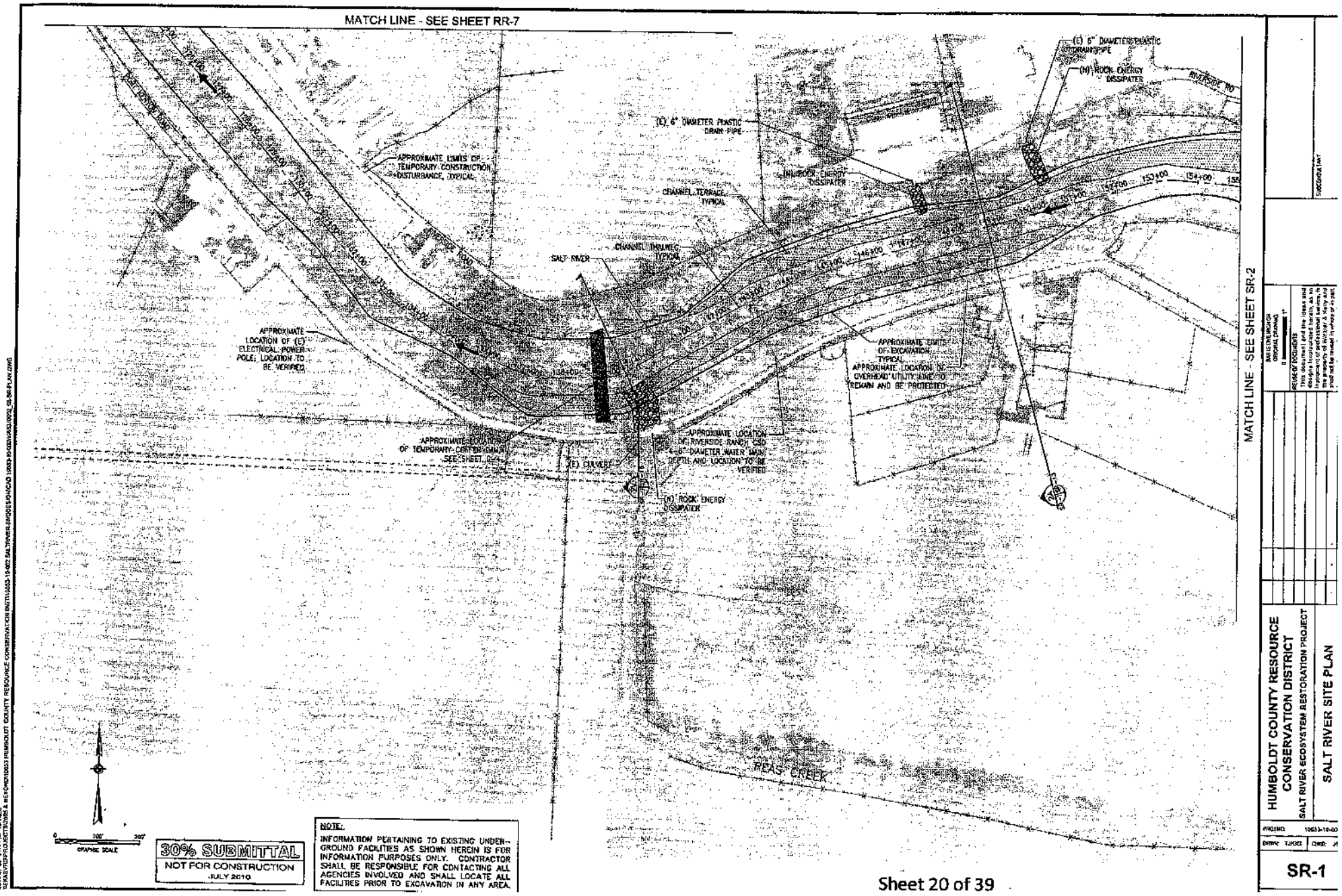
PROJ. NO.: 3042
DRWN: AJW CHKD: GRK

RR-12

File No. 2010-00282

Enclosure 1

Date: July 29, 2010



File No. 2010-00282

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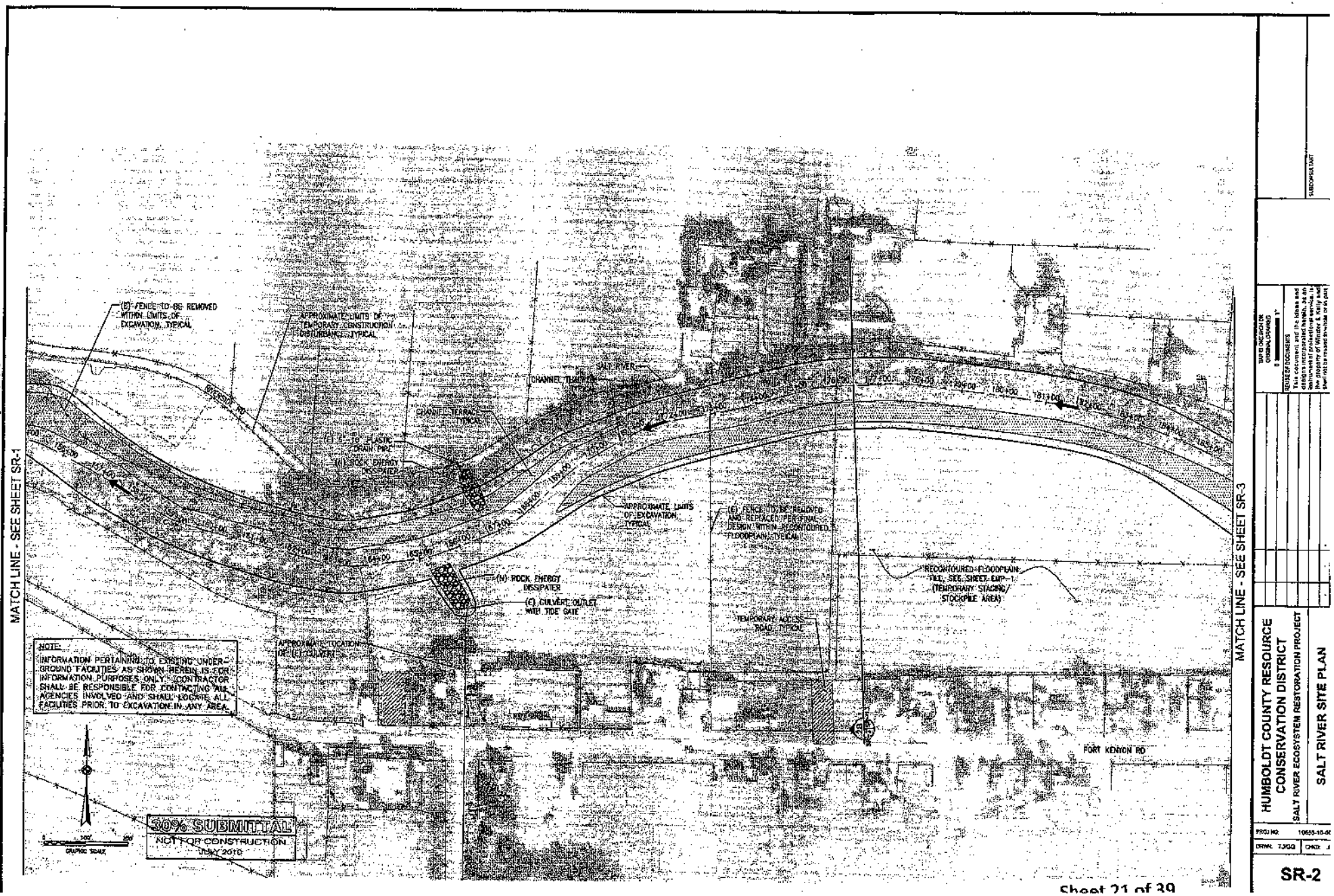

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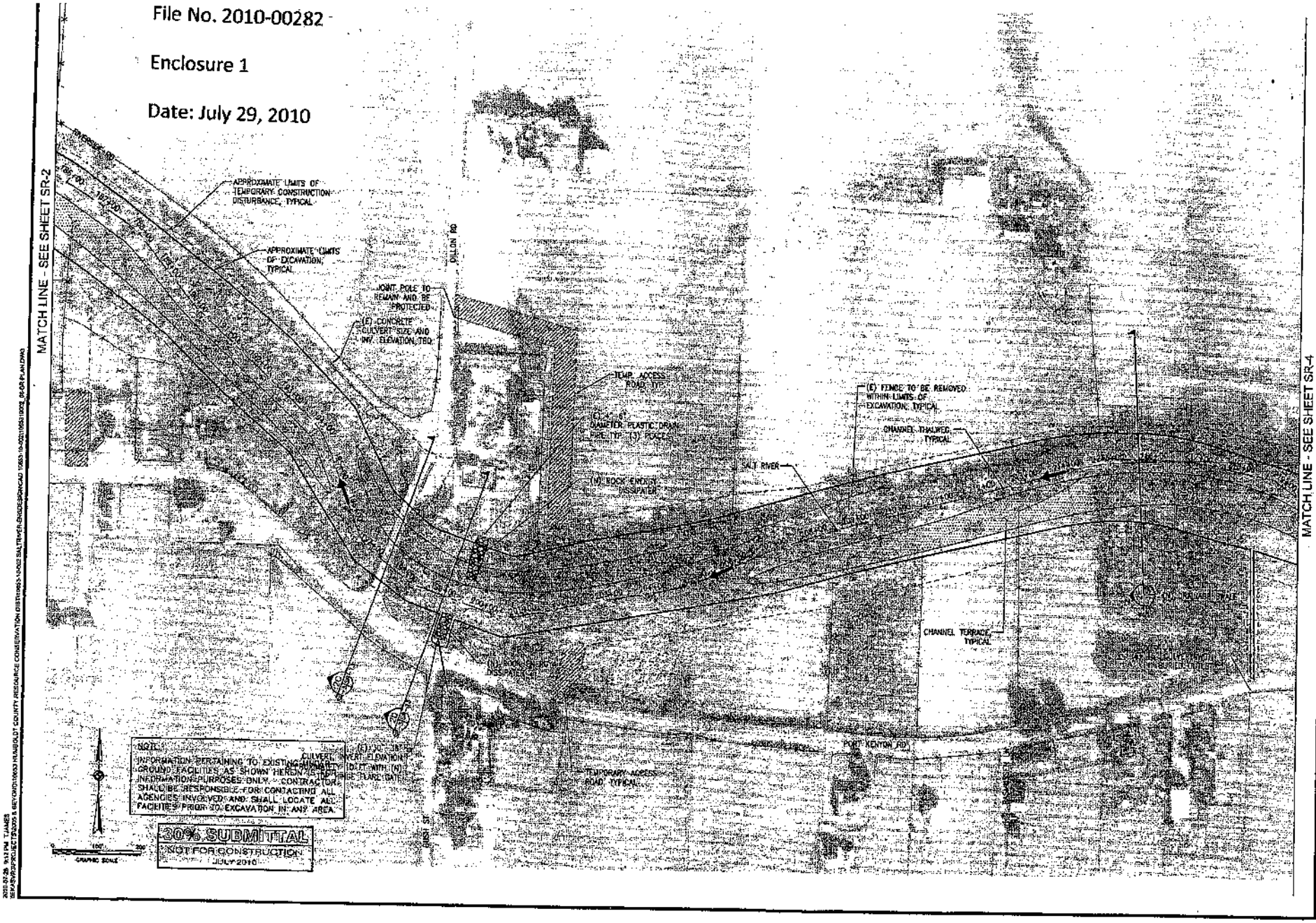

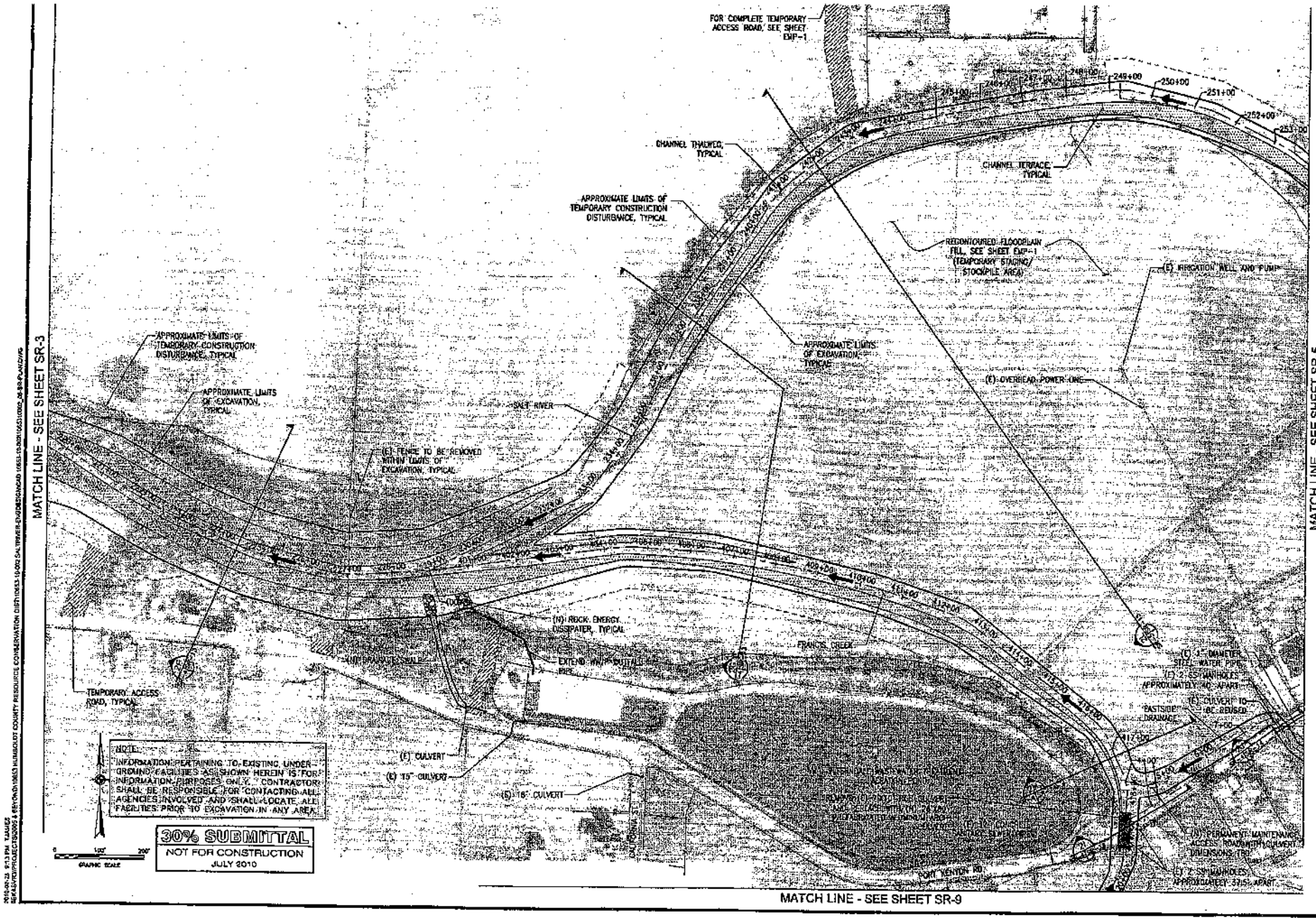

File No. 2010-00282

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Date: July 29, 2010

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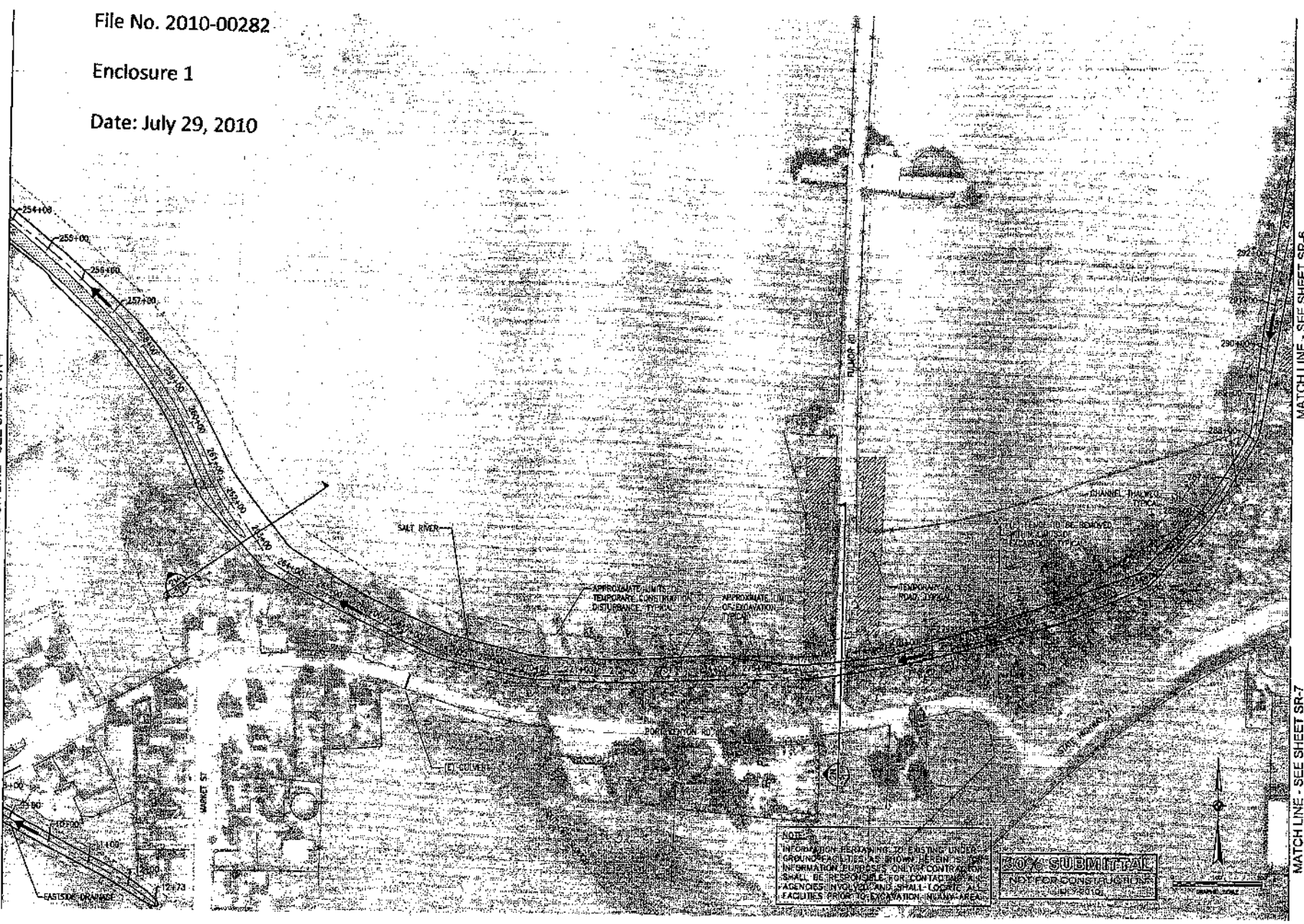
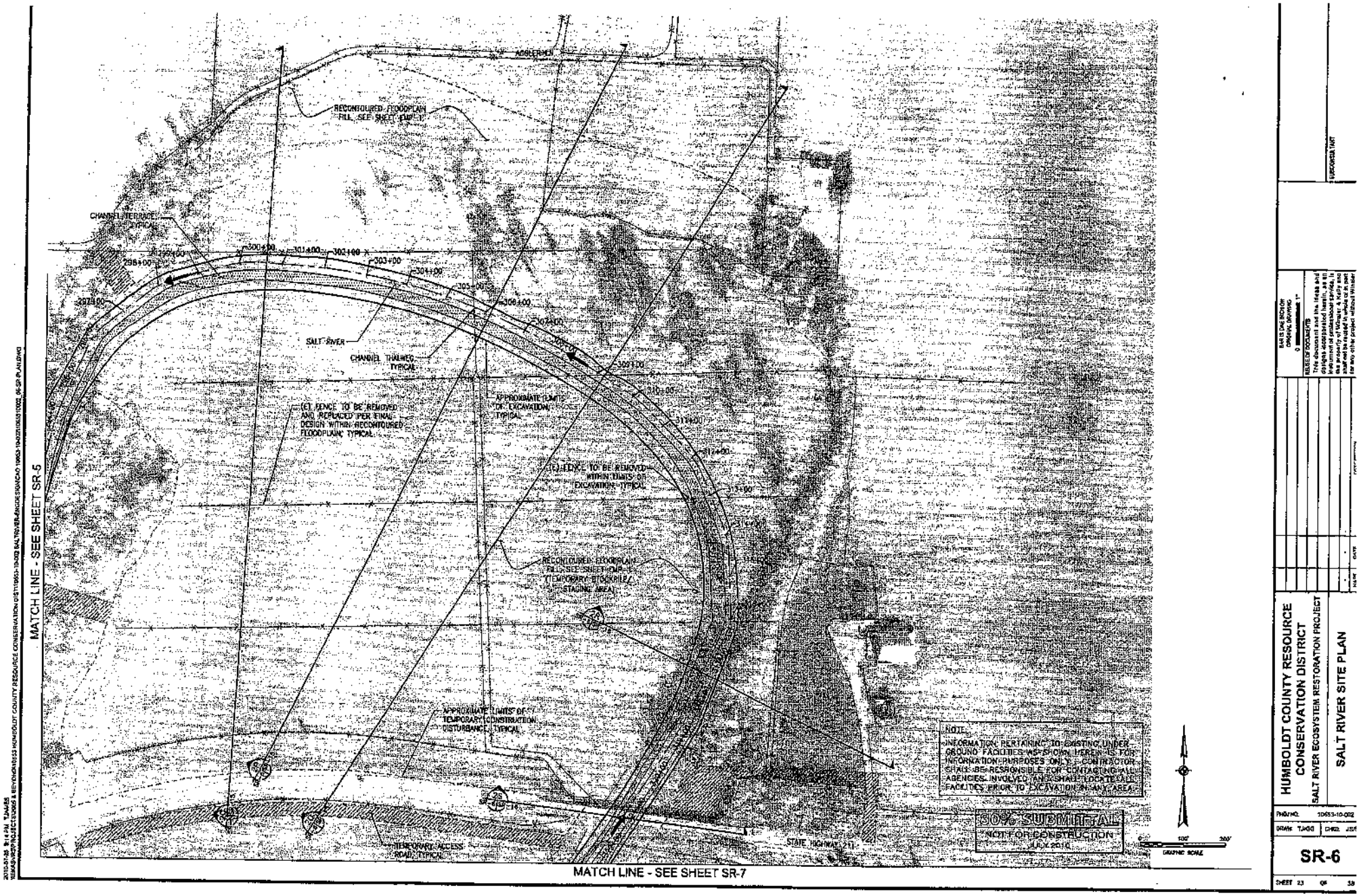
Enclosure 1

Date: July 29, 2010

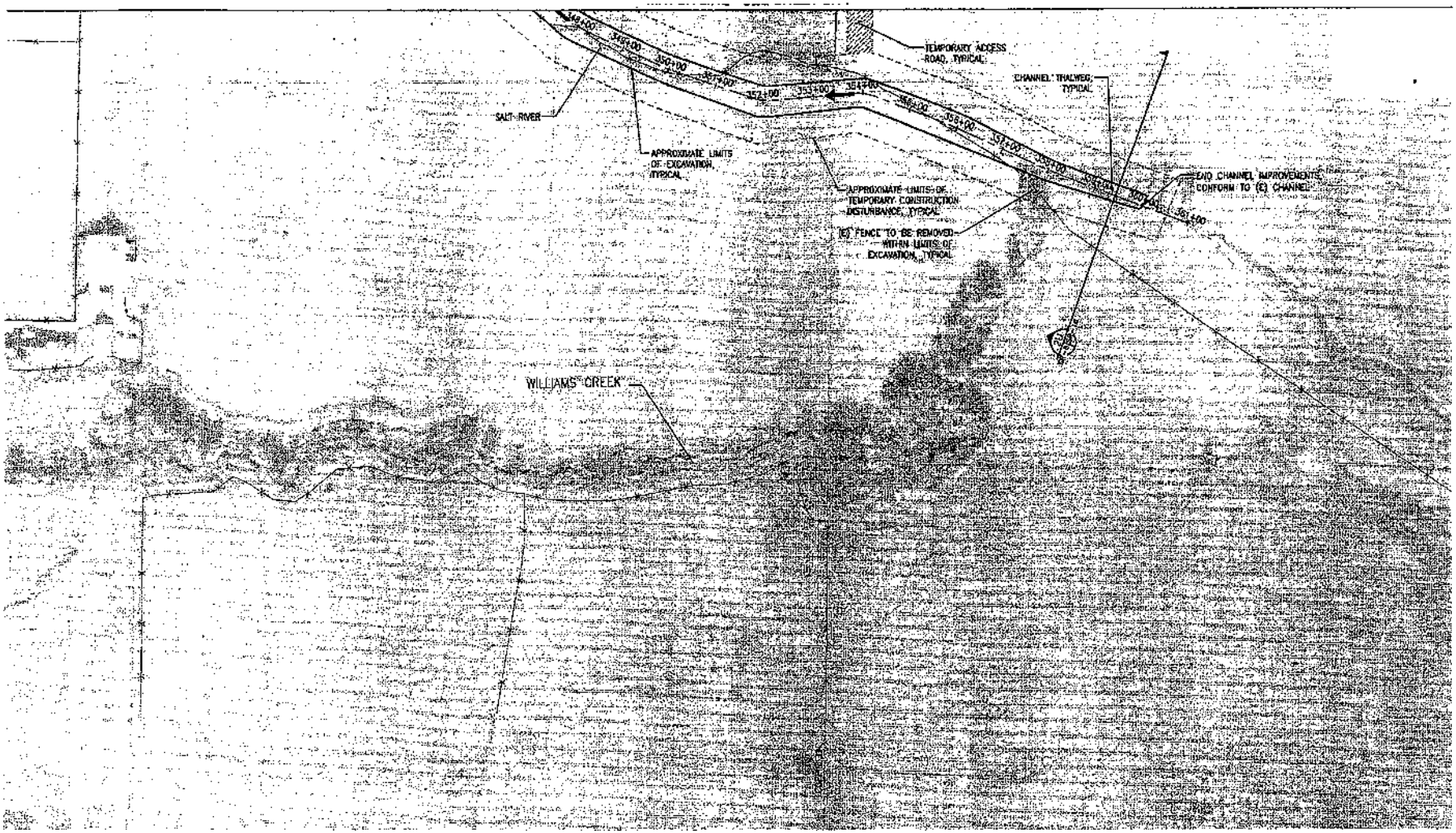



MATCH LINE - SEE SHEET SR-5
MATCH LINE - SEE SHEET SR-7
RECONTOURED FLOODPLAIN FILL SEE SHEET CUP-1
CHANDEL TERRACE TYPICAL
SALT RIVER
CHANDEL THALWEG TYPICAL
(E) FENCE TO BE REMOVED AND REPLACED PER FINAL DESIGN WITHIN RECONTOURED FLOODPLAIN TYPICAL
APPROXIMATE LIMITS OF EXCAVATION TYPICAL
(E) FENCE TO BE REMOVED WITHIN LIMITS OF EXCAVATION TYPICAL
RECONTOURED FLOODPLAIN FILL SEE SHEET CUP-1 TEMPORARY STOCKPILE/ STAGING AREA
APPROXIMATE LIMITS OF TEMPORARY CONSTRUCTION DISTURBANCE TYPICAL
TEMPORARY ACCESS ROAD TYPICAL
STATE HIGHWAY 211
NOTE:
INFORMATION PERTAINING TO EXISTING UNDER-GROUND FACILITIES HAS BEEN SHOWN HEREIN AS FOR INFORMATION PURPOSES ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL AGENCIES INVOLVED AND SHALL LOCATE ALL FACILITIES PRIOR TO EXCAVATION IN ANY AREA.
50% SUBMITTAL
NOT FOR CONSTRUCTION
JULY 2010
GRAPHIC SCALE
HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER ECOSYSTEM RESTORATION PROJECT
SALT RIVER SITE PLAN
PROJ NO. 10653-10-002
DRAWN TJAGG
CHKD. JSR
SR-6
SHEET 23 OF 39

File No. 2010-00282

Enclosure 1

Date: July 29, 2010



NOTE:
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30% SUBMITTAL
NOT FOR CONSTRUCTION
JULY 2010

0 100' 200'
GRAPHIC SCALE

HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER ECOSYSTEM RESTORATION PROJECT
SALT RIVER SITE PLAN

PROJ NO. 10653-10-002
DRWN: TJ/CO CHKD: JSK

SR-8

SHEET 25 OF 39

File No. 2010-00282

Sheet 27 of 39

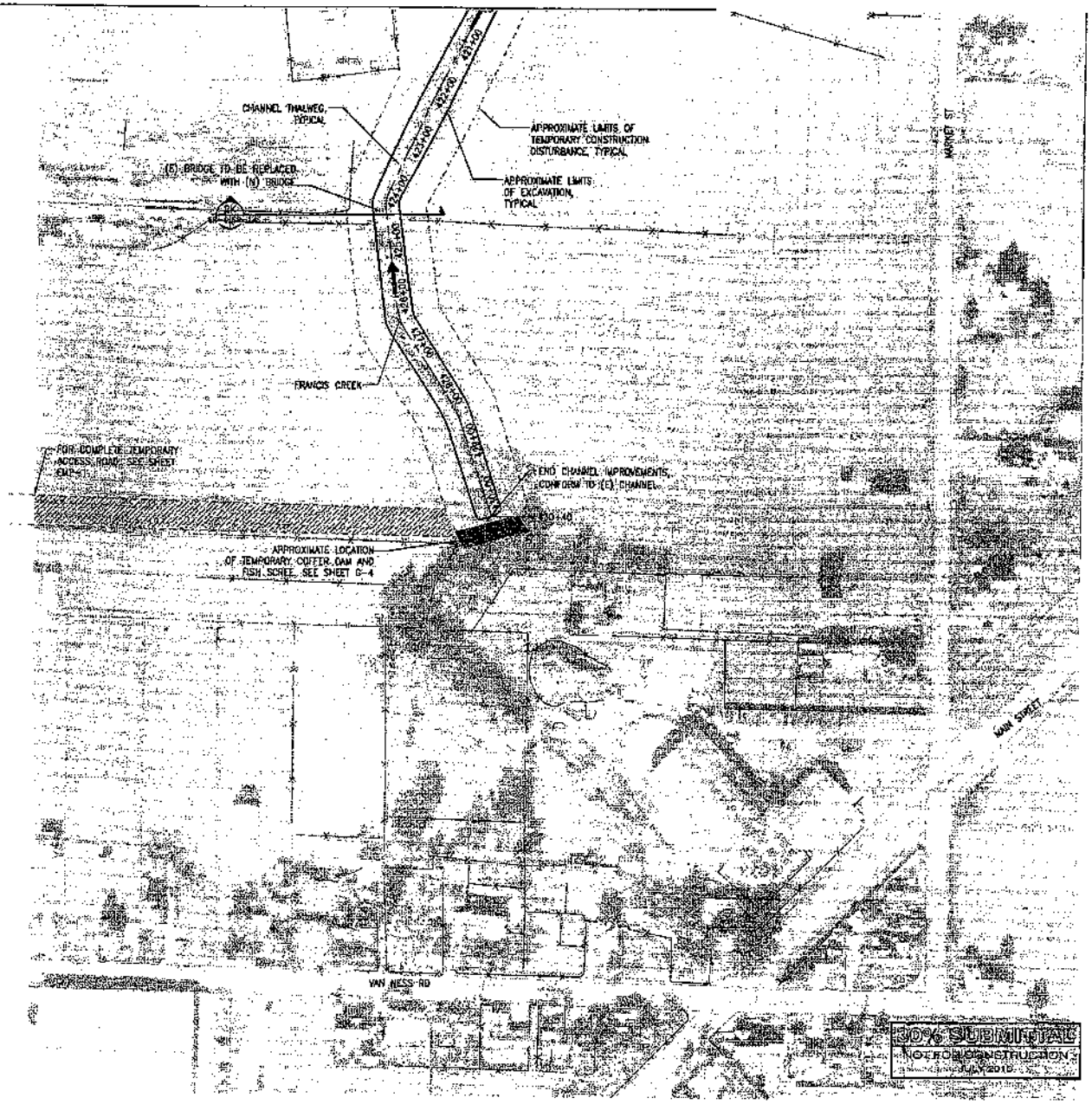
Enclosure 1

Date: July 29, 2010

File No. 2010-00282

Enclosure 1

Date: July 29, 2010



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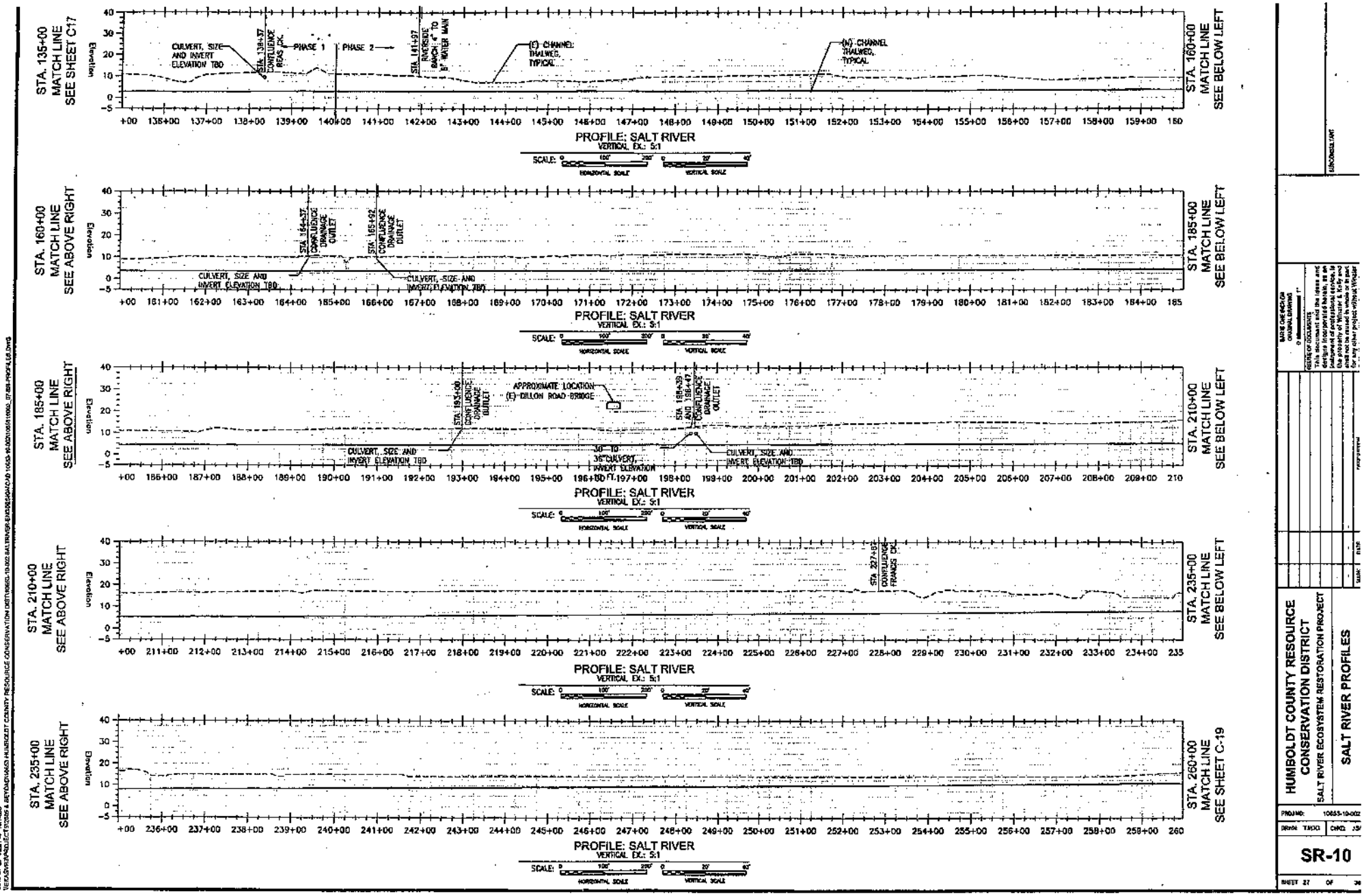
HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER ECOSYSTEM RESTORATION PROJECT
SALT RIVER SITE PLAN

SR-9

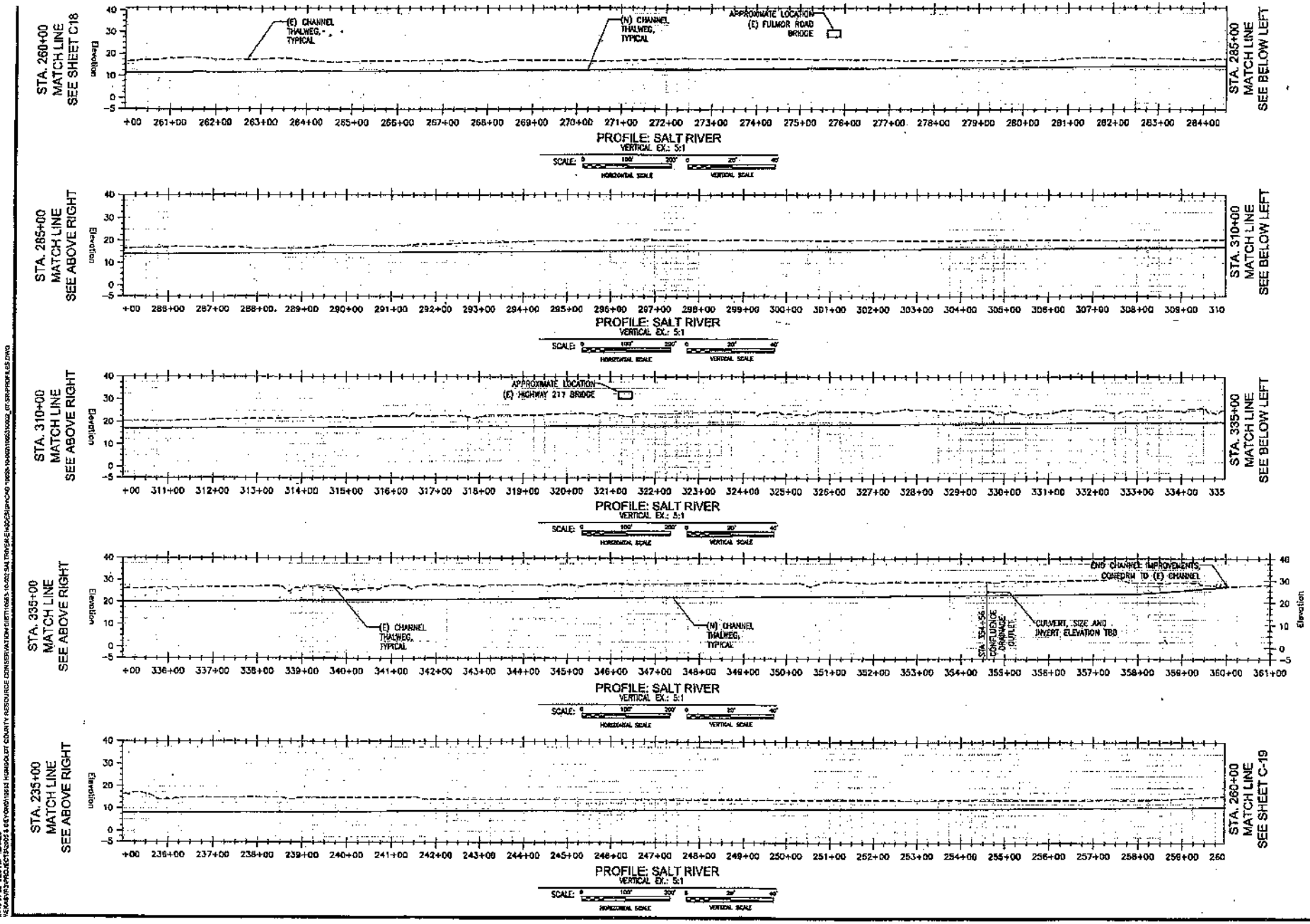
SHEET 28 OF 38



File No. 2010-00282

Enclosure 1

Date: July 29, 2010



HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT

SALT RIVER ECOSYSTEM RESTORATION PROJECT

SALT RIVER PROFILES

PROJ NO. 10653-10-002

SR-11

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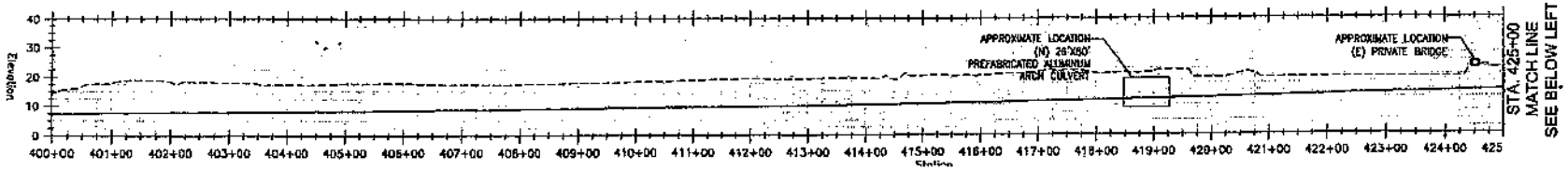
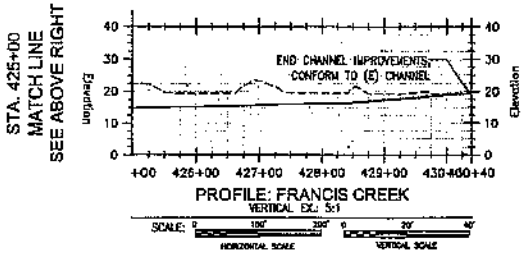
File No. 2010-00282

Enclosure 1

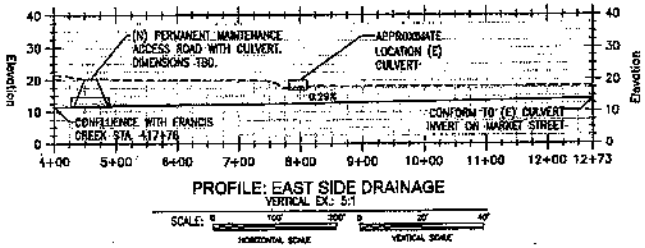
Date: July 29, 2010



PROFILE: FRANCIS CREEK
VERTICAL EX.: 5:1



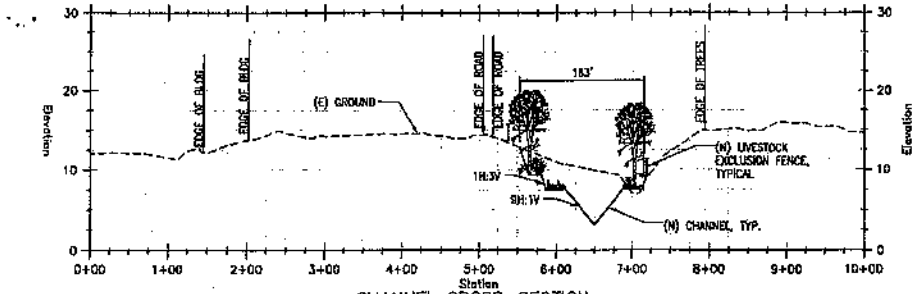
PROFILE: FRANCIS CREEK
VERTICAL EX.: 5:1



PROFILE: EAST SIDE DRAINAGE
VERTICAL EX.: 5:1

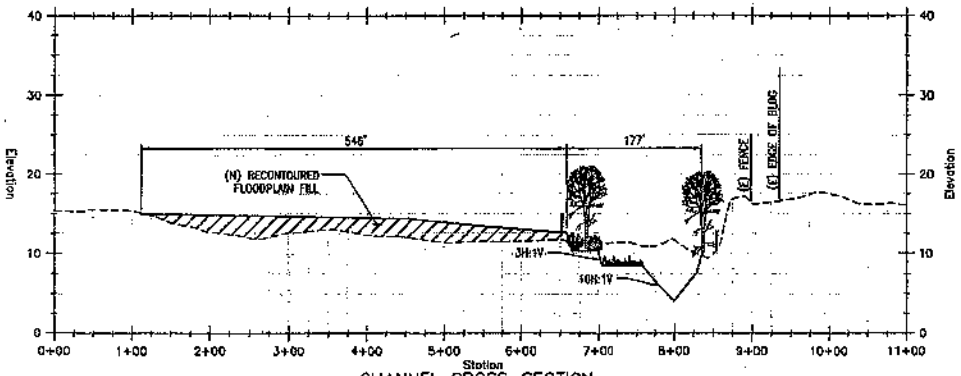
HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER ECOSYSTEM RESTORATION PROJECT
SALT RIVER PROFILES

SR-12



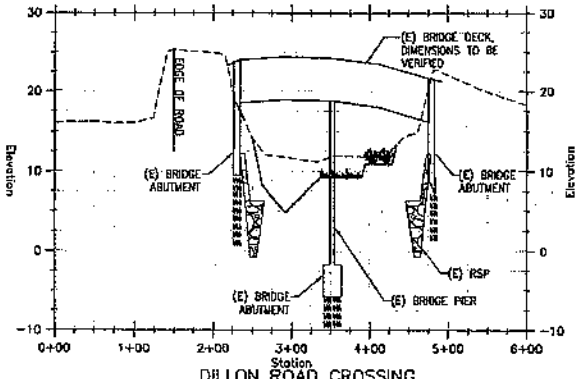
CHANNEL CROSS-SECTION
VERTICAL EX.: 10:1

2A SR-1 SR-13 SCALE: HORIZONTAL SCALE VERTICAL SCALE



CHANNEL CROSS-SECTION
VERTICAL EX.: 10:1

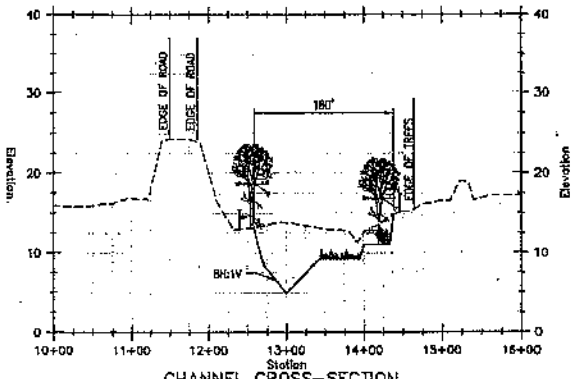
2B SR-2 SR-13 SCALE: HORIZONTAL SCALE VERTICAL SCALE



DILLON ROAD CROSSING
VERTICAL EX.: 10:1

2C SR-3 SR-13 SCALE: HORIZONTAL SCALE VERTICAL SCALE

30% SUBMITTAL
NOT FOR CONSTRUCTION
JULY 2010



CHANNEL CROSS-SECTION
VERTICAL EX.: 10:1

2D SR-3 SR-13 SCALE: HORIZONTAL SCALE VERTICAL SCALE

HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER ECOSYSTEM RESTORATION PROJECT

SALT RIVER CROSS SECTIONS

PROJ NO: 10093-10-002
DRWN: TJNG DWG: JSU

SR-13

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SUBCONSULTANT

File No. 2010-00282

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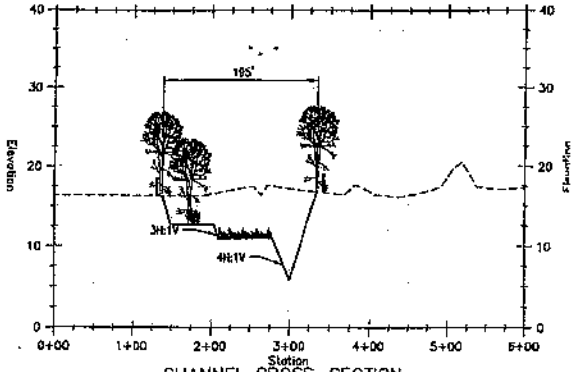
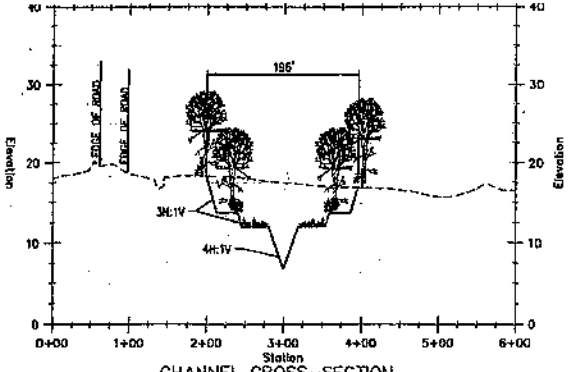
Date: July 29, 2010



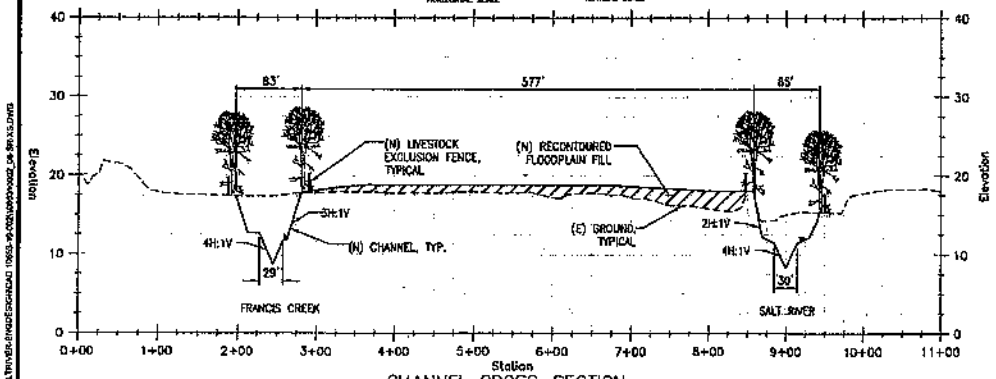
2E SR-3 SR-13 SCALE: HORIZONTAL SCALE VERTICAL SCALE

CHANNEL CROSS-SECTION
VERTICAL EX.: 10:1



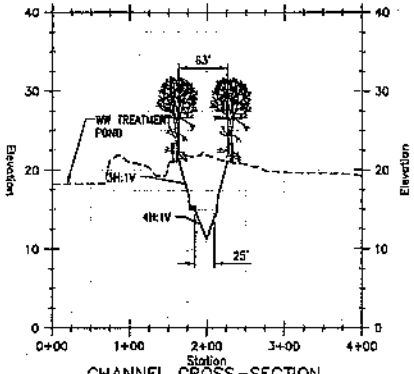
2F SR-4 SR-13 SCALE: HORIZONTAL SCALE VERTICAL SCALE

CHANNEL CROSS-SECTION
VERTICAL EX.: 10:1



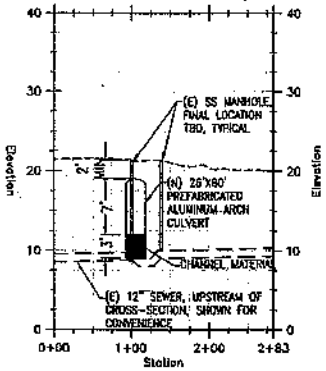
2G SR-4 SR-13 SCALE: HORIZONTAL SCALE VERTICAL SCALE

CHANNEL CROSS-SECTION
VERTICAL EX.: 10:1



2H SR-4 SR-14 SCALE: HORIZONTAL SCALE VERTICAL SCALE

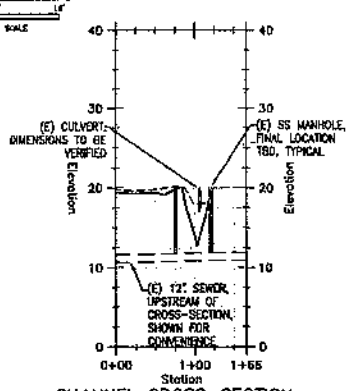
CHANNEL CROSS-SECTION
VERTICAL EX.: 10:1.



2I SR-4 SR-14 SCALE: HORIZONTAL SCALE VERTICAL SCALE

CHANNEL CROSS-SECTION
VERTICAL EX.: 10:1

30% SUBMITTAL
NOT FOR CONSTRUCTION
JULY 2010



2J SR-4 SR-14 SCALE: HORIZONTAL SCALE VERTICAL SCALE

CHANNEL CROSS-SECTION
VERTICAL EX.: 10:1

HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER ECOSYSTEM RESTORATION PROJECT
SALT RIVER CROSS-SECTIONS

PROJ NO: 10650-10-002
DRWN: YJ/GG CHK'D: JS

SR-14

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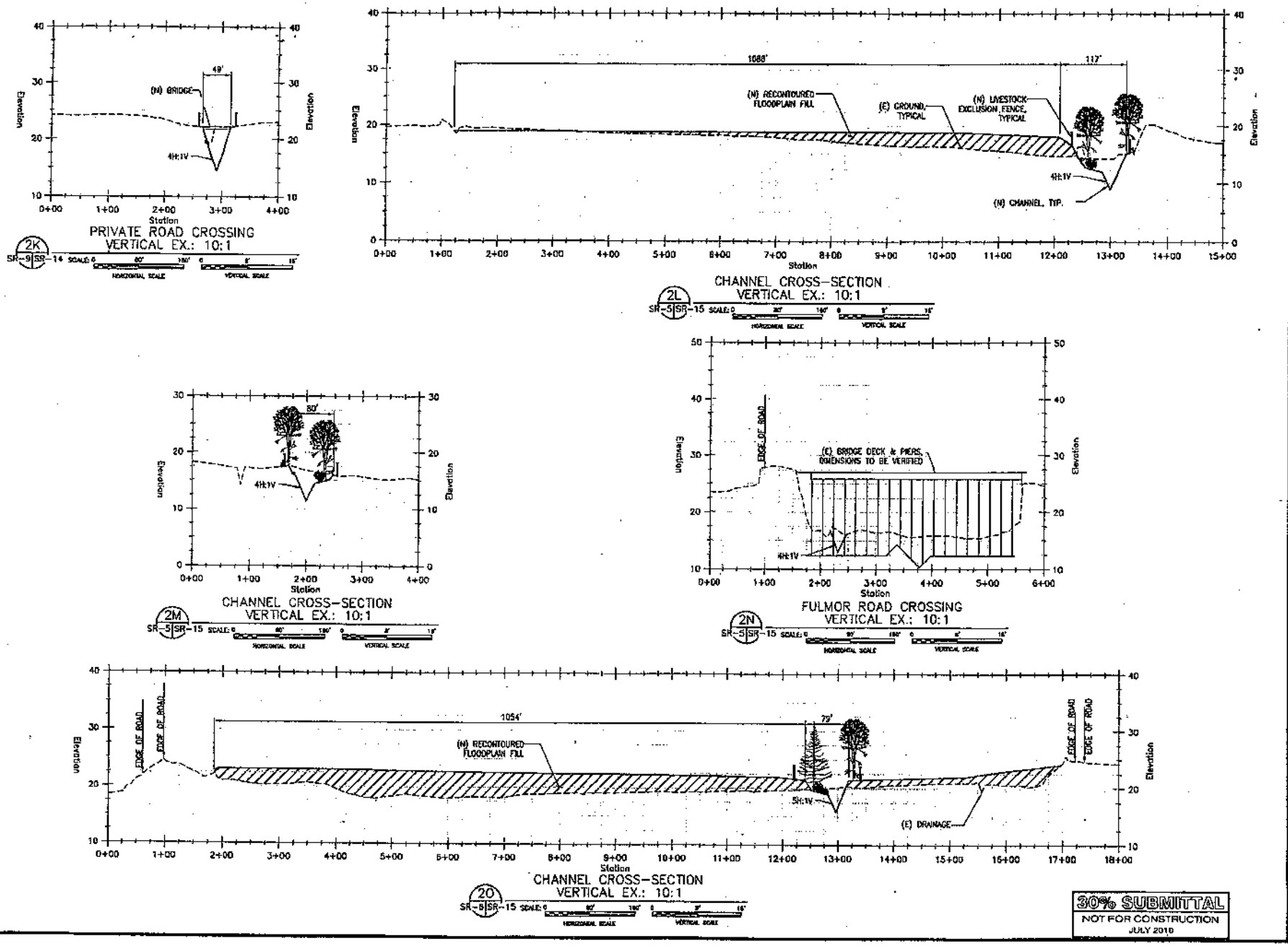
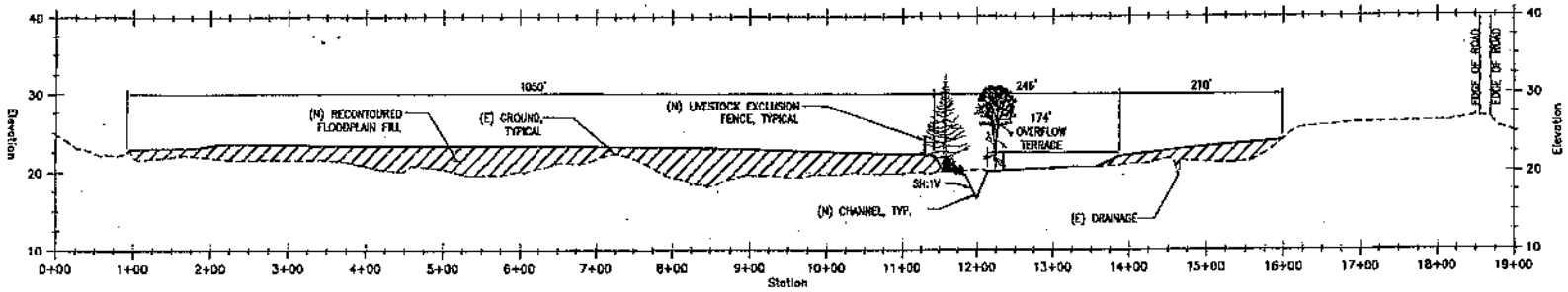


File No. 2010-00282

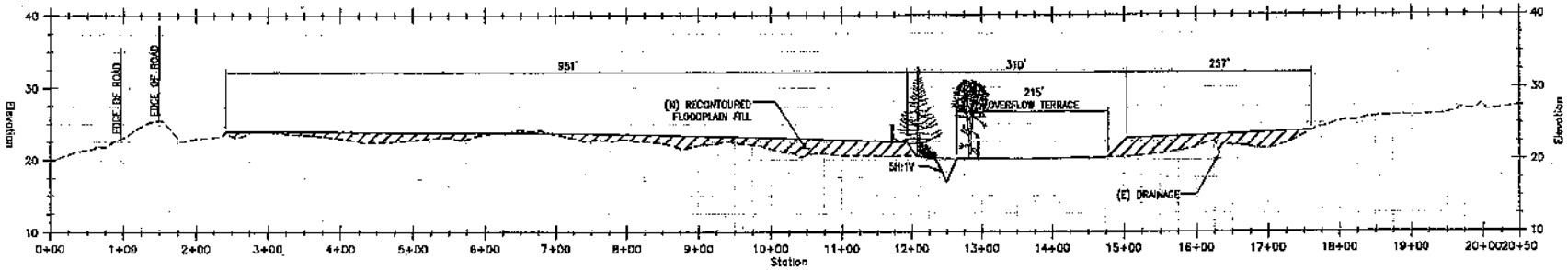
Enclosure 1

Date: July 29, 2010



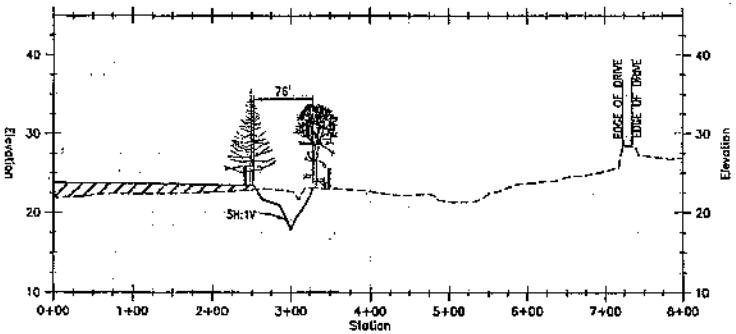
CHANNEL CROSS-SECTION
VERTICAL EX.: 10:1

2P SR-6 SR-15 SCALE: HORIZONTAL SCALE VERTICAL SCALE



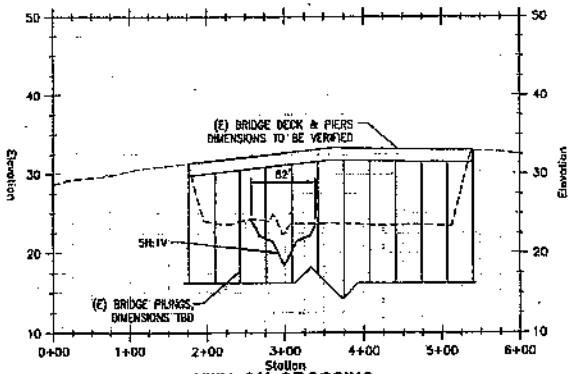
CHANNEL CROSS-SECTION
VERTICAL EX.: 10:1

2Q SR-6 SR-15 SCALE: HORIZONTAL SCALE VERTICAL SCALE



CHANNEL CROSS-SECTION
VERTICAL EX.: 10:1

2R SR-6 SR-16 SCALE: HORIZONTAL SCALE VERTICAL SCALE



HWY 211 CROSSING
VERTICAL EX.: 10:1

2S SR-6 SR-16 SCALE: HORIZONTAL SCALE VERTICAL SCALE

30% SUBMITTAL
NOT FOR CONSTRUCTION
JULY 2010

HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER ECOSYSTEM RESTORATION PROJECT

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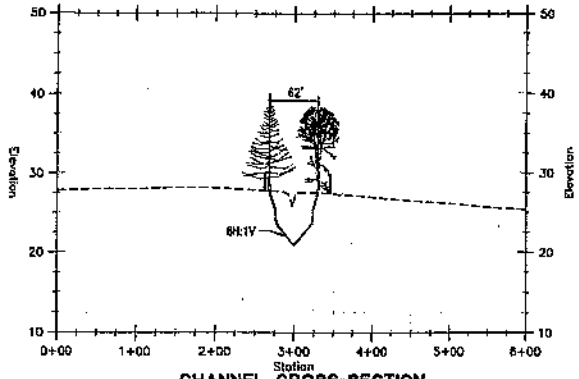
File No. 2010-00282

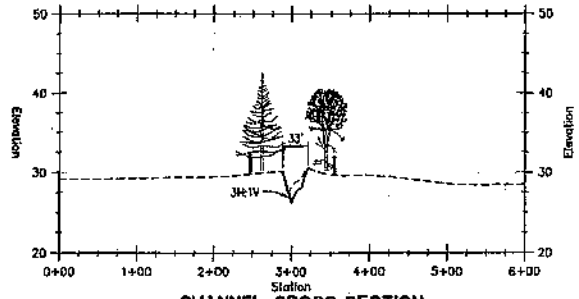
Enclosure 1

Date: July 29, 2010



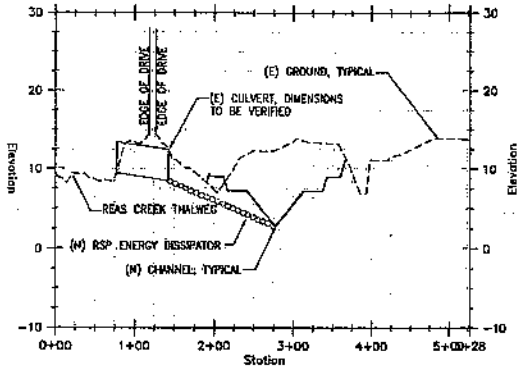
CHANNEL CROSS-SECTION
VERTICAL EX.: 10:1

2T
SR-7 SR-16 SCALE: 0 60' 180' HORIZONTAL SCALE 0 6' 18' VERTICAL SCALE



CHANNEL CROSS-SECTION
VERTICAL EX.: 10:1

2U
SR-8 SR-16 SCALE: 0 60' 180' HORIZONTAL SCALE 0 6' 18' VERTICAL SCALE



SALT RIVER & REAS CRK. CONFLUENCE
VERTICAL EX.: 10:1

2V
SR-1 SR-15 SCALE: 0 60' 180' HORIZONTAL SCALE 0 6' 18' VERTICAL SCALE

30% SUBMITTAL
NOT FOR CONSTRUCTION
JULY 2010

HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER ECOSYSTEM RESTORATION PROJECT

SALT RIVER CROSS SECTIONS

PROJ NO. 10653-10-002
DRWN: TJ/GG CHKD: JS

SR-17

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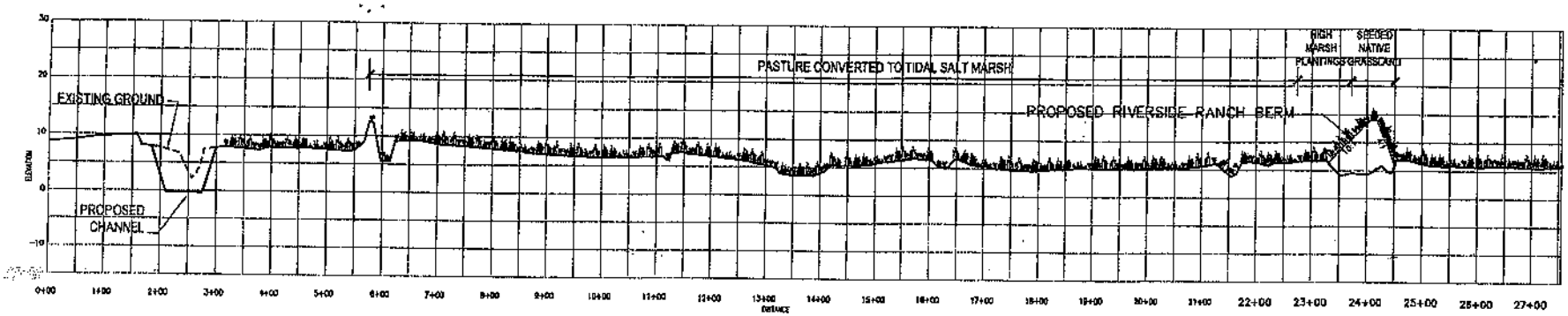
File No. 2010-00282

Enclosure 1

Date: July 29, 2010



TYPICAL CROSS-SECTION FROM STA 10+00 TO STA 121+00
TIDAL SALT MARSH

VERTICAL EX.: 10:1

HORIZONTAL SCALE — VERTICAL SCALE

TIDAL SALT MARSH PLAIN SPECIES*

PICKLEWEED	(SARCOCORNIA PACIFICA)
SLOUGH SEDGE	(CAREX OBNUPTA)
SALTGRASS	(DISTCHLIS SPICATA)
JAUMEA	(JAUMEA CARNOSA)
SLENDER ARROWGRASS	(TRIGLOCHIN SP.)
GUMPLANT	(GRINDELIA STRICTA)
SPEARSCALE	(ATRIPLEX PATULA)
SAND SPURRY	(SPERGULARIA SP.)

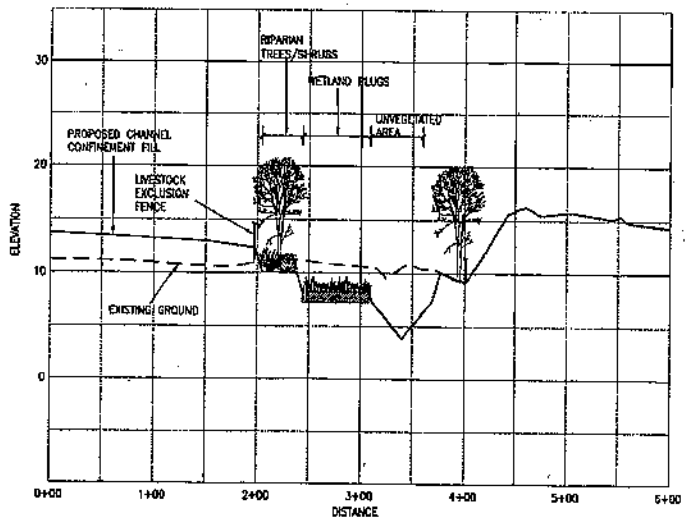
HIGH MARSH SPECIES*

SALTGRASS	(DISTCHLIS SPICATA)
JAUMEA	(JAUMEA CARNOSA)
SLENDER ARROWGRASS	(TRIGLOCHIN SP.)
GUMPLANT	(GRINDELLA STRICTA)
SEA LAVENDER	(LIMONIUM CALFORNICUM)

SEEDED NATIVE GRASSLAND*

MEADOW BARLEY	(HORDEUM BRACHYANTHERUM)
WESTERN BENTGRASS	(AGROSTIS EXERATA)
GOLDEN EYED GRASS	(SISYRINCHLUM CALIFORNICUM)
TUFTED HAIRGRASS	(DESCHAMPSIA CESPITOSA SSP. HOLCIFORMIS)

*SEE TABLES ON SHEET V-3 FOR ADDITIONAL DETAILS, ALL RE-VEG DATA PROVIDED BY H.T. HARVEY & ASSOCIATES



TYPICAL CROSS-SECTION FROM STA 121+00 TO STA 231+00
SPRUCE DOMINATED RIPARIAN FOREST WITH BRACKISH MARSH

VERTICAL EX.: 10:1

HORIZONTAL SCALE — VERTICAL SCALE

RIPARIAN TREES*

SITKA SPRUCE	(PICEA SITCHENSIS)	(95%)
RED ALDER	(ALNUS RUBRA)	(5%)

RIPARIAN SHRUBS/FERNS*

CALIFORNIA WAX MYRTLE	(MYRICA CALIFORNICA)
TWINBERRY	(LONICERA INVOLLICRATA)
CASCARA BUCKTHORN	(RHAMNUS PUSHIANA)
THIMBLEBERRY	(RUBUS PARVIFLORA)
SALMONBERRY	(RUBUS SPECTABLIS)
MOSQUITO FERN	(ASOLLA FILLICULOIDES)
GIANT CHAIN FERN	(WOODWARDLA FIMBRLATA)
SWORD FERN	(POLYSTICHUM MUNITUM)
SPREADING WOOD FERN	(DRYOPTERIS EXPANSA)

WETLAND PLUGS*

TUFTED HAIRGRASS	(DESCHAMPSIA CAESPITOSA)
SALT RUSH	(JUNCUS LESUEURII)
SPIKE RUSH	(ELEOCHARIS MACROSTACHYA)
COLDION RUSH	(JUNCUS PATENS)
SALVAGED PLUGS	(NATIVE PLANTS ONLY)

CONFINEMENT FILL AREA*

CLOVER	(TRIFOLIUM REPERS)
RYEGRASS	(LOLIUM PERENNE)

*SEE TABLES ON SHEET V-3 FOR ADDITIONAL DETAILS, ALL RE-VEG DATA PROVIDED BY H.T. HARVEY & ASSOCIATES

30% SUBMITTAL
NOT FOR CONSTRUCTION
JULY 2010

HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER ECOSYSTEM RESTORATION PROJECT
TYPICAL RE-VEG SECTIONS

PROJ NO: 10853-10-002
DRAW: TJGO CHKD: JS/S

V-1

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File No. 2010-00282

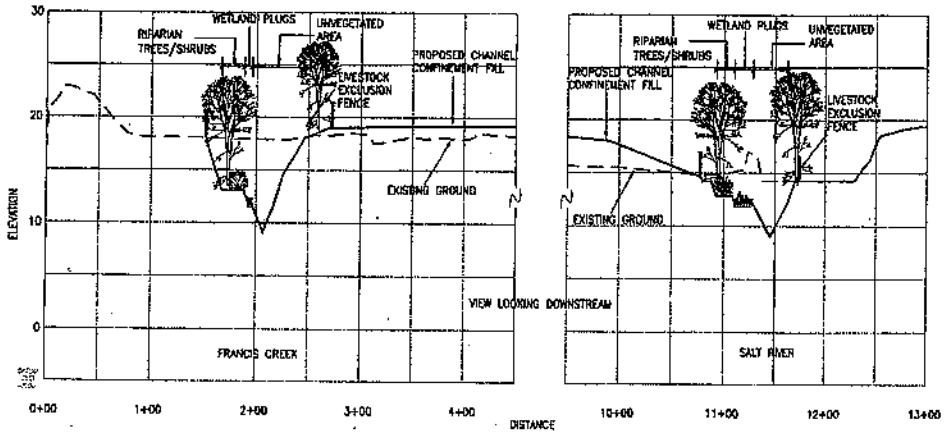
Enclosure 1

Date: July 29, 2010

File No. 2010-00282

Enclosure 1

Date: July 29, 2010



TYPICAL CROSS-SECTION FROM STA 231+00 TO STA 265+00
SPRUCE COTTONWOOD RIPARIAN FOREST WITH TIDAL FRESHWATER MARSH

HORIZONTAL SCALE 0 60' 120' VERTICAL EX.: 10:1 VERTICAL SCALE 0 5' 10'

RIPARIAN TREES*

SITKA SPRUCE	(PICEA SITCHENSIS)	(50%)
BLACK COTTONWOOD	(POPULUS BALSAMIFERA SSP. TRICHOCARPA)	(30%)
REDWOOD	(SEQUOIA SEMPERVIRENS)	(5%)
GRAND FIR	(ABIES GRANDIS)	(5%)
RED ALDER	(ALNUS RUBIRA)	(5%)
BIGLEAF MAPLE	(ACER MACROPHYLLUM)	(5%)

RIPARIAN SHRUBS/FERNS*

RED CURRANT	(RIBES SANGUINEUM)
TWINBERRY	(LONICERA INCOLUCRATA)
CASCARA BUCKTHORN	(RHAMNUS PURSHIANA)
CALIFORNIA WAX MYRTLE	(MYRICA CALIFORNICA)
THIMBLEBERRY	(RUBUS PARVIFLORA)
SALMONBERRY	(RUBUS SPECTABILIS)
RED ELDERBERRY	(SAMBUCUS RACEMOSA)
MOSQUITO FERN	(AZOLLA FILLICULOIDES)
GIANT CHAIN FERN	(WOODWARDIA FIMBRIATA)
SWORD FERN	(POLUSTICHUM MUNITUM)
SPREADING WOOD FERN	(DRYOPTERIS EXPANSA)

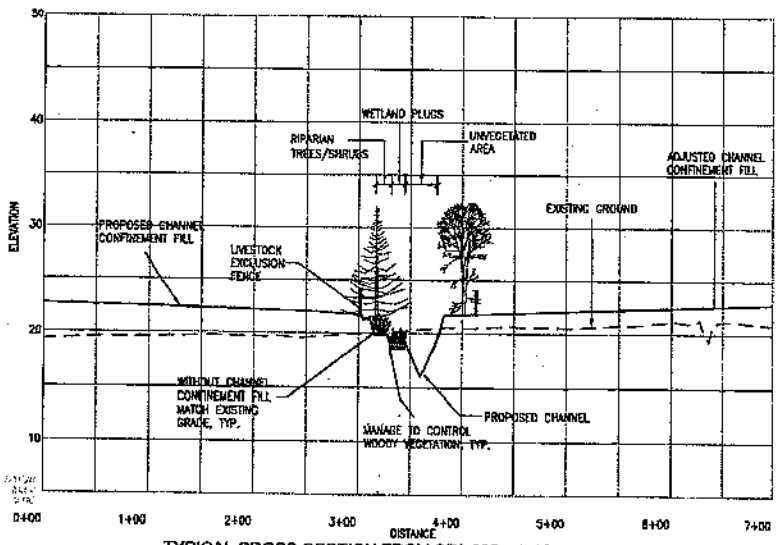
CONFINEMENT FILL AREA*

CLOVER	(TRIFOLIUM REPERS)
RYEGRASS	(LOLIUM PERENNE)

WETLAND PLUGS*

SLOUGH SEDGE	(CAREX OBNUPTA)
SPIKE RUSH	(ELEOCHARIS MACROSTACHYA)
TUFTED HAIRGRASS	(DESCHAMPSIA CAESPITOSA)
COMMON RUSH	(JUNCUS PATENS)
SALVAGED PLUGS	(NATIVE PLANTS ONLY)

*SEE TABLES ON SHEET V-3
FOR ADDITIONAL DETAILS, ALL RE-VEG DATA
PROVIDED BY H.T. HARVEY & ASSOCIATES



TYPICAL CROSS-SECTION FROM STA 265+00 TO STA 361+00
COTTONWOOD/ SPRUCE RIPARIAN FOREST WITH FRESHWATER MARSH

HORIZONTAL SCALE 0 60' 120' VERTICAL EX.: 10:1 VERTICAL SCALE 0 5' 10'

RIPARIAN TREES*

BLACK COTTONWOOD	(POPULUS BALSAMIFERA SSP. TRICHOCARPA	(40%)
SITKA SPRUCE	(PICEA SITCHENSIS)	(35%)
REDWOOD	(SEQUOIA SEMPERVIRENS)	(10%)
GRAND FIR	(ABIES GRANDIS)	(5%)
RED ALDER	(ALNUS RUBRA)	(5%)
BIGLEAF MAPLE	(ACER MACROPHYLLUM)	(5%)

RIPARIAN SHRUBS/FERNS*

TWINBERRY	(LONICERA INCOLUCRATA)
CASCARA BUCKTHORN	(RHAMNUS PURSHIANA)
CALIFORNIA WAX MYRTLE	(MYRICA CALIFORNICA)
THIMBLEBERRY	(RUBUS PARVIFLORA)
SALMONBERRY	(RUBUS SPECTABILIS)
RED ELDERBERRY	(SAMBUCUS RACEMOSA)
MOSQUITO FERN	(AZOLLA FILLICULOIDES)
GIANT CHAIN FERN	(WOODWARDIA FIMBRIATA)
SWORD FERN	(POLUSTICHUM MUNITUM)
SPREADING WOOD FERN	(DRYOPTERIS EXPANSA)

CONFINEMENT FILL AREA*

CLOVER	(TRIFOLIUM REPERS)
RYEGRASS	(LOLIUM PERENNE)

WETLAND PLUGS*

SLOUGH SEDGE	(CAREX OBNUPTA)
SPIKE RUSH	(ELEOCHARIS MACROSTACHYA)
SALVAGED PLUGS	(NATIVE PLANTS ONLY)

*SEE TABLES ON SHEET V-3
FOR ADDITIONAL DETAILS, ALL RE-VEG DATA
PROVIDED BY H.T. HARVEY & ASSOCIATES

Sheet 38 of 39

30% SUBMITTAL
NOT FOR CONSTRUCTION
JULY 2010

HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER ECOSYSTEM RESTORATION PROJECT
TYPICAL RE-VEG SECTIONS

PROJ NO. 10633-10-00
DRAWN: TJ/GG CHKD: JI

V-2

File No. 2010-00282

Enclosure 1

Date: July 29, 2010

PLANT PALETTE FOR SALT RIVER & RIVERSIDE RANCH RESTORATION AREA

RE-VEG DATA PROVIDED BY H.T. HARVEY & ASSOCIATES, APRIL 16, 2010

PLANTING AREA		COMMON NAME	SCIENTIFIC NAME	PERCENT COMPOSITION BY PLANT TYPE	ON-CENTER PLANT SPACING [2] (ft)
Tidal Salt Marsh	Wetland Plugs	Gumplant	*Grindelia stricta*	20	2-4
		Saltgrass	*Distichlis spicata*	20	2
		Jaumea	*Jaumea carnosa*	20	2
		Seaside arrowgrass	*Triglochin maritima*	20	--
		Marsh rosemary	*Limonium californicum*	20	2-4
Tidal Brackish Riparian	Trees	Sitka spruce	*Picea sitchensis*	95	16-20
		Red alder	*Alnus rubra*	5	14-18
	Shrubs	California wax myrtle	*Myrica californica*	15	6-12
		Twinberry	*Lonicera involucrata*	30	6-12
		Cascara buckthorn	*Rhamnus purshiana*	15	6-12
		Thimbleberry	*Rubus parviflora*	20	6-12
		Salmonberry	*Rubus spectabilis*	20	6-12
	Wetland Plugs	Tufted hairgrass	*Deschampsia caespitosa*	20	4-6
		Salt rush	*Juncus lesueurii*	25	4-6
		Spike rush	*Eleocharis macrostachya*	25	4-6
		Salvaged plugs	native plants only	10	4-6
		common rush	*Juncus patens*	20	4-6
Tidal Freshwater Riparian	Trees	Sitka spruce	*Picea sitchensis*	50	16-20
		Black cottonwood	*Populus balsamifera ssp. trichocarpa*	30	16-20
		Redwood	*Sequoia sempervirens*	5	16-20
		Grand fir	*Abies grandis*	5	16-20
		Red alder	*Alnus rubra*	5	14-18
		Bigleaf maple	*Acer macrophyllum*	5	
	Ferns	Mosquito fern	*Azolla filiculoides*	2	6-12
		Giant chain fern	*Woodwardia fimbriata*	2	6-12
		Sword fern	*Polystichum munitum*	4	6-12
		Spreading wood fern	*Dryopteris expansa*	2	6-12
	Shrubs	Red currant	*Ribes sanguineum*	15	6-12
		Twinberry	*Lonicera involucrata*	15	6-12
		Cascara buckthorn	*Rhamnus purshiana*	15	6-12
		California wax myrtle	*Myrica californica*	5	6-12
		Thimbleberry	*Rubus parviflora*	10	6-12

PLANTING AREA		COMMON NAME	SCIENTIFIC NAME	PERCENT COMPOSITION BY PLANT TYPE	ON-CENTER PLANT SPACING [2] (ft)
		Salmonberry	*Rubus spectabilis*	10	6-12
		Red elderberry	*Sambucus racemosa*	20	6-12
	Freshwater Plugs	Slough sedge	*Carex obnupta*	25	4-6
		Spike rush	*Eleocharis macrostachya*	25	4-6
		Tufted hairgrass	*Deschampsia caespitosa*	20	4-6
		Common rush	*Juncus patens*	20	4-6
		Salvaged plugs	native plants only	10	4-6
Freshwater Riparian	Trees	Black cottonwood	*Populus balsamifera ssp. trichocarpa*	40	16-20
		Sitka spruce	*Picea sitchensis*	35	16-20
		Redwood	*Sequoia sempervirens*	10	16-20
		Grand fir	*Abies grandis*	5	16-20
		Red alder	*Alnus rubra*	5	14-18
		Bigleaf maple	*Acer macrophyllum*	5	
	Ferns	Mosquito fern	*Azolla filiculoides*	2	6-12
		Giant chain fern	*Woodwardia fimbriata*	2	6-12
		Sword fern	*Polystichum munitum*	3	6-12
		Spreading wood fern	*Dryopteris expansa*	3	6-12
	Shrubs	Twinberry	*Lonicera involucrata*	25	6-12
		Cascara buckthorn	*Rhamnus purshiana*	15	6-12
		California wax myrtle	*myrica californica*	10	6-12
		Thimbleberry	*Rubus parviflora*	15	6-12
		Salmonberry	*Rubus spectabilis*	15	6-12
		Red elderberry	*Sambucus racemosa*	10	6-12
	Freshwater Plugs	Slough sedge	*Carex obnupta*	30	4-6
		Spike rush	*Eleocharis macrostachya*	30	4-6
		Salvaged plugs	native plants only	40	4-6

1 Planting information is not included for salt marsh plain species as it is anticipated that these species will naturally recruit once tidal connectivity is established
2 Plant spacing will not be pervasive across all planting areas, as many plantings may be clustered, with larger spaces between clusters.
DP – deeppot planting container is 2 1/2" diameter x 10" long
TB – treeband planting container is 2 1/4" diameter x 5" long
SC – supercell planting container is 1 1/2" diameter x 8" long
These plant estimates are very preliminary, and for the most part the numbers are likely to be reduced during detailed planting design due to the following factors: a) some plantings may be clustered with broader spaces between clusters, b) natural recruitment during the first 3 years may reduce the numbers of plants required for the delayed planting of shrubs and/or the replacement of dead trees and shrubs, and c) landowner preferences may reduce planting densities and areas.

30% SUBMITTAL
NOT FOR CONSTRUCTION
JULY 2010

HUMBOLDT COUNTY RESOURCE CONSERVATION DISTRICT
SALT RIVER ECOSYSTEM RESTORATION PROJECT
RE-VEGETATION PALETTE

PROJ NO: 10653-10-002
DRWN: TJ/GO CHKD: JBS/

V-3

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