

# TEN MILE RIVER SOUTH FORK ENHANCEMENT PROJECT PHASE 1A - FRGP 2015 SUBMITTAL

SITES SF13-14, AND SF16-17

SPONSORED AND FUNDED BY  
THE NATURE CONSERVANCY  
AND

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE



PREPARED FOR:  
THE NATURE CONSERVANCY  
201 MISSION ST, 4TH FLOOR  
SAN FRANCISCO, CA 94105

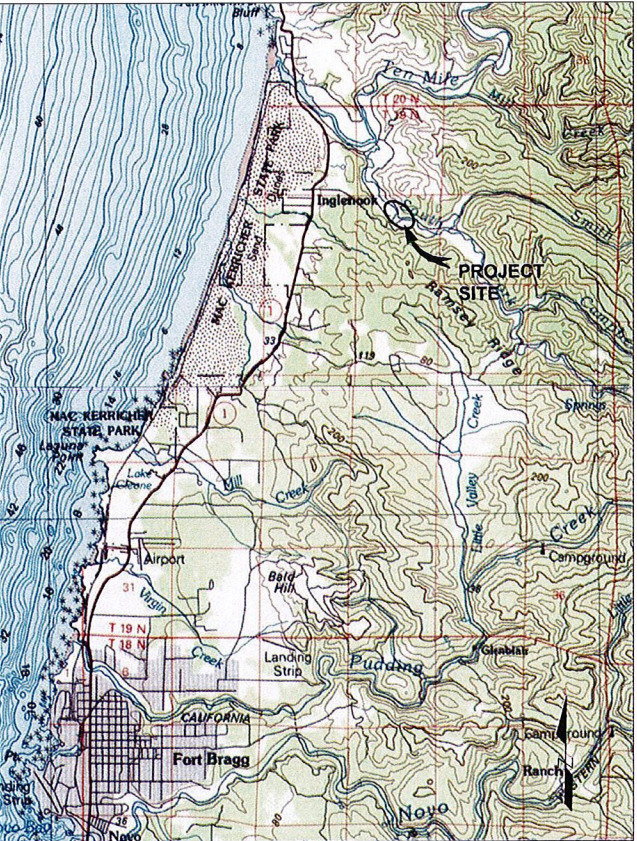
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SCALE:	AS SHOWN			
MAPPING BY:	JP			
DESIGNED BY:	MJ, LH, LW			
DRAFTED BY:	LW			
CHECKED BY:	MJ, LH			

TEN MILE RIVER  
SOUTH FORK - FRGP 2015  
TITLE SHEET

SHEET  
1  
OF 14



VICINITY MAP  
SCALE: NTS



LOCATION MAP  
SCALE: 1" = 5000'  
USGS



SITE LAYOUT  
SCALE: 1" = 400'

SURVEY NOTES  
TOPOGRAPHIC GROUND AND RTK SURVEY PERFORMED BY PRUNUSKE CHATHAM, INC. JANUARY 2015. SURROUNDING TOPOGRAPHIC LIDAR DATA OBTAINED FROM NOAA AND IS APPROXIMATE ONLY.  
HORIZONTAL DATUM: NAD83 CALIFORNIA STATE PLANE (ZONE 2)  
VERTICAL DATUM: NAVD 1988  
HORIZONTAL AND VERTICAL CONTROL AS SHOWN  
PROJECT LOCATION: LAT: 39°31'37" N LONG: 123°44'30" W

VERIFY SCALES  
ONE INCH



Acad File Name: C:\Acad Dwg\QV30\Ten Mile River\Dwg\VRGP\_Sst\South Fork\VRGP - GeneralNotes.dwg  
Plot date: 8/27/2015 3:46 PM Layout: GENERAL CONSTRUCTION NOTES

GENERAL CONSTRUCTION NOTES:

A. LEGAL

A1. Contractor shall assume sole and complete responsibility for job site conditions during the course of construction of the project, including safety of all persons and property. This requirement shall be made to apply continuously and not be limited to normal working hours. Construction Contractor shall hold harmless, indemnify and defend the Owner (The Nature Conservancy), the Landowner, the Project Designer and their consultants, and each of their officers, employees, and agents.

B. INSPECTION / CONSTRUCTION REVIEW

B1. Project Designer shall provide construction review related to site work and channel improvements shown on this plan set. Project Biologist shall conduct and oversee biological protection according to permit conditions.

C. GENERAL CONDITIONS

C1. This plan set and these general construction notes are not meant to fully describe all materials and methods required to construct the Ten Mile River South Fork Construction Project. In the event that the design firm does not act as the contractor, additional notes or project specifications are required to accompany this plan set in order to represent a building set meant for construction.

C2. All construction materials and workmanship shall conform to the Ten Mile River South Fork Enhancement Project Phase 1A - FRGP 2015 Submittal plans and project specifications.

C3. Contractor shall be fully responsible for being familiar with the provisions and requirements contained in the Ten Mile River South Fork Enhancement Project Phase 1A - FRGP 2015 Submittal plans and project specifications. Contractor shall have a copy available at the job site at all times.

C4. Contractor shall provide emergency telephone numbers to the police, fire, and public works departments and keep them informed daily regarding street closures and traffic control.

C5. The contractor shall notify the engineer of record two (2) working days prior to beginning work on the project..

C6. Construction staging areas and temporary access to be coordinated with Owner Representative and Project Designer prior to construction. Staging will occur within project area and as approved by Owner Representative and Project Designer.

C7. Dewatering: Contractor shall dewater site in accord with the Project plans and specifications. Contractor shall use temporary dewatering systems to control minor surface flow from ground water seeps through the work area. Contractor shall coordinate dewatering activities with Project Biologist and comply with all required permit conditions.

C8. Species Protection: All work shall be conducted in conformance with regulatory permit conditions.

C9. Contractor to grade stake site with adequate detail for inspector to verify horizontal and vertical conformance to contract documents.

D. UTILITIES

D1. Prior to construction, the Contractor is responsible for locating all existing underground utilities through coordination with the Owner Representative, Underground Service Alert, and the various utility companies. Contractor shall protect all identified utilities.

D2. If utilities are required to be relocated, the Contractor shall submit a utility relocation plan for approval by Project Engineer as well as required County and Local agencies. Upon completion of the project, an as-built plan shall be completed and submitted to Project Owner, if the constructed project deviates substantially from plans.

E. SUBMITTALS

E1. Contractor shall provide all submittals identified in the Project Specifications to the Project Designer for review and approval at least three business days prior to bringing materials on site.

F. ENVIRONMENTAL AND CULTURAL RESOURCES PROTECTION

F1. Contractor is responsible for complying with all regulatory permit conditions.

F2. All vehicles and equipment on the site must not leak any type of hazardous materials such as oil, hydraulic fluid, or fuel. Vehicles and equipment must be inspected and approved by Owner Representative before use. Fueling shall take place outside of the riparian corridor.

F3. Contractor shall have emergency spill clean up gear (spill containment and absorption materials) and fire equipment available on site at all times. These items are to be reviewed by Owner Representative before construction begins.

F4. Access to the site must be reviewed with the Owner Representative and Project Designer. Exact location of access way, number of trips planned, and type of vehicles used shall be submitted prior to construction start up & approved by Owner Representative and Project Designer. Contractor shall be responsible for repairing, at their own cost above and beyond the scope of work, any damage to property caused by access not approved by the Owner Representative and Project Designer.

F5. Trash, litter, construction debris, cigarette butts, etc., must be stored in designated area approved by the Owner Representative or removed from the site at the end of each working day. Upon completion of work, Contractor is responsible for removing all debris to the satisfaction of the Owner Representative.

F6. Construction personnel shall be briefed about the potential to uncover prehistoric resources, including chert or obsidian flakes, projectile points, mortars and pestles, dark friable soil containing shell and bone dietary, heat-affected rock, or human burials, as well as historic resources such as stone or adobe foundations or walls, structures and remains with square nails, and refuse deposits or bottle dumps. Construction personnel shall be instructed to avoid areas containing potential cultural resources and that collection of cultural resources is forbidden.

F7. Should potential cultural resources be discovered, work will be discontinued until the area can be evaluated by a qualified archaeologist. If human remains are encountered, all work must stop in the immediate vicinity of the discovered remains, and the County Coroner and a qualified archaeologist must be notified immediately so that an evaluation can be performed. If the remains are deemed to be Native American and prehistoric, the Native American Heritage Commission must be contacted by the Coroner so that a "Most Likely Descendant" can be designated.

F8. Where possible, do not operate equipment within the drip line of trees. Steel plates shall be used when operation within the drip line of trees creates excessive compaction.

G. GENERAL GRADING NOTES

G1. All grading shall be conducted in conformance with the project geotechnical report and Project Plans.

G2. Trees and shrubs to be removed shall be marked on site by Project Designer prior to bid and construction.

G3. Clear and Grub: All vegetation not designated to remain within the project limits shall be cleared and grubbed. All woody vegetation that is not to be re-used as salvage wood shall be chipped and disposed of off-site.

G4. Stripping of Topsoil: Areas to be graded should be stripped of the upper layer of soil containing organic matter. Actual stripping depth should be determined by the Project Designer. The stripping should be stockpiled, with wetland and upland soils separated, for placement in revegetated areas.

G5. Temporary Stockpiles: Stockpile soil or other material in areas where it will not be washed into the stream. If rain should occur while the soil is temporarily stockpiled, the stockpiled soil will be covered with plastic. The plastic will be secured in place to insure that soil is protected from rain and wind. Sill fencing or wattles shall be installed on contour around all stockpile locations.

H. SEED AND MULCH SPECIFICATIONS

1.1. General

1.2. All disturbed areas shall be seeded. All areas where erosion control fabric is not installed shall be seeded and mulched.

1.3. Schedule: Seed must be applied before October 15 unless an extension is granted. Earlier application in September with a light watering (every other day) will promote establishment before the rainy season.

2.0. Materials

2.1. Native Seed Mix:

Mid-bank, Top of Bank & Upper Terrace seed mix:  
40% Deschampsia cespitosa  
20% Elymus triticoides  
20% Hordeum brachyantherum  
20% Festuca rubra

2.2. Mulch: Mulch shall be weed free and may include wood fiber hydro mulch (not recycled paper) and irrigated crop certified weed-free rice, wheat or barley straw. Contractor to submit weed-free mulch for approval by Project Designer.

3.0. Execution

3.1. Scarify soil by tracking or hand tools.

3.2. Broadcast native seed mix lightly at a rate of 1.4 pounds per 1,000 square feet. Rake or roll ground surface after broadcasting.

3.3. Where erosion control blanket is not specified, apply weed-free mulch on top of seeded area (after seed is applied) at a rate of 3,000 pounds per acre.

3.4. Tackifier will be required where straw mulch is used.

APPROXIMATE QUANTITIES FOR PERMITTING:

Disturbed Area, by site:

SF13 = 0.02ac

SF14 = 0.08ac

SF16-17 = 1.8ac

SF16-18 Spoils Area = 1.8ac

APPROXIMATE CONSTRUCTION QUANTITIES

	CUT (CY)	FILL (CY)
SF16:	9,800	1,200
SF17:	210	290
SF16-17 NET SPOILS:	8,520	CY
SF 16-18 SPOILS AREA CAPACITY:	10,400	CY

CONSTRUCTION QUANTITY NOTES:

1. Construction quantities shown are approximations. Contractor is responsible for determining proper earthwork, rock, and material quantities.

LEGEND

GENERAL:		
#	DIAMETER	SF SOUTH FORK
±	APPROXIMATE	TR TOP OF ROCK
Δ	DELTA	TL TOP OF LOG
▽	WATER SURFACE	TW TOP OF WALL
		EG EXISTING GRADE
		FG FINISH GRADE
		ELJ ENGINEERED LOG
		JAM
		LWD LARGE WOODY
		DEBRIS
		SECTION OR DETAIL DESIGNATION
PROPOSED	EXISTING	66 6 SHEET WHERE SECTION OR DETAIL OCCURS
		LIMITS OF GRADING/BREAKLINE
		STORM DRAIN/CULVERT PIPE
		ALIGNMENT/FLOWLINE
		EDGE OF ROAD
		ACCESS ROAD
		TEMPORARY CONSTRUCTION ACCESS
		CONTOUR LINE
		APPROXIMATE PROPERTY LINE
		FENCE
		BRUSH/VEGETATION LINE
		OVERHEAD LINE
		BRUSH LAYER OR BAFFLE
		LOG MEMBER
		TREES
		SURVEY CONTROL POINT

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DATE:	REVISIONS	DATE	BY
AUG 27, 2015			
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MAPPING BY: JP			
DESIGNED BY: MJ, LH, LW			
DRAFTED BY: LW			
CHECKED BY: MJ, LH			

TEN MILE RIVER  
SOUTH FORK - FRGP 2015  
GENERAL CONSTRUCTION NOTES

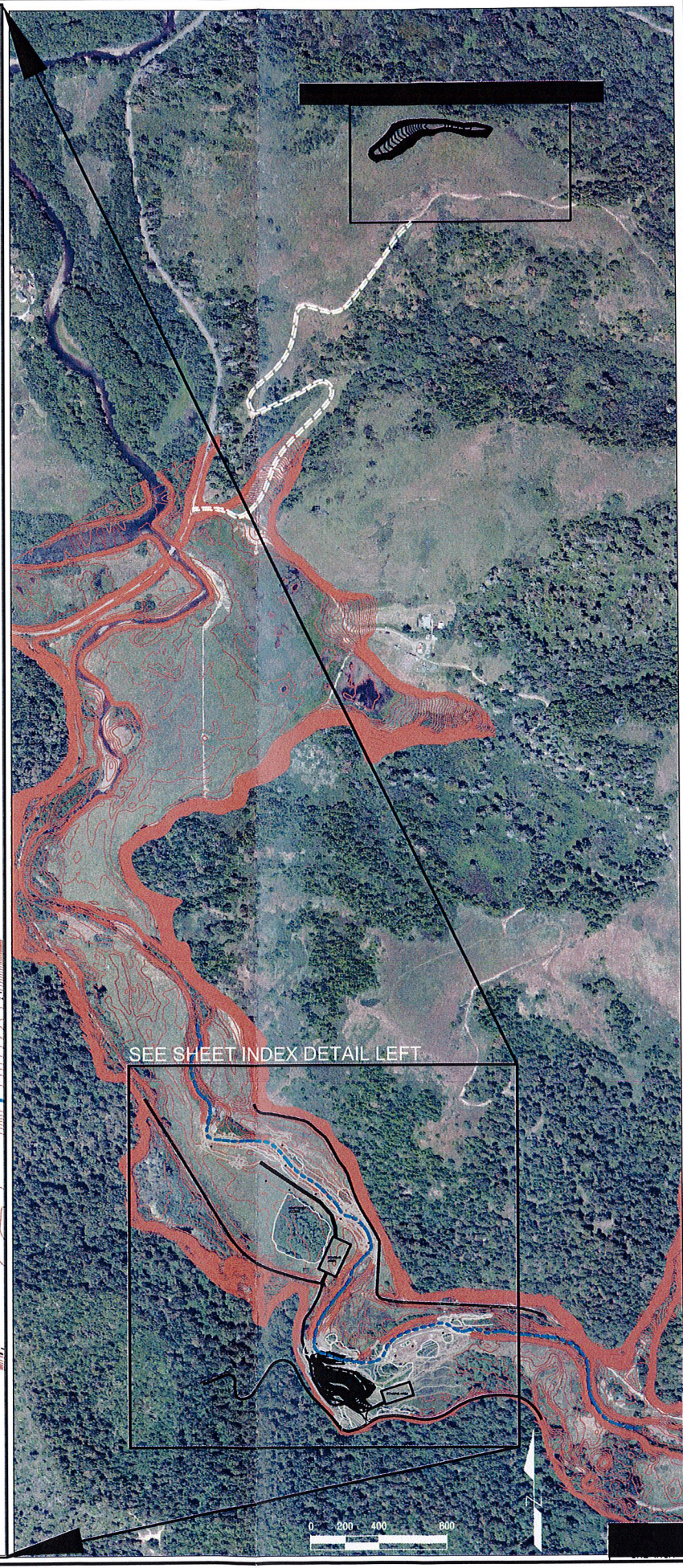
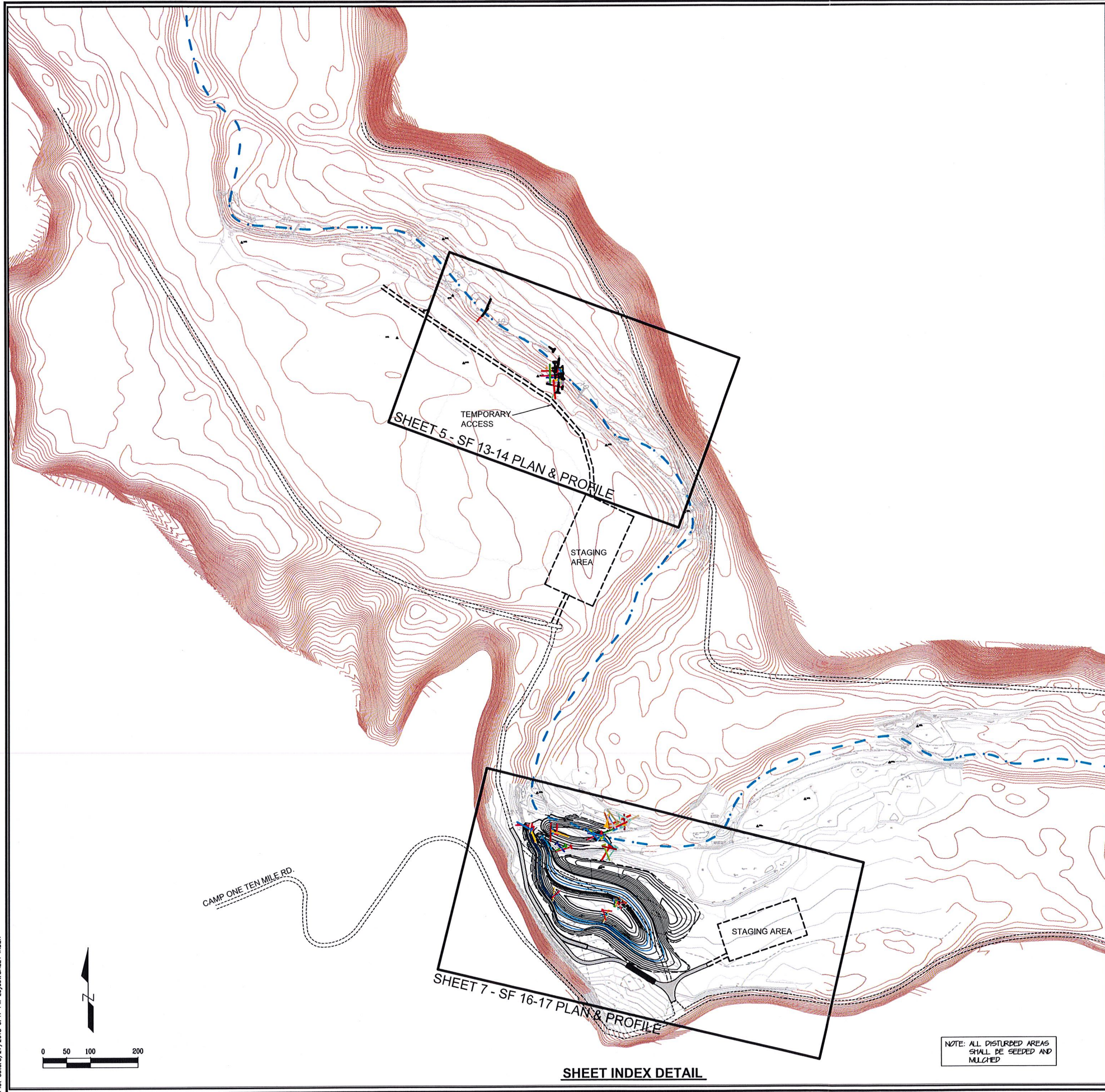
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OF 14



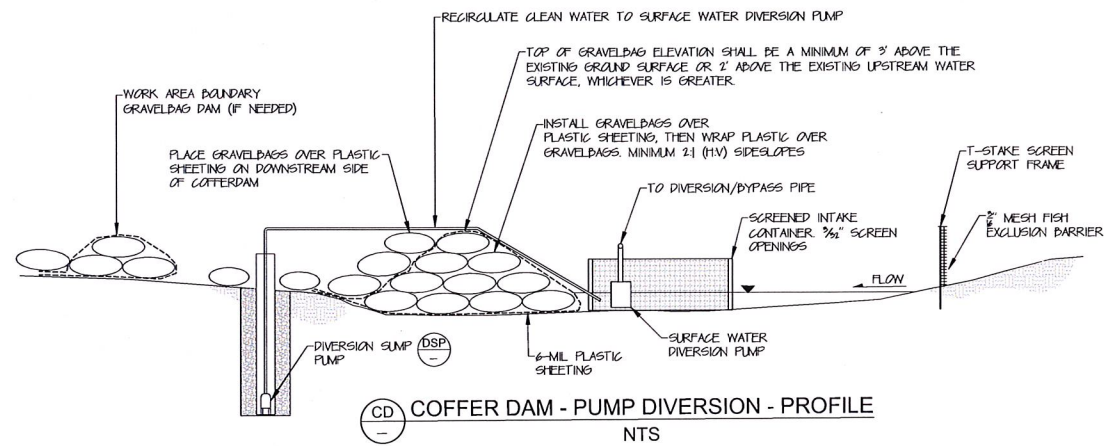
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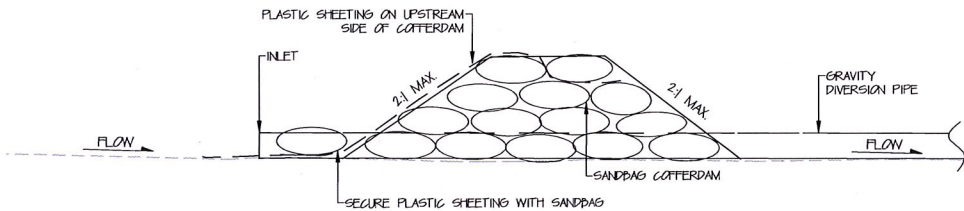
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SHEET 3 OF 14							



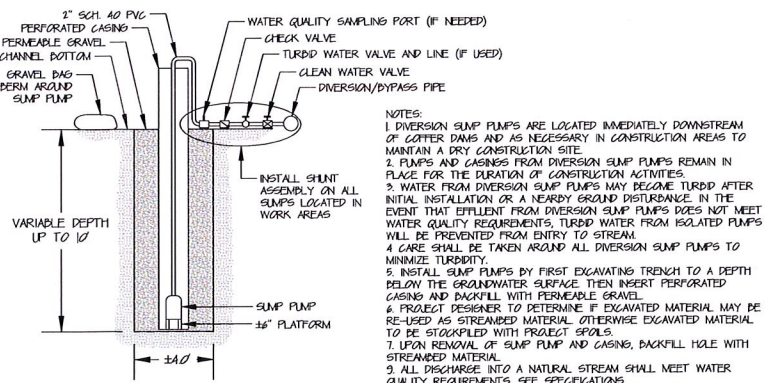
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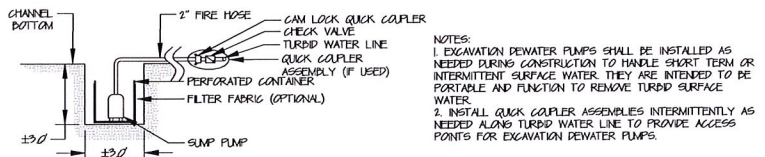
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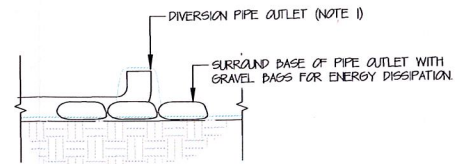
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DSP DIVERSION SUMP PUMP  
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EDP EXCAVATION DEWATER PUMP  
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OED OUTLET ENERGY DISSIPATOR  
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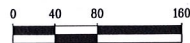


LEGEND:

DEWATER/FISH EXCLUSION REACH

NOTES:

1. ALL DEWATER REACHES SHALL HAVE COFFER DAMS INSTALLED AT THE UPSTREAM AND DOWNSTREAM ENDS, PER COFFER DAM DETAILS (THIS PAGE).



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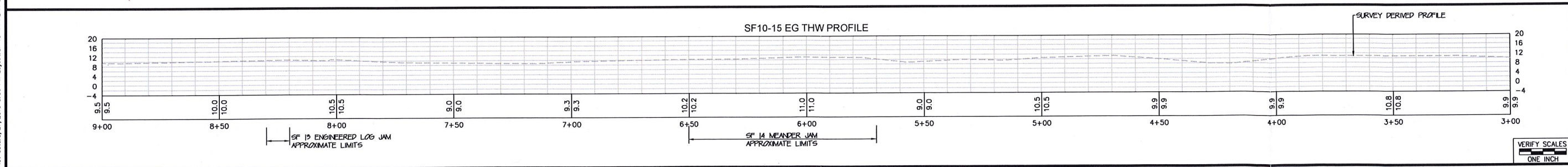
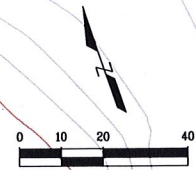
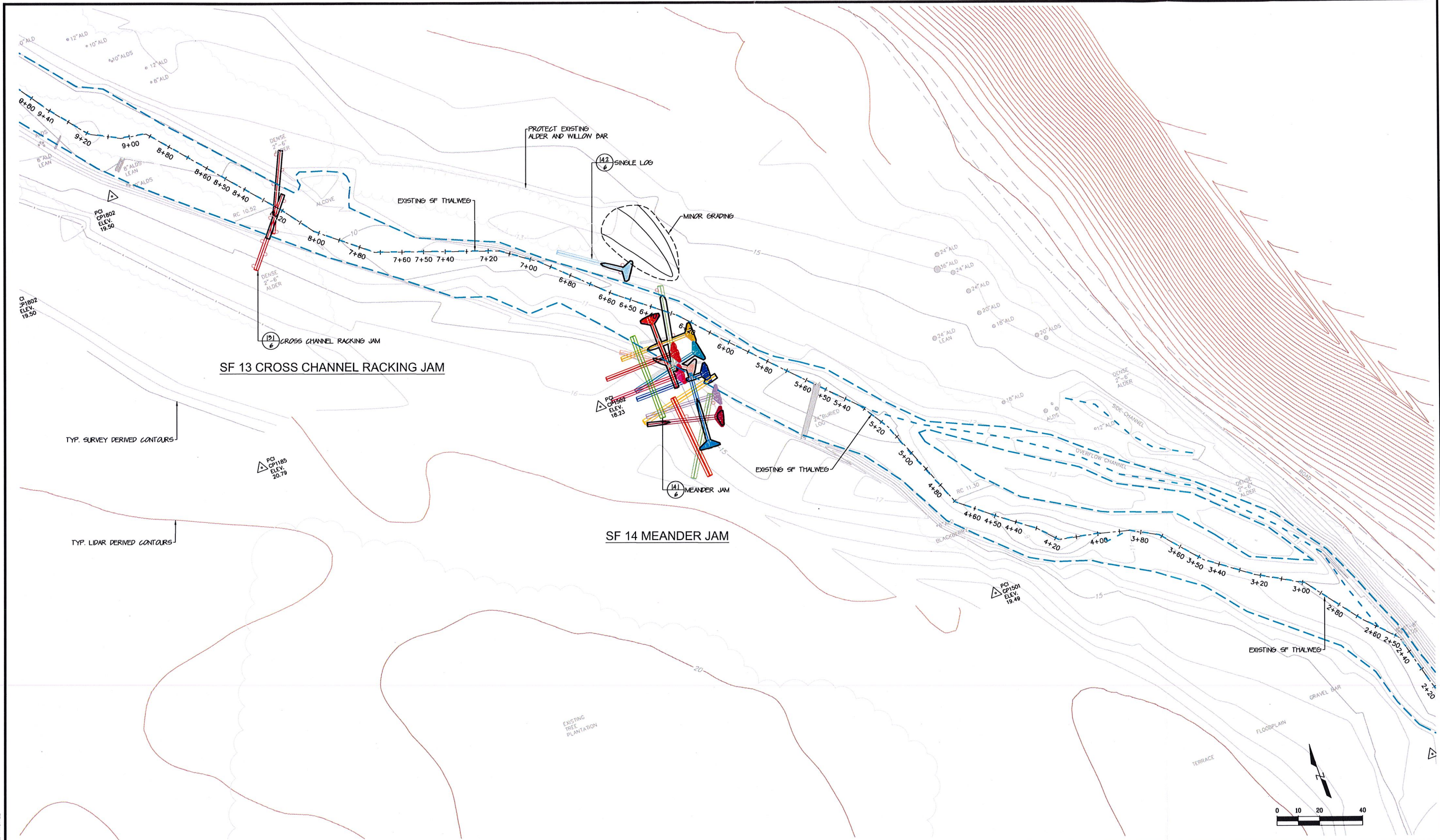
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DESIGNED BY:	MJ.LH.LW		
DRAFTED BY:	LW		
CHECKED BY:	MJ.LH		

TEN MILE RIVER  
SOUTH FORK - FRGP 2015  
DEWATER PLAN

SHEET  
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OF 14



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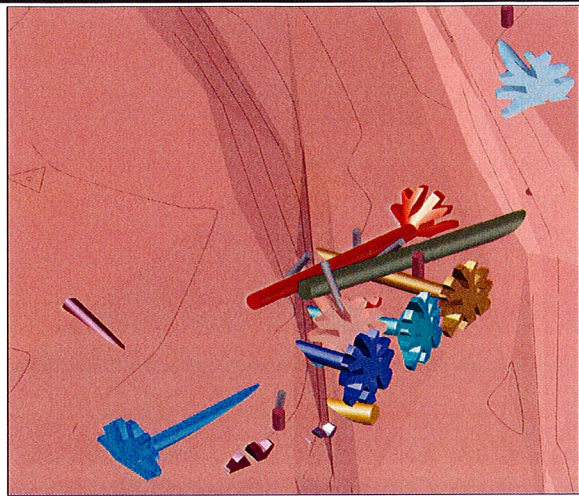
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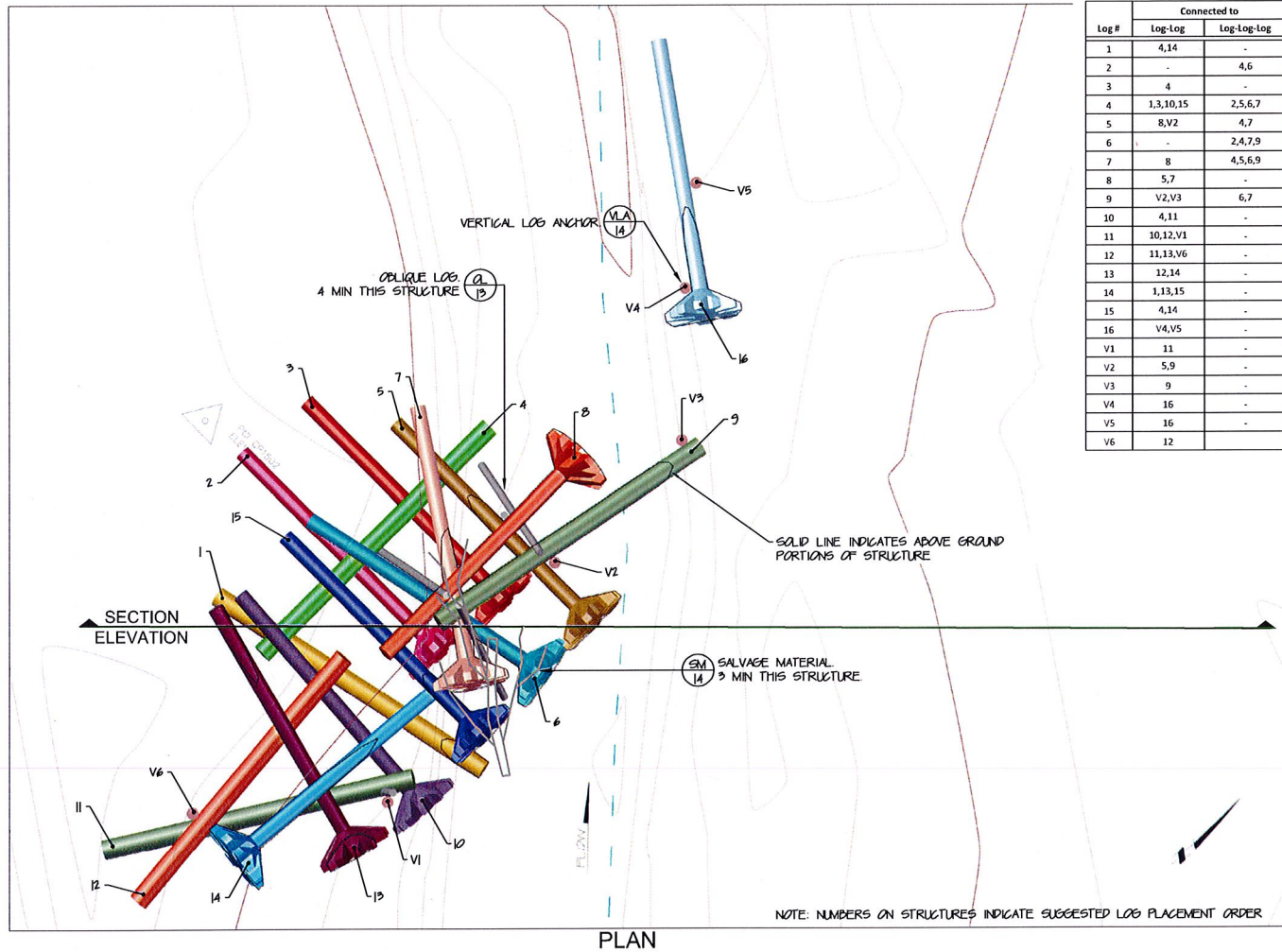
TEN MILE RIVER  
SOUTH FORK - FRGP 2015  
SF 13-14 PLAN & PROFILE



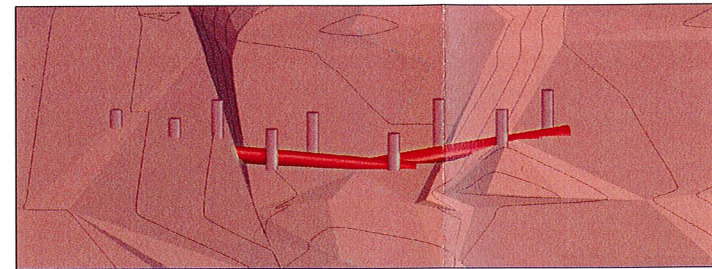
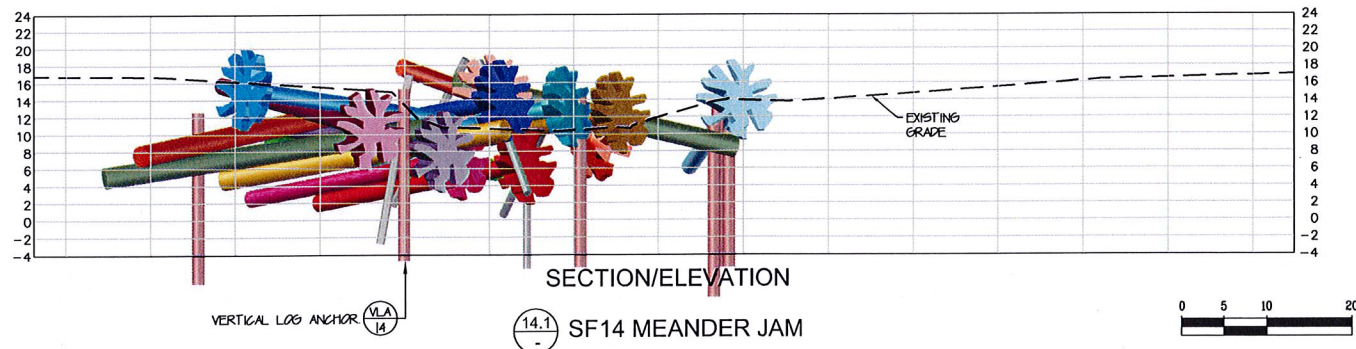
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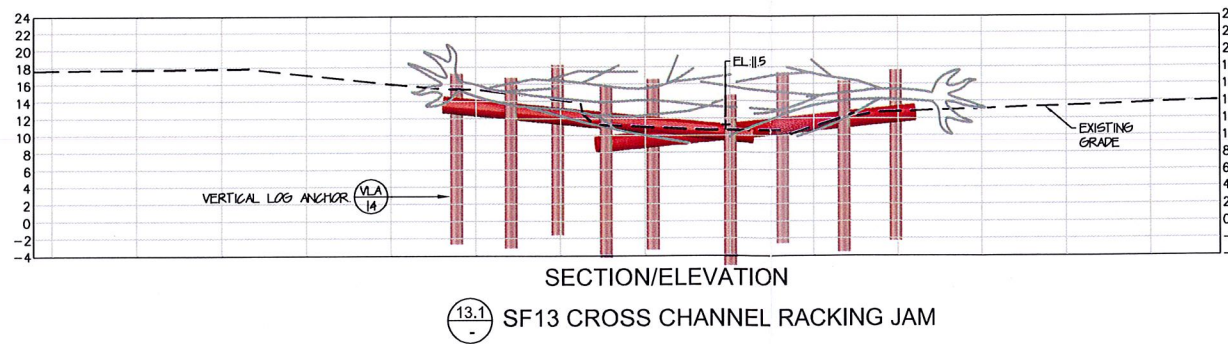
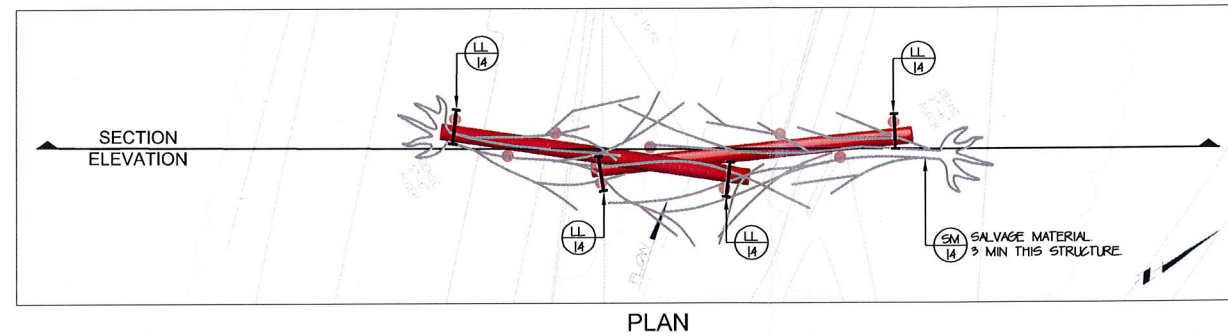
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V5	16	-
V6	12	-



ISOMETRIC VIEW



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MAPPING BY:	JP	REVISIONS	
DESIGNED BY:	ML, LH, LW		
DRAFTED BY:	LW		
CHECKED BY:	ML, LH		

TEN MILE RIVER  
SOUTH FORK - FRGP 2015  
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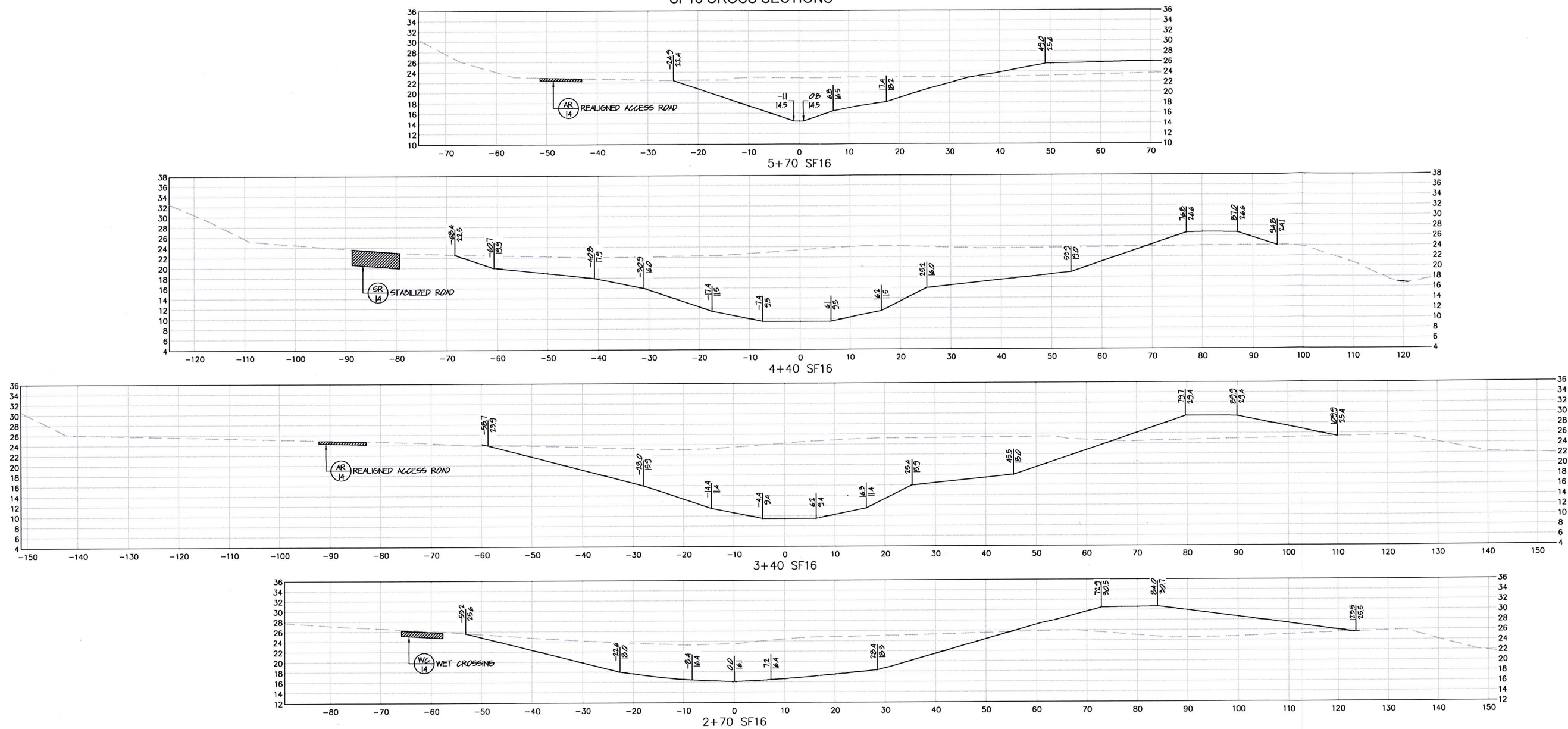




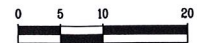
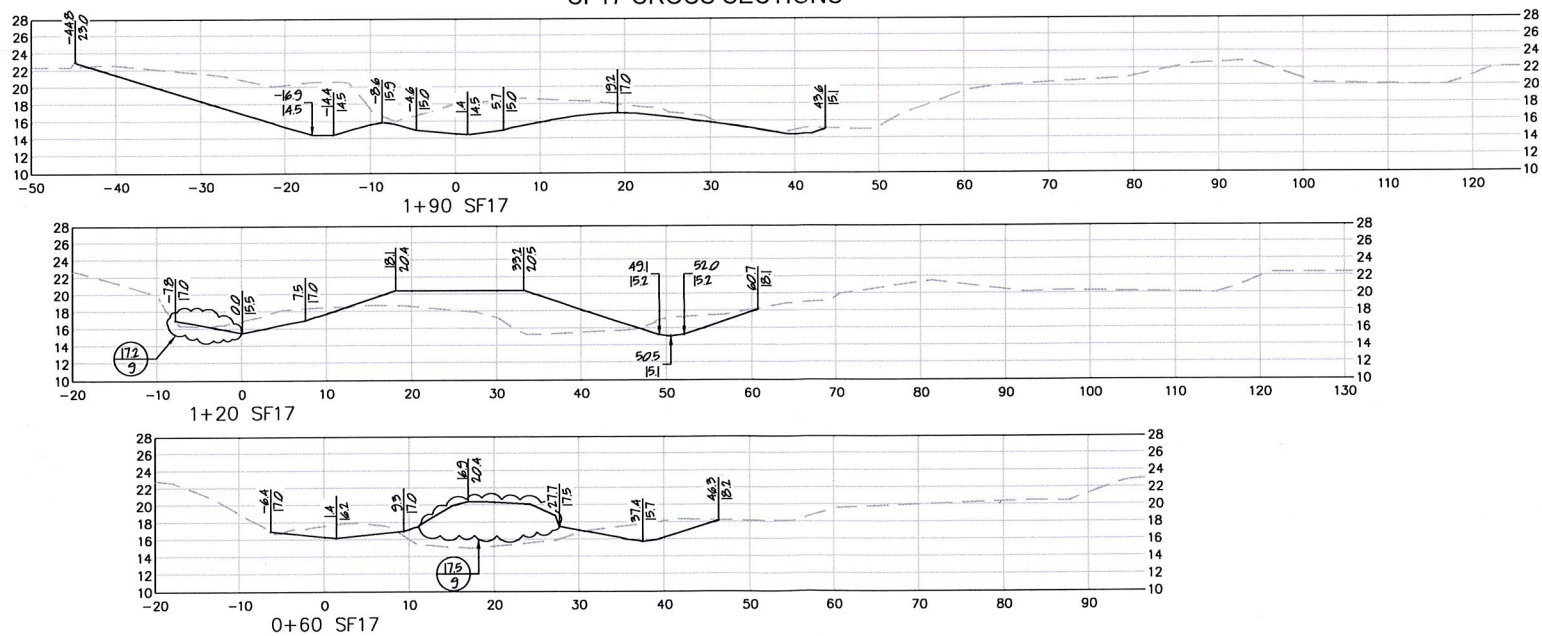


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### SF16 CROSS SECTIONS



### SF17 CROSS SECTIONS



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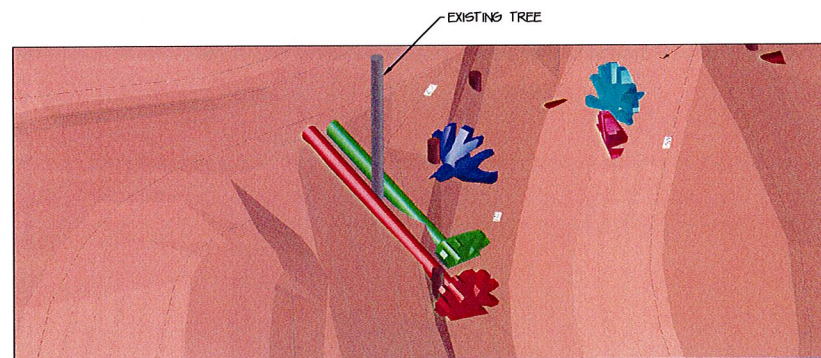
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DATE:	AUG 27, 2015	BY:	
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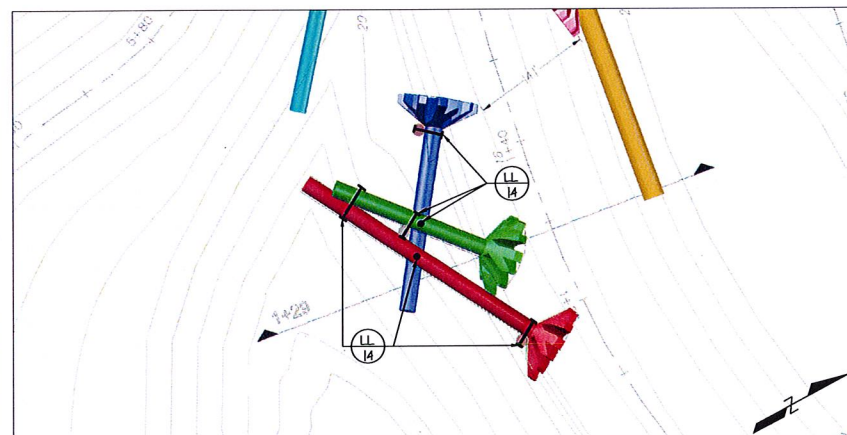
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**SOUTH FORK - FRGP 2015**  
**SF 16-17 CROSS SECTIONS**

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OF 14

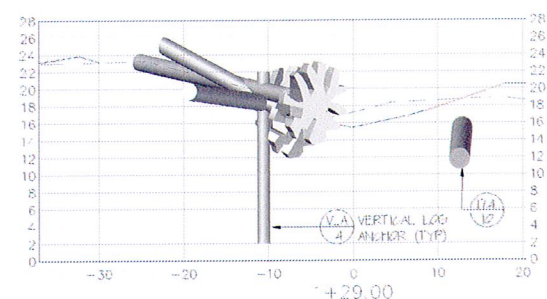




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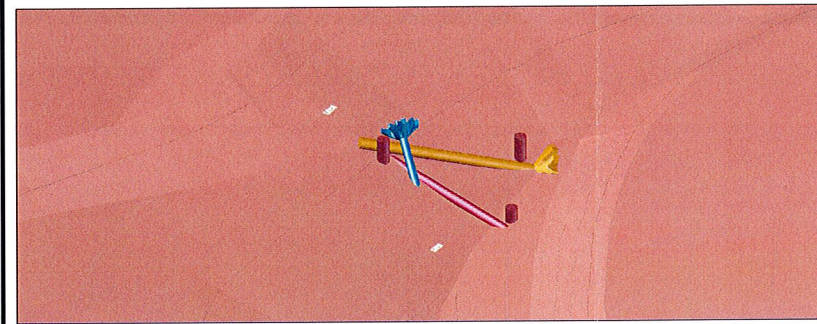


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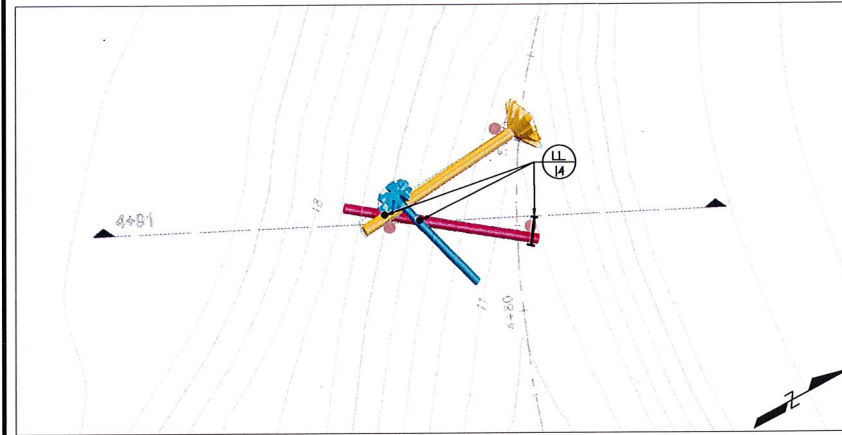


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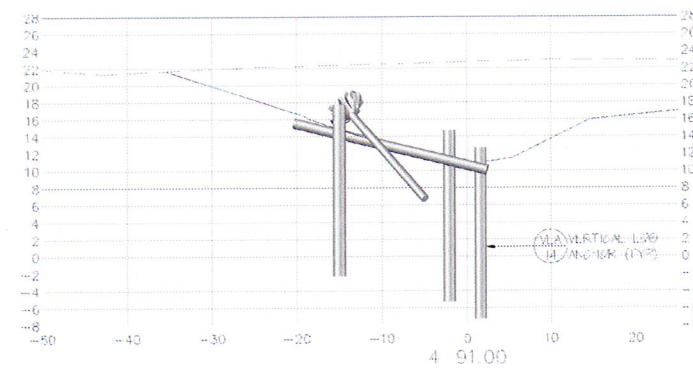
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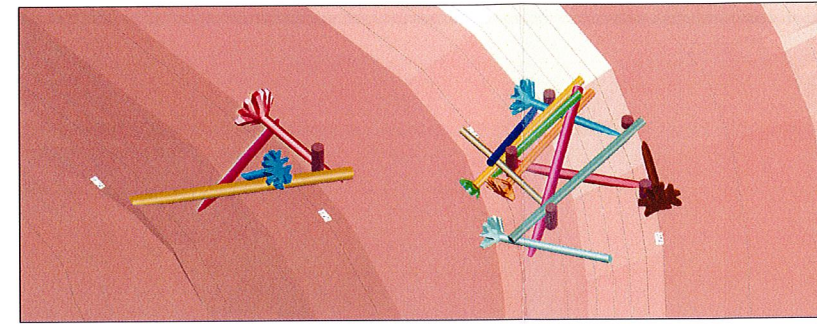
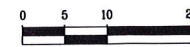


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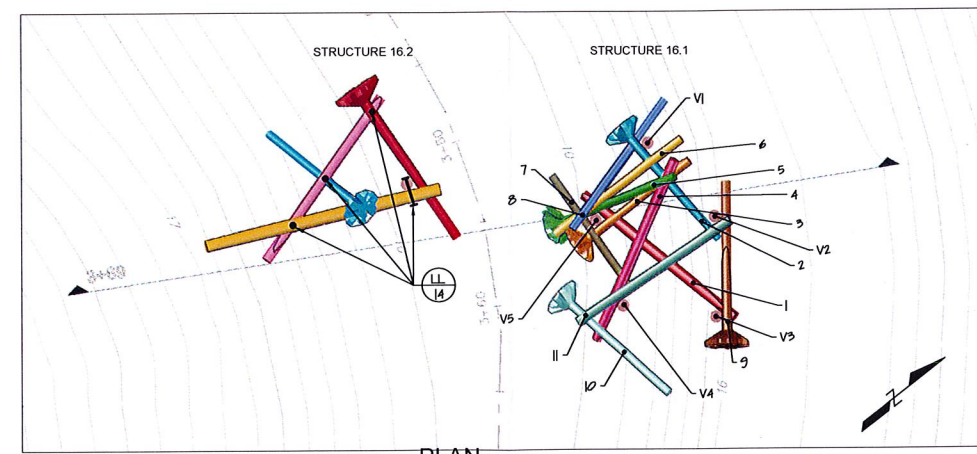


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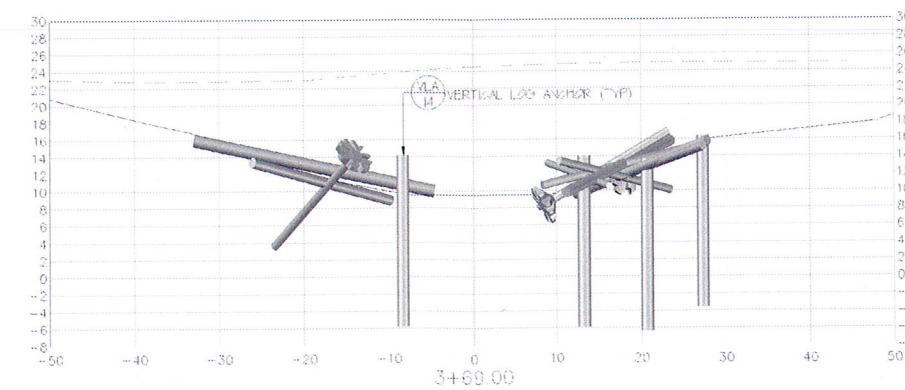
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## PLAN



SECTION/ELEVATION



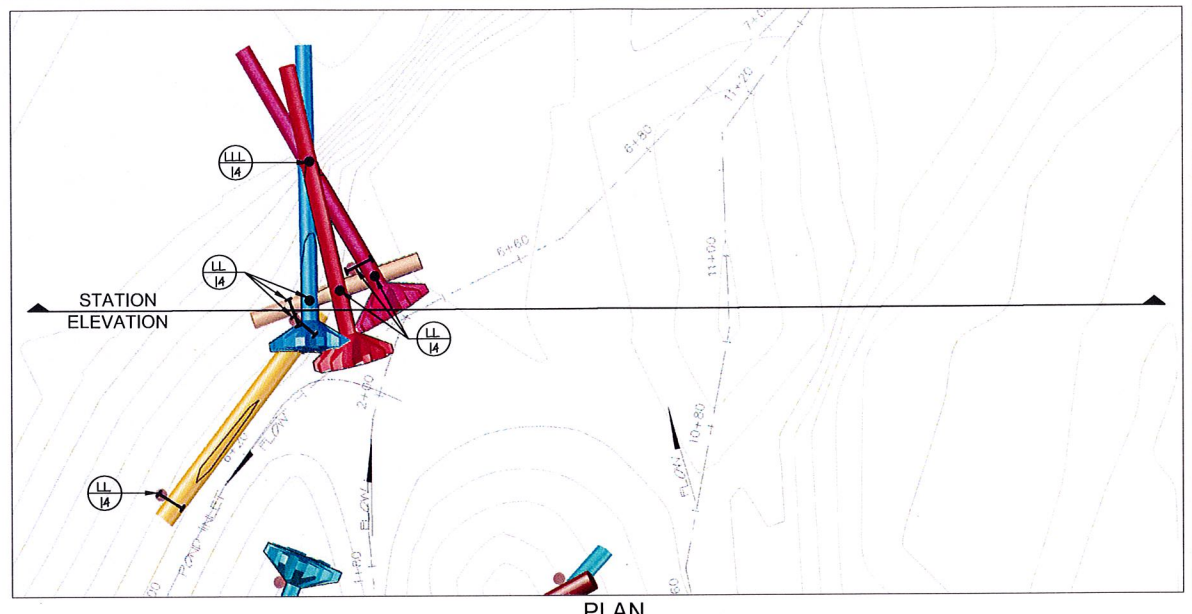
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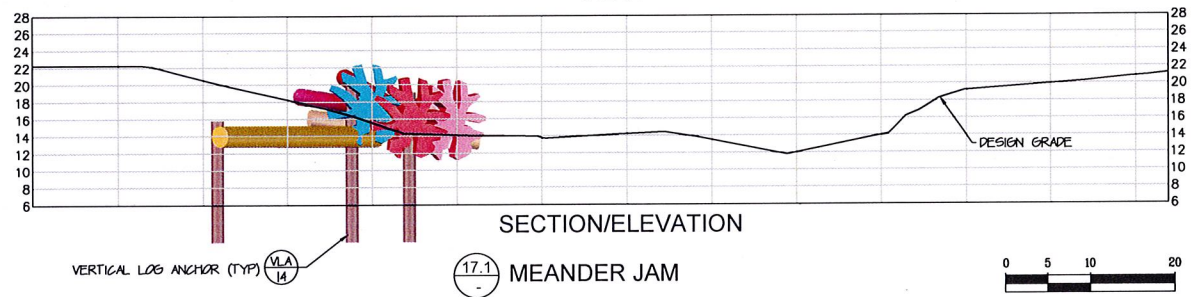
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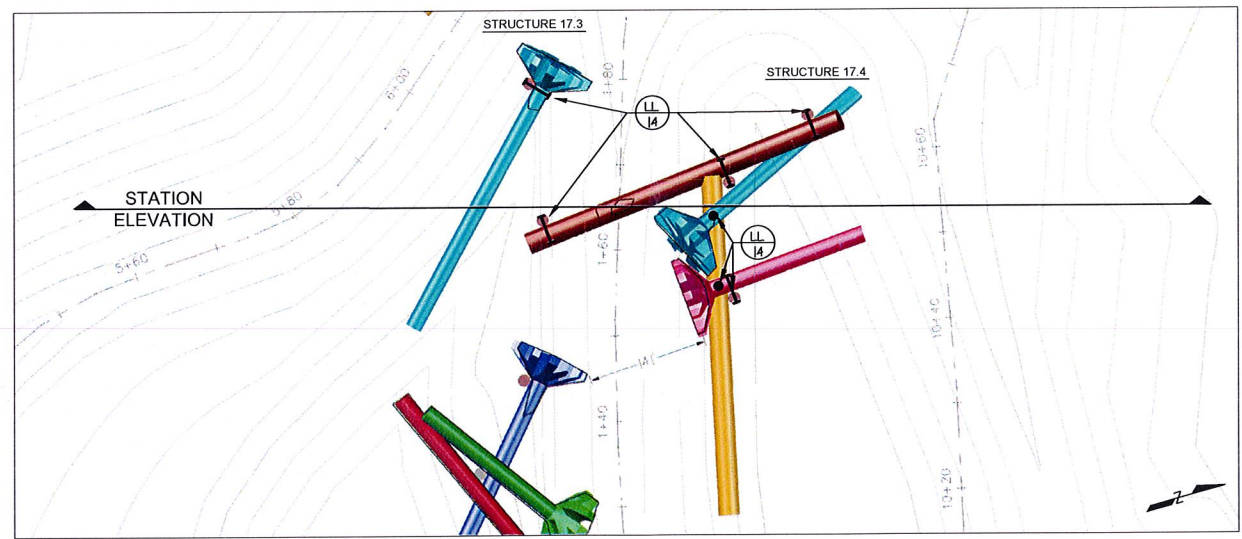


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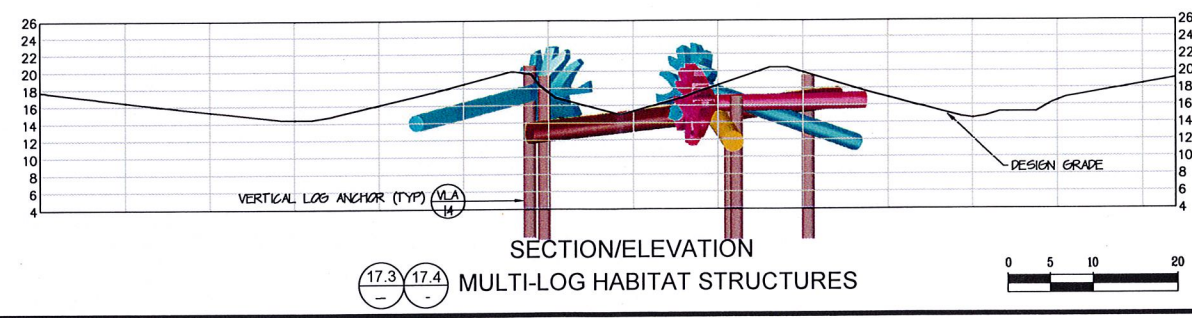


SECTION/ELEVATION

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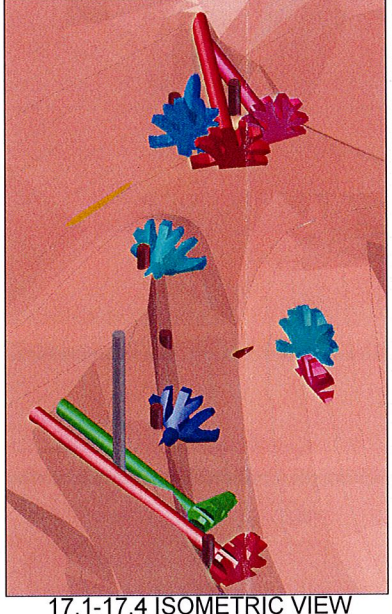


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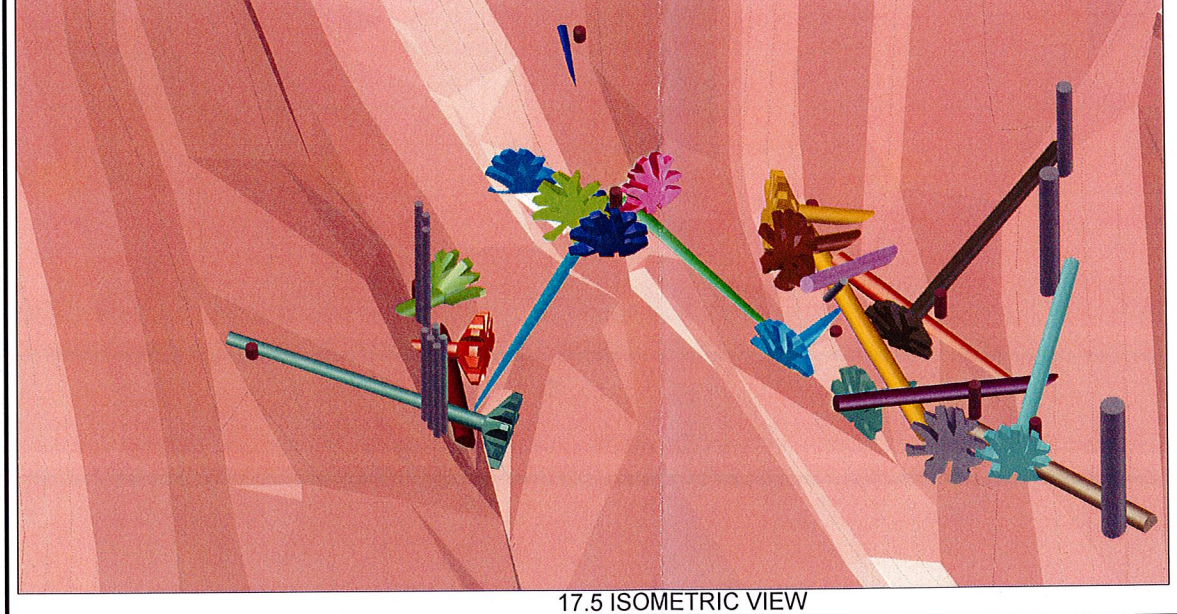


SECTION/ELEVATION

17.3 17.4 MULTI-LOG HABITAT STRUCTURES

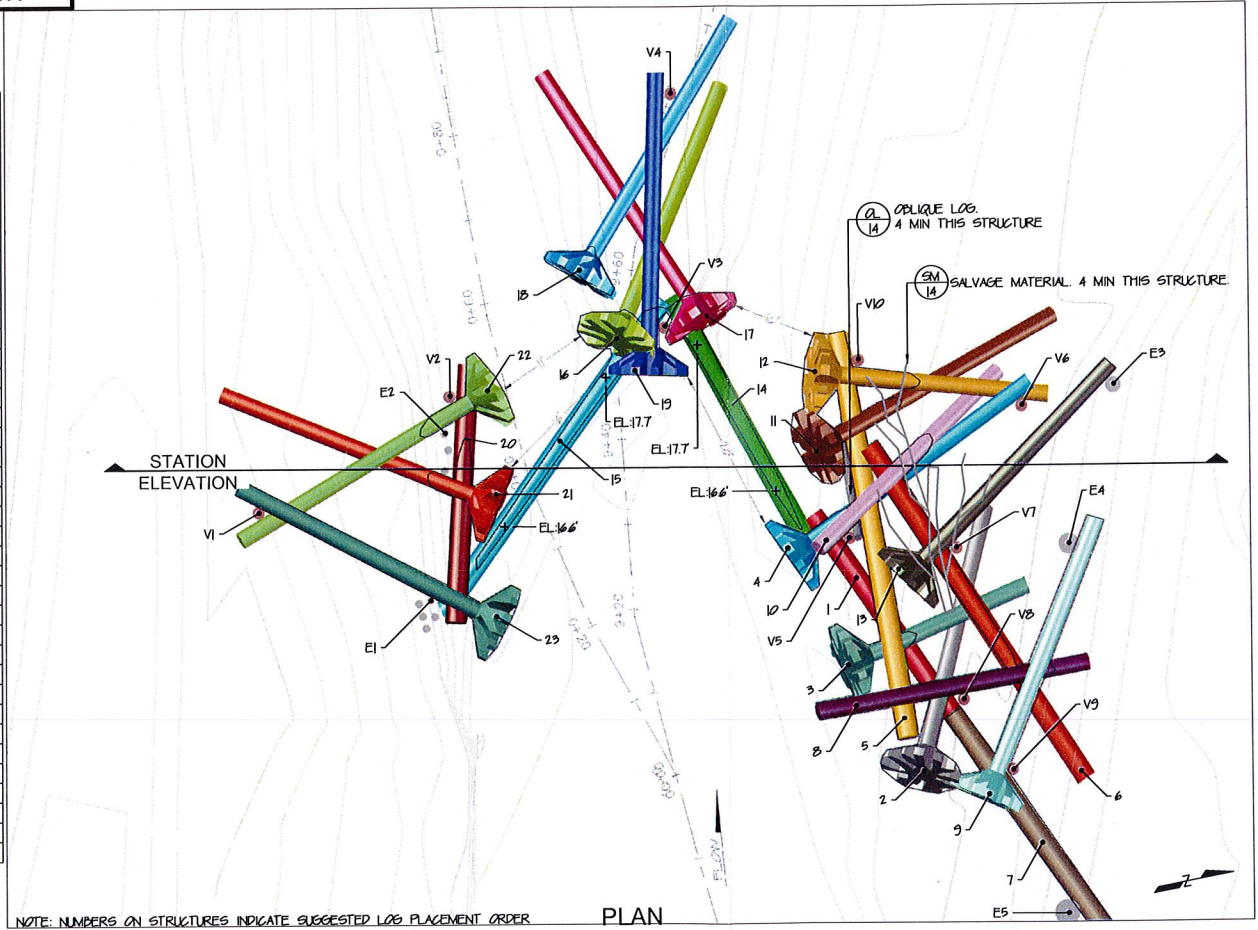


17.1-17.4 ISOMETRIC VIEW

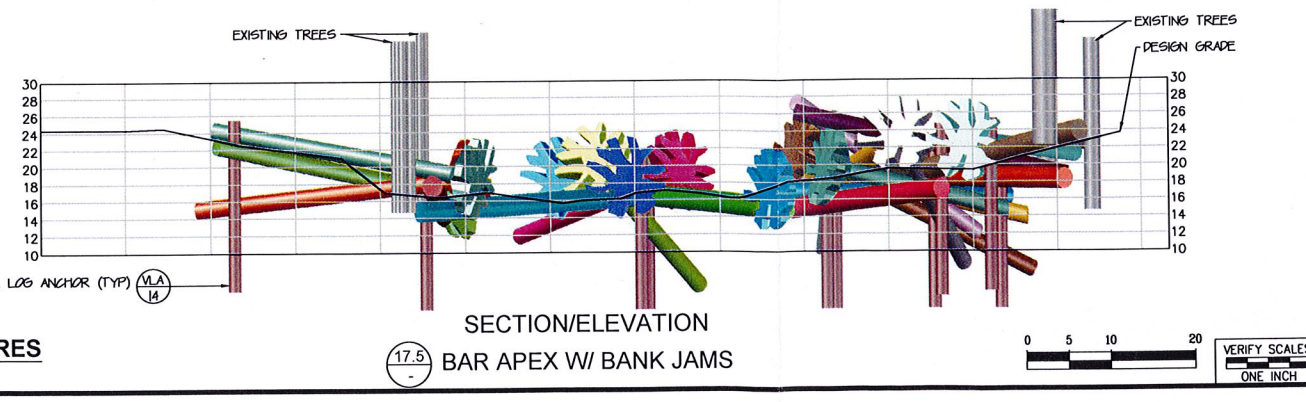


17.5 ISOMETRIC VIEW

17.5 CONNECTION TABLE		
Log #	Log-Log	Log-Log-Log
1	2,7,14,V5	-
2	1	-
3	-	-
4	5,V6	-
5	4,8,11,12,V10	-
6	8,10,13	-
7	1,E4	-
8	5,6,9,V8	-
9	8,V9,E3	-
10	6,12	-
11	5	-
12	5,10,V6,V10	-
13	6,V7,E2	-
14	1,V3	-
15	19,20,V3	-
16	-	17,19
17	18	16,19
18	17,19,V4	-
19	15,18,V4	16,17
20	15,21,V2	-
21	20,22	-
22	21,V2	-
23	V1,E1	-
V1	23	-
V2	20,22	-
V3	14,15	-
V4	18,19	-
V5	1	-
V6	4,12	-
V7	13	-
V8	8	-
V9	9	-
V10	12,5	-
E1	23	-
E2	13	-
E3	9	-
E4	7	-



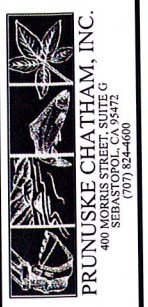
PLAN



SECTION/ELEVATION

17.5 BAR APEX W/ BANK JAMS

SF 17 LOG STRUCTURES



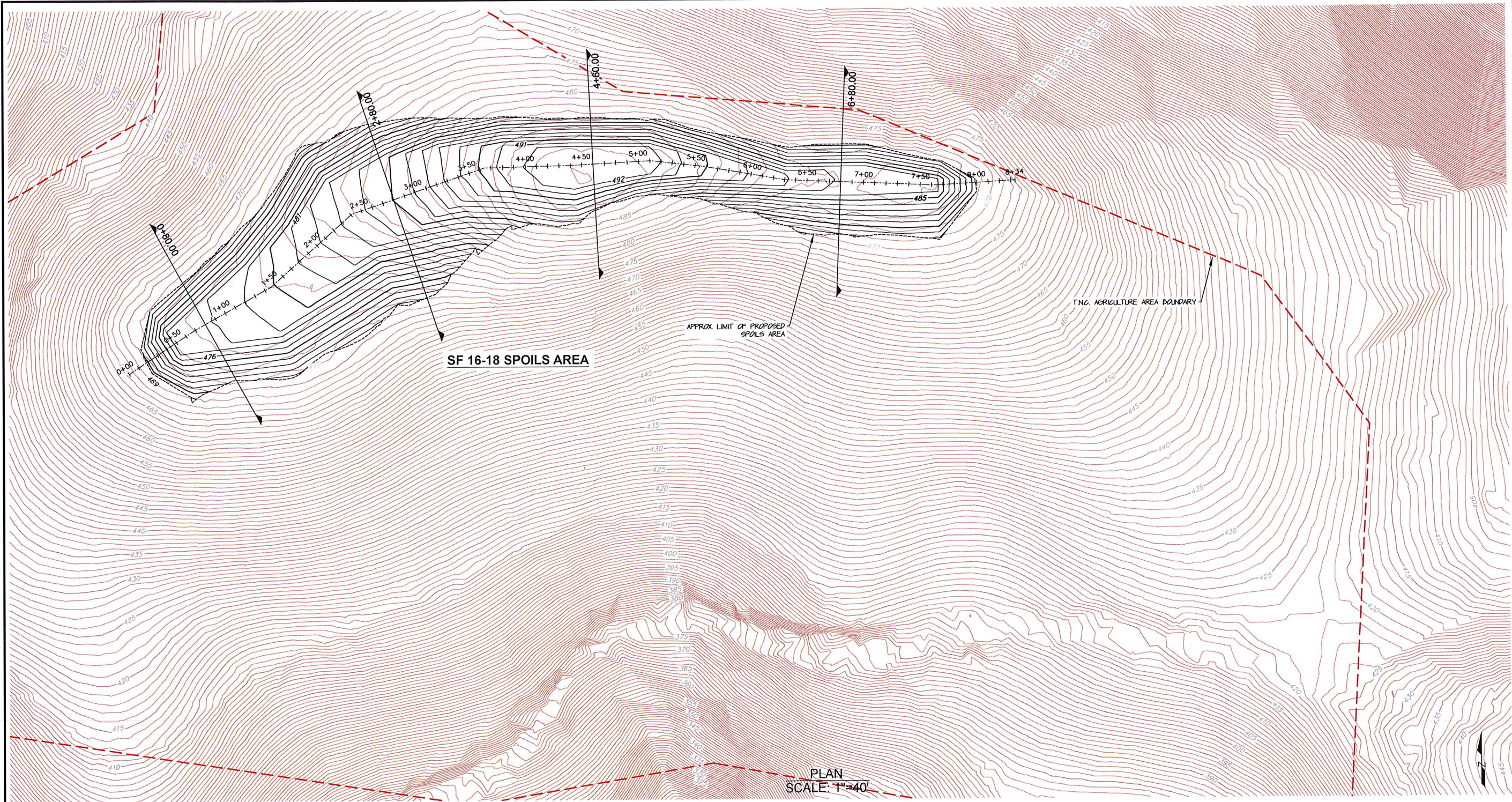
PREPARED FOR:  
**THE NATURE CONSERVANCY**  
201 MISSION ST., 4TH FLOOR  
SAN FRANCISCO, CA 94105

DATE:	AUG. 27, 2015	SCALE:	1" = 10'
MAPPING BY:	JP	DESIGNED BY:	MLLH/LW
DRAFTED BY:	LW	CHECKED BY:	MLLH

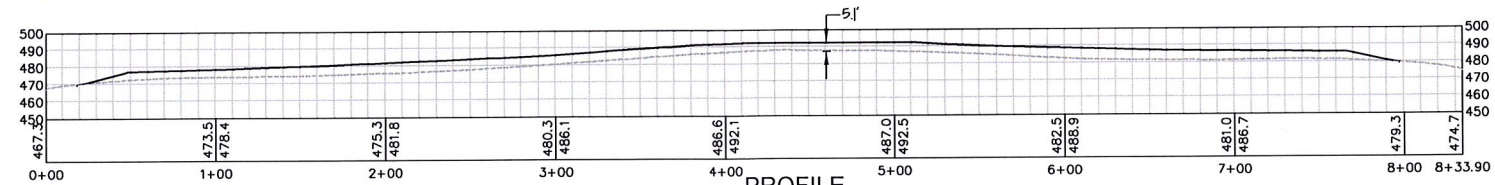
**TEN MILE RIVER**  
**SOUTH FORK - FRGP 2015**  
**SF 17 LWD SCHEMATICS**



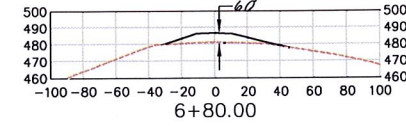
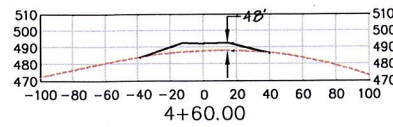
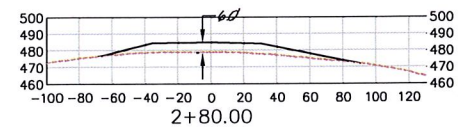
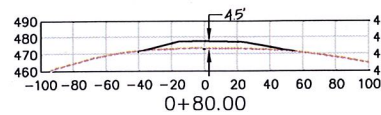
Acad File Name: C:\acad\Draws\Draws\Ten Mile River\Draws\South Fork - SF16-18\_SPOILS.dwg  
Plot Date: 8/27/2015 5:23 PM Layout: SF16-18\_SPOILS PLAN FRGP



PLAN  
SCALE: 1"=40'



PROFILE  
SCALE: 1"=40'



CROSS SECTIONS  
SCALE: 1"=40'

VERIFY SCALES  
ONE INCH



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SAN FRANCISCO, CA 94105  
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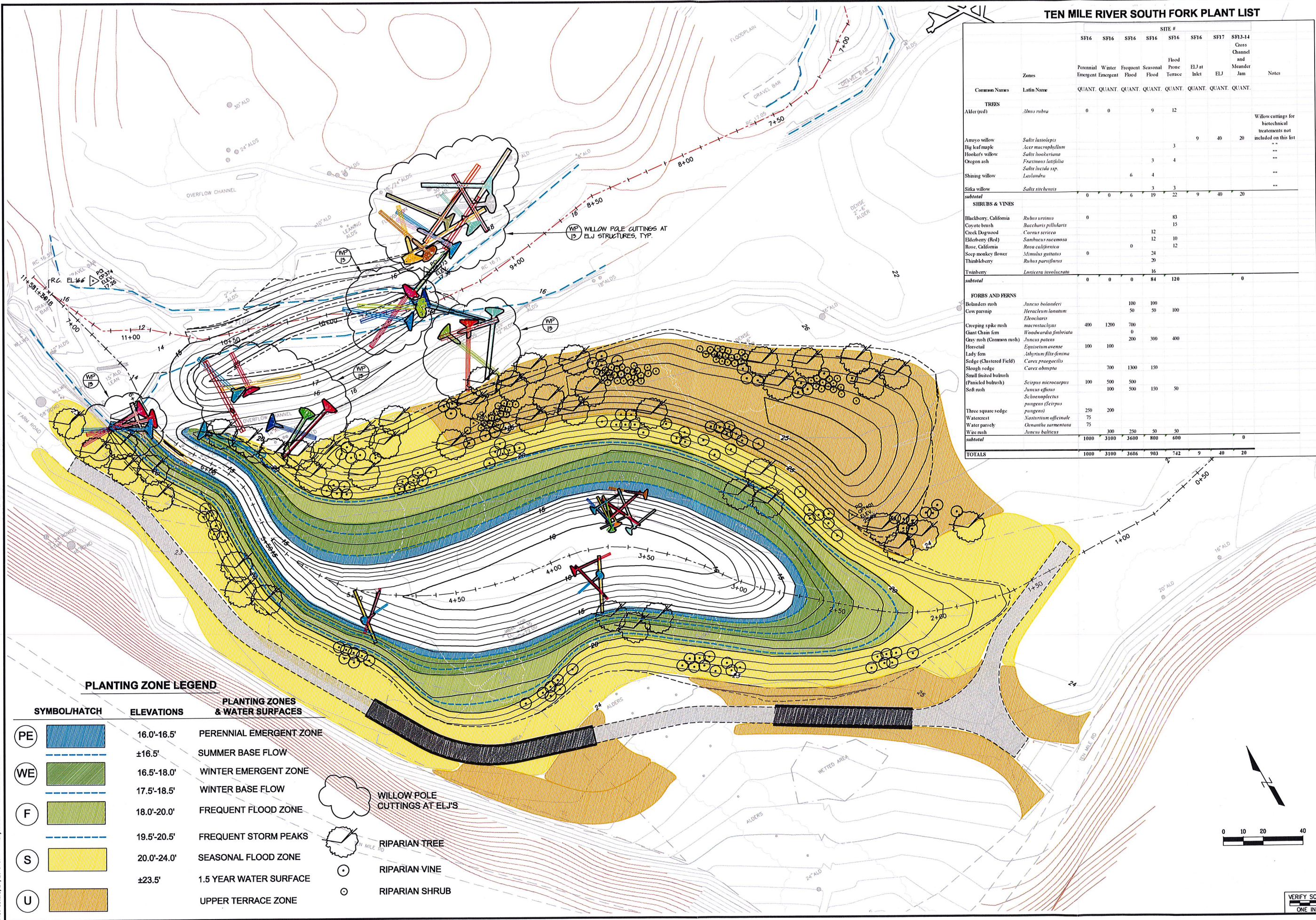
DATE:	AUG 27, 2015
SCALE:	1"=40'
MAPPING BY:	JP
DESIGNED BY:	MLLH, LW
DRAFTED BY:	LW
CHECKED BY:	MLLH

TEN MILE RIVER  
SOUTH FORK - FRGP 2015  
SF16-18 SPOILS PLAN

SHEET  
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OF 14



Acad File Name: G:\Lead Design\OVRD\Ten Mile River\Design\FRGP\_South Fork\FRGP - PLANTING PLAN\_SF16.dwg  
Plot Date: 8/27/2015 5:17 PM Layout: SF 16-17 PLANTING PLAN



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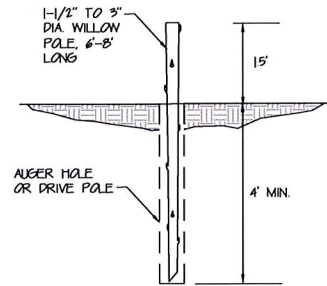
DATE: AUG 27, 2015  
SCALE: 1" = 20'  
MAPPING BY: JP  
DESIGNED BY: M.L.H.L.W.  
DRAFTED BY: LW  
CHECKED BY: M.L.H.

TEN MILE RIVER  
SOUTH FORK - FRGP 2015  
SF 16-17 PLANTING PLAN

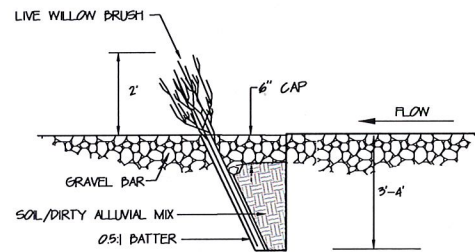
SHEET  
**12**  
OF 14



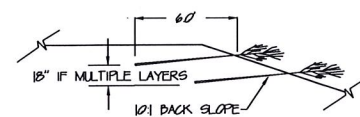
- NOTES
1. INSTALL AN AVERAGE OF 4 WILLOW POLES PER EXPOSED ROOTWAD OR LOG.
  2. PLACE WILLOW POLES PER DIRECTION OF DESIGNER'S REPRESENTATIVE.
  3. PLACE WILLOW POLES A MIN. OF 1' ABOVE TOE OF SLOPE.



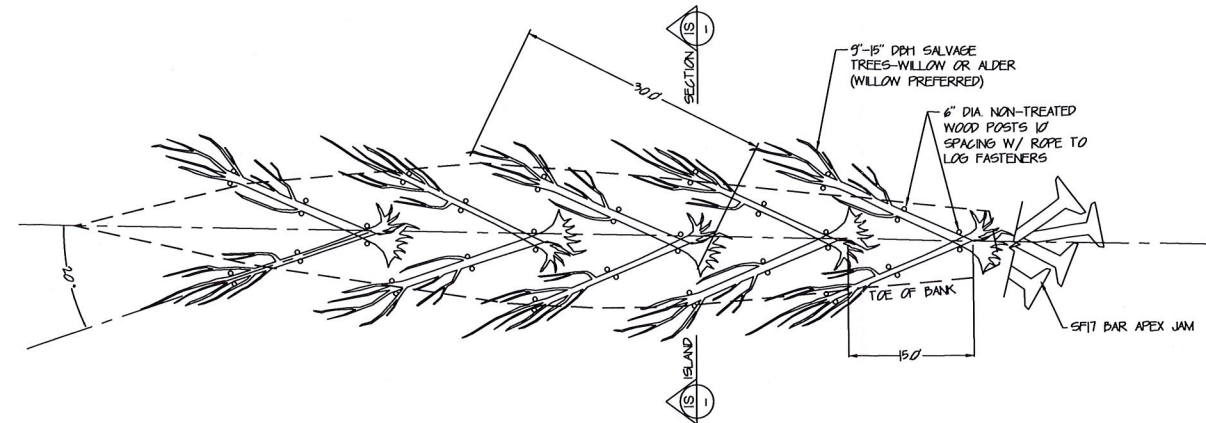
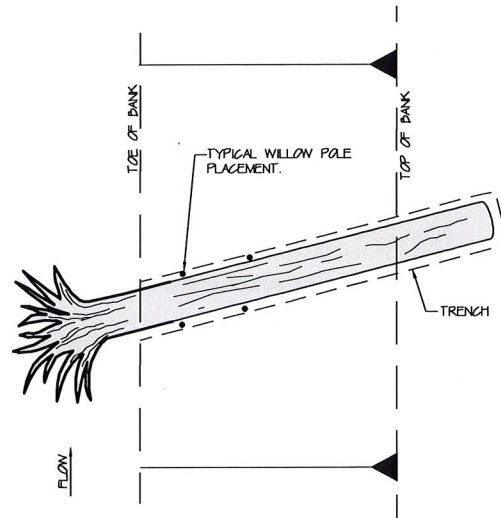
(WP) ELJ WILLOW POLE  
NTS



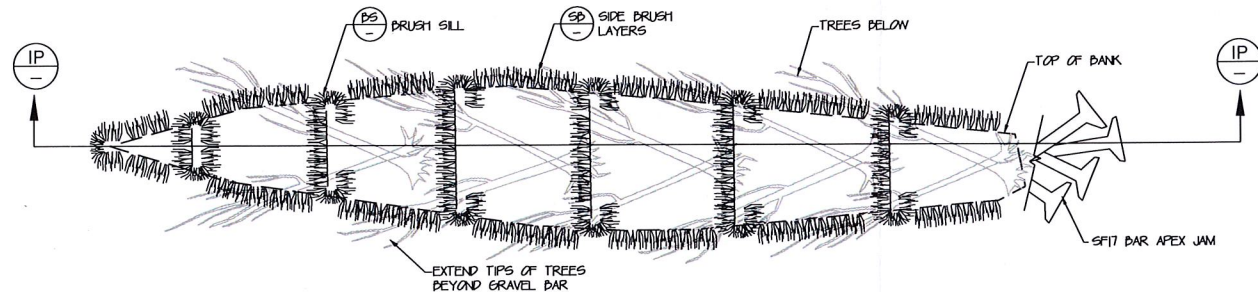
BRUSH SILL (BS)  
NTS



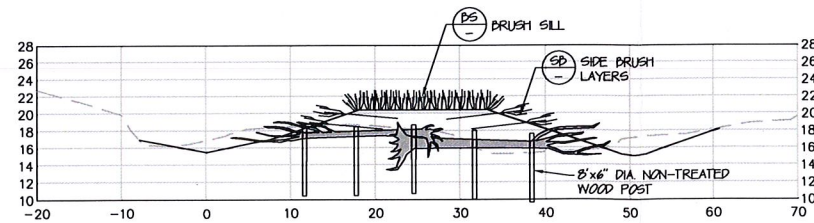
SIDE BRUSH LAYERS (SB)  
NTS



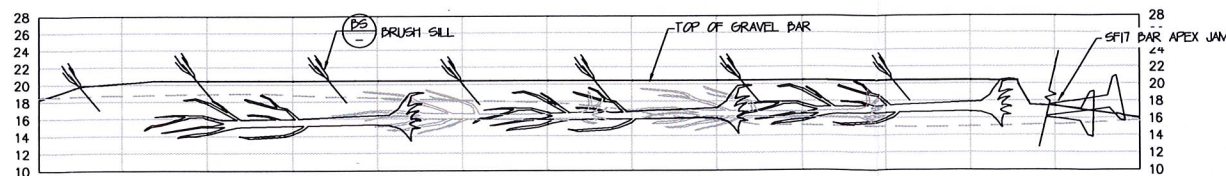
(IDL) SF17 ISLAND PLAN VIEW - LOWER LAYER  
1" = 10'



(IDU) SF17 ISLAND PLAN VIEW - UPPER LAYER  
1" = 10'



(IS) SF17 ISLAND SECTION  
1" = 10'



(IP) SF17 ISLAND PROFILE  
1" = 10'

VERIFY SCALES  
ONE INCH



PREPARED FOR:  
**THE NATURE CONSERVANCY**  
201 MISSION ST., 4TH FLOOR  
SAN FRANCISCO, CA 94105

DATE:	AUG 27, 2015
SCALE:	AS SHOWN
MAPPING BY:	JP
DESIGNED BY:	MJ.LH.LW
DRAFTED BY:	LW
CHECKED BY:	MJ.LH

**TEN MILE RIVER**  
**SOUTH FORK - FRGP 2015**  
**CONSTRUCTION DETAILS**

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OF 14

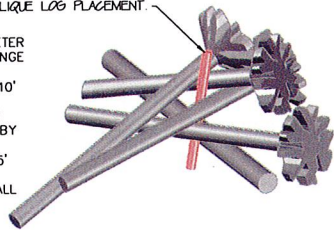


Acad File Name: C:\Users\jvood\Desktop\Ten Mile River\Drawings\FRGP\_South\South ForefrontRGP - Const Details.dwg  
Plot date: 6/27/2015 3:57 PM Layout: CONSTRUCTION DETAILS

NOTES:

1. OBLIQUE LOGS SHALL BE 9-15" IN DIAMETER AND MAY TAPER THROUGH THIS FULL RANGE IN A SINGLE PIECE.
2. OBLIQUE LOGS SHALL BE A MINIMUM OF 10' IN LENGTH.
3. INSTALL LOGS TO HELP LOCK STRUCTURE TOGETHER IN TENSION OR COMPRESSION BY WEDGING BETWEEN STRUCTURE MEMBERS.
4. PROJECT END OUT FROM STRUCTURE 3-5' TO RACK FLOATING DEBRIS.
5. OBLIQUE LOGS ARE NOT PINNED BUT SHALL REMAIN IMMOBILE WHEN SUBMERGED.

TYP. OBLIQUE LOG PLACEMENT

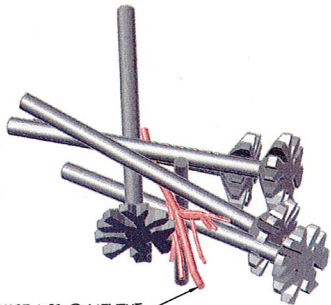


OL OBLIQUE LOG  
1"=10'

NOTES:

1. SALVAGE MATERIAL SHALL BE PORTIONS OF TREES TAKEN FROM AREAS OF THE TREE WITH BRANCHED STRUCTURE.
2. MAIN TRUNK OF OF SALVAGE MATERIAL SHALL BE 6-15" IN DIAMETER, AND MAY TAPER THROUGH THIS FULL RANGE IN A SINGLE PIECE.
3. A MINIMUM OF THREE BRANCHES SHALL BE PRESENT ON EACH PIECE.
4. BRANCHES SHALL BE NO SMALLER THAN 3" IN DIAMETER AT THE TRIMMED END.
5. INSTALL LOGS TO HELP LOCK STRUCTURE TOGETHER IN TENSION OR COMPRESSION BY WEDGING BETWEEN STRUCTURE MEMBERS.
6. PROJECT END OUT FROM STRUCTURE 3-10' TO RACK FLOATING DEBRIS.
7. SALVAGE MATERIAL IS NOT PINNED BUT SHALL REMAIN IMMOBILE WHEN SUBMERGED.
8. MANILLA ROPE MAY BE USED TO HELP SECURE SALVAGE MATERIAL.

TYP. SALVAGE LOG PLACEMENT

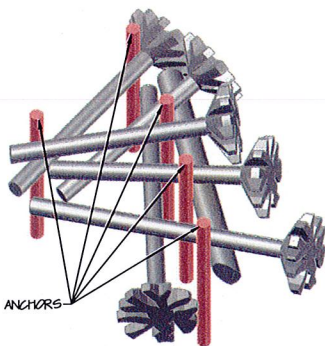


SM SALVAGE MATERIAL  
1"=10'

NOTES:

1. TAPERED END OF VERTICAL LOG ANCHORS SHALL BE A MINIMUM OF 15" IN DIAMETER.
2. VERTICAL LOG ANCHORS SHALL BE A MINIMUM OF 20' IN LENGTH.
3. INSTALL VERTICAL LOG ANCHORS AS SHOWN IN CONTRACT DRAWINGS.
4. PIN VERTICAL LOG ANCHORS AS SHOWN IN CONTRACT DRAWINGS.
5. INSTALL VERTICAL LOG ANCHORS WITH TAPERED END DOWN.
6. VERTICAL LOG ANCHORS SHALL BE DRIVEN A MINIMUM OF 15 FEET INTO NATIVE, UNDISTURBED SOIL.

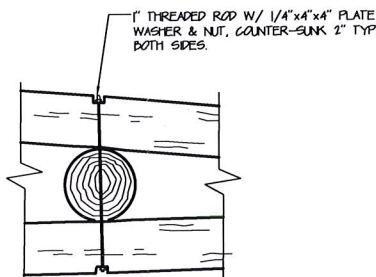
TYP. VERTICAL LOG ANCHORS



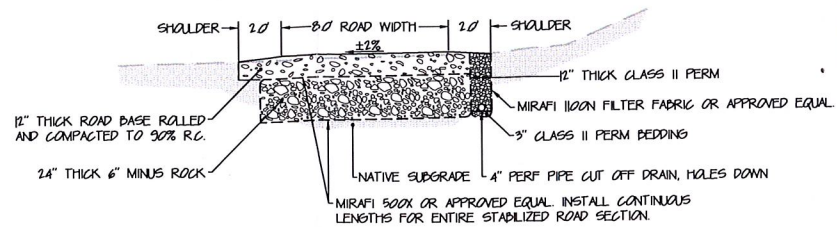
VLA VERTICAL LOG ANCHOR  
1"=10'



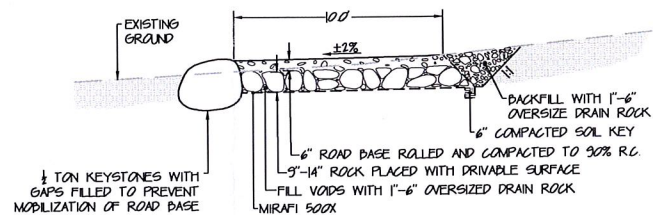
LL LOG-LOG CONNECTION  
NTS



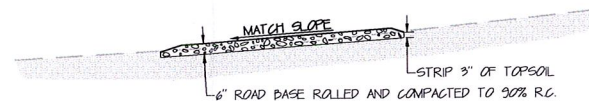
LLL LOG-LOG-LOG CONNECTION  
NTS



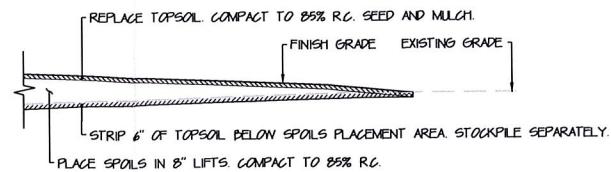
SR STABILIZED ROAD  
1"=4'



WC WET CROSSING  
1"=4'



AR ACCESS ROAD  
1"=4'



SP SPOILS PLACEMENT  
NTS



PREPARED FOR:  
**THE NATURE CONSERVANCY**  
201 MISSION ST, 4TH FLOOR  
SAN FRANCISCO, CA 94105

DATE:	AUG. 27, 2015	BY:	
SCALE:	AS SHOWN	DATE:	
MAPPING BY:	J.P.	REVISIONS	
DESIGNED BY:	M.L.H.L.W.		
DRAFTED BY:	L.W.		
CHECKED BY:	M.L.H.		

**TEN MILE RIVER**  
**SOUTH FORK - FRGP 2015**  
**CONSTRUCTION DETAILS**

SHEET  
**14**  
OF 14

VERIFY SCALES  
ONE INCH