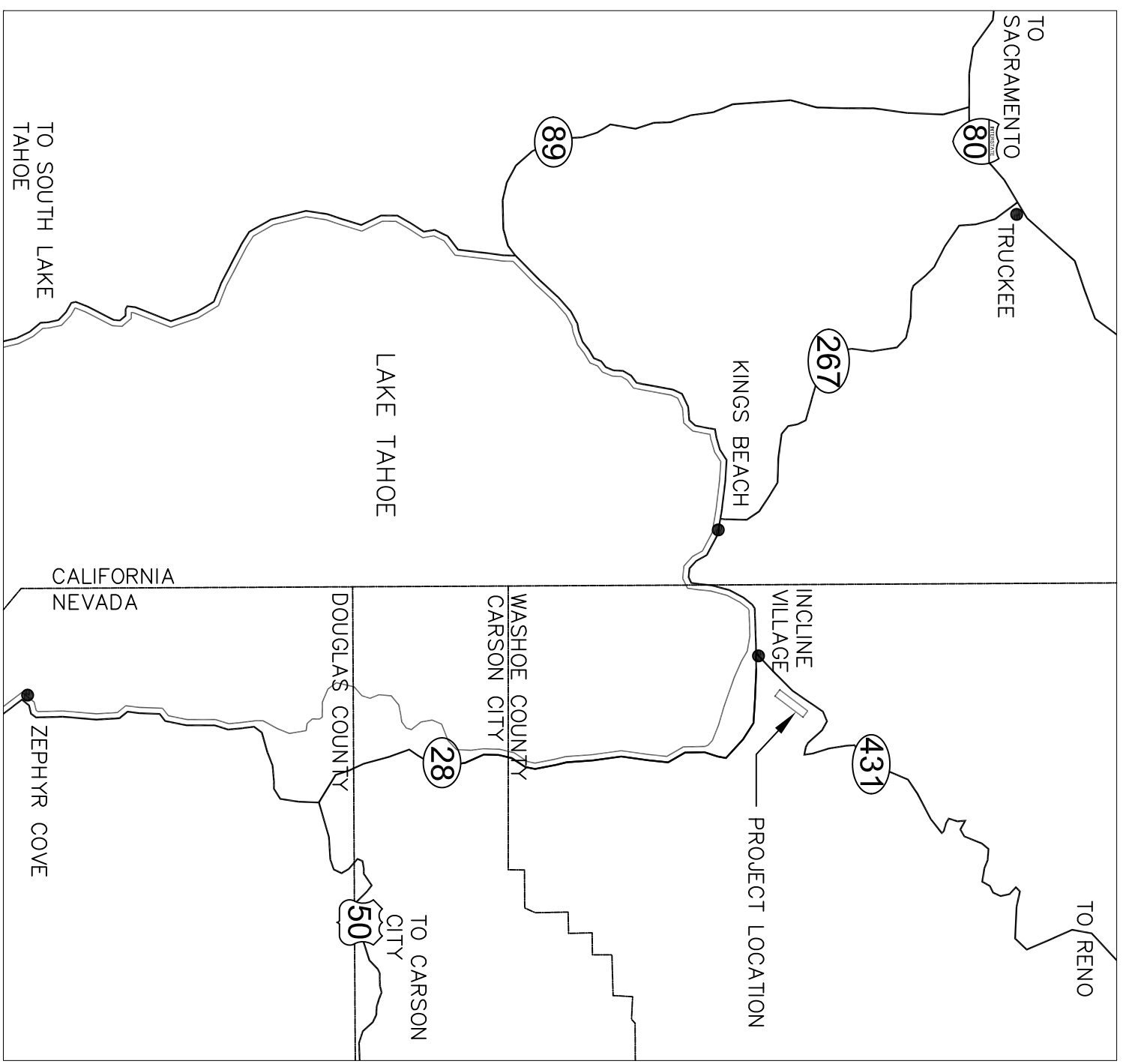


# HYBRID BMP PROJECT

## IN THE COUNTY OF WASHOE



**LOCATION MAP**  
INCLINE VILLAGE, WASHOE COUNTY, NV  
SCALE = 1"=200'



**VICINITY MAP**  
NOT TO SCALE

<b>SHEET INDEX</b>	
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**OWNER**  
WASHOE COUNTY PUBLIC WORKS  
1001 E. NINTH STREET  
RENO NV 89520  
(775) 328-2040

**ENGINEER:**

MEGHAN C. KELLY, P.E.  
REGISTERED CIVIL ENGINEER  
STATE OF NEVADA, NO. 20951  
NEVADA TAHOE CONSERVATION DISTRICT  
400 DORLA CT  
ZEPHYR COVE, NV 89448  
(775) 586-1610

DATE \_\_\_\_\_



TITLE  
HYBRID BMP PROJECT

DESIGNED / DRAWN	
CHECKED	
MCK	
DATE	7/2011
SCALE	AS SHOWN
PROJECT	HYBRID BMP
SHEET	



**BASIS OF BEARINGS**  
NEVADA STATE PLANE COORDINATE SYSTEM, NAD 83, WEST ZONE  
(US FEET)

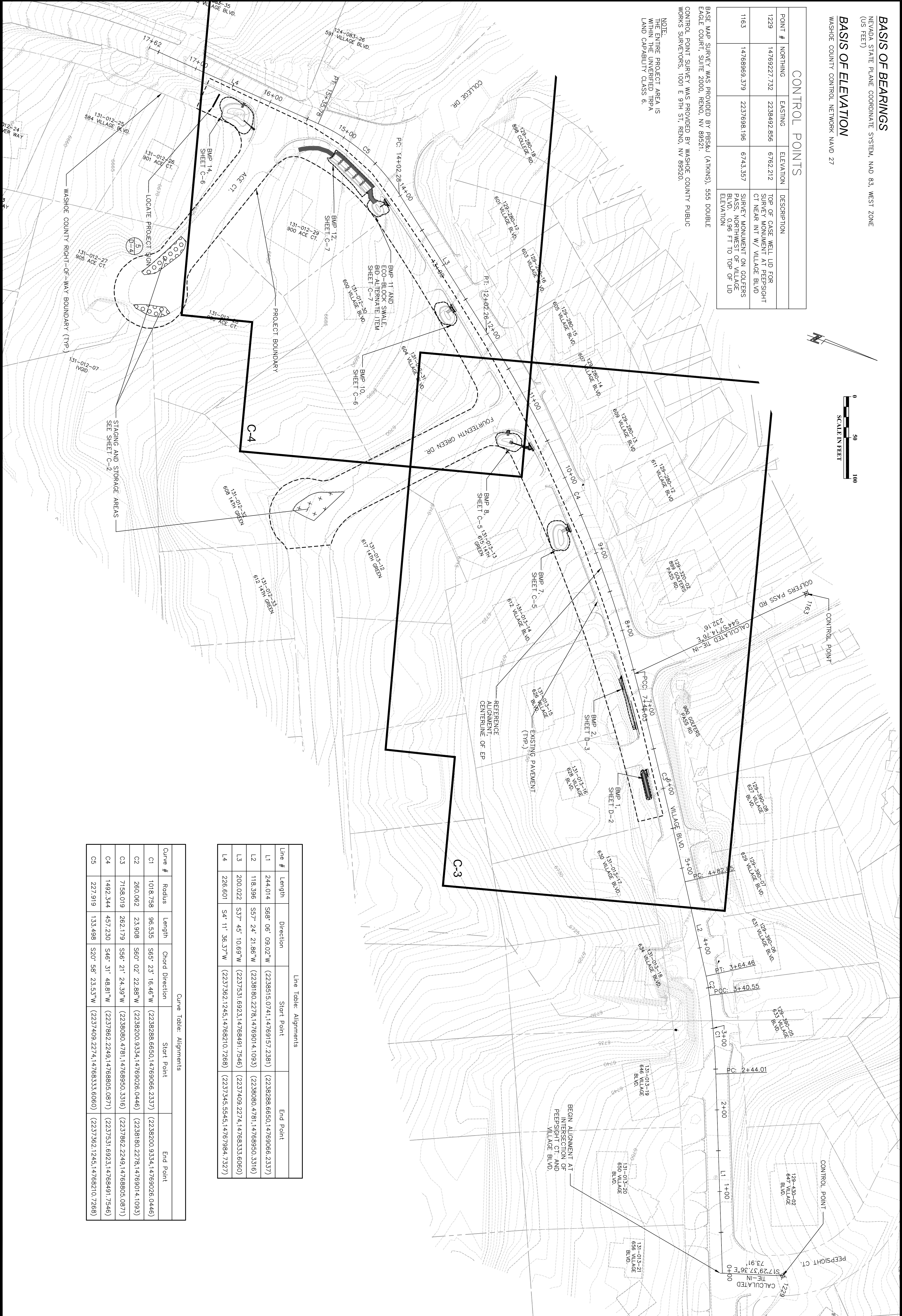
**BASIS OF ELEVATION**  
WASHOE COUNTY CONTROL NETWORK NAVD 27

**CONTROL POINTS**

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1229	14769227.732	2238492.856	6762.212	TOP OF CASE WELL LID FOR SURVEY MONUMENT AT PEERSIGHT CT NEAR INT W/ VILLAGE BLVD
1163	14768969.379	2237998.196	6743.357	SURVEY MONUMENT ON GOLFFERS PASS, NORTHWEST OF VILLAGE BLVD, 0.96 FT TO TOP OF LID ELEVATION

BASE MAP SURVEY WAS PROVIDED BY PERSKI (ATKINS), 555 DOUBLE EAGLE COURT, SUITE 2000, RENO, NV 89521.  
CONTROL POINT SURVEY WAS PROVIDED BY WASHOE COUNTY PUBLIC WORKS SURVEYORS, 1001 E 9TH ST, RENO, NV 89520.

NOTE:  
ENTIRE PROJECT AREA IS WITHIN THE UNIMPROVED TERPA LAND CAPABILITY CLASS 6.



Line Table: Alignments

Line #	Length	Direction	Start Point	End Point
L1	244.014	S68° 06' 09.02" W	(2238515.0741, 14769157.2381)	(2238288.6650, 14769066.2337)
L2	118.396	S57° 24' 21.86" W	(2238180.2278, 14769014.1093)	(2238080.4781, 14768950.3316)
L3	200.022	S37° 45' 10.69" W	(2237531.6923, 14768491.7546)	(2237409.2274, 14768333.6060)
L4	226.601	S4° 11' 36.37" W	(2237362.1245, 14768210.7268)	(2237345.5545, 14767984.7327)

Curve Table: Alignments

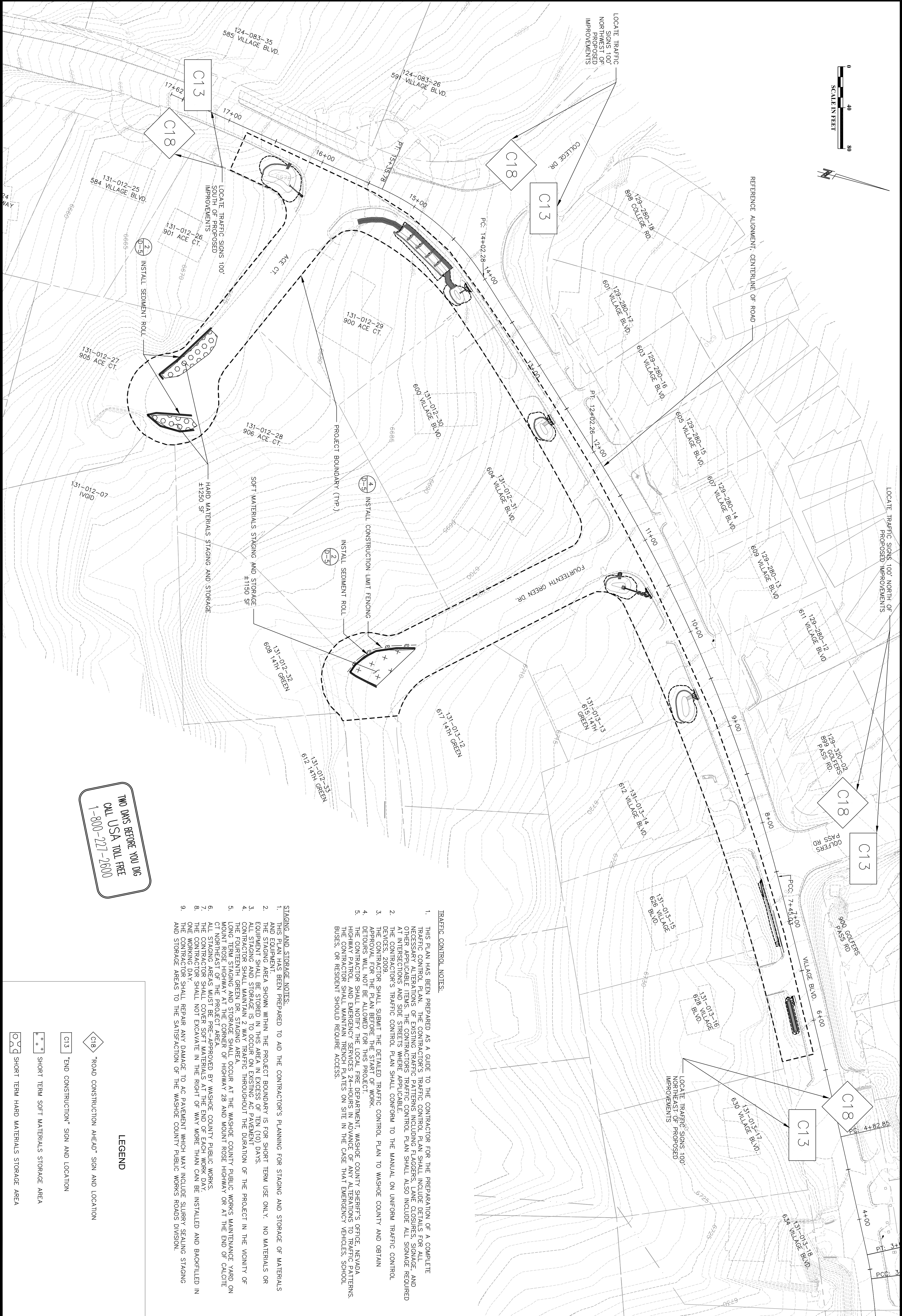
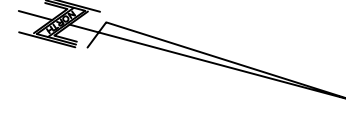
Curve #	Radius	Length	Chord Direction	Start Point	End Point
C1	1018.758	96.535	S65° 23' 16.46" W	(2238288.6650, 14769066.2337)	(2238200.9334, 14768926.0446)
C2	260.062	23.908	S60° 02' 22.88" W	(2238200.9334, 14769026.0446)	(2238180.2278, 14769014.1093)
C3	7158.019	262.179	S56° 21' 24.39" W	(2238080.4781, 14768950.3316)	(2237862.2249, 14768805.0871)
C4	1492.344	457.230	S46° 31' 48.81" W	(2237862.2249, 14768805.0871)	(2237531.6923, 14768491.7546)
C5	227.919	133.498	S20° 58' 23.53" W	(2237409.2274, 14768333.6060)	(2237362.1245, 14768210.7268)



INDEX  
HYBRID BMP PROJECT



DESIGNED/DRAWN  
MCK/MCK  
CHECKED  
MCK  
DATE  
7/2011  
SCALE  
AS SHOWN  
PROJECT  
HYBRID BMP  
SHEET  
**C-1**  
3 OF 17



**NO DNS BEFORE YOU DIG**  
**CALL USA TOLL FREE**  
**1-800-227-2600**

- TRAFFIC CONTROL NOTES:**
1. THIS PLAN HAS BEEN PREPARED AS A GUIDE TO THE CONTRACTOR FOR THE PREPARATION OF A COMPLETE TRAFFIC CONTROL PLAN. THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER TO DETERMINE THE NECESSARY TRAFFIC CONTROL PLAN ITEMS. THE CONTRACTOR'S TRAFFIC CONTROL PLAN SHALL ALSO INCLUDE ALL SIGNAGE REQUIRED AT INTERSECTIONS AND SIDE STREETS WHERE APPLICABLE.
  2. THE CONTRACTOR'S TRAFFIC CONTROL PLAN SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009.
  3. THE CONTRACTOR SHALL SUBMIT THE DETAILED TRAFFIC CONTROL PLAN TO WASHOE COUNTY AND OBTAIN APPROVAL FOR THE PLAN BEFORE THE START OF WORK.
  4. DETOURS WILL NOT BE ALLOWED FOR THIS PROJECT.
  5. THE CONTRACTOR SHALL NOTIFY THE LOCAL FIRE DEPARTMENT, WASHOE COUNTY SHERIFF'S OFFICE, NEVADA HIGHWAY PATROL, AND EMERGENCY SERVICES 24-HOURS IN ADVANCE OF ANY ALTERATIONS TO TRAFFIC PATTERNS. THE CONTRACTOR SHALL MAINTAIN REMOVALS ON SITE IN THE CASE THAT EMERGENCY VEHICLES, SCHOOL BUSES, OR RESIDENT SHOULD REQUIRE ACCESS.
- STAGING AND STORAGE NOTES:**
1. THIS PLAN HAS BEEN PREPARED TO AID THE CONTRACTOR'S PLANNING FOR STAGING AND STORAGE OF MATERIALS AND EQUIPMENT.
  2. THE STAGING AREA SHOWN WITHIN THE PROJECT BOUNDARY IS FOR SHORT TERM USE ONLY. NO MATERIALS OR EQUIPMENT SHALL BE STORED IN THIS AREA IN EXCESS OF TEN (10) DAYS.
  3. ALL STAGING AND STORAGE IS TO OCCUR ON EXISTING AC PAVEMENT.
  4. THE FOURTEENTH GREEN DR. STAGING AREA THROUGHOUT THE DURATION OF THE PROJECT IN THE VICINITY OF LONG TERM STAGING AND STORAGE SHALL OCCUR AT THE CORNER OF HIGHWAY 28 AND MOUNT ROSE HIGHWAY OR AT THE END OF CALCTE CT NORTHEAST OF THE PROJECT AREA.
  5. ALL STAGING AREAS MUST BE PRE-APPROVED BY WASHOE COUNTY PUBLIC WORKS.
  6. THE CONTRACTOR SHALL COVER SOFT MATERIALS AT THE END OF EACH WORK DAY.
  7. THE CONTRACTOR SHALL NOT EXCAVATE IN THE RIGHT-OF-WAY MORE THAN CAN BE INSTALLED AND BACKFILLED IN ONE WORKING DAY.
  8. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO AC PAVEMENT WHICH MAY INCLUDE SLURRY SEALING STAGING AND STORAGE AREAS TO THE SATISFACTION OF THE WASHOE COUNTY PUBLIC WORKS DIVISION.
  - 9.

**LEGEND**

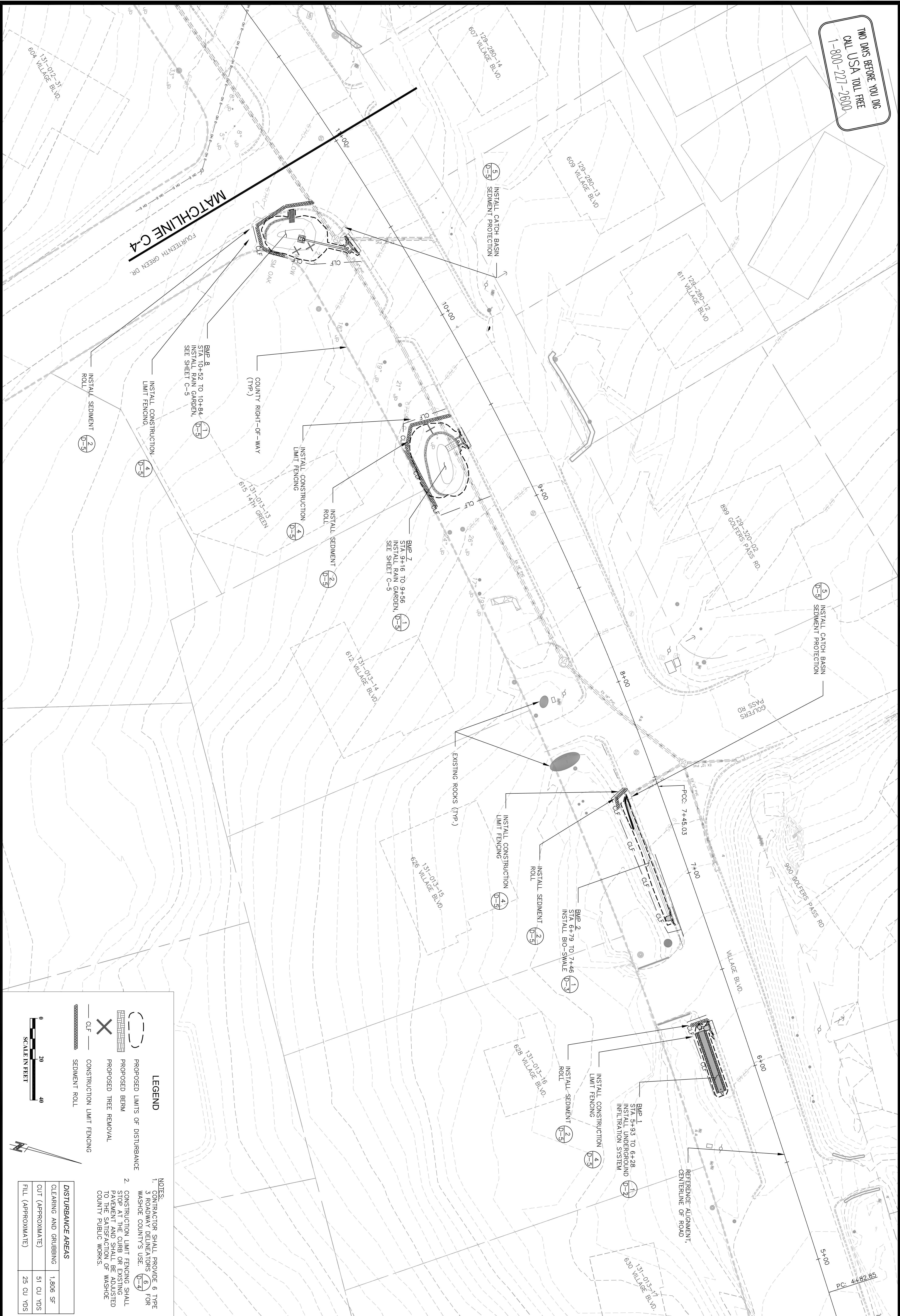
- "ROAD CONSTRUCTION AHEAD" SIGN AND LOCATION
- "END CONSTRUCTION" SIGN AND LOCATION
- SHORT TERM SOFT MATERIALS STORAGE AREA
- SHORT TERM HARD MATERIALS STORAGE AREA

MEGHAN C. KELLY  
Exp. 12/14/14  
CIVIL

**TRAFFIC CONTROL, STAGING, AND STORAGE**  
**HYBRID BMP PROJECT**

DESIGNED/DRAWN	MCK/AMK
CHECKED	MCK
DATE	7/2011
SCALE	AS SHOWN
PROJECT	HYBRID BMP
SHEET	C-2
	4 OF 17

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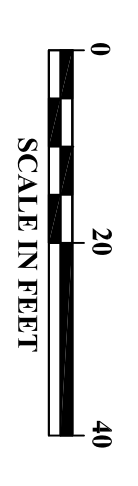


**LEGEND**

- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED BERM
- PROPOSED TREE REMOVAL
- CONSTRUCTION LIMIT FENCING
- SEDIMENT ROLL

- NOTES:**
- CONTRACTOR SHALL PROVIDE 6 TYPE 3 ROADWAY DELINEATORS (6) FOR WASHOE COUNTY'S USE.
  - CONSTRUCTION LIMIT FENCING SHALL STOP AT THE CURB OR EXISTING PAVEMENT AND SHALL BE ADJUSTED TO THE SATISFACTION OF WASHOE COUNTY FIELD WORKS.

DISTURBANCE AREAS	
CLEARING AND GRUBBING	1,806 SF
CUT (APPROXIMATE)	51 CU YDS
FILL (APPROXIMATE)	25 CU YDS

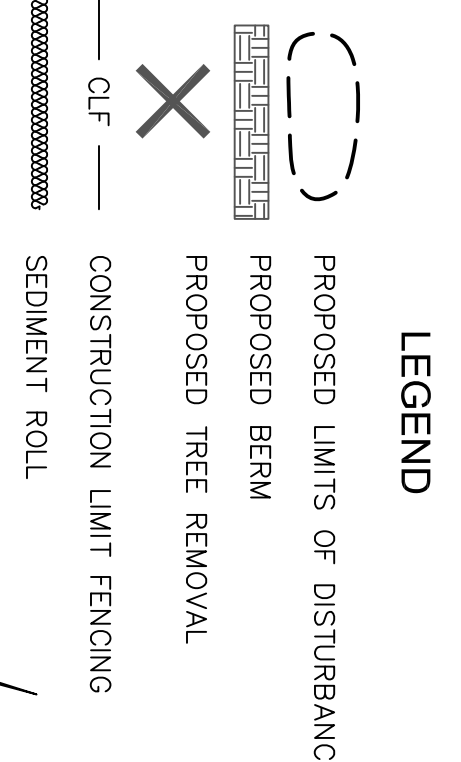
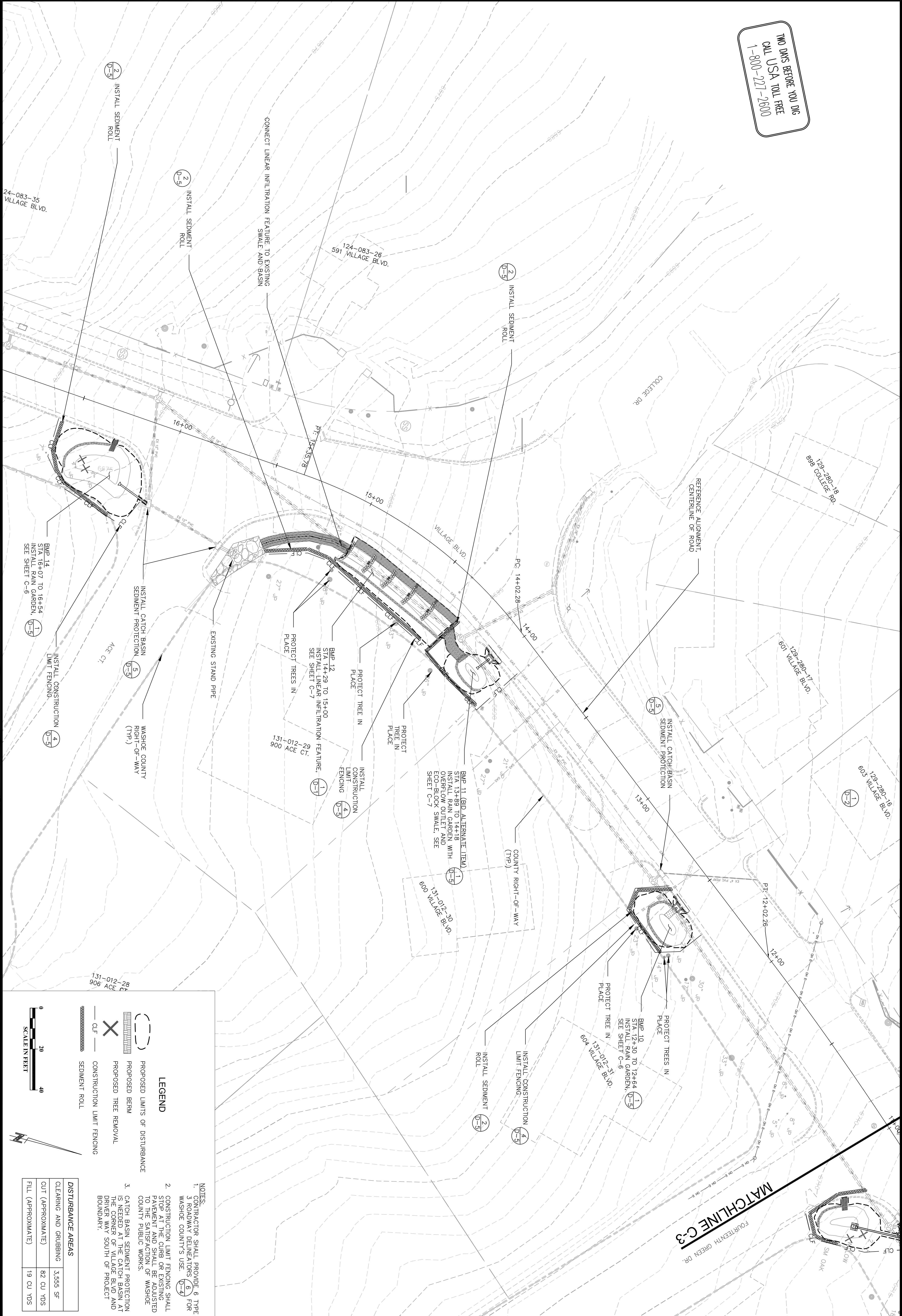


**PLAN (STA 4+73 - 11+01)  
 HYBRID BMP PROJECT**



DESIGNED/DRAWN	MCK/MCK
CHECKED	MCK
DATE	7/2011
SCALE	AS SHOWN
PROJECT	HYBRID BMP
SHEET	C-3
	5 OF 17

NO DNS BEFORE YOU DIG  
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 1-800-221-2600



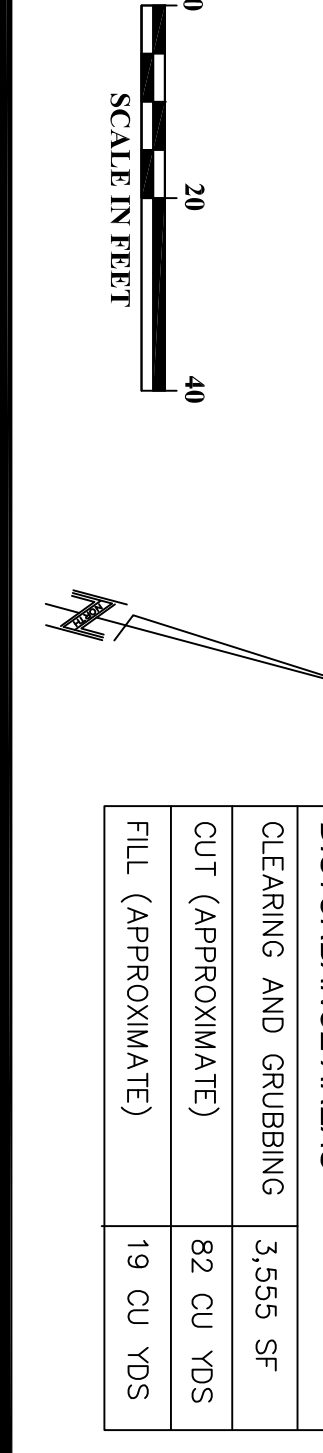
**LEGEND**

1. CONTRACTOR SHALL PROVIDE 6 TYPE 3 ROADWAY DELINEATORS (D-6) FOR WASHOE COUNTY'S USE.

2. CONSTRUCTION LIMIT FENCING SHALL STOP AT THE CURB OR EXISTING PAVEMENT AND SHALL BE ADJUSTED TO THE SATISFACTION OF WASHOE COUNTY PUBLIC WORKS.

3. CATCH BASIN SEDIMENT PROTECTION IS NEEDED AT THE CATCH BASIN AT THE CORNER OF VILLAGE BLVD AND BRUNER WAY SOUTH OF PROJECT BOUNDARY.

DISTURBANCE AREAS	
CLEARING AND GRUBBING	3,555 SF
CUT (APPROXIMATE)	82 CU YDS
FILL (APPROXIMATE)	19 CU YDS



PLAN (STA 11+01 - 16+91)  
 HYBRID BMP PROJECT



DESIGNED/DRAWN  
 MCK/MCK

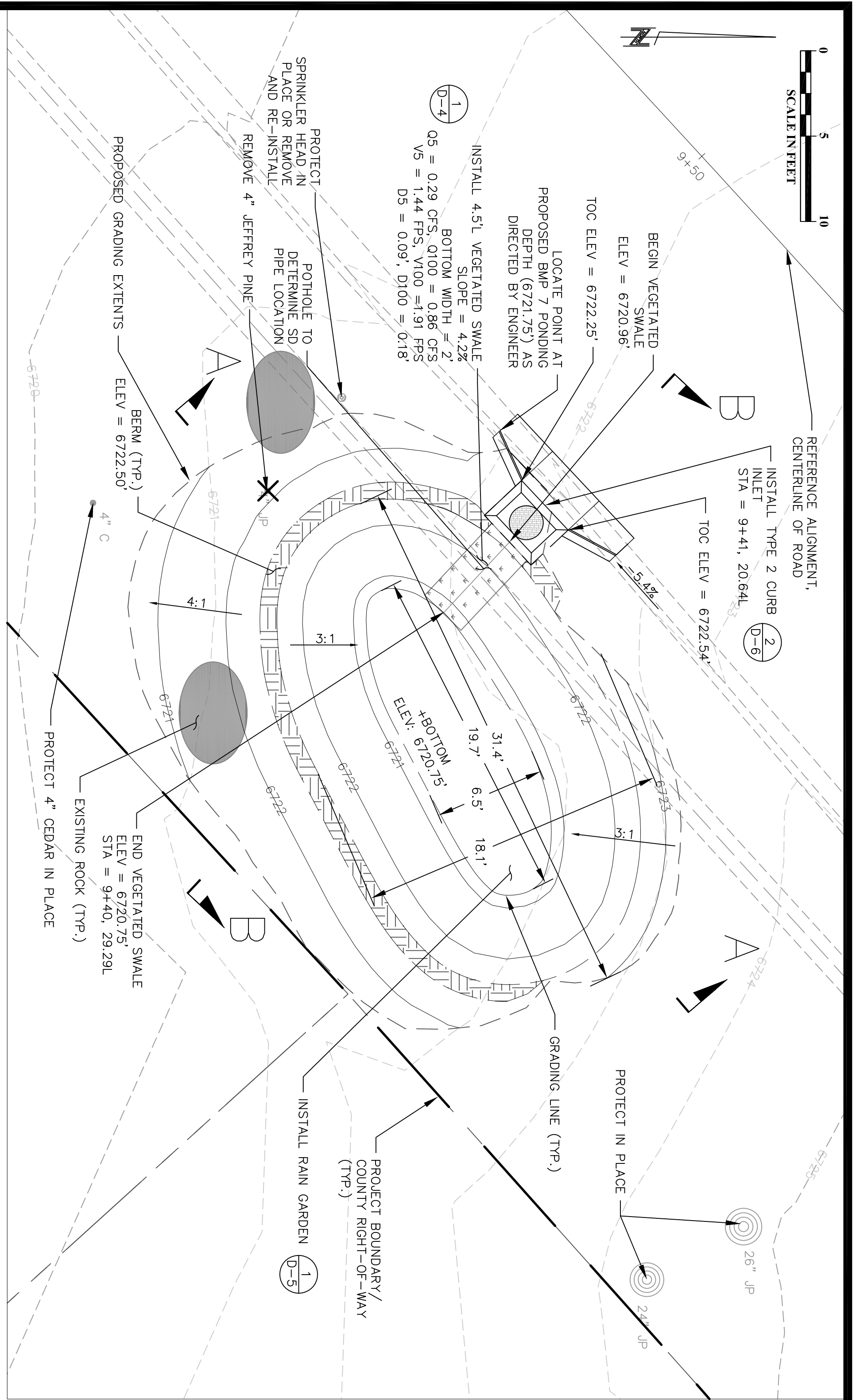
CHECKED  
 MCK

DATE  
 7/2011

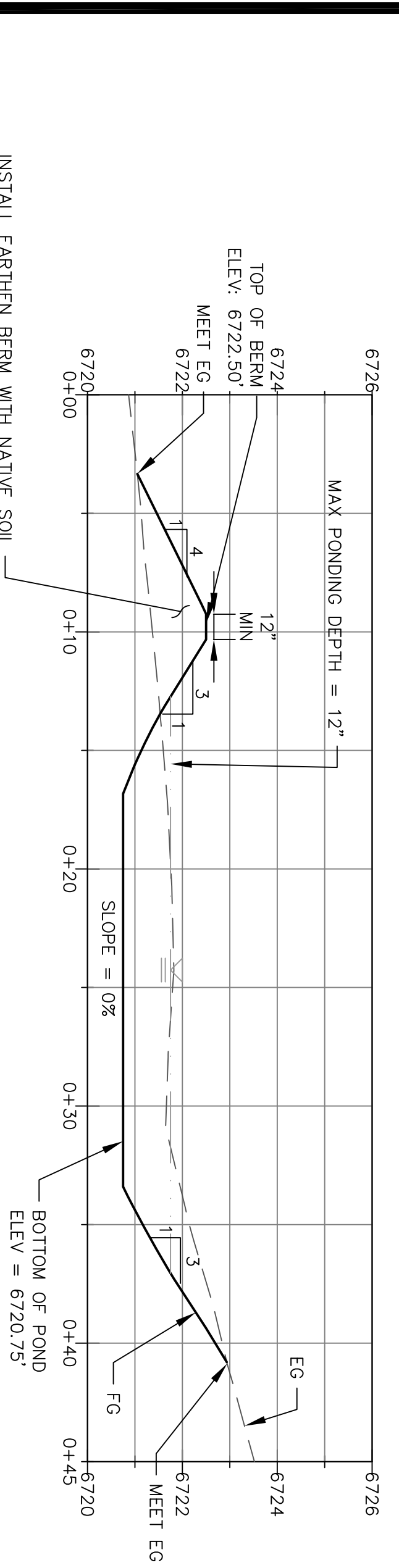
SCALE  
 AS SHOWN

PROJECT  
 HYBRID BMP

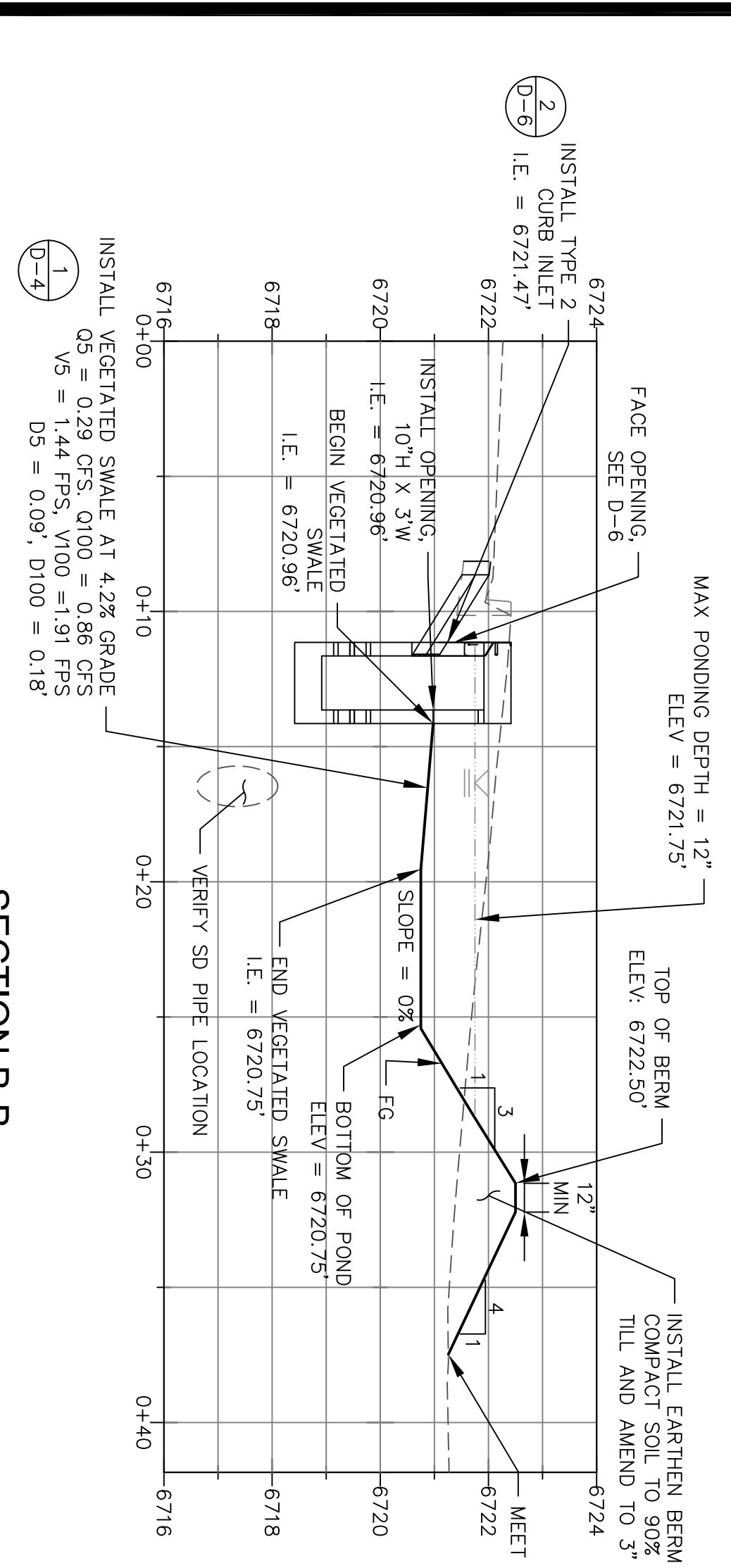
SHEET  
**C-4**  
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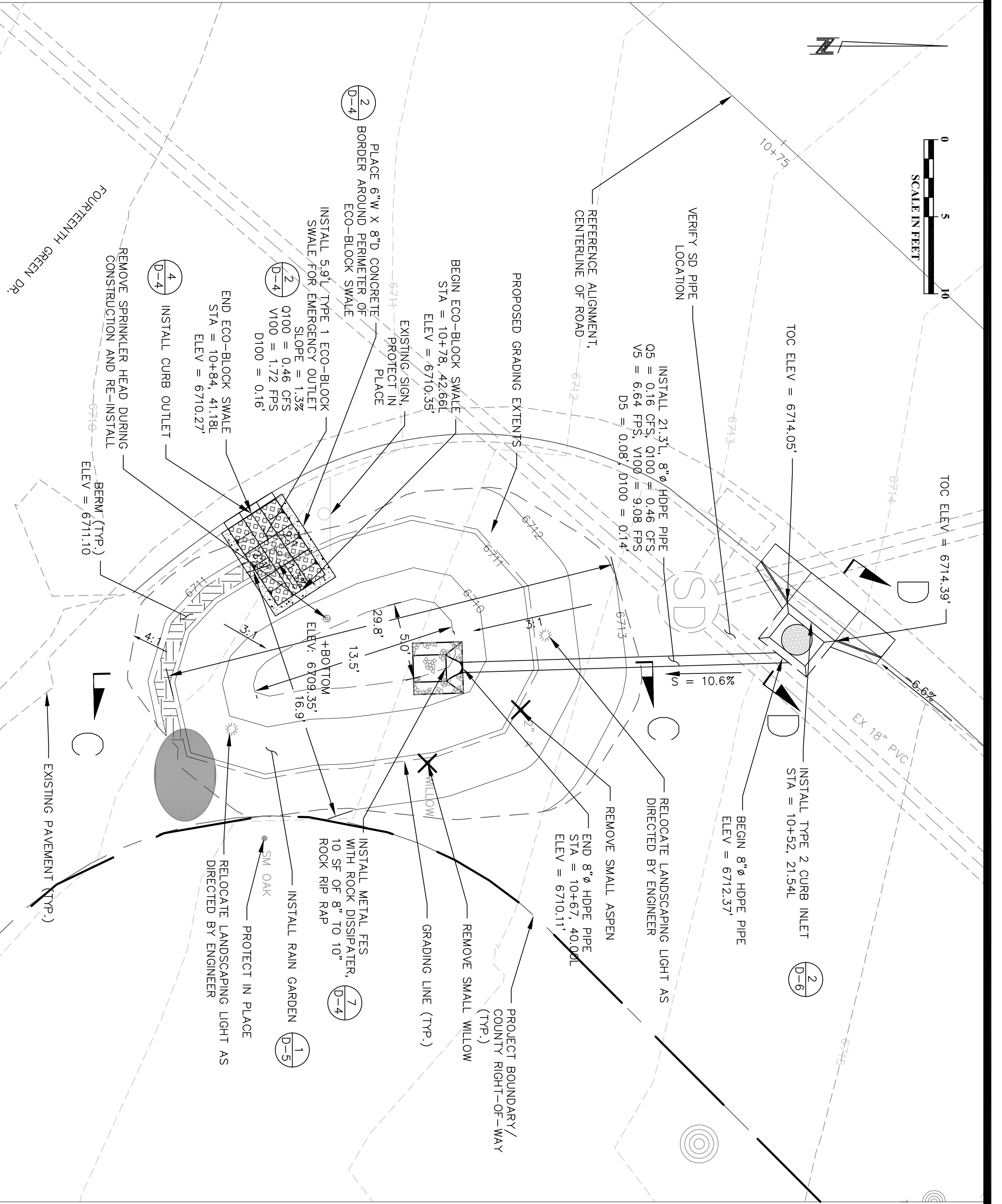
**BMP 7 PLAN**  
SCALE: AS SHOWN



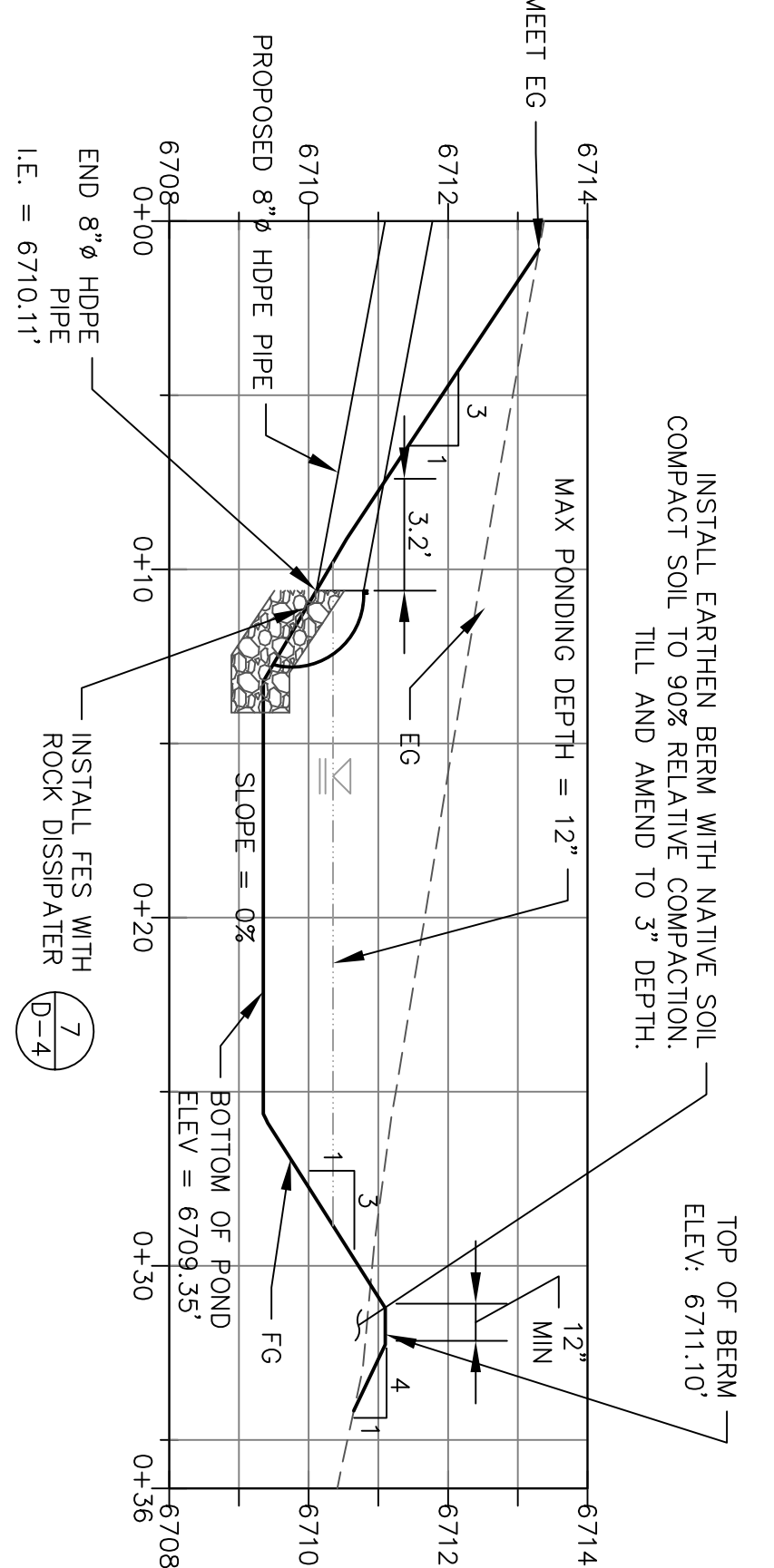
**SECTION A-A**  
SCALE: HORIZ. 1" = 5'  
VERT. 1" = 2.5'



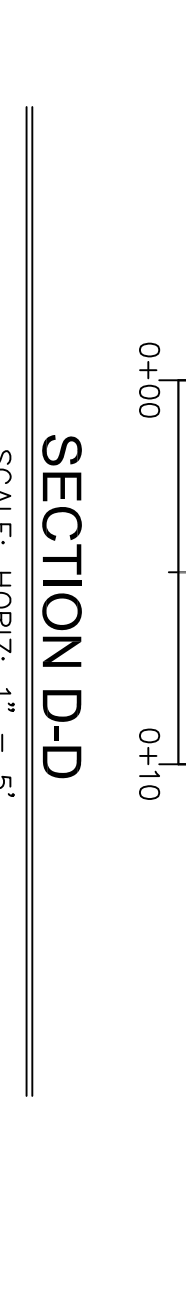
**SECTION B-B**  
SCALE: HORIZ. 1" = 5'  
VERT. 1" = 2.5'



**BMP 8 PLAN**  
SCALE: AS SHOWN



**SECTION C-C**  
SCALE: HORIZ. 1" = 5'  
VERT. 1" = 2.5'



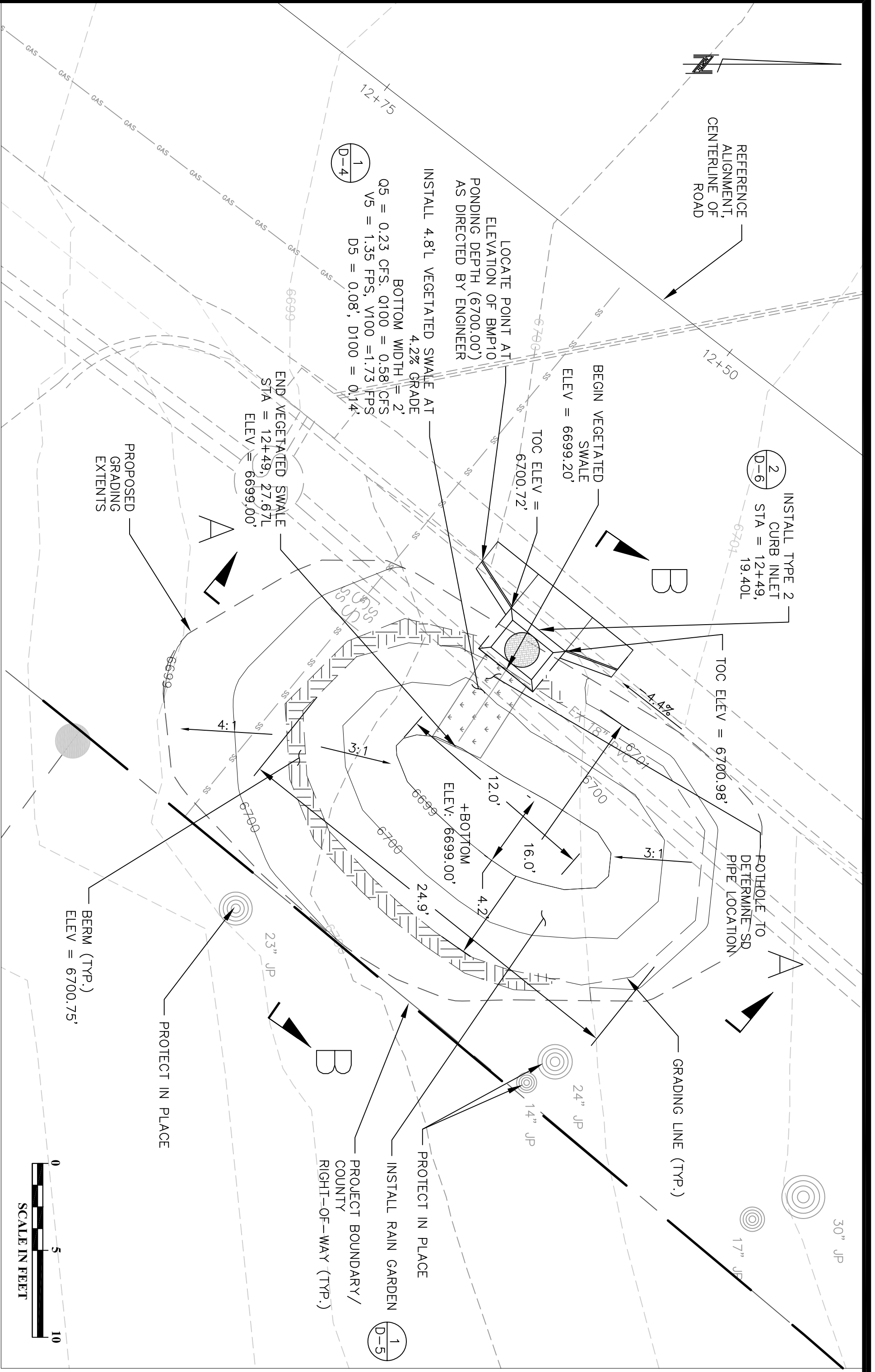
**SECTION D-D**  
SCALE: HORIZ. 1" = 5'  
VERT. 1" = 2.5'

**NOTES:**  
1. CROSS SECTIONS SHOW FINISHED GRADE FOR ALL RAIN GARDENS. ALL RAIN GARDENS MUST BE OVER-EXCAVATED 30" TO SCARIFY NATIVE SOIL AND INSTALL BIONFILTRATION SOILS PER (D-5)

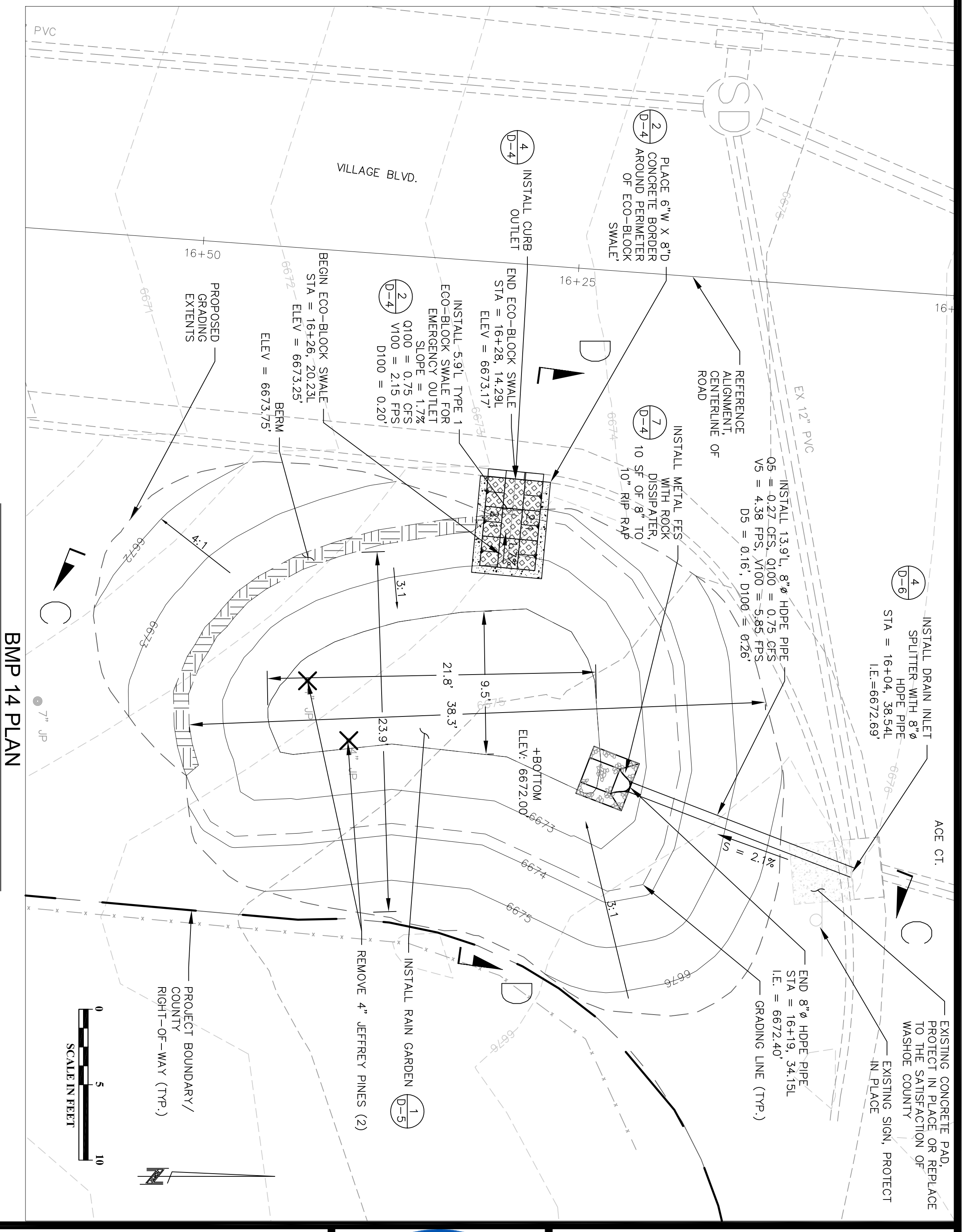
**TWO DMS BEFORE YOU DIG  
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1-800-227-2600**

DESIGNED/DRAWN: MCK/AMC  
CHECKED: MCK  
DATE: 7/2011  
SCALE: AS SHOWN  
PROJECT: HYBRID BMP

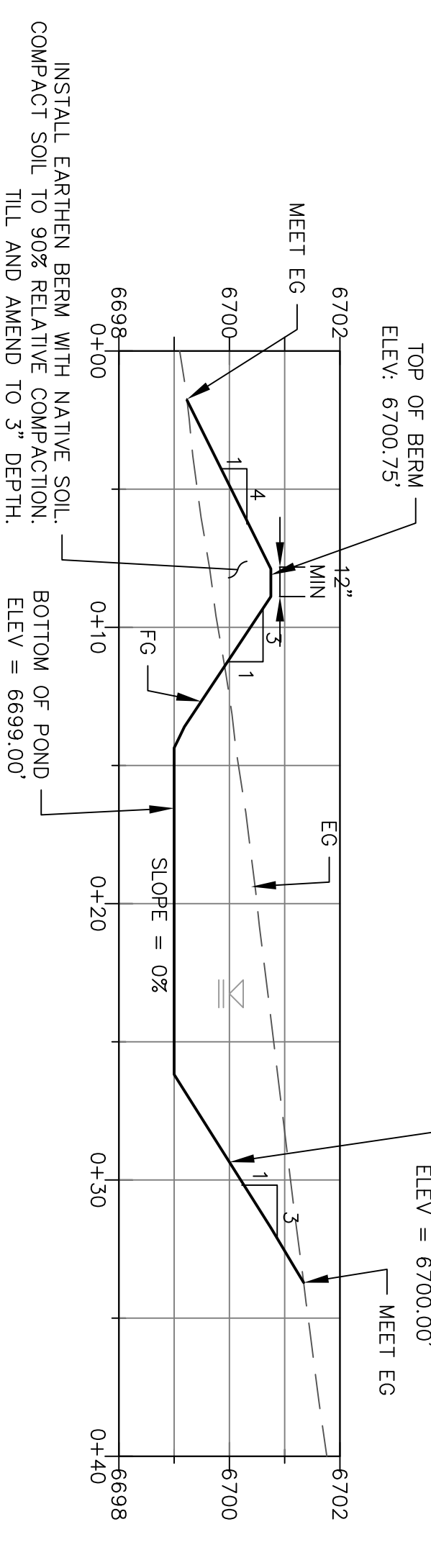
**GRADING PLAN (BMP 7 AND BMP 8)  
HYBRID BMP PROJECT**



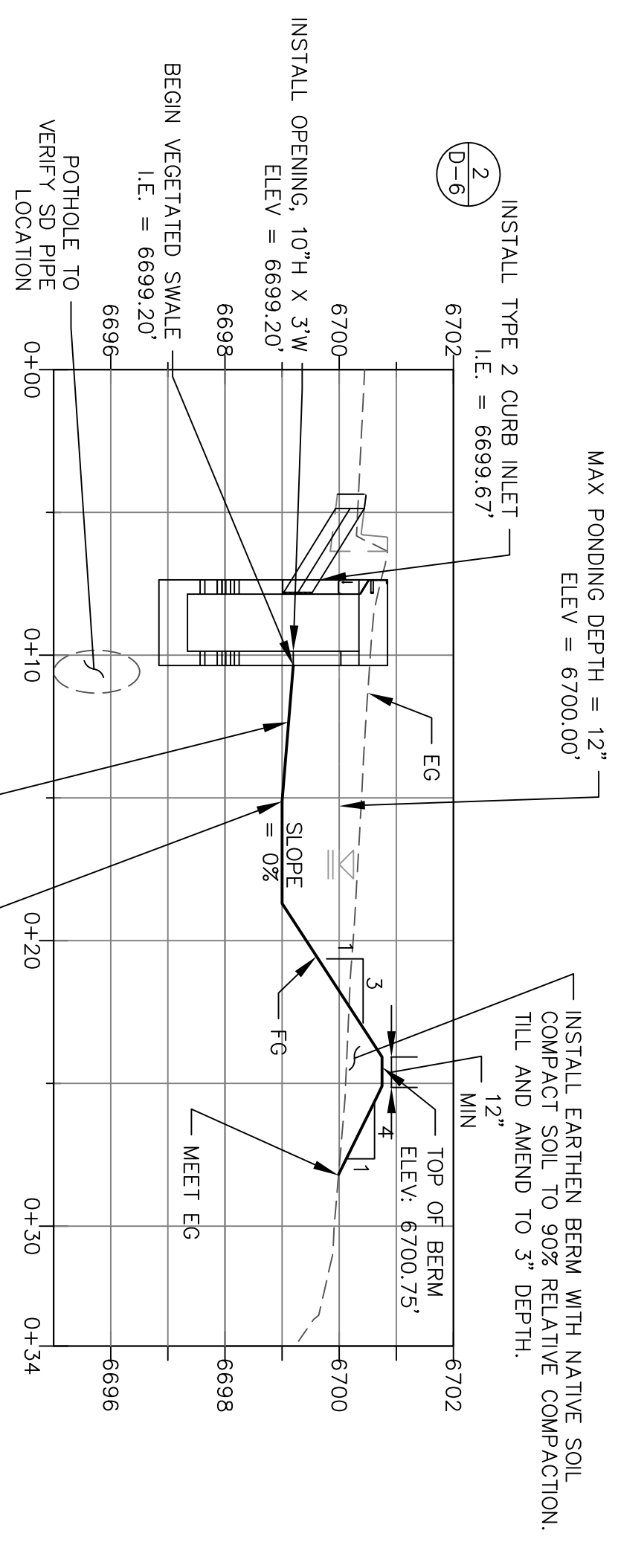
BMP 10 PLAN  
SCALE: AS SHOWN



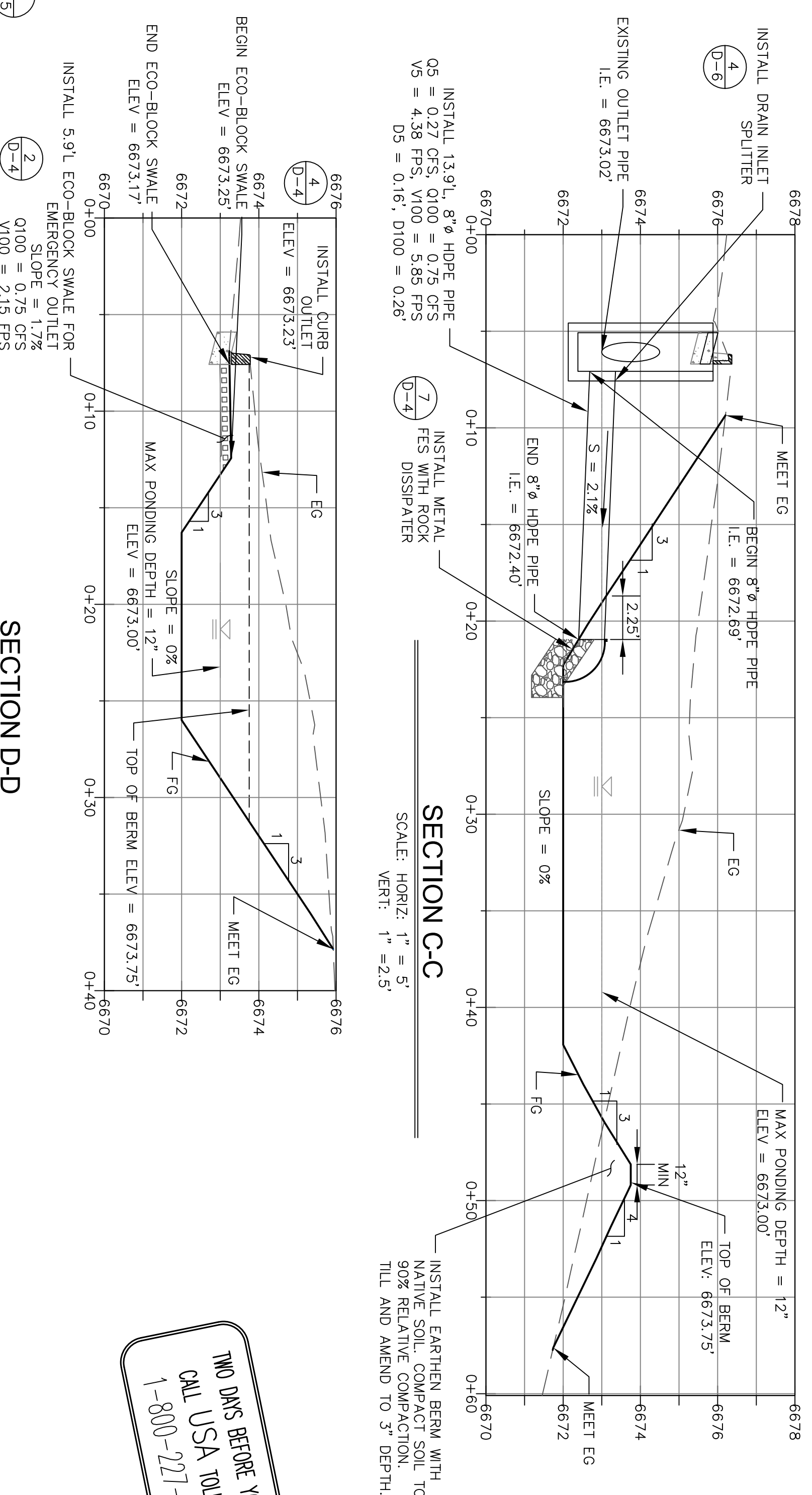
BMP 14 PLAN  
SCALE: AS SHOWN



SECTION AAA



SECTION B-B



SECTION C-C  
SCALE: HORIZ: 1" = 5'  
VERT: 1" = 2.5'

SECTION D-D  
SCALE: HORIZ: 1" = 5'  
VERT: 1" = 2.5'

TWO DAYS BEFORE YOU DIG  
CALL USA TOLL FREE  
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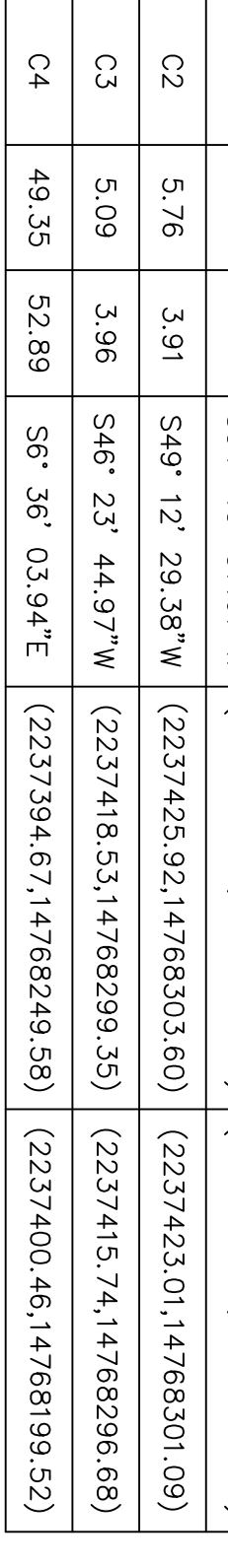
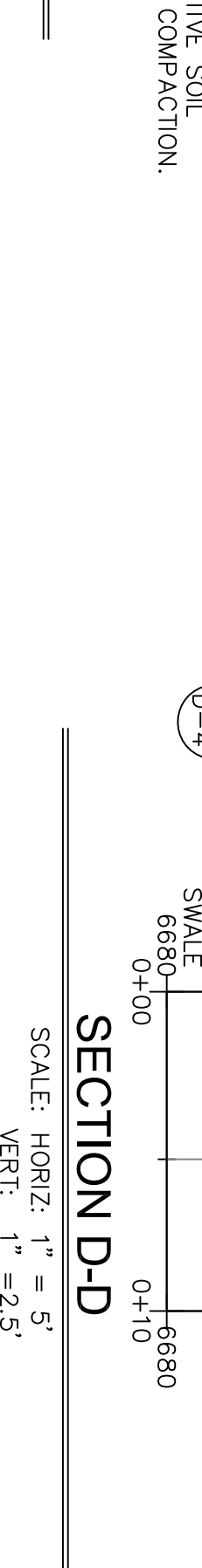
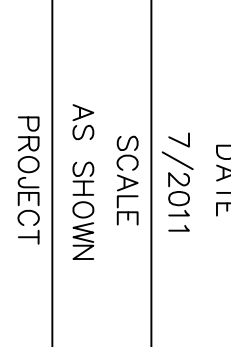
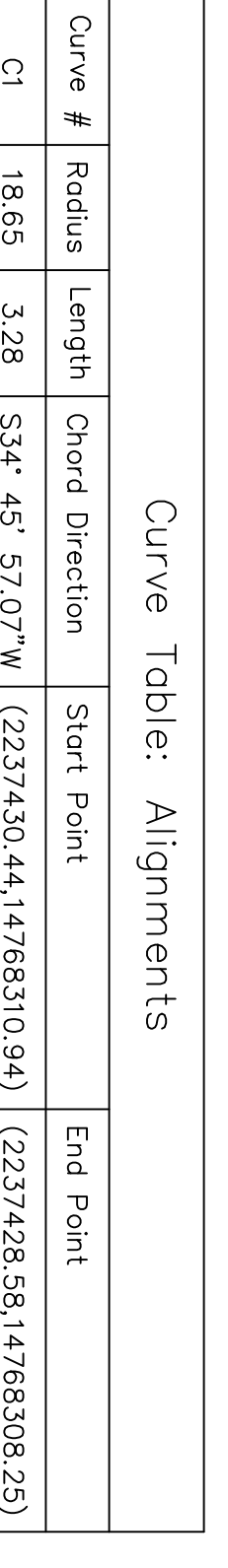
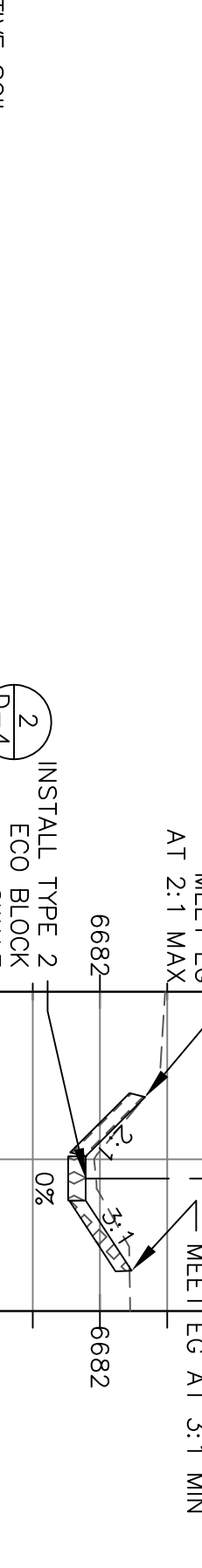
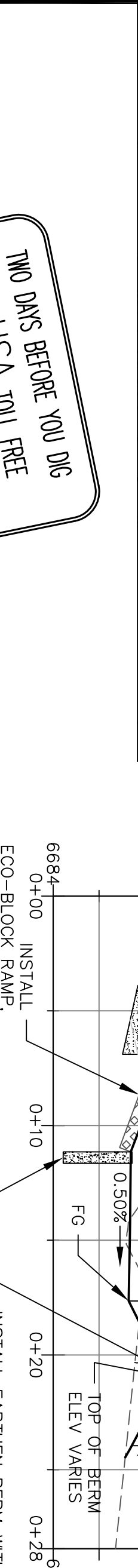
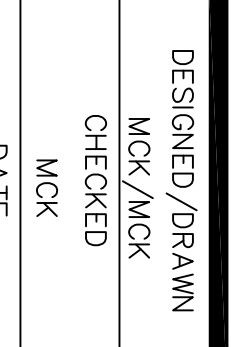
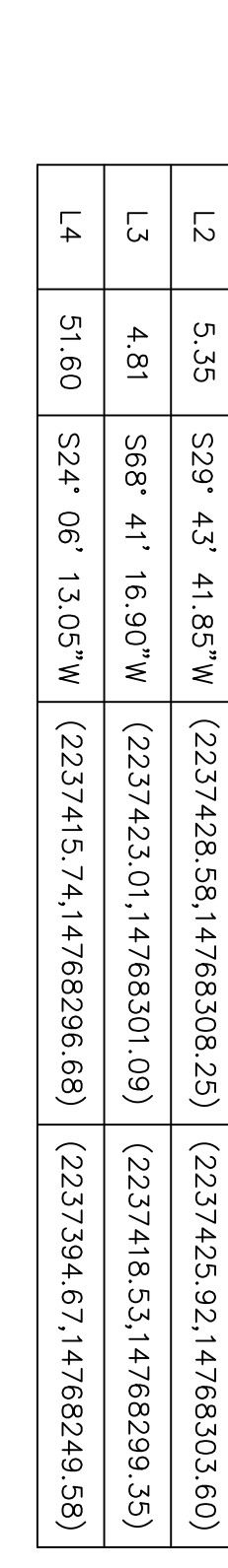
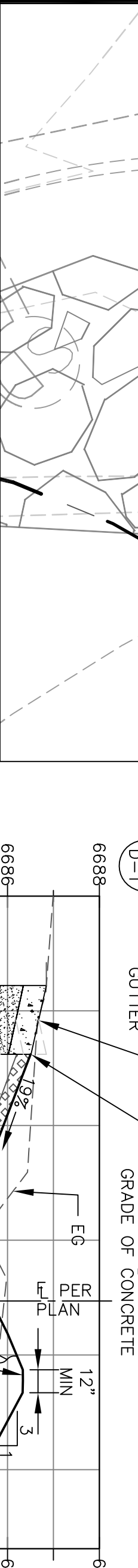
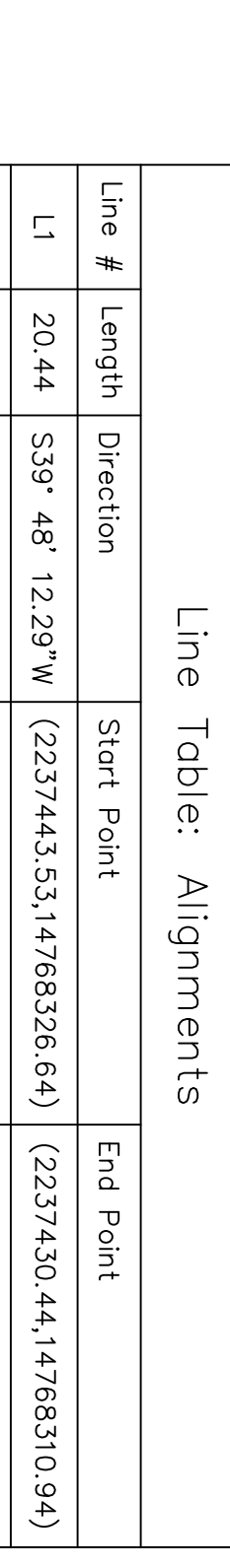
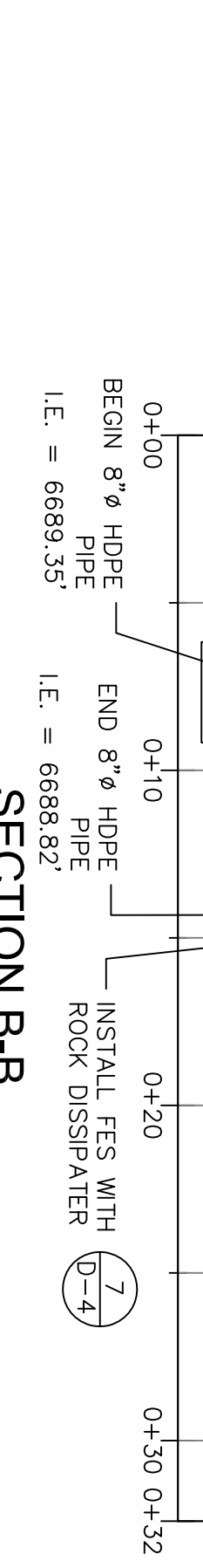
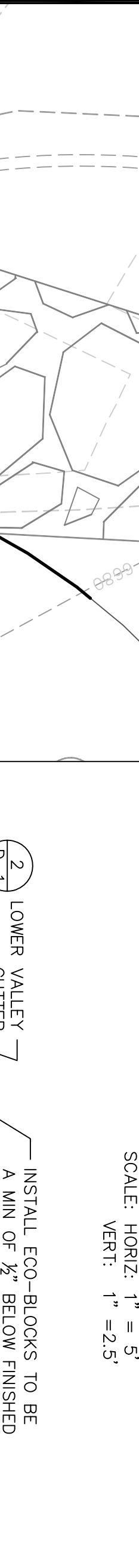
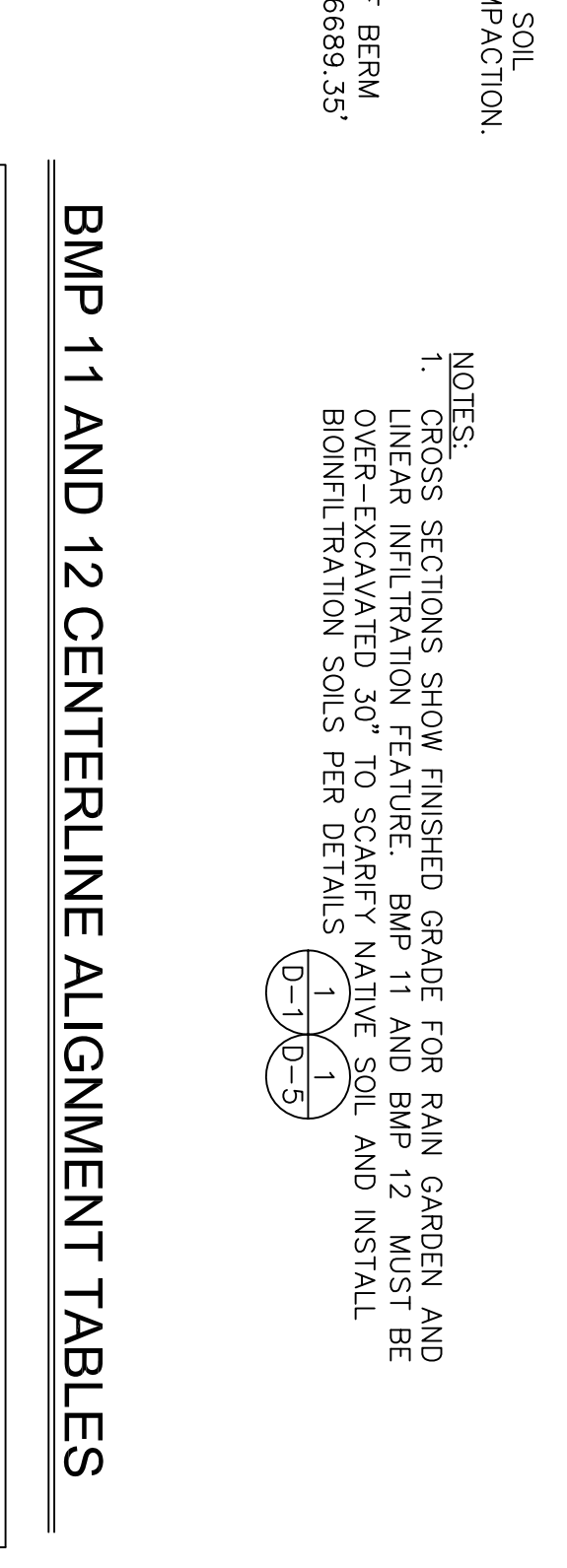
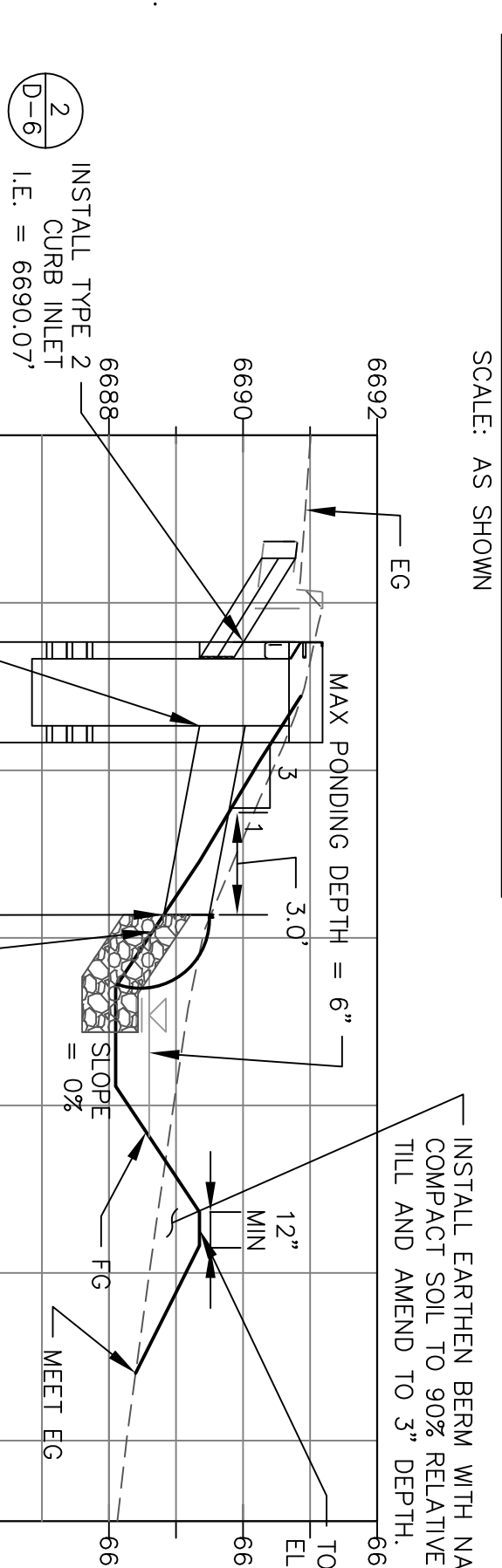
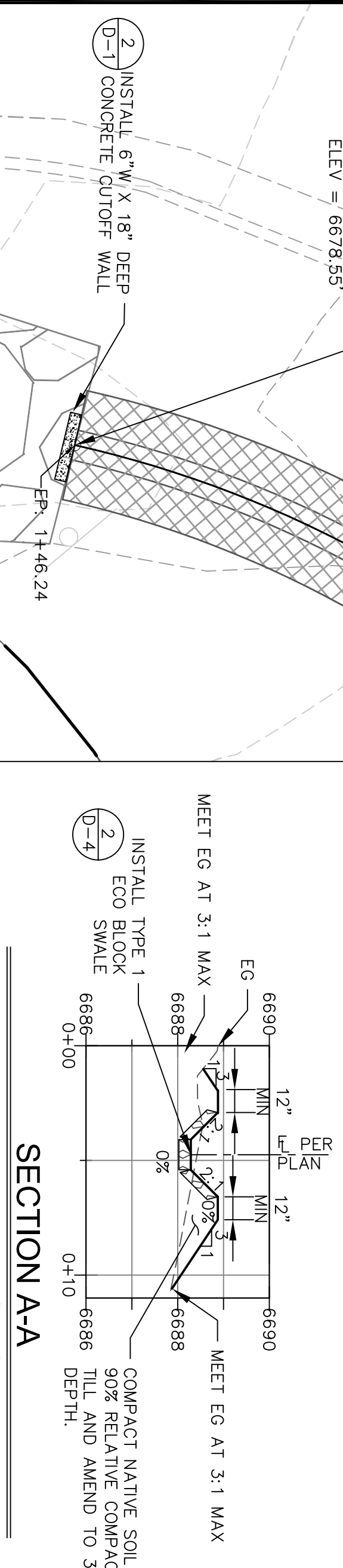
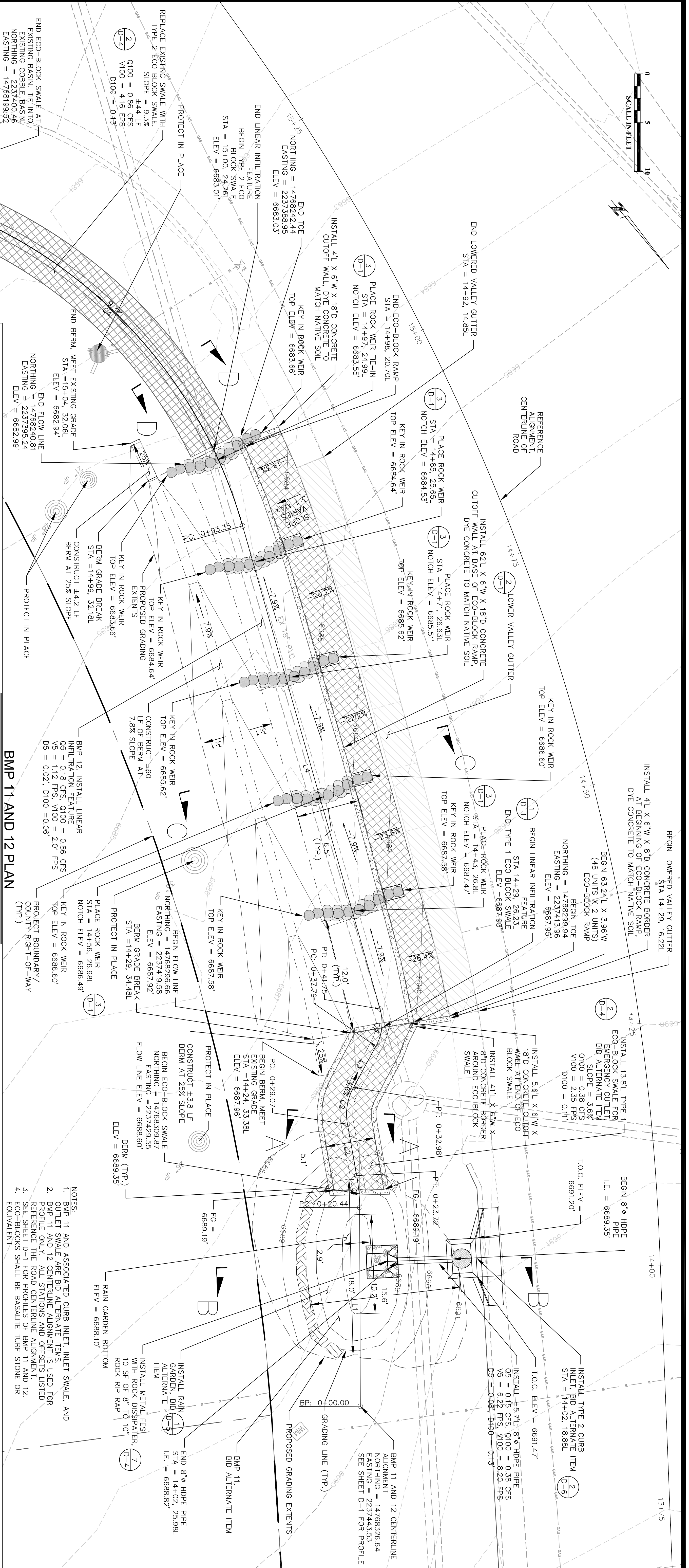


GRADING PLAN (BMP 10 AND BMP 14)  
HYBRID BMP PROJECT



DESIGNED/DRAWN	MCK/MCK
CHECKED	MCK
DATE	7/2011
SCALE	AS SHOWN
SHEET	C-6
PROJECT	HYBRID BMP
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**Line Table: Alignments**

Line #	Length	Direction	Start Point	End Point
L1	20.44	S39° 48' 12.29\"/>		

**Curve Table: Alignments**

Curve #	Radius	Length	Chord Direction	Start Point	End Point
C1	18.65	3.28	S34° 45' 57.07\"/>		

**NOTES:**  
 1. CROSS SECTIONS SHOW FINISHED GRADE FOR RAIN GARDEN AND LINEAR INFILTRATION FEATURE. BMP 11 AND BMP 12 MUST BE OVER-EXCAVATED 30\"/>

**NOTES:**  
 1. BMP 11 AND ASSOCIATED CURB INLET, INLET SWALE, AND GARDEN, BID ALTERNATE ITEM.  
 2. BMP 11 AND 12 CENTERLINE ALIGNMENT IS USED FOR PROFILE ONLY. ALL STATIONS AND OFFSETS LISTED REFER TO THE ROAD CENTERLINE ALIGNMENT.  
 3. SEE SHEET D-1 FOR PROFILES OF BMP 11 AND 12.  
 4. ECO-BLOCKS SHALL BE BASALTITE TURF STONE OR EQUIVALENT.

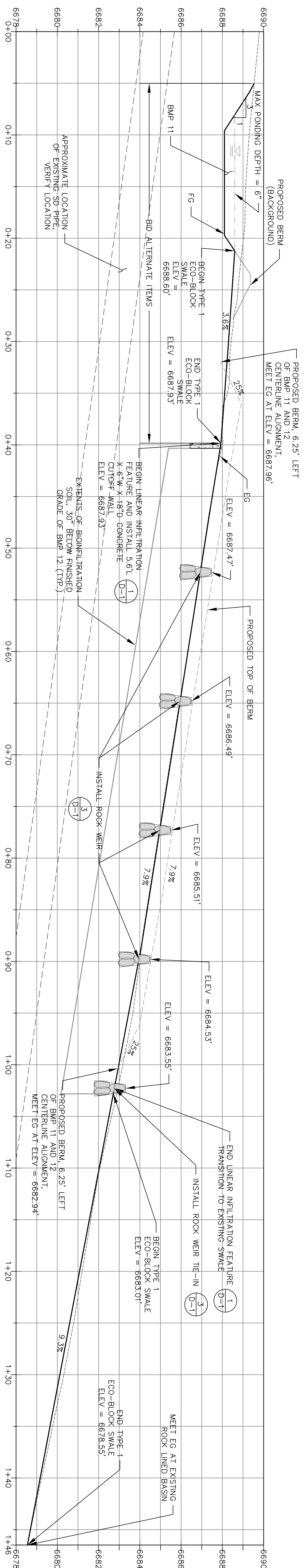
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**C-7**  
 SHEET  
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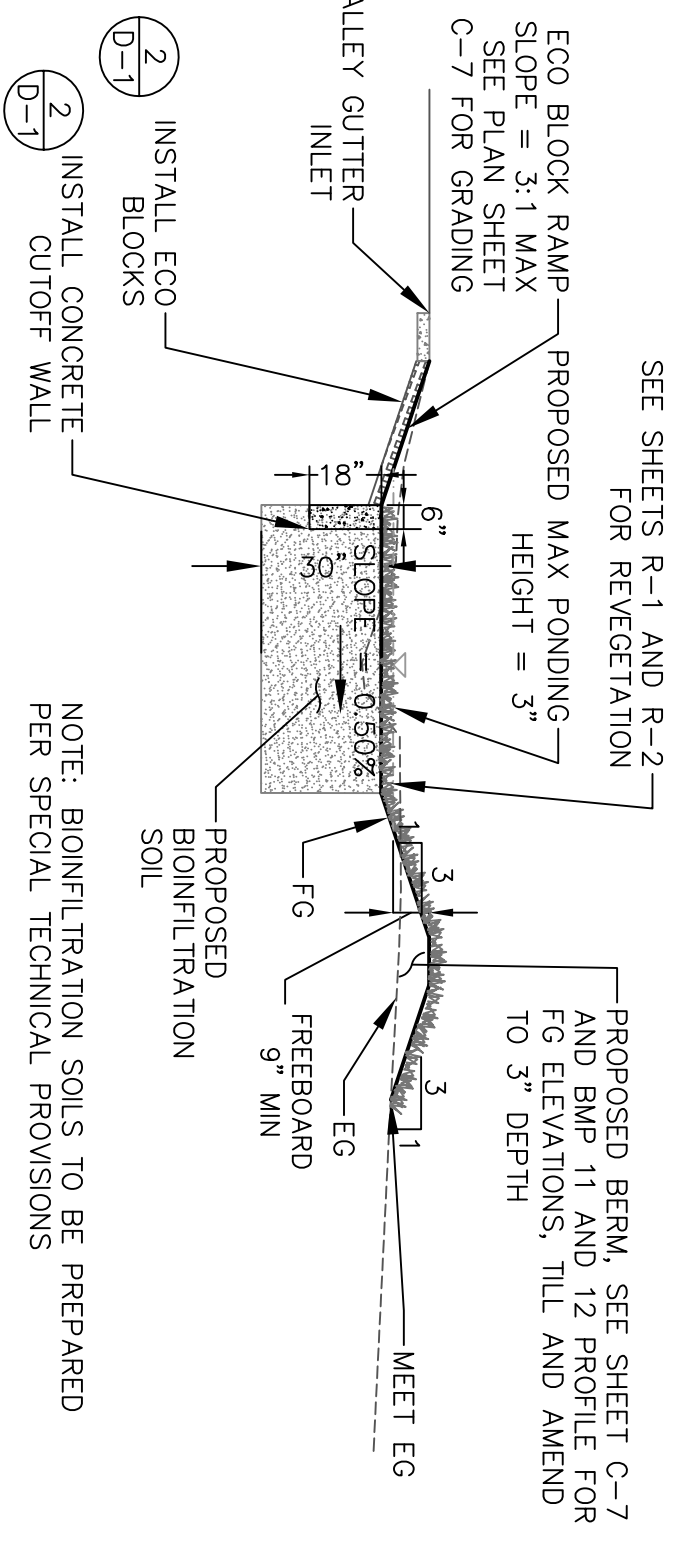
**GRADING PLAN (BMP 11 AND BMP 12)  
 HYBRID BMP PROJECT**





BMP 11 AND 12 PROFILE

SCALE: 1" = 4'

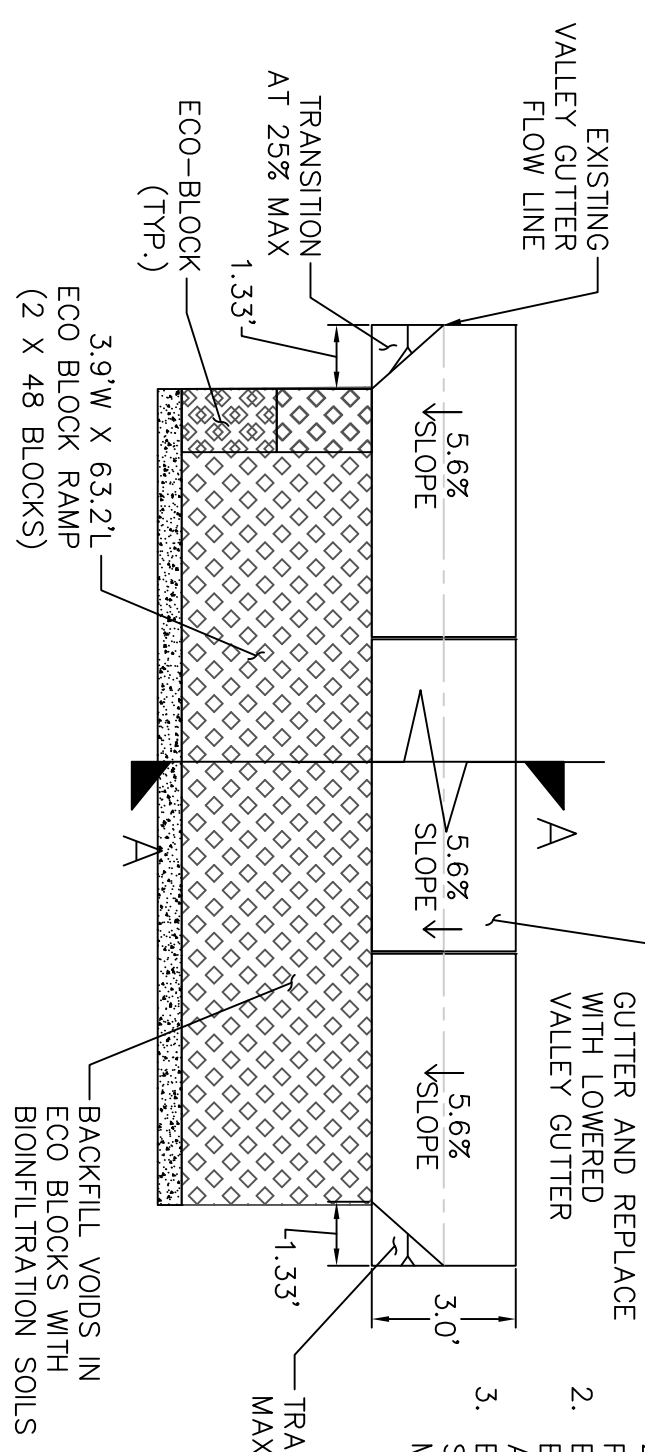


LINEAR INFILTRATION FEATURE TYPICAL SECTION 1

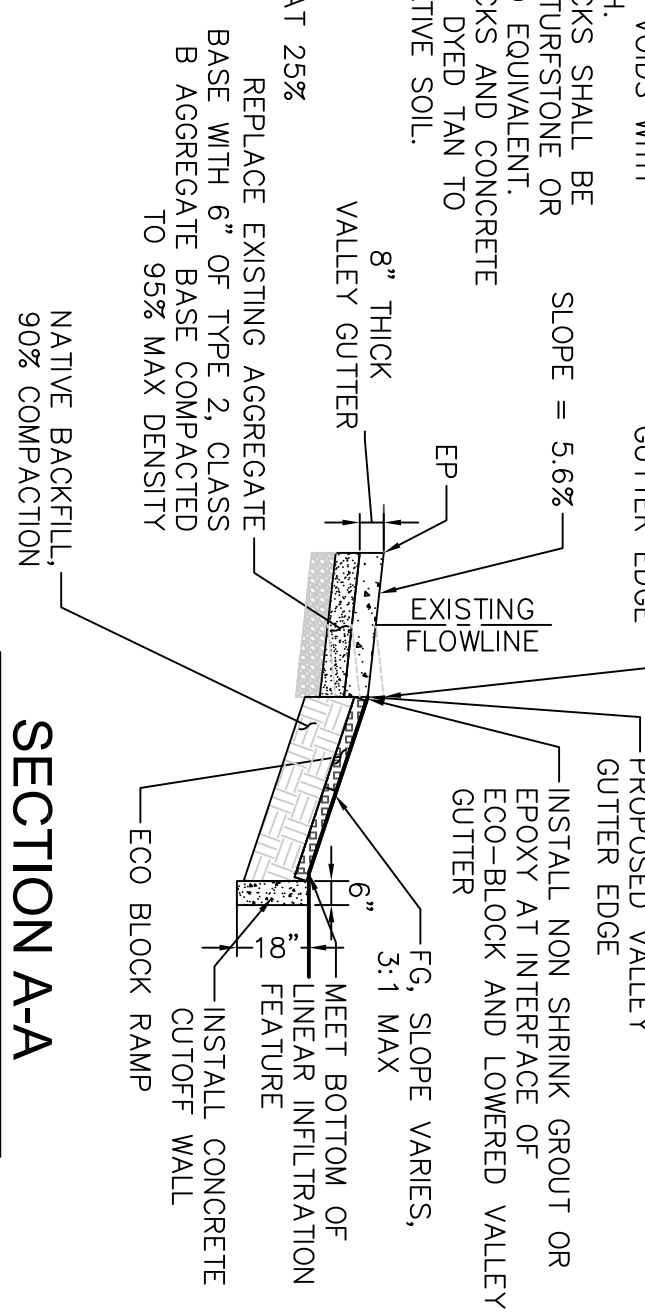
SCALE: 1" = 4'

D-1

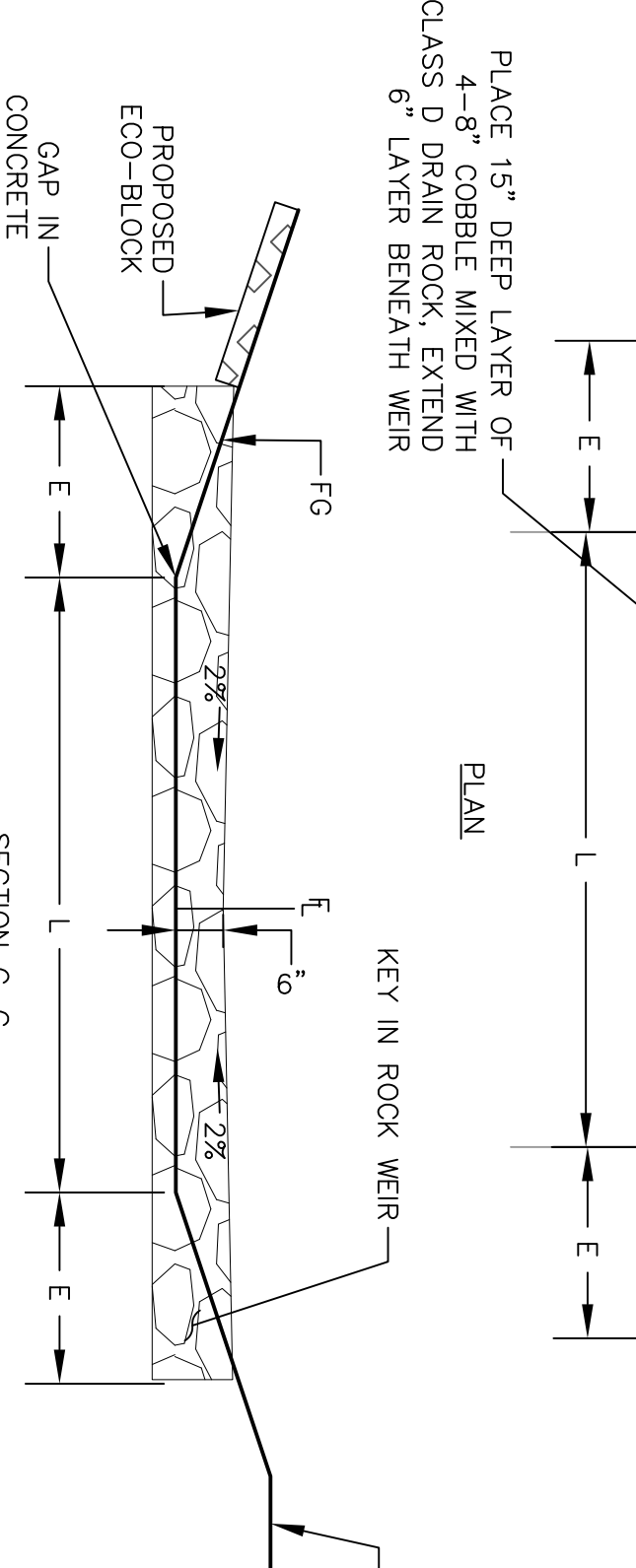
- NOTES:
1. ALL CONCRETE SHALL BE 6 SACK - 4000 PSI WITH 4-6% AIR VOIDS WITH FIBERESH. SHALL BE BASALT FIBERESH OR APPROVED EQUIVALENT. ECO-BLOCKS AND CONCRETE SHALL BE DYED TAN TO MATCH NATIVE SOIL.
  2. REPLACE EXISTING VALLEY GUTTER WITH LOWERED VALLEY GUTTER.
  3. REPLACE EXISTING VALLEY GUTTER WITH LOWERED VALLEY GUTTER.



PLAN



SECTION A-A



PLAN

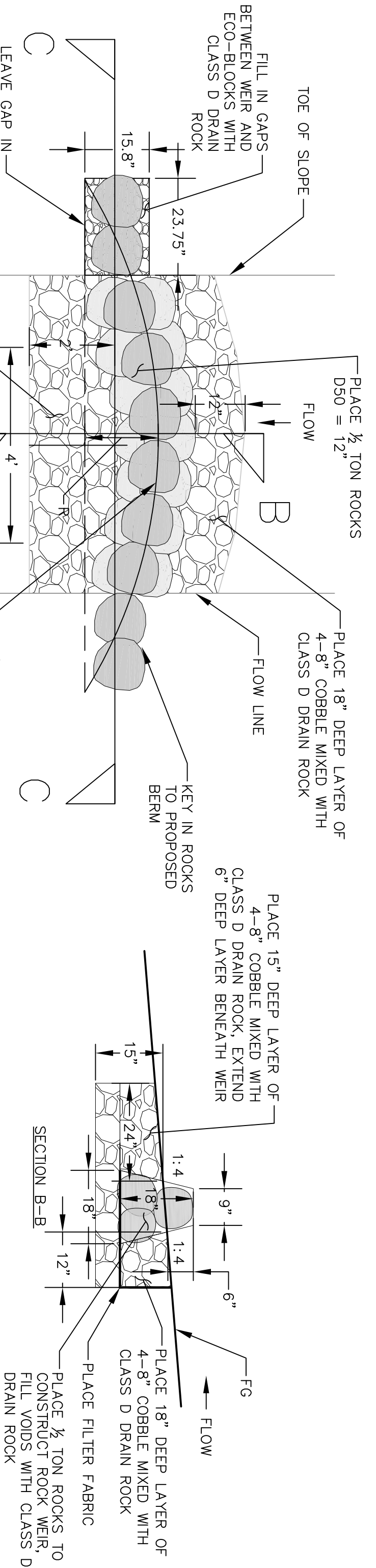
ROCK WEIR

SCALE: 1" = 2'

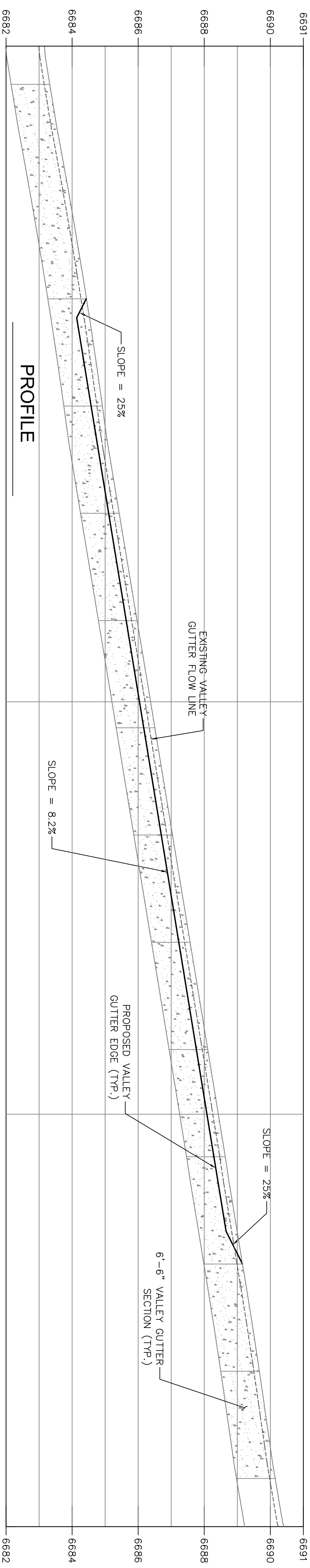
D-1

TABLE

BMP	L (FT)	R (FT)	E (FT)
12	6.00	2.00	1.98
12	TIE IN	6.00	4.00
			1.98



SECTION B-B



VALLEY GUTTER INLET

SCALE: HORIZ. 1" = 4'

VERT. 1" = 2'

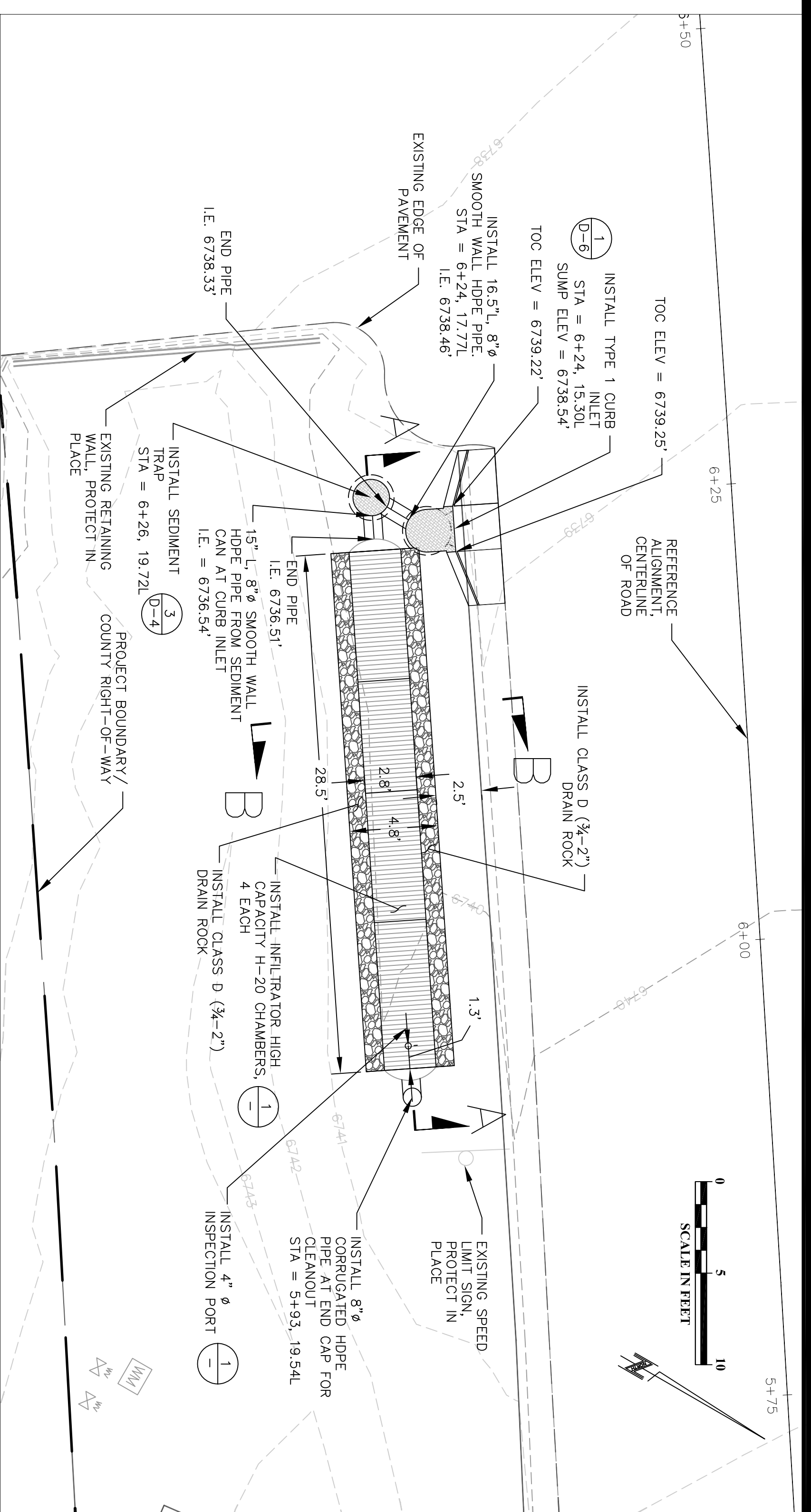
D-1



DETAILS (BMP12)  
HYBRID BMP PROJECT



DESIGNED/DRAWN  
MCK/AMK  
CHECKED  
MCK  
DATE  
7/2011  
SCALE  
AS SHOWN  
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SHEET  
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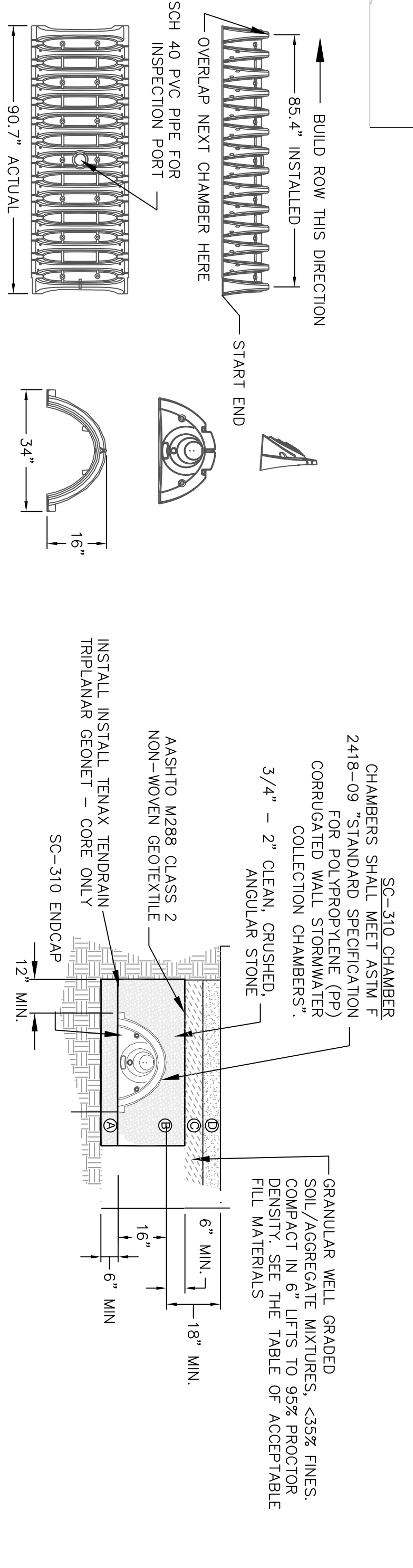


**ACCEPTABLE FILL MATERIALS: SC-310 CHAMBER SYSTEMS**

MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION <sup>1</sup>	COMPACTION/DENSITY REQUIREMENT
D	FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF UNPAVED FINISH GRADE ABOVE.	N/A	COMPACT LAYERS IN 6" LIFTS TO A MIN. 95% STANDARD PROCTOR DENSITY. ROLLER GROSS WEIGHT NOT TO EXCEED 20,000 lbs.
C	FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUB-BASE MAY BE A PART OF THIS LAYER.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTION AFTER 12" OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" LIFTS TO A MIN. 95% STANDARD PROCTOR DENSITY. ROLLER GROSS WEIGHT NOT TO EXCEED 12,000 lbs. DYNAMIC FORCE NOT TO EXCEED 20,000 lbs.
B	EMBEDMENT STONE SURROUNDING THE CHAMBERS FROM THE FOUNDATION ABOVE (A LAYER) TO THE 'C' LAYER ABOVE.	3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	3, 35, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY <sup>2</sup> .

PLEASE NOTE: AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE.  
 2. AS AN ALTERNATE TO PROCTOR TESTING AND FIELD DENSITY MEASUREMENTS ON OPEN GRADED STONE, STORMTECH COMPACTOR REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (229 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH AN APPROPRIATE COMPACTOR.

**STORMTECH ACCEPTABLE MATERIALS**



**NOMINAL CHAMBER SPECIFICATIONS**

SIZE (W x H x INSTALLED LENGTH)	34.0" x 16.0" x 85.4"
MINIMUM STORAGE CAPACITY	31.0 CUBIC FEET
WEIGHT	35 lbs.

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B" STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "A"

PART#	STUB	A	B	C
SC310EP001	8"	11.90"	3.30"	N/A
SC310EP009	6"	12.30"	1.0"	6.6"
SC310EP108	10"	12.70"	N/A	0.70"
SC310EP128	12"	13.50"	N/A	0.90"

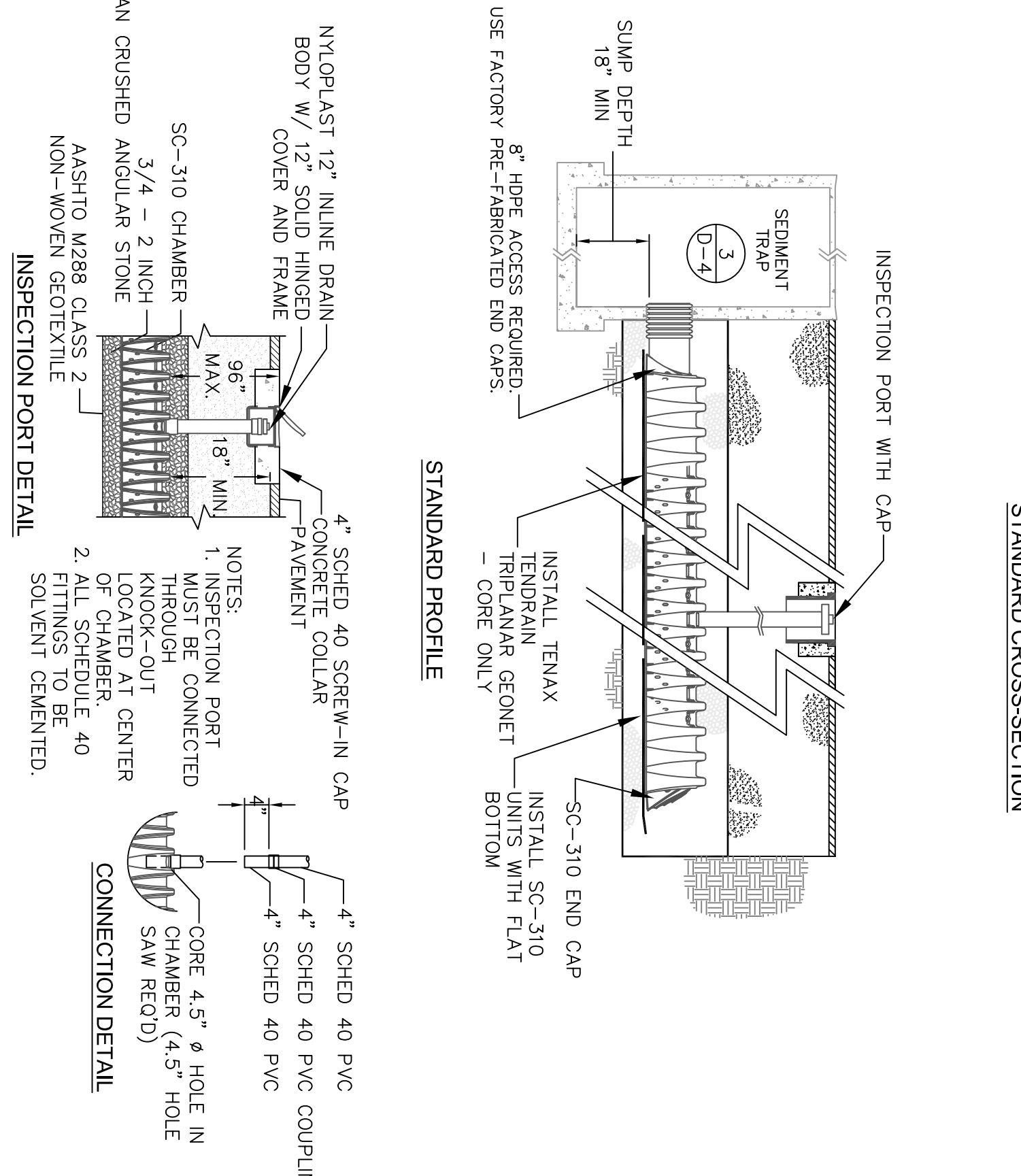
NOTE: ALL DIMENSIONS ARE NOMINAL.

FOR THE SC310EP001 THE 12" STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

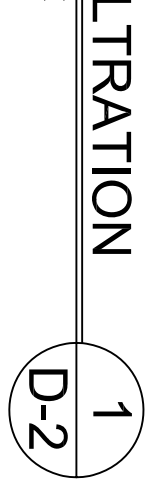
ALL STUBS EXCEPT FOR THE SC310EP009 ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

**SC-310 TECHNICAL SPECIFICATIONS**

- NOTES**
- ALL DESIGN SPECIFICATIONS FOR STORMTECH SC-310 CHAMBERS SHALL BE IN ACCORDANCE WITH THE STORMTECH DESIGN MANUAL.
  - THE INSTALLATION OF STORMTECH SC-310 CHAMBERS SHALL BE IN ACCORDANCE WITH THE LATEST STORMTECH INSTALLATION INSTRUCTIONS.
  - THE CONTRACTOR IS ADVISED TO REVIEW AND UNDERSTAND THE INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION. CALL 1-888-892-2694 OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF THE LATEST STORMTECH INSTALLATION INSTRUCTIONS.



**UNDERGROUND INFILTRATION**



NYLOPLAST 12" INLINE DRAIN BODY W/ 12" SOLID HINGED COVER AND FRAME

SC-310 CHAMBER

3/4" - 2 INCH CLEAN CRUSHED ANGULAR STONE

AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE

INSPECTION PORT DETAIL

4" SCHED 40 SCREW-IN CAP CONCRETE COLLAR PAVEMENT

NOTES:

- INSPECTION PORT MUST BE CONNECTED THROUGH HOLE LOCATED AT CENTER OF CHAMBER.
- ALL SCHEDULE 40 FITTINGS TO BE SOLVENT CEMENTED.

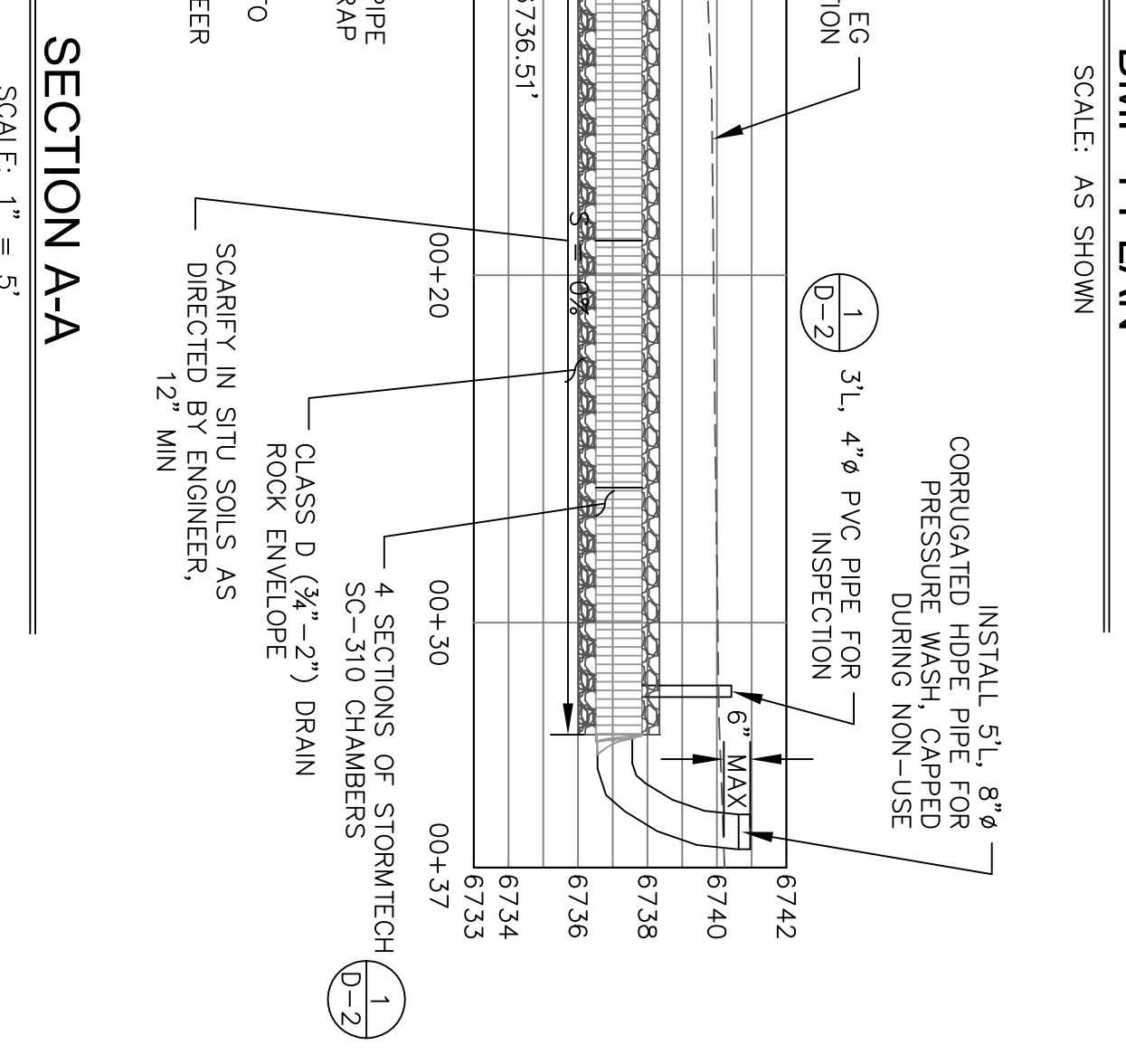
4" SCHED 40 SCREW-IN CAP

4" SCHED 40 PVC COUPLING

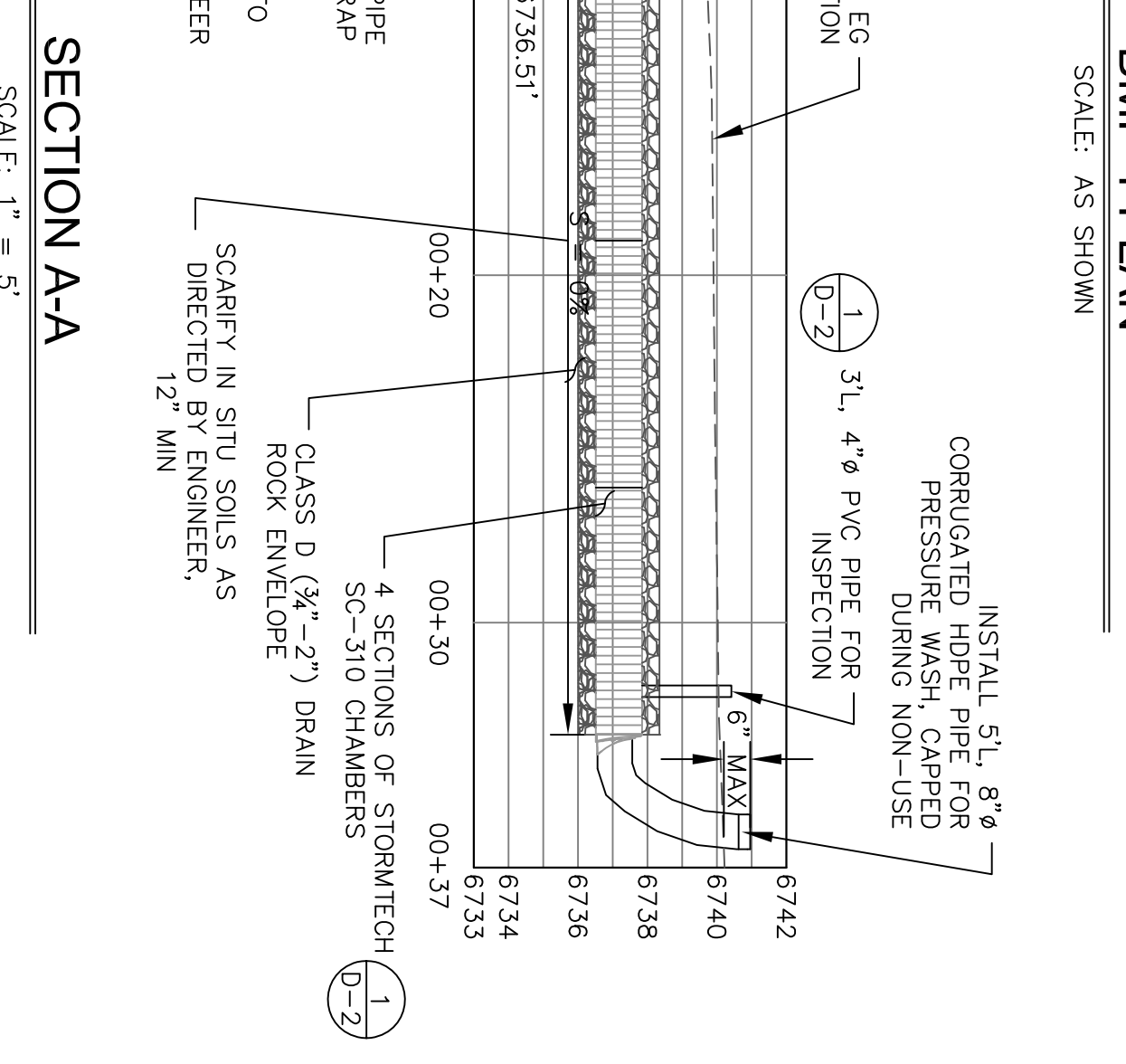
CONNECTION DETAIL

CORE 4.5" Ø HOLE IN CHAMBER (4.5" HOLE SAW REQ'D)

**SECTION A-A**



**SECTION B-B**



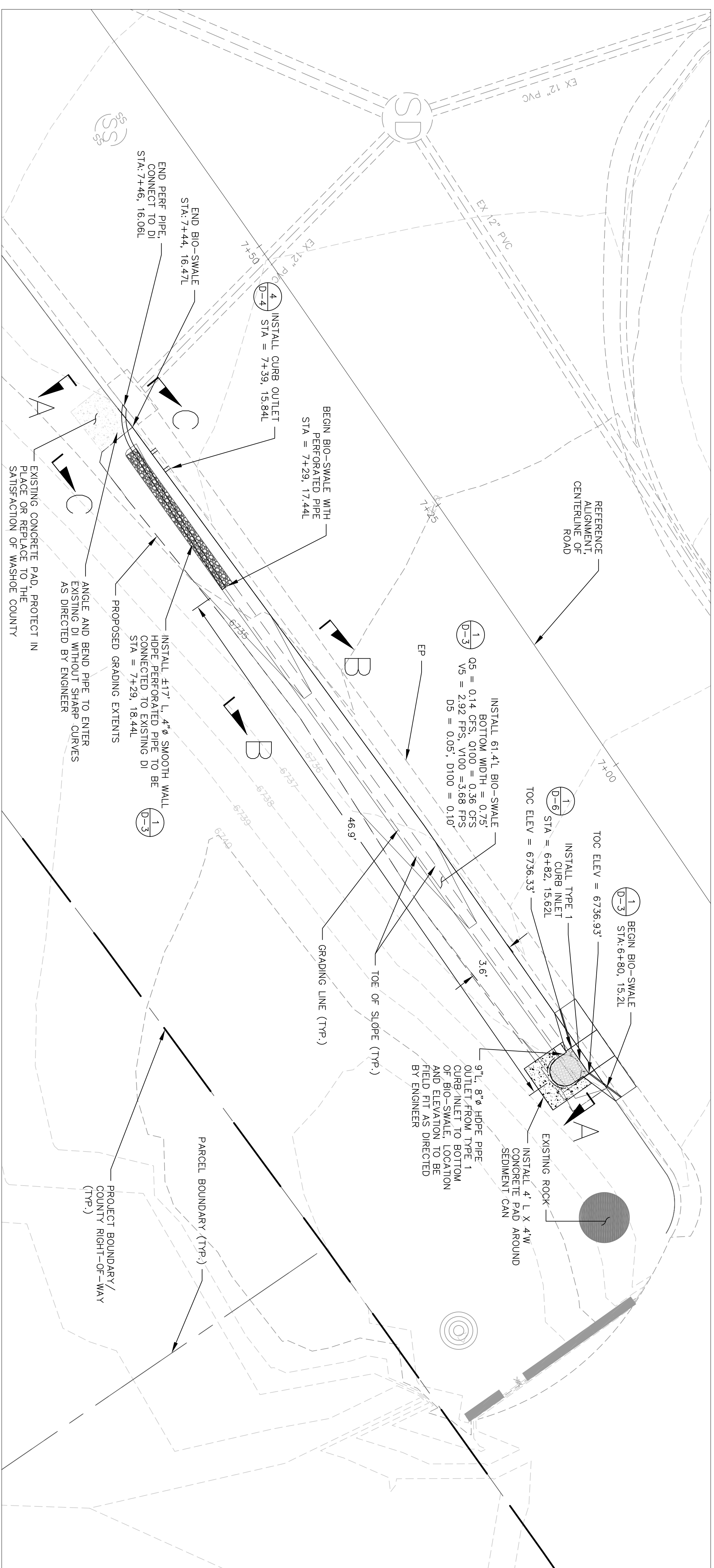
**NO DMS BEFORE YOU DIG**  
 CALL USA TOLL FREE  
 1-800-227-2600



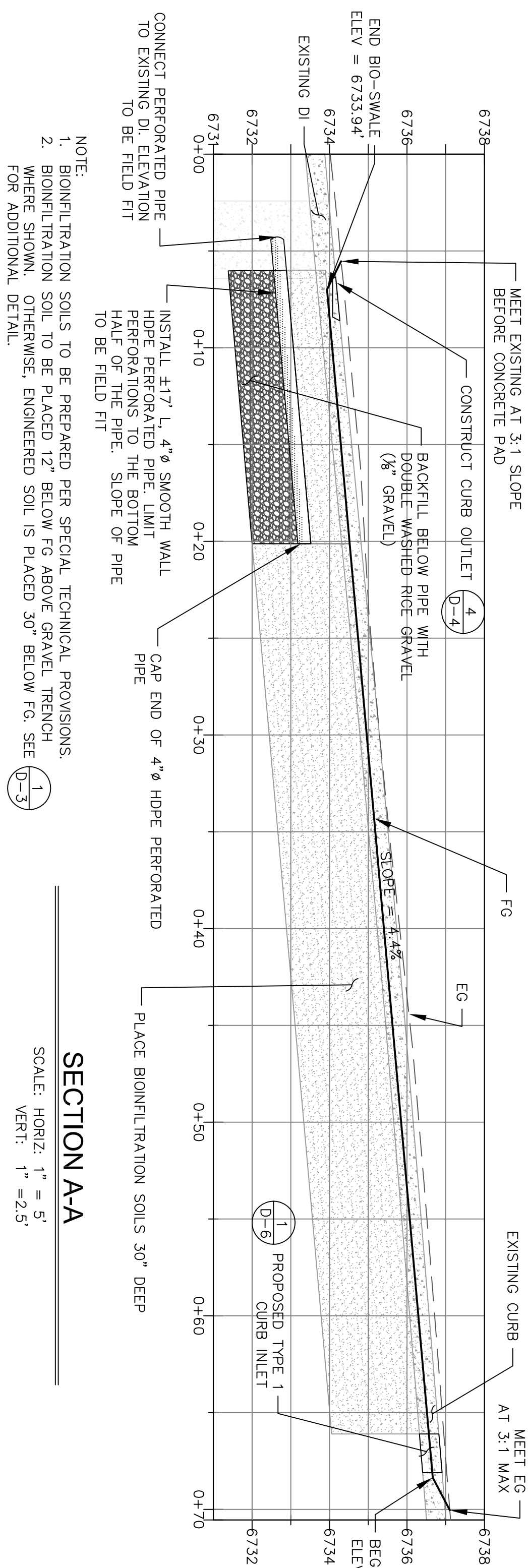
**DETAILS (BMP 1)  
 HYBRID BMP PROJECT**



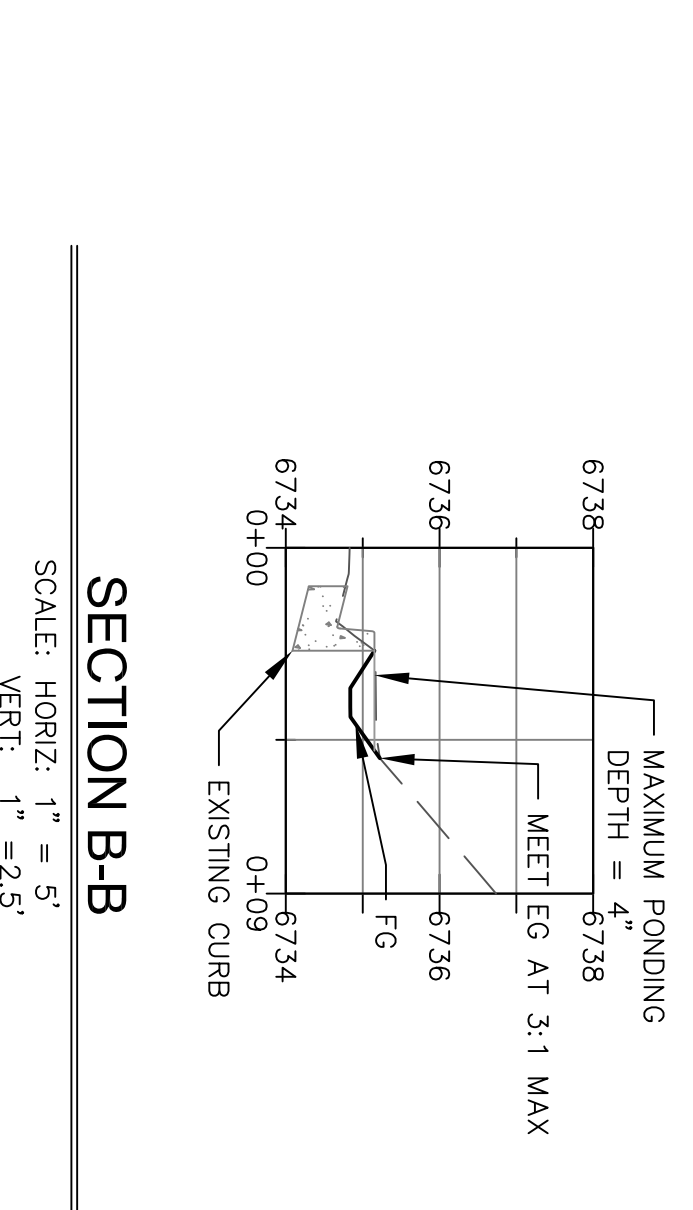
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CHECKED	MCK
DATE	7/2011
SCALE	AS SHOWN
PROJECT	HYBRID BMP



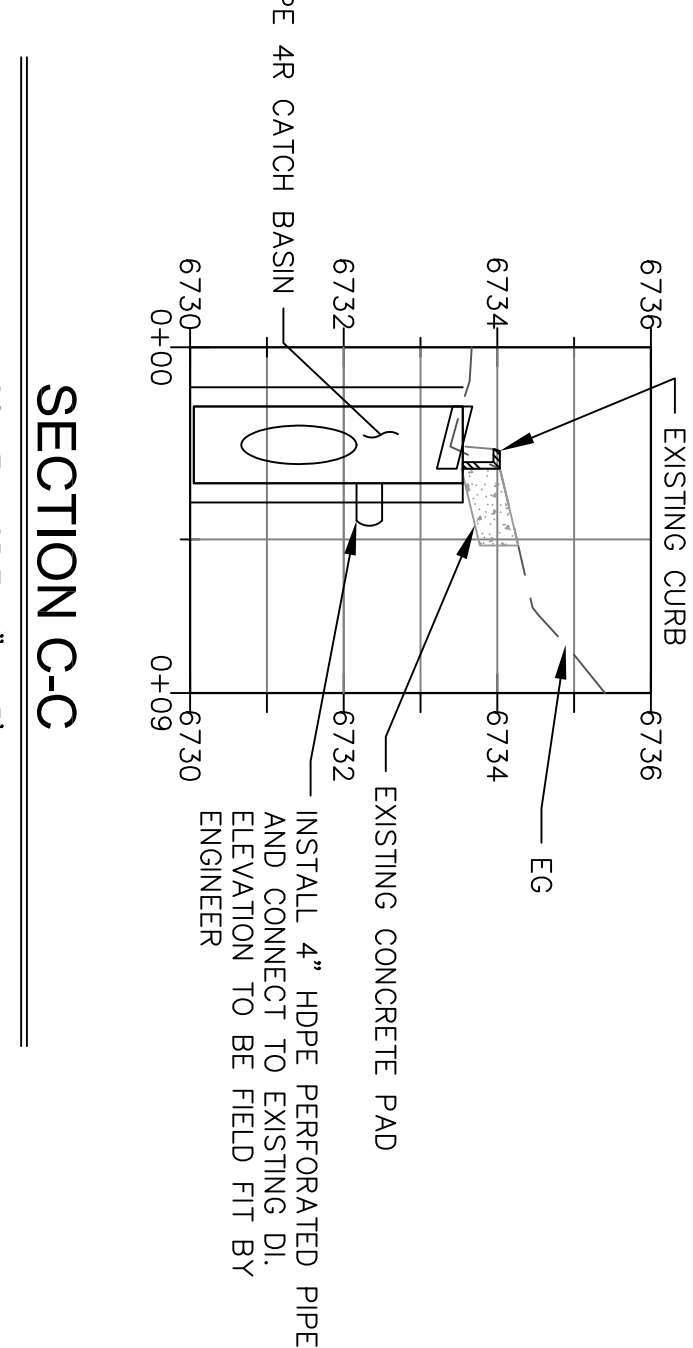
**BMP 2 PLAN**  
SCALE: AS SHOWN



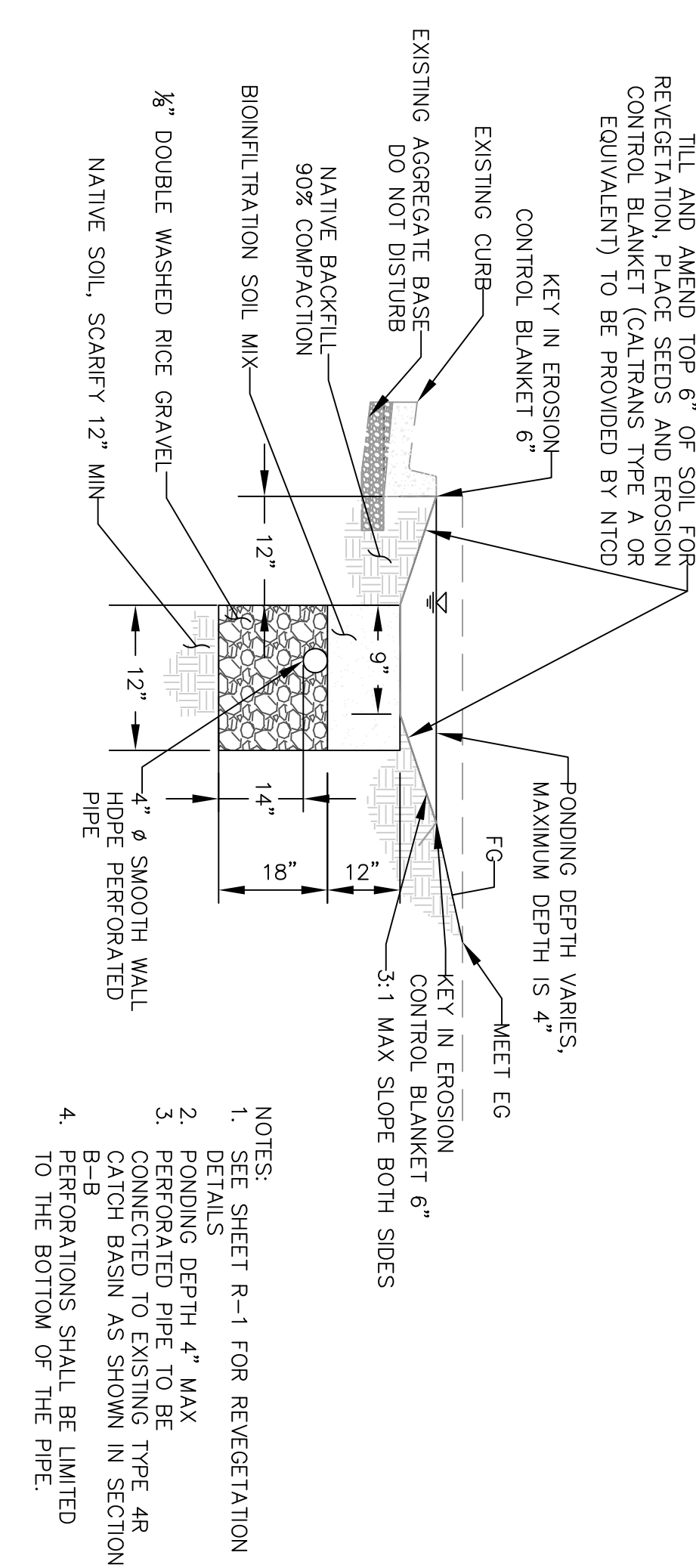
**SECTION A-A**  
SCALE: HORIZ: 1" = 5'  
VERT: 1" = 2.5'



**SECTION B-B**  
SCALE: HORIZ: 1" = 5'  
VERT: 1" = 2.5'



**SECTION C-C**  
SCALE: HORIZ: 1" = 5'  
VERT: 1" = 2.5'



**BIO-SWALE WITH PERFORATED PIPE**  
SCALE: 1" = 2'

- NOTES:**
1. SEE SHEET R-1 FOR REVEGETATION DETAILS
  2. PONDING DEPTH 4" MAX
  3. PERFORATED PIPE TO BE CONNECTED TO EXISTING TYPE 4R CATCH BASIN AS SHOWN IN SECTION B-B
  4. PERFORATIONS SHALL BE LIMITED TO THE BOTTOM OF THE PIPE.

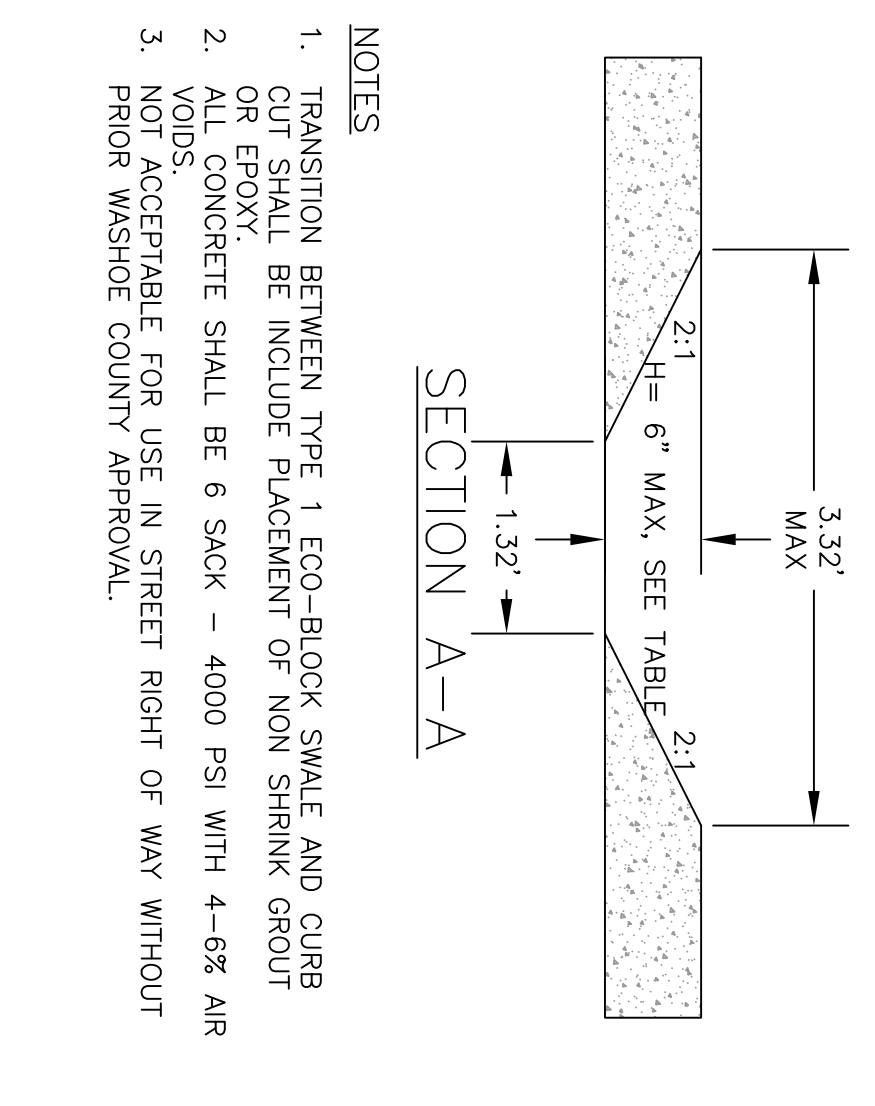
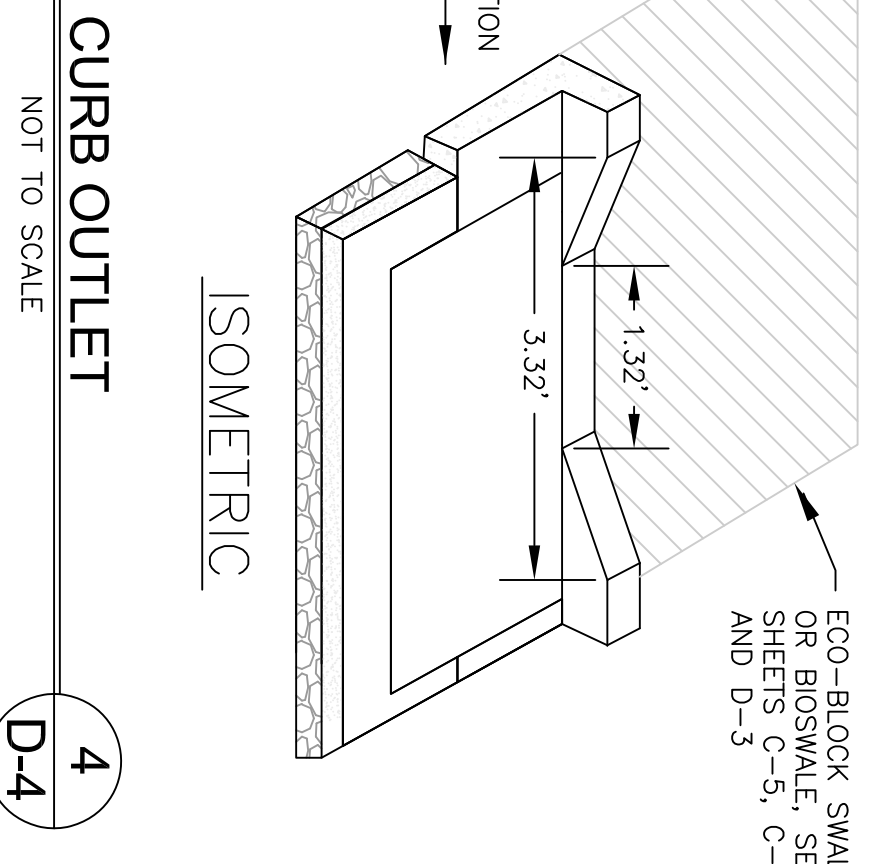
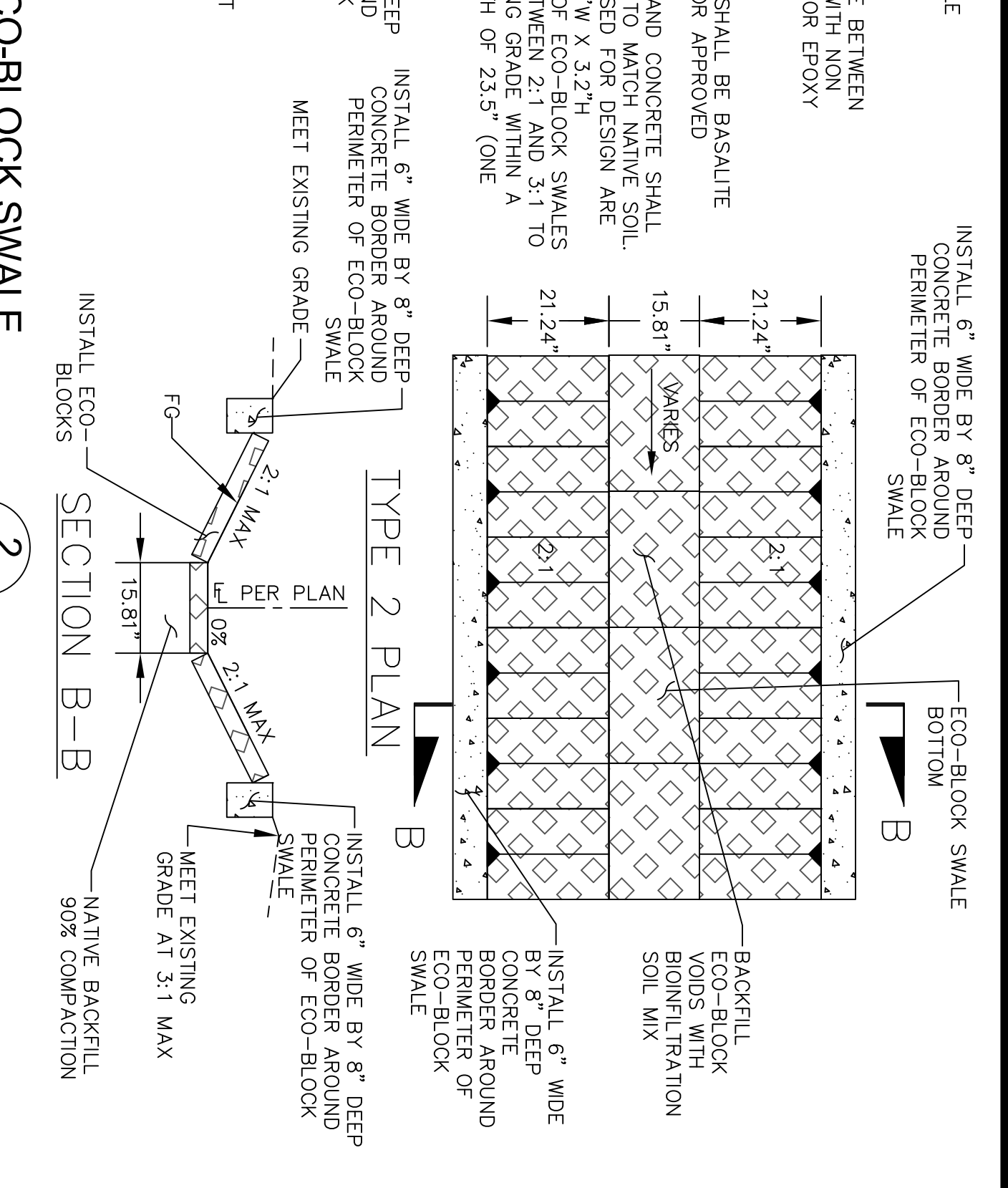
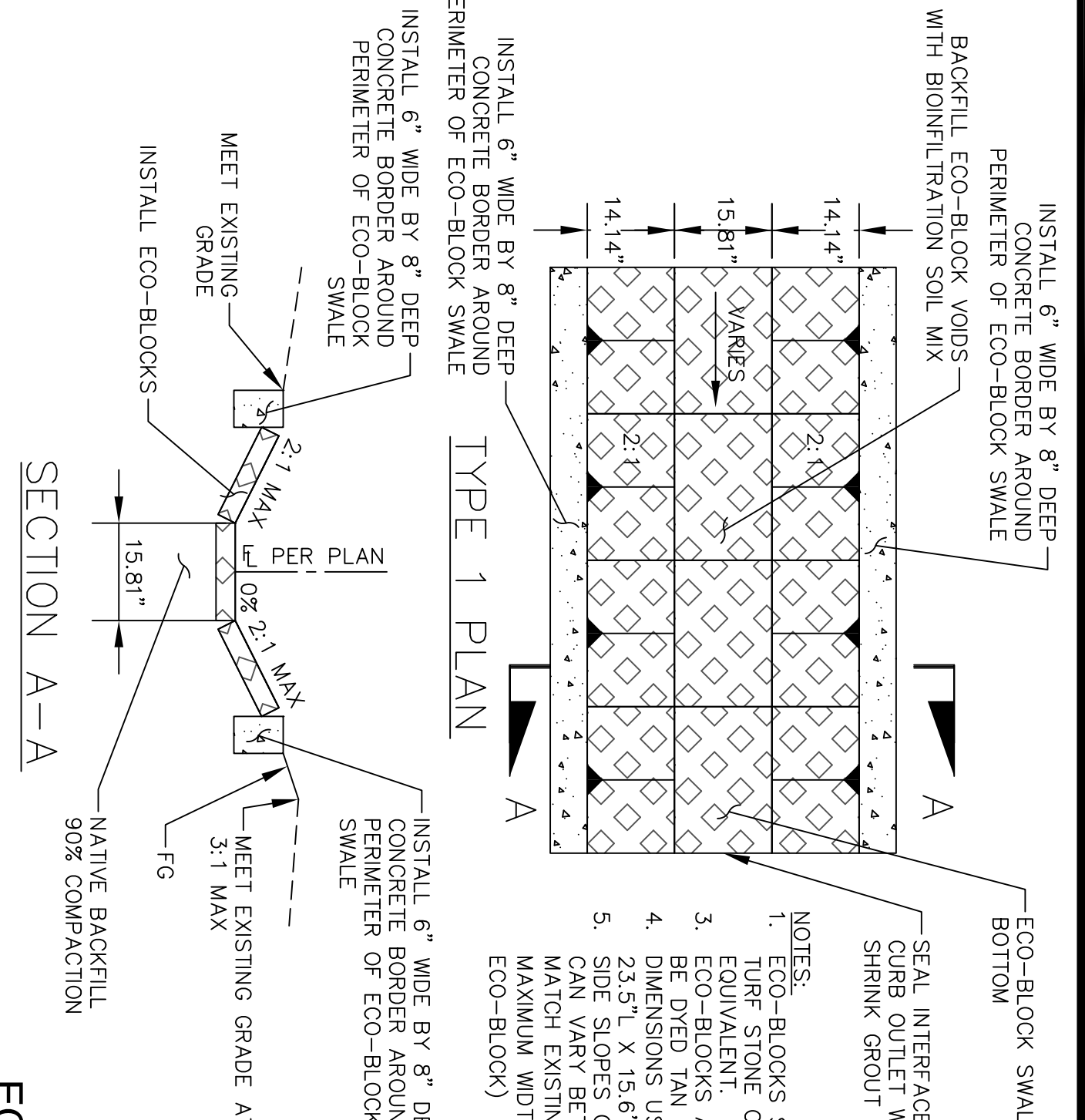
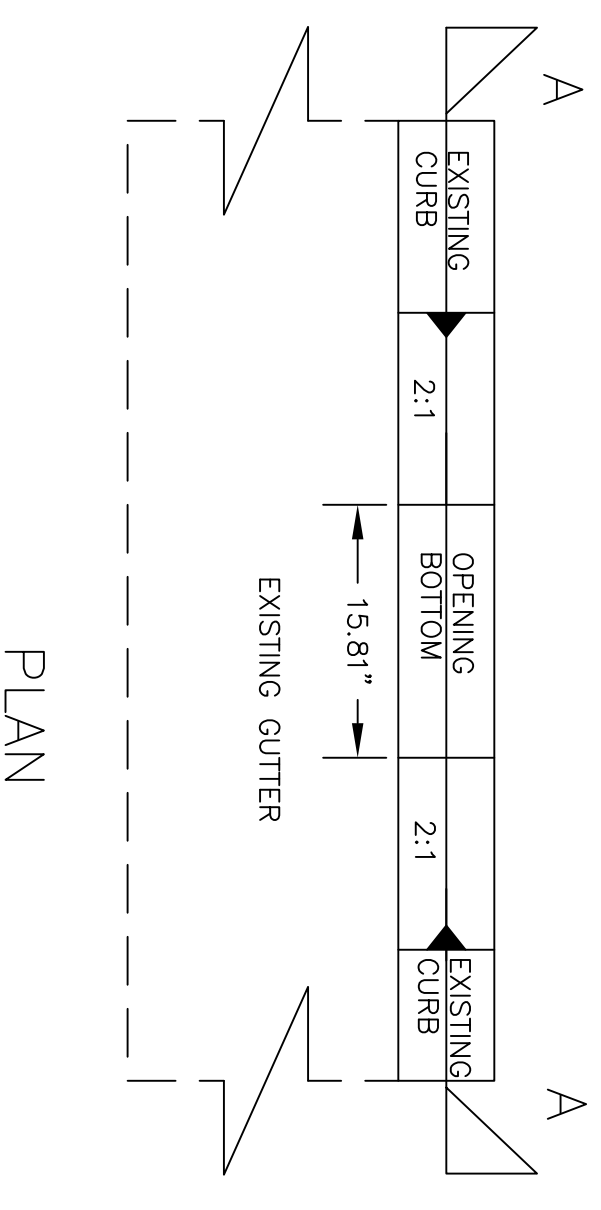
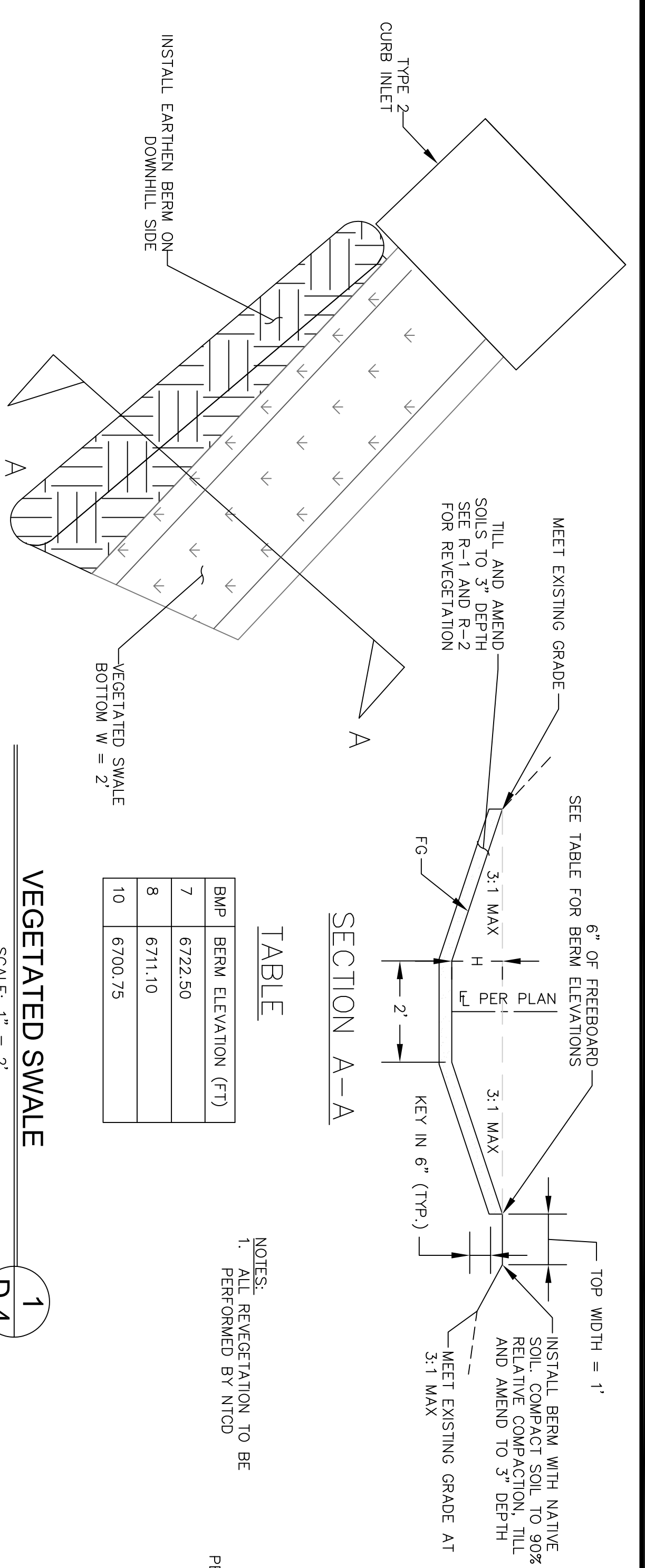
**TWO DAYS BEFORE YOU DIG  
CALL USA TOLL FREE  
1-800-227-2600**



**DETAILS (BMP 2)  
HYBRID BMP PROJECT**

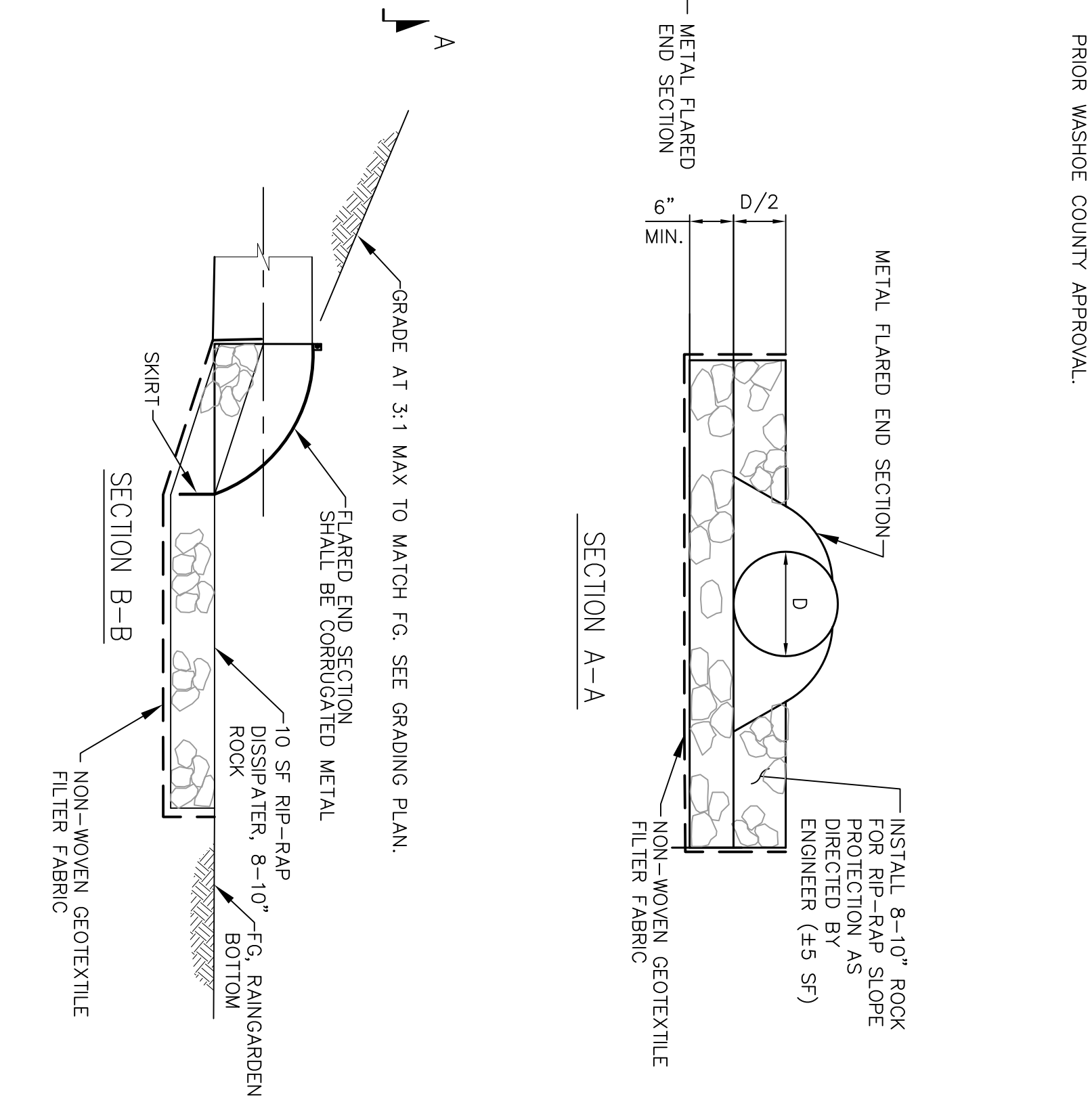
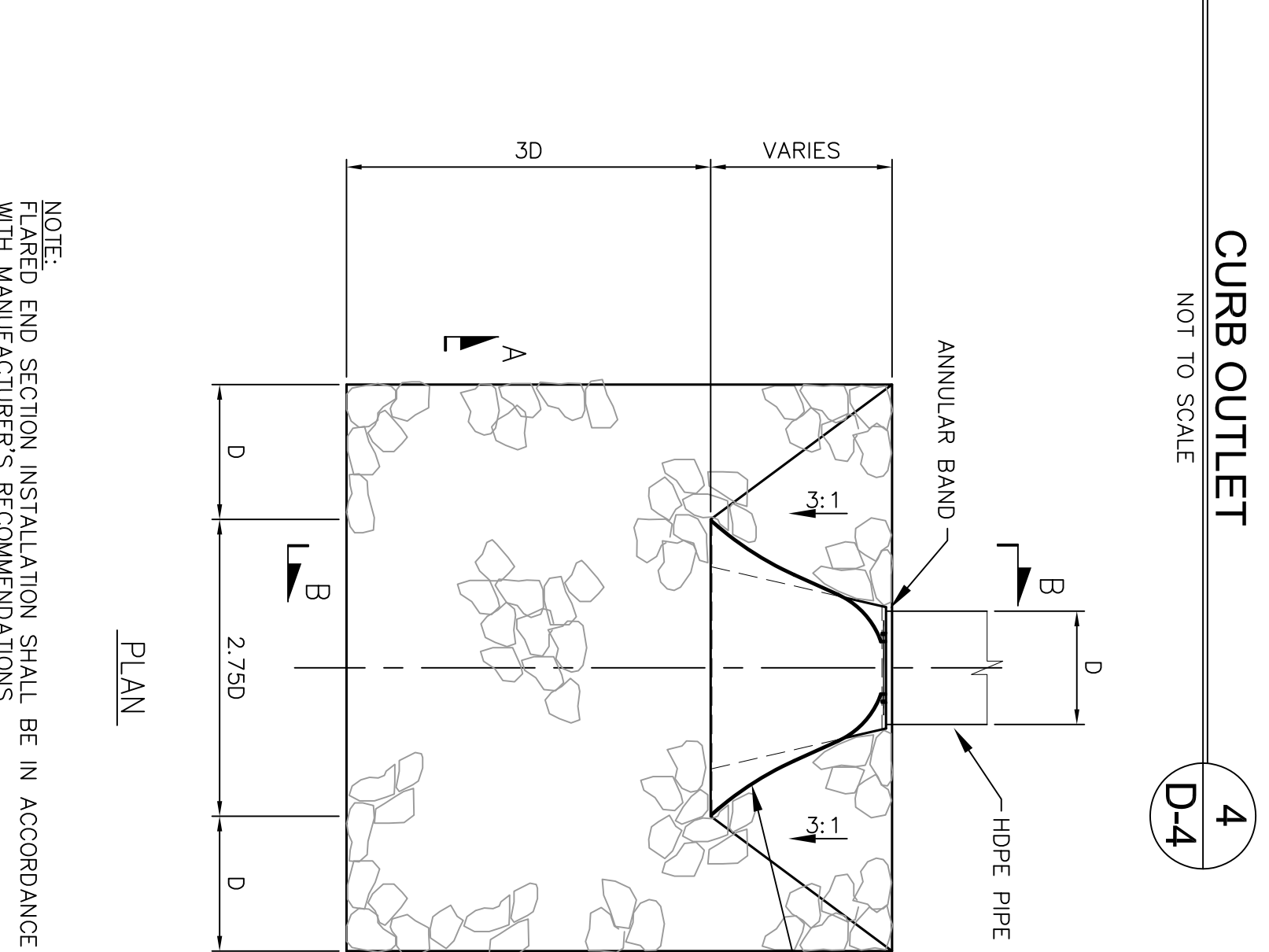
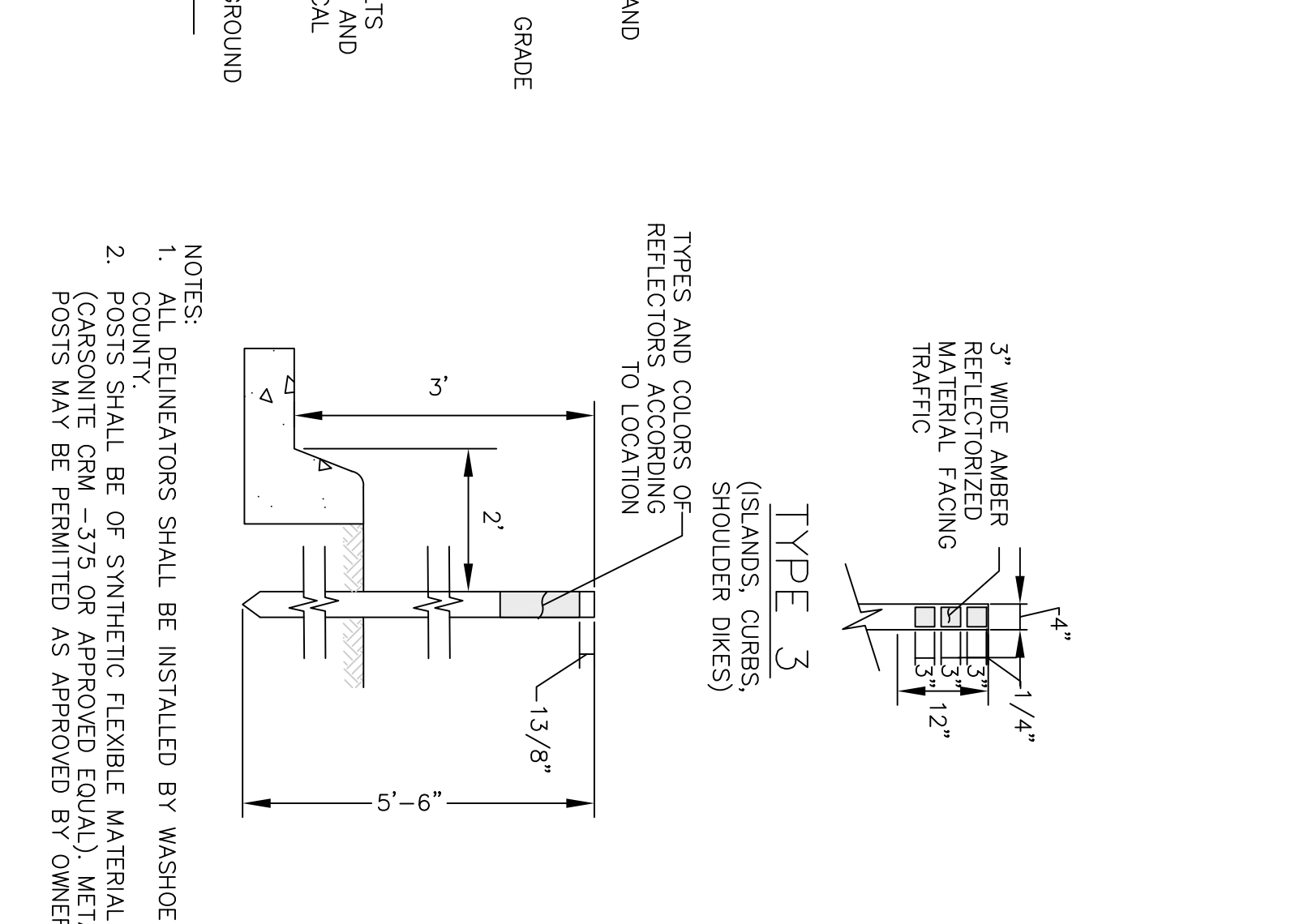
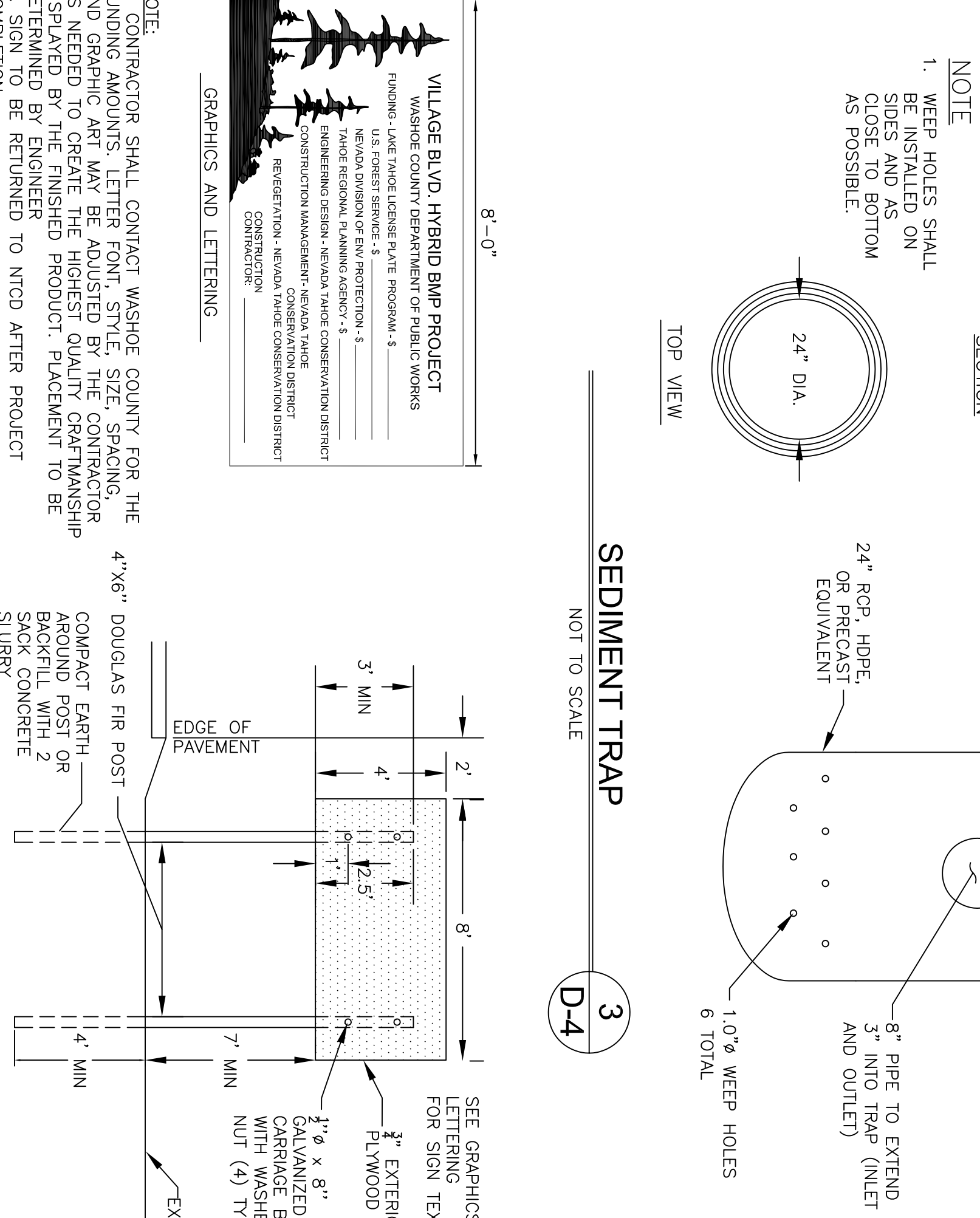


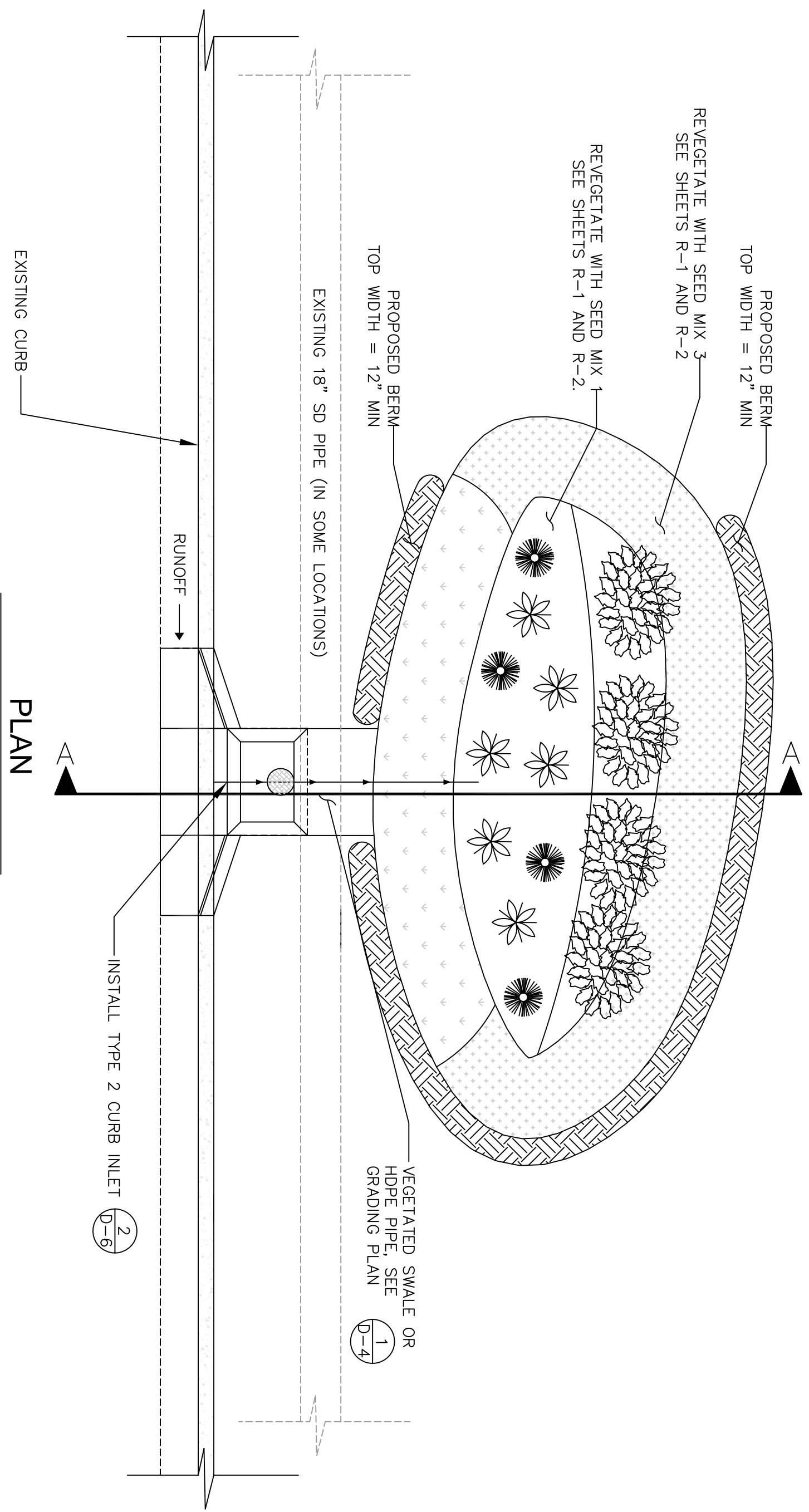
DESIGNED/DRAWN	MCK/AMK
CHECKED	MCK
DATE	7/2011
SCALE	AS SHOWN
PROJECT	HYBRID BMP
SHEET	D-3



**TABLE**

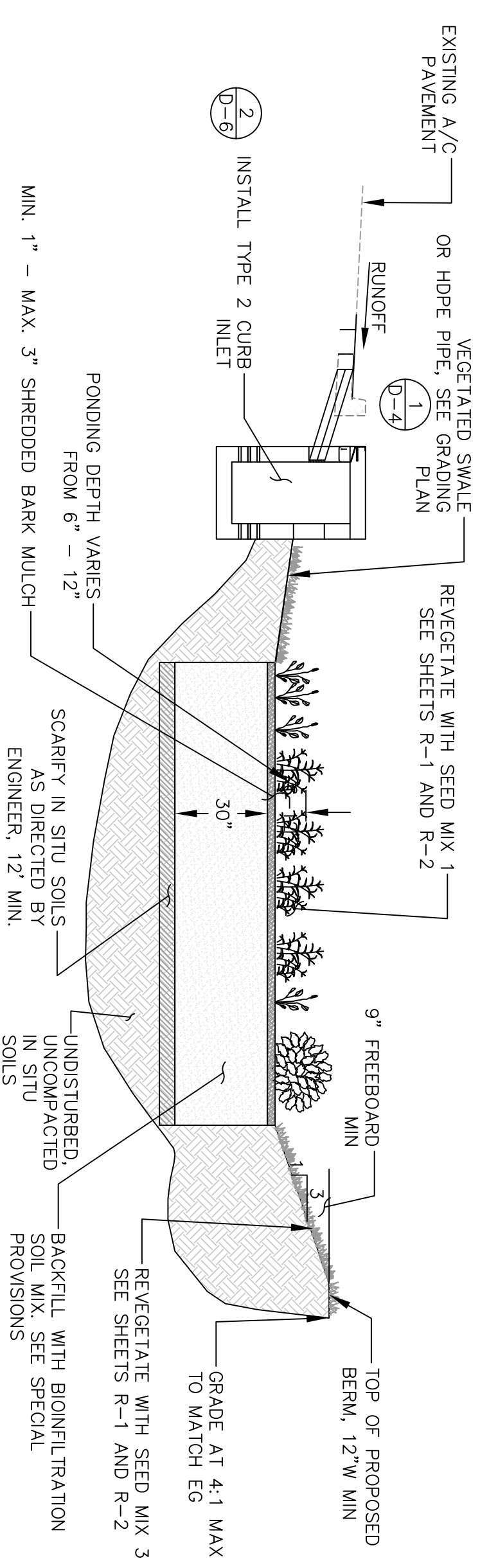
BMP	H (INCHES)
2	3
8	6
14	6





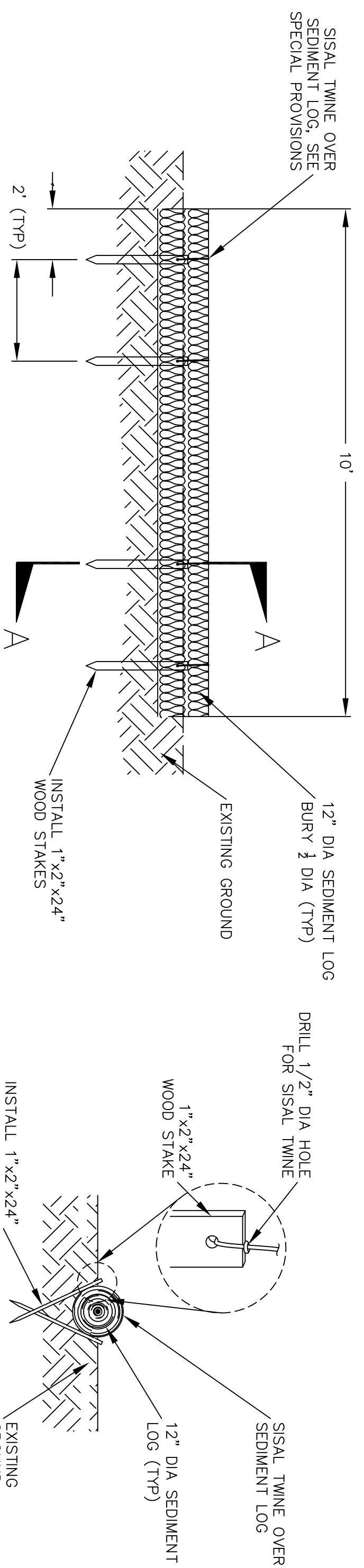
- NOTES:  
 1. BIONTELLURATION SOIL MIX TO BE PREPARED PER SPECIAL TECHNICAL PROVISIONS.  
 2. ALL REVEGETATION WORK WILL BE PERFORMED BY NTOD.

SECTION A-A

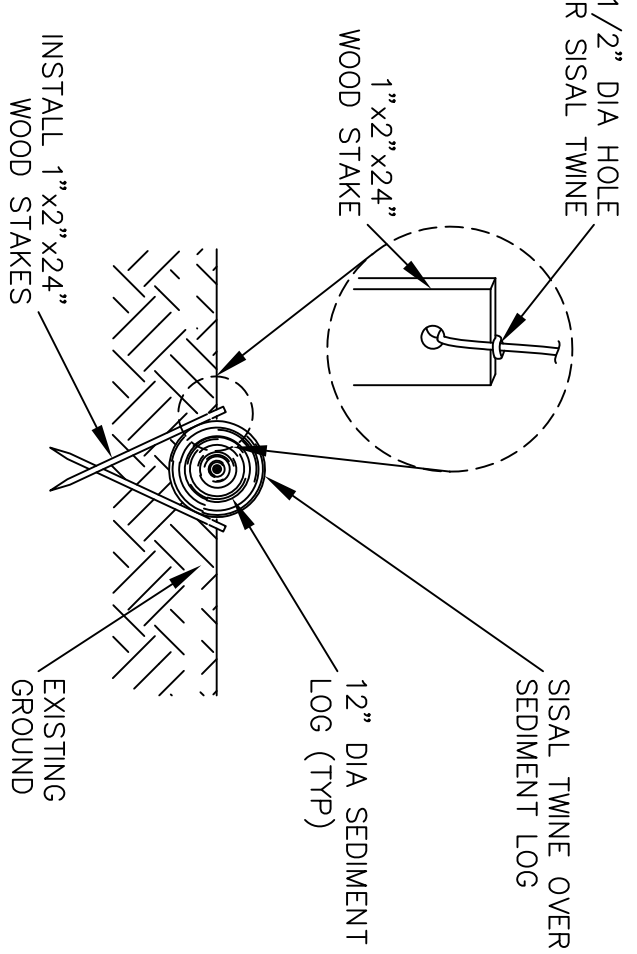


RAIN GARDEN

SCALE: 1" = 4'



SECTION A-A



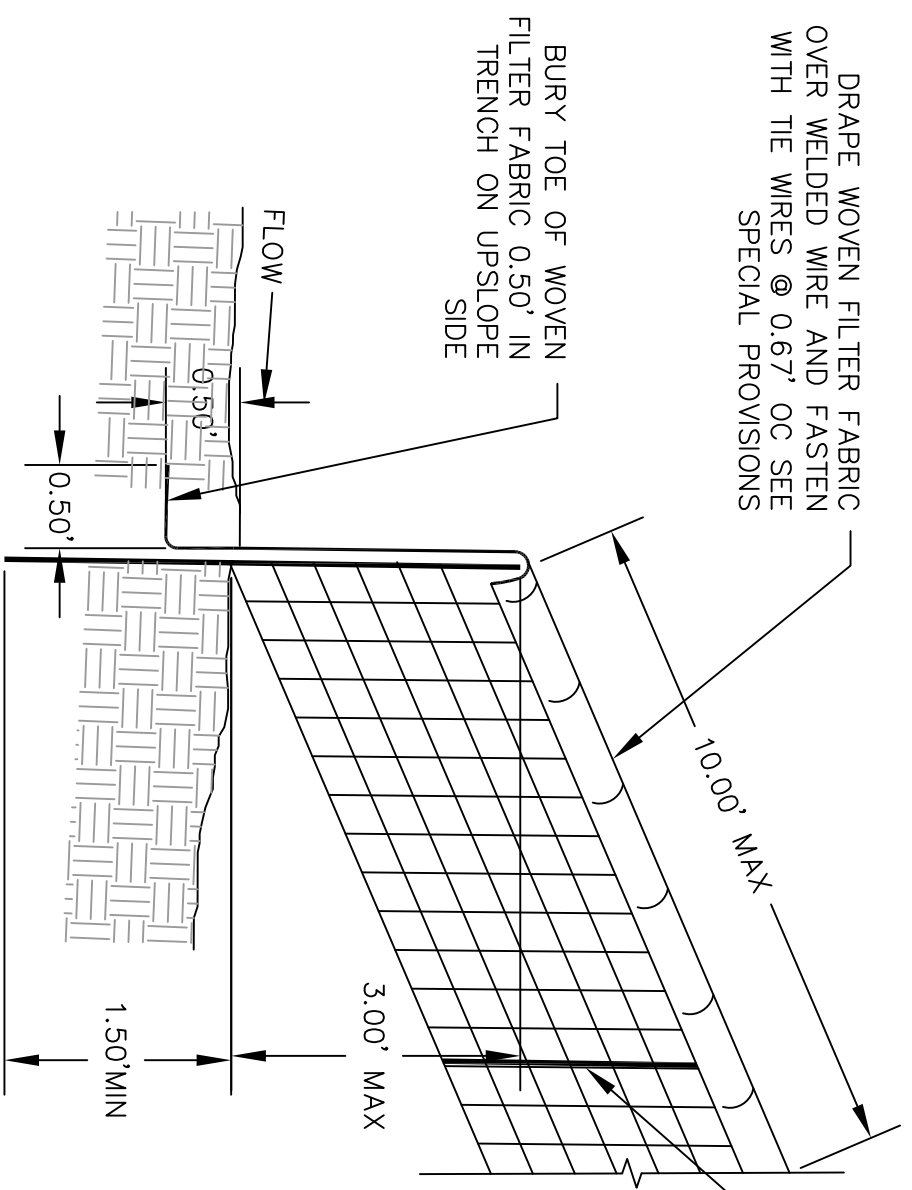
PROFILE

- NOTES:  
 1. PLACEMENT OF SEDIMENT LOGS IS SUBJECT TO EXISTING CONDITIONS.  
 2. FINAL LOCATIONS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.  
 3. MATERIAL REQUIREMENTS REGARDING SEDIMENT LOG WEIGHTED SEDIMENT LOGS MAY BE NECESSARY ON PAVED AREAS.

SEDIMENT ROLL (COIR LOG)

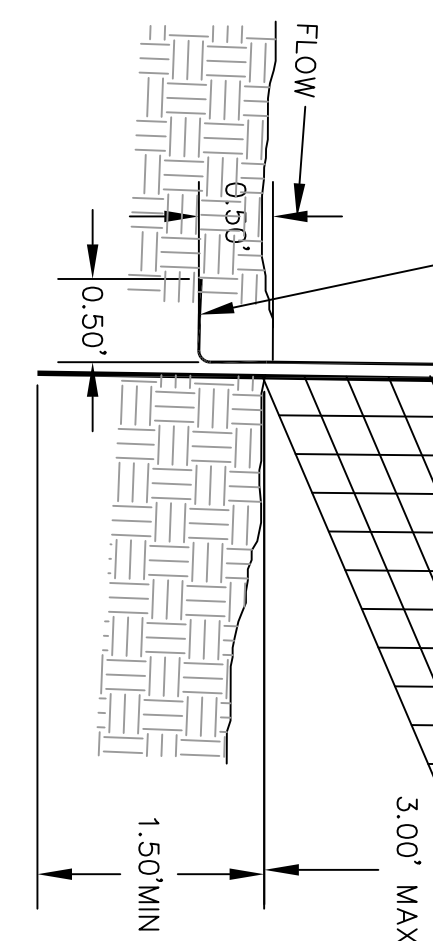
2

NOT TO SCALE



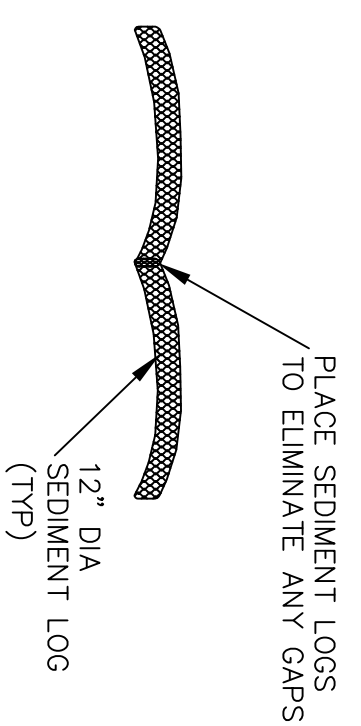
DRAPED WOVEN FILTER FABRIC OVER WELDED WIRE AND FASTEN WITH THE WIRES @ 0.67' OC SEE SPECIAL PROVISIONS

BURY TOE OF WOVEN FILTER FABRIC 0.50' IN TRENCH ON UPSLOPE SIDE



1

D-5

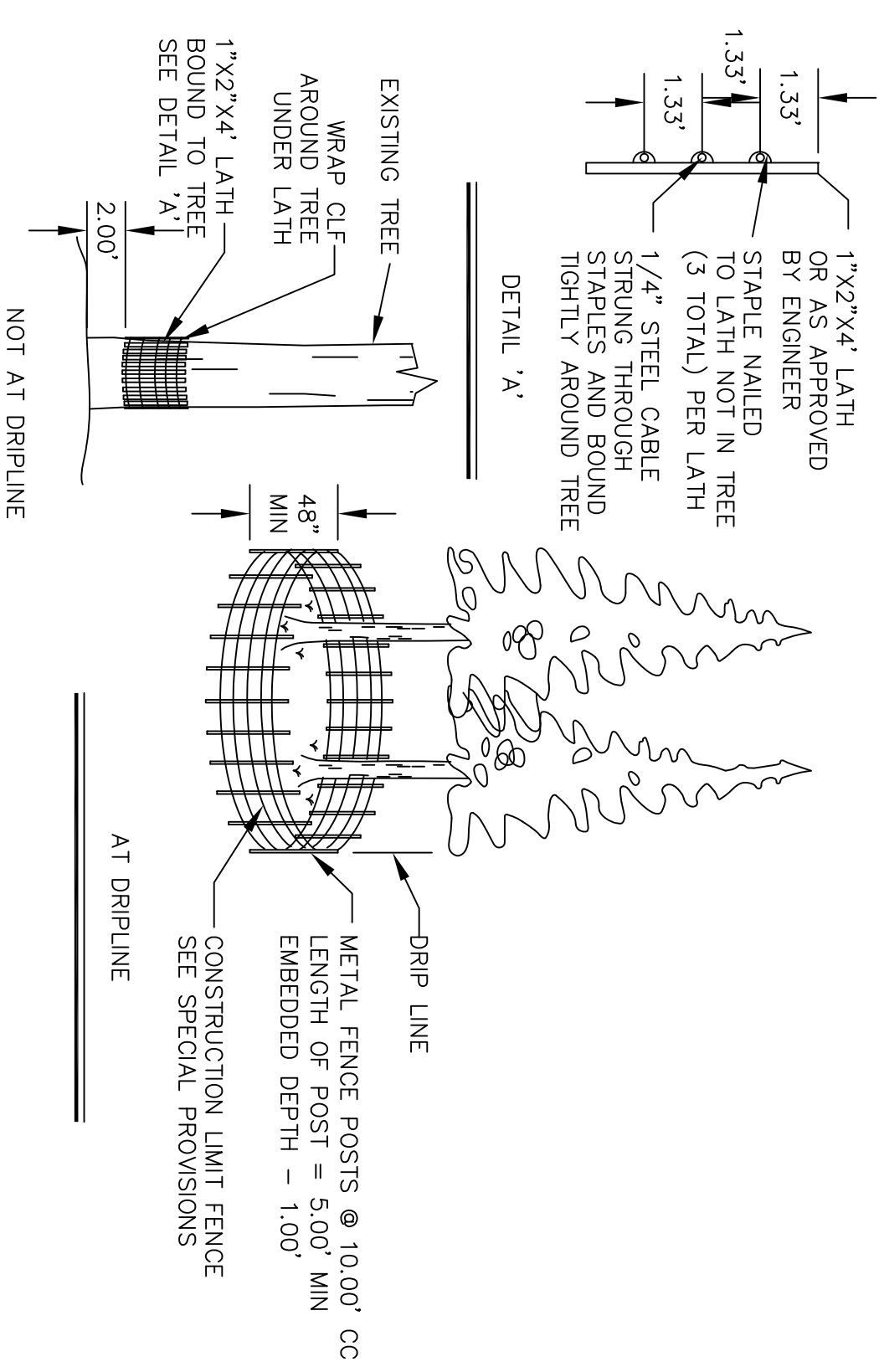


- NOTE:  
 1. CLF AND TREE PROTECTION FENCE SHALL BE A MINIMUM OF 48" HIGH. FOR TREES WITH DRIP LINES THAT OVERHANG THE CONSTRUCTION AREA, THE LOCATION OF THE TREE PROTECTION FENCE SHALL BE DETERMINED BY THE ENGINEER AND THE TREE PROTECTION FENCE SHALL BE PLACED TO PROTECT THE TREE FROM THE CONSTRUCTION AREA.  
 2. QUANTITY OF FILTER FENCE AND CONSTRUCTION LIMIT FENCE DOES NOT INCLUDE MINIMUM LIMITS FOR TREE PROTECTION. TREE PROTECTION FENCING TO BE PER DETAIL THIS SHEET AND/OR AS DETERMINED IN THE FIELD.

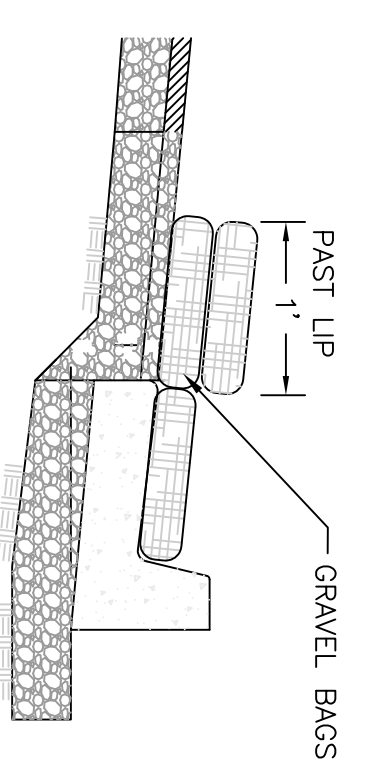
TREE PROTECTION LIMIT FENCING

4

NOT TO SCALE



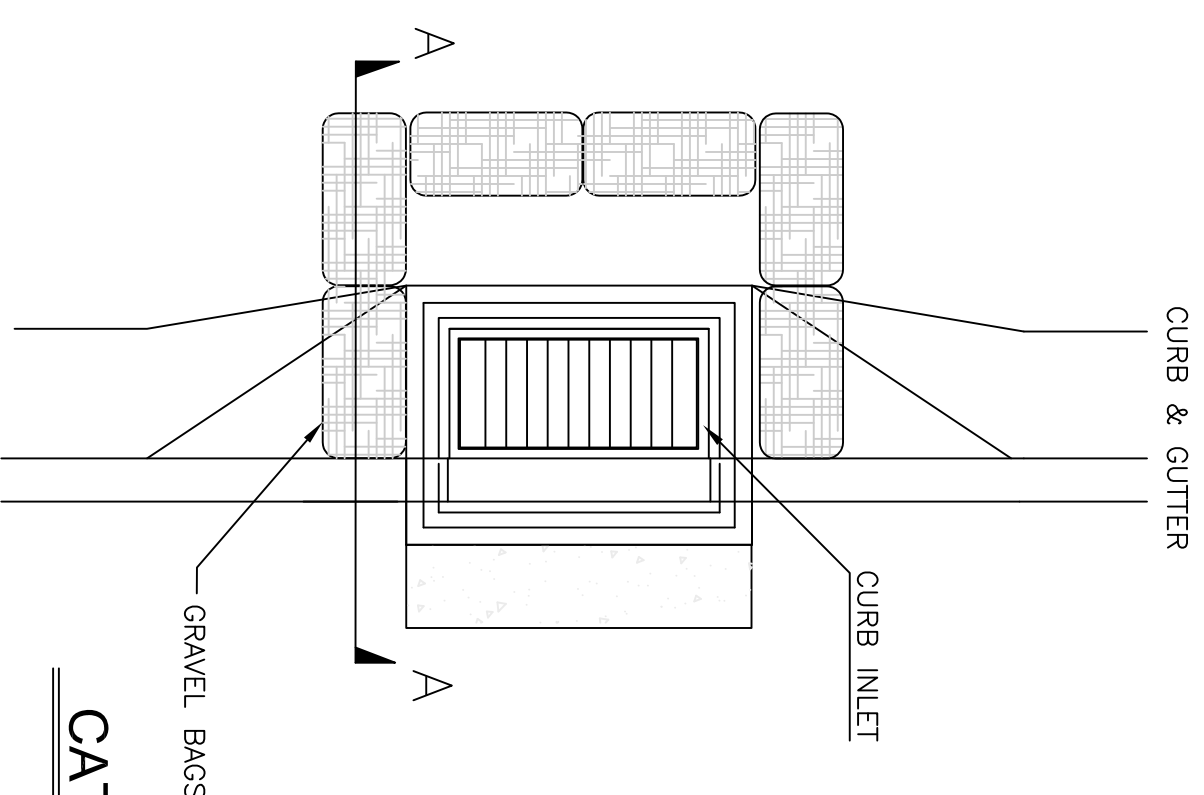
SECTION A-A



CATCH BASIN SEDIMENT PROTECTION

5

NOT TO SCALE



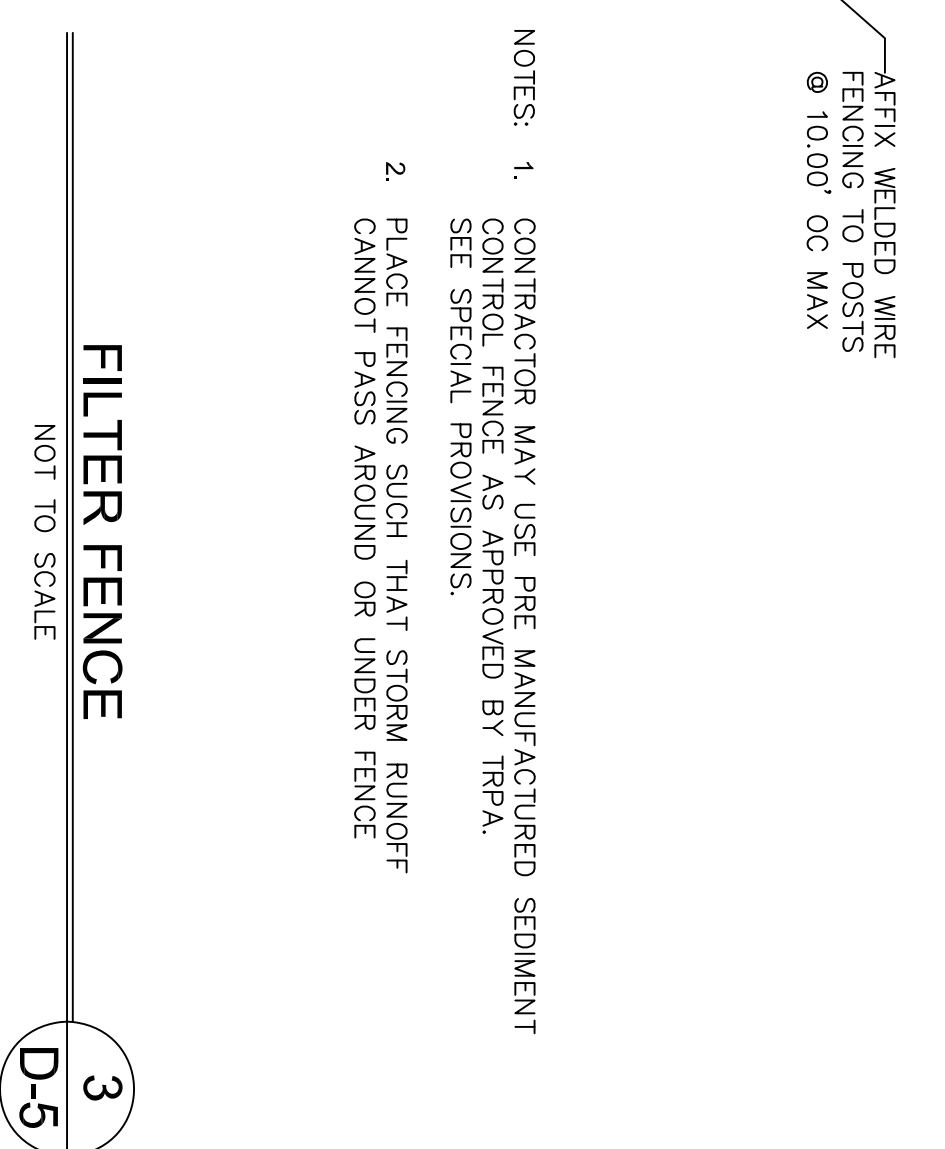
FILTER FENCE

3

NOT TO SCALE

- NOTES:  
 1. CONTRACTOR MAY USE PRE MANUFACTURED SEDIMENT CONTROL FENCE AS APPROVED BY TRPA. SEE SPECIAL PROVISIONS.  
 2. PLACE FENCING SUCH THAT STORM RUNOFF CANNOT PASS AROUND OR UNDER FENCE.

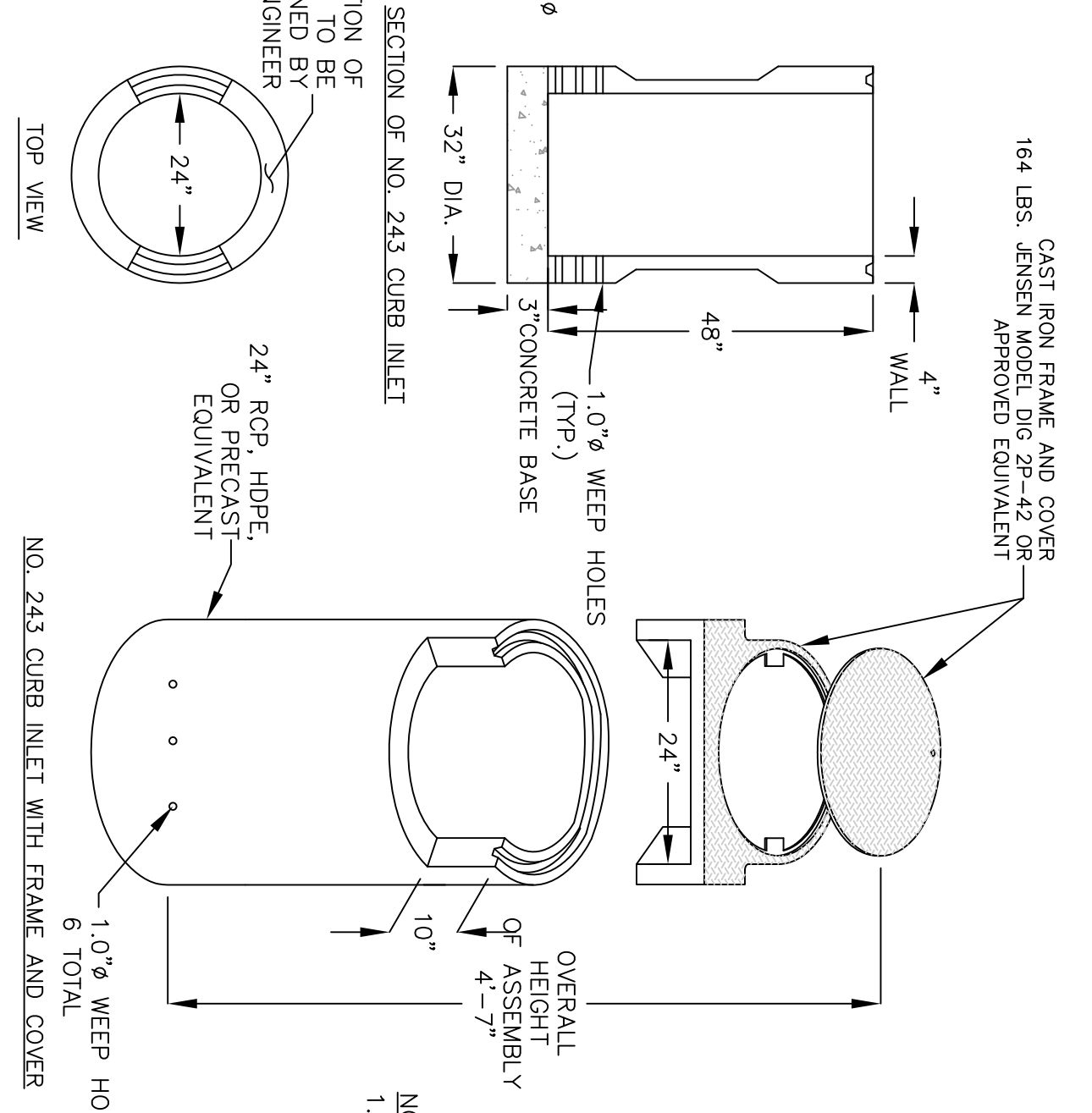
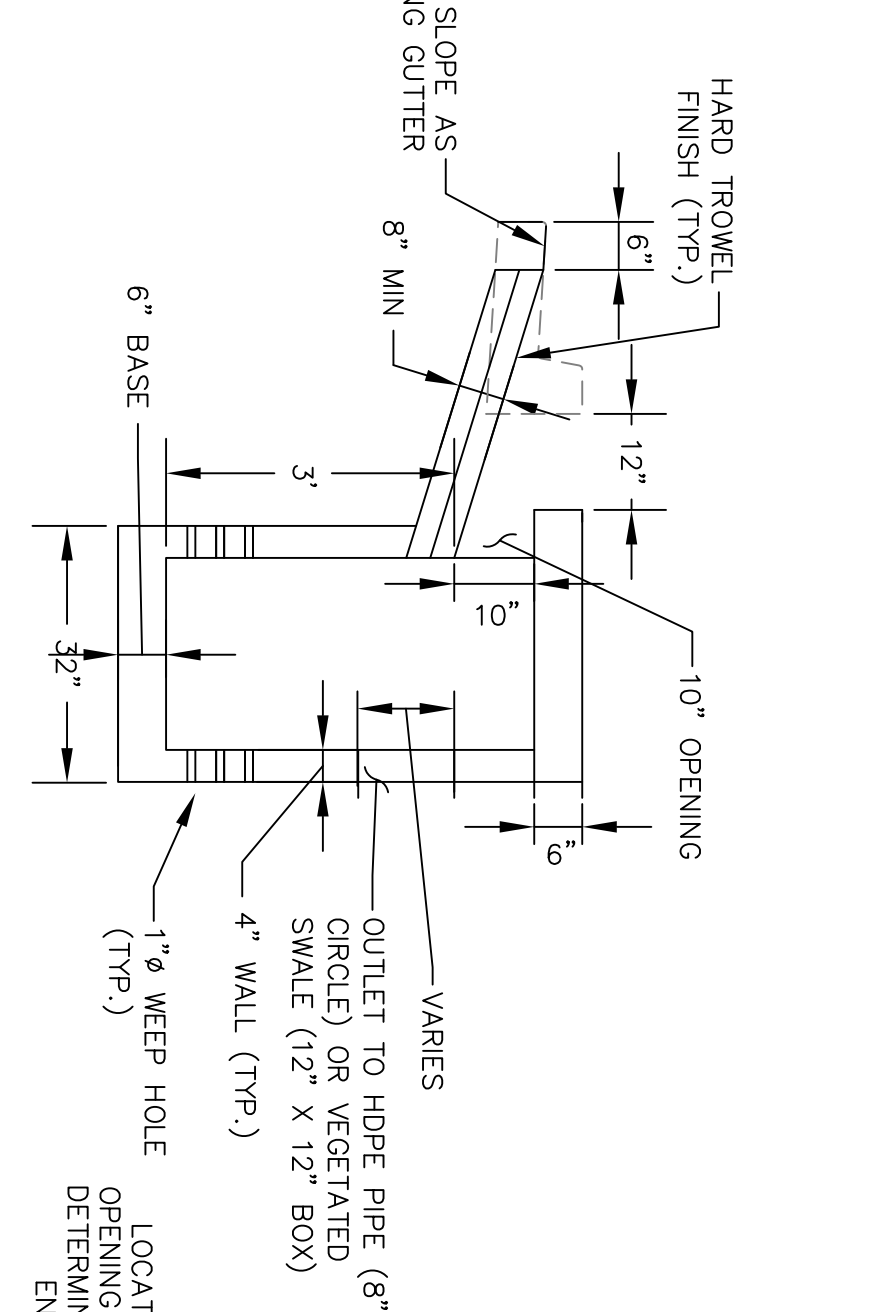
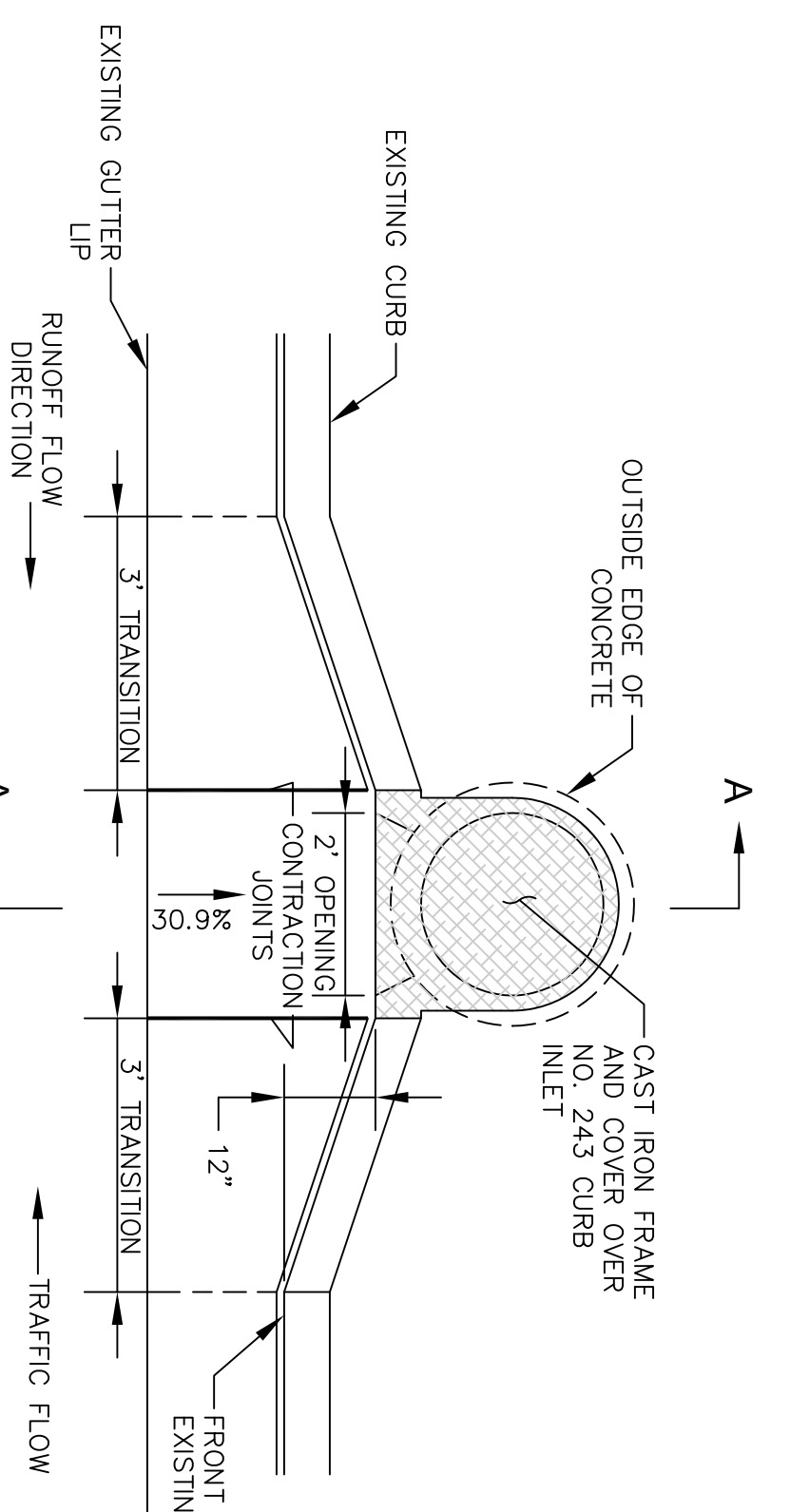
AFFIX WELDED WIRE FENCING TO POSTS @ 10.00' OC MAX



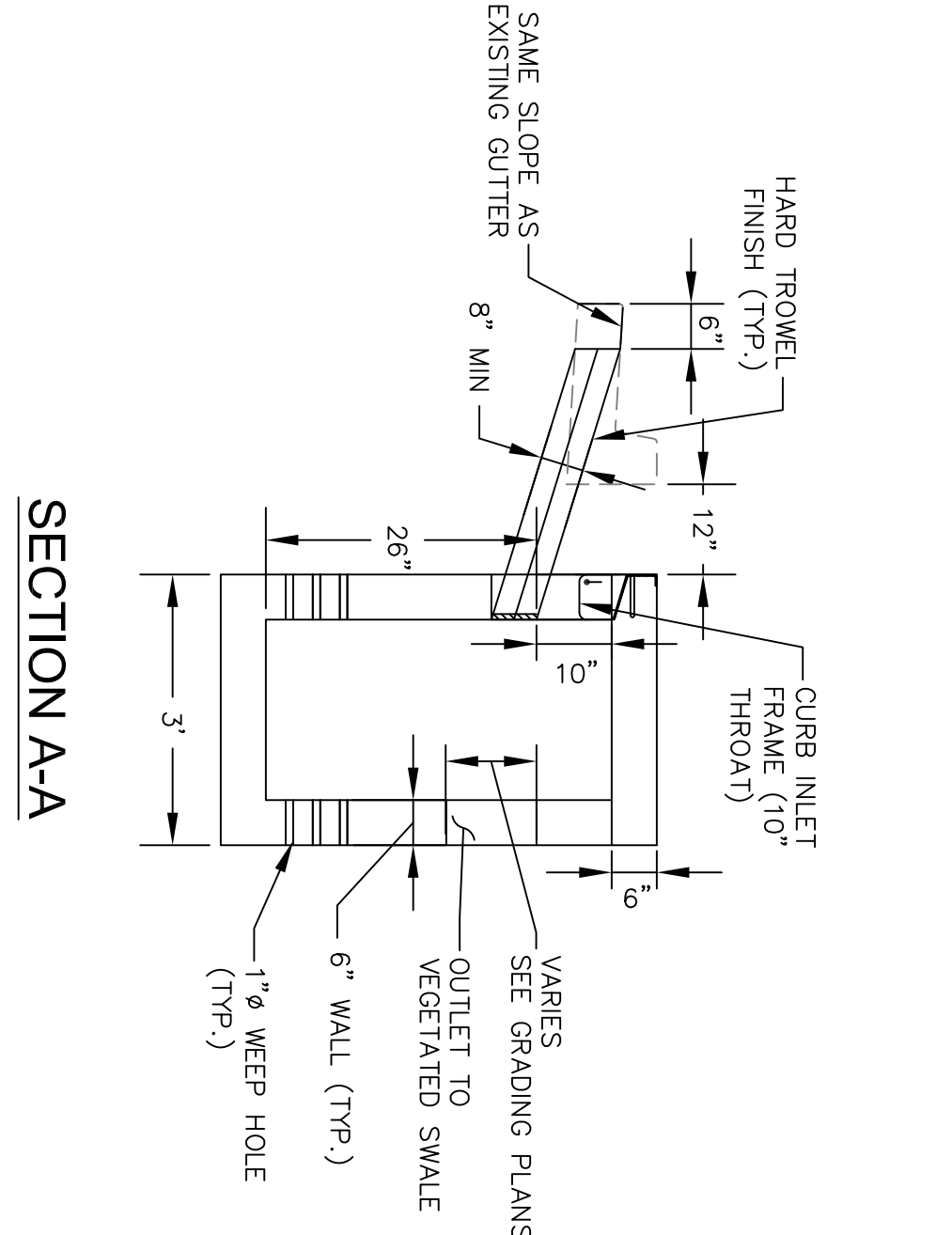
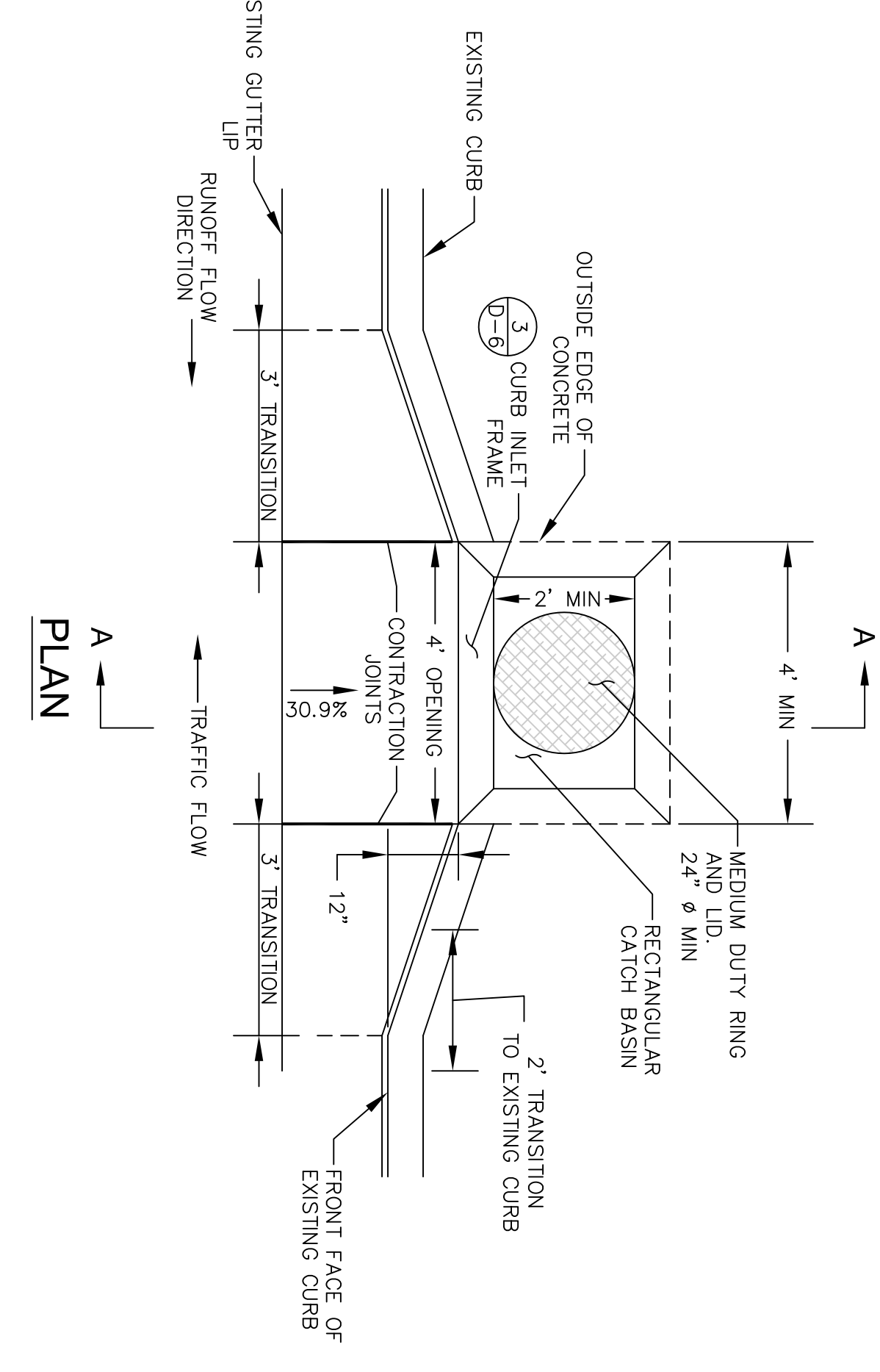
DETAILS  
 HYBRID BMP PROJECT



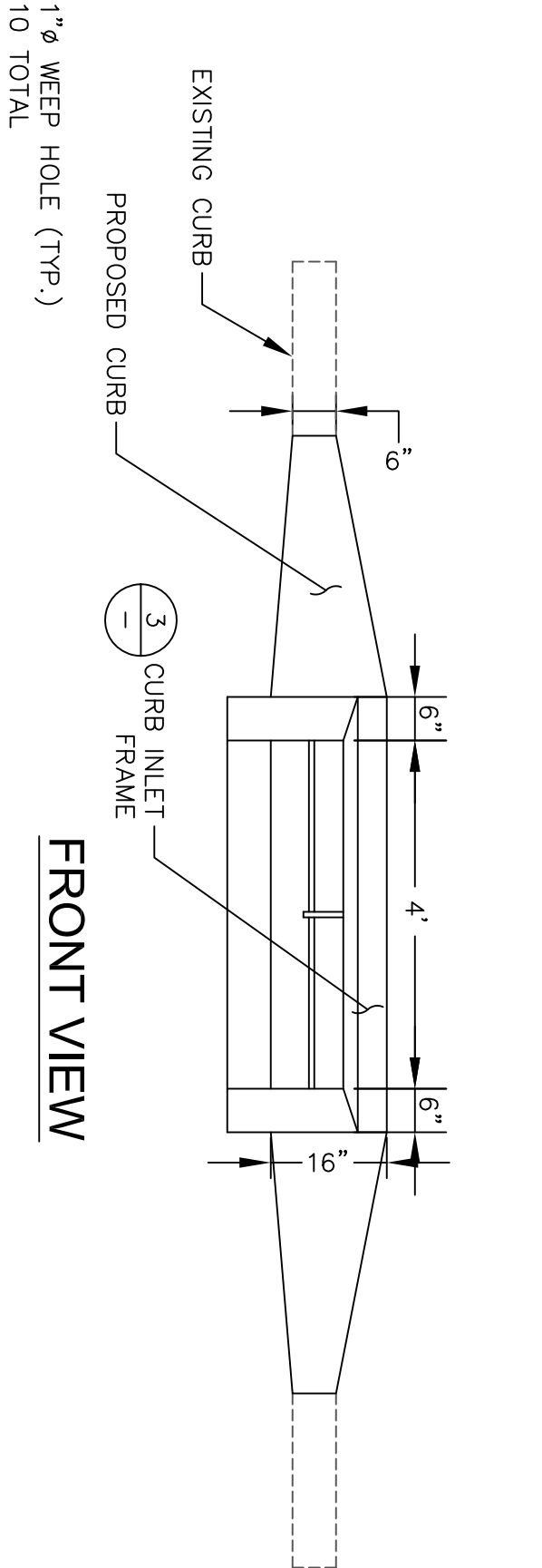
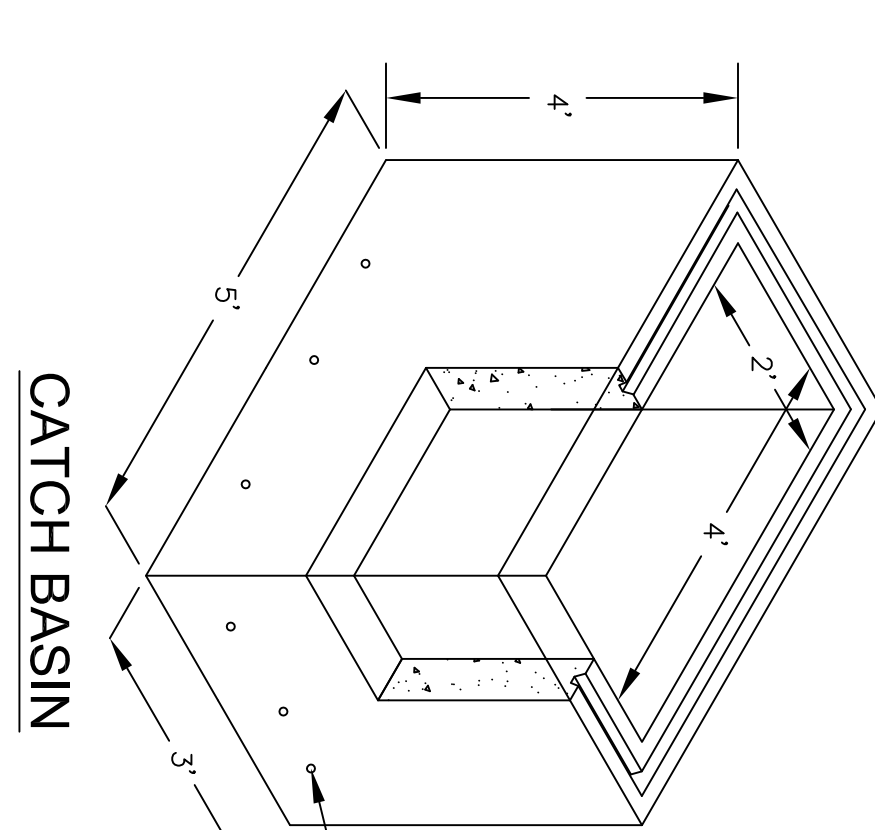
DESIGNED/DRAWN	MCK/AMCK
CHECKED	MCK
DATE	7/2011
SCALE	AS SHOWN
PROJECT	HYBRID BMP
SHEET	D-5
	14 OF 17



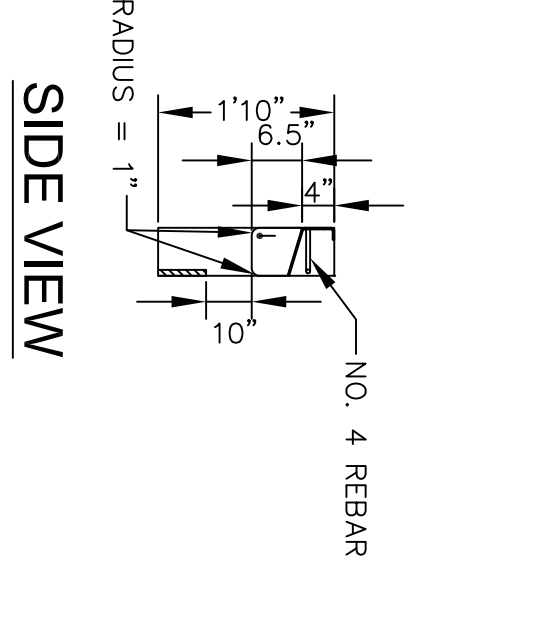
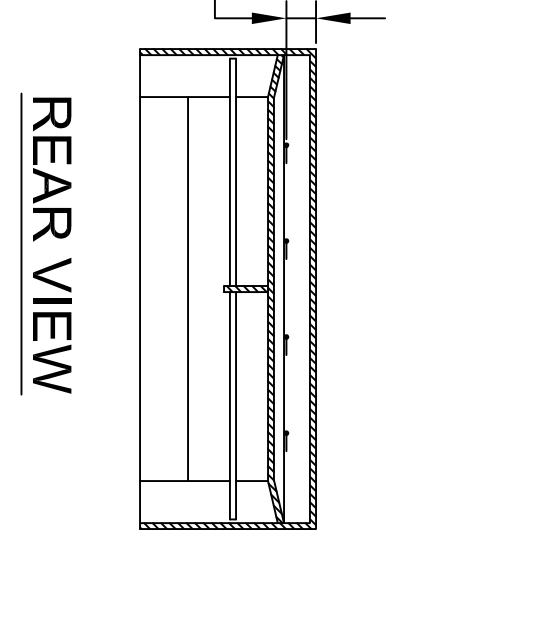
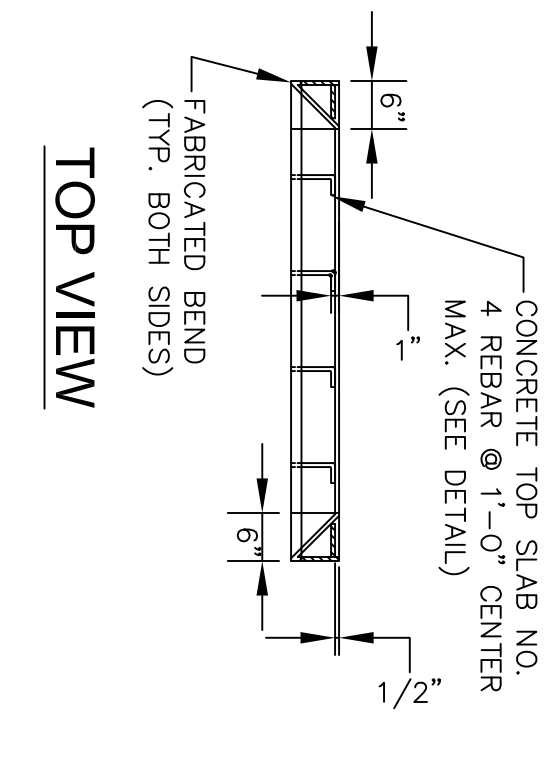
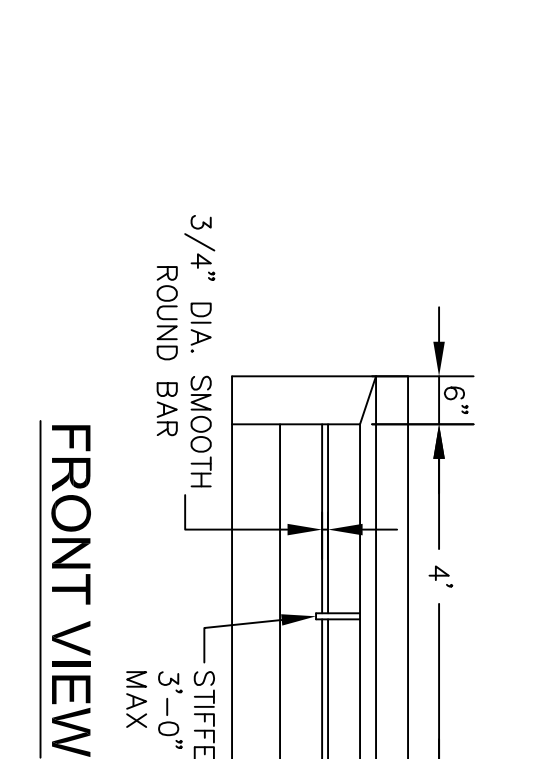
**TYPE 1 CURB INLET**  
SCALE: 1" = 2'  
1  
D-6



**TYPE 2 CURB INLET**  
SCALE: 1" = 2'  
2  
D-6



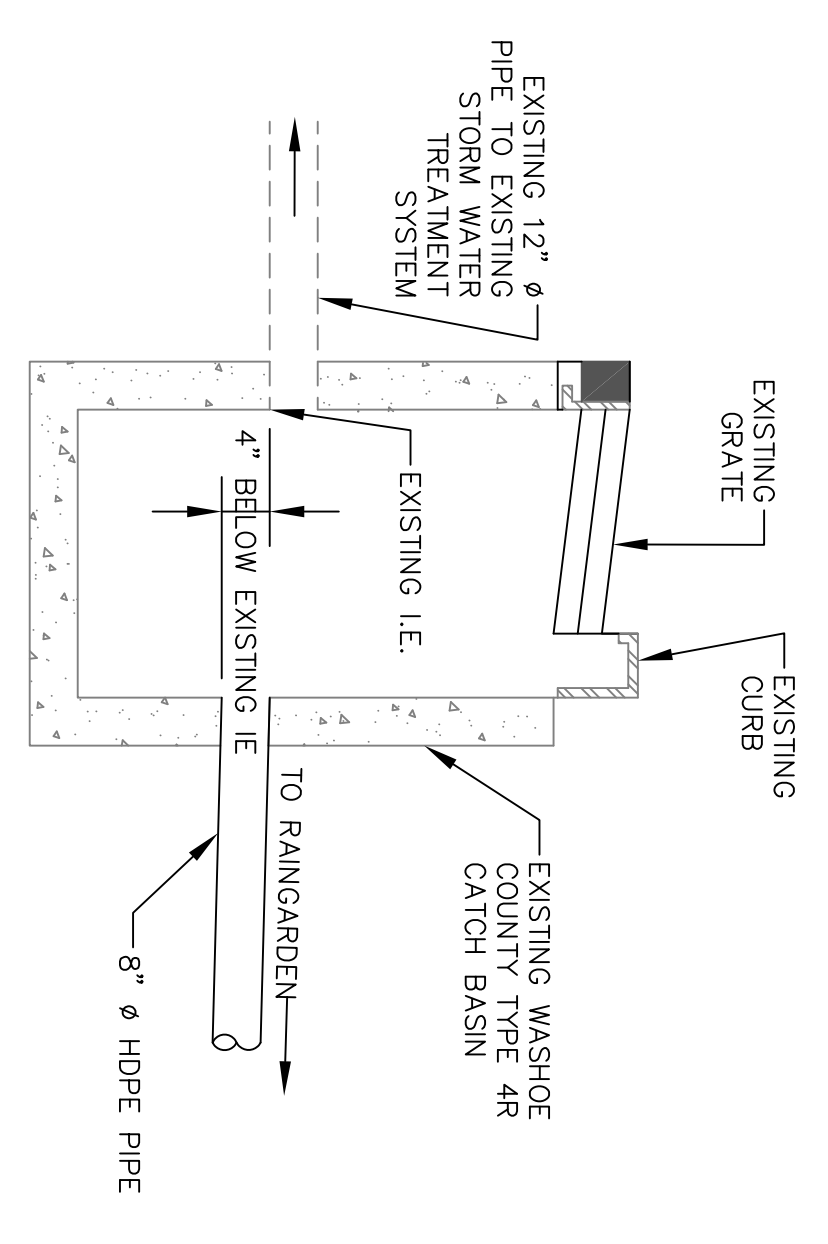
**NOTES:**  
1. REMOVE EXISTING CURB AND GUTTER IN VICINITY OF PROPOSED CURB INLETS. CONTRACTOR SHALL MAKE A SAWCUT NO MORE THAN 2" BEYOND EXISTING GUTTER LIP. CONTRACTOR SHALL REPLACE A/C PAVEMENT PER STANDARD SPECIFICATIONS.  
2. CATCH BASINS SHALL BE JENSEN 301 OR APPROVED EQUIVALENT.



**NO. 4 REBAR DETAIL**

**STEEL INLET FRAME NOTES:**  
1. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AMERICAN WELDING SOCIETY (AWS) SPECIFICATIONS AND PROCEDURES  
2. ALL STEEL SHALL BE 7 GAGE OR 3/16" THICK  
3. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED TO THE SATISFACTION OF THE ENGINEER  
4. THE ENTIRE FRAME SHALL BE HOT DIP ZINC COATED IN ACCORDANCE WITH ASTM A-123.

**CURB INLET FRAME**  
NOT TO SCALE  
3  
D-6



**NOTES:**  
1. DRILL HOLE IN EXISTING CATCH BASIN TO TAP IN 8" Ø HDPE PIPE. SEAL AROUND PIPE WITH 6 SACK - 4000 PSI CONCRETE WITH 4-6% AIR VOIDS.  
2. IF EXISTING CATCH BASIN DOES NOT HAVE WEEP HOLES, DRILL 6 EACH 1" WEEP HOLES.

**DRAIN INLET SPLITTER**  
NOT TO SCALE  
4  
D-6



**DETAILS**  
**HYBRID BMP PROJECT**



DESIGNED /DRAWN	
CHKD/AMCK	
CHECKED	
MCK	
DATE	7/2011
SCALE	AS SHOWN
PROJECT	HYBRID BMP
SHEET	

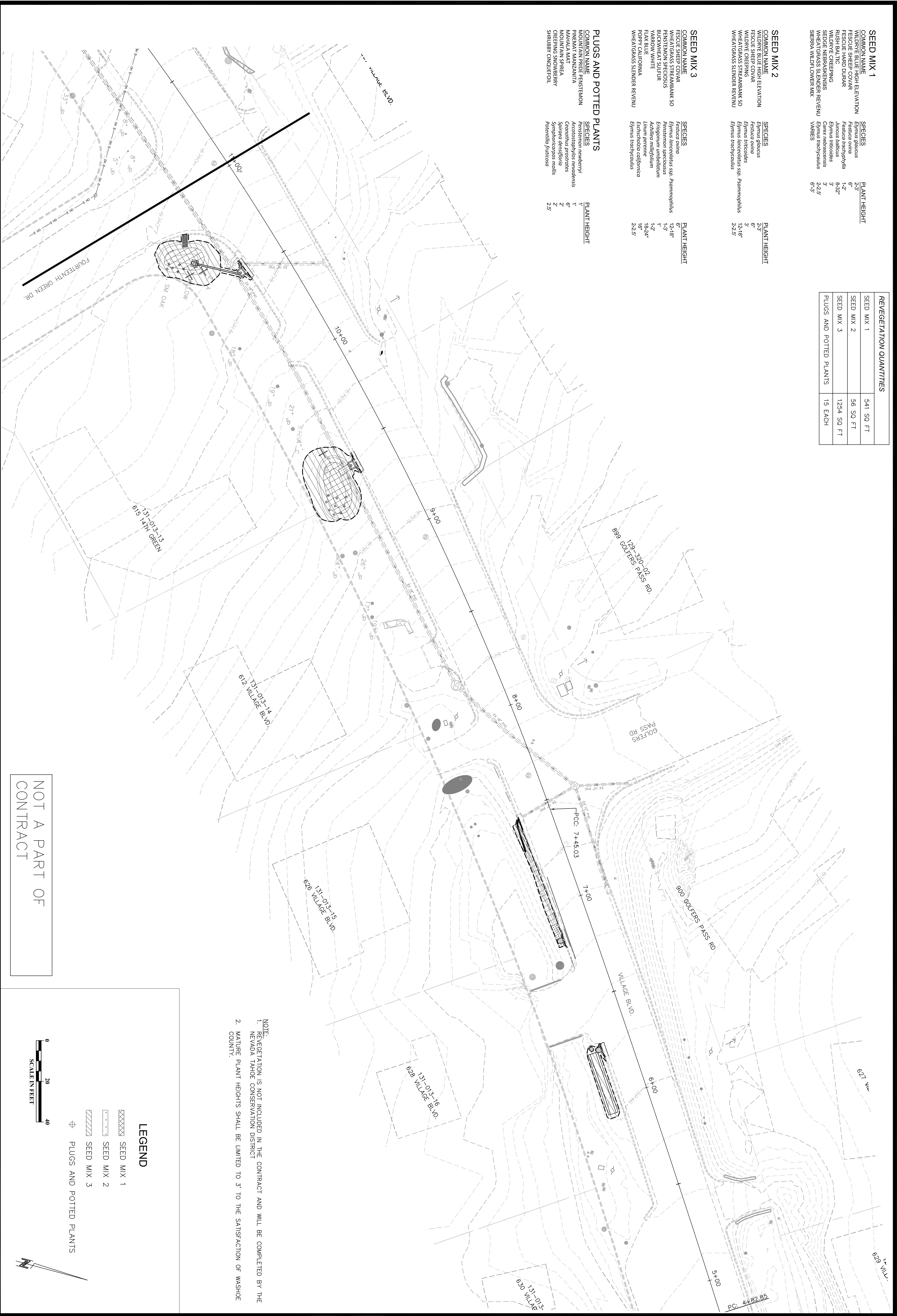
SEED MIX 1	COMMON NAME	SPECIES	PLANT HEIGHT
	WILDFIRE BLUE HIGH ELEVATION	<i>Elymus glaucus</i>	2-3'
	FESCUE SHEEP COVAB	<i>Festuca ovina</i>	6"
	FESCUE SHEEP COVAB	<i>Festuca ovina</i>	6"
	WILDFIRE CREEPING	<i>Juncus balticus</i>	1-2'
	WILDFIRE CREEPING	<i>Elymus trichocaulis</i>	3'
	SEEDGE NEBRASKENSIS	<i>Carex nebrascensis</i>	3'
	WHEATGRASS SLENDER REVENU	<i>Elymus trichocaulis</i>	2-2.5'
	SIERRA WILDFLOWER MIX	VARIETIES	6-9"

REVEGETATION QUANTITIES	
SEED MIX 1	541 SQ. FT.
SEED MIX 2	56 SQ. FT.
SEED MIX 3	1254 SQ. FT.
PLUGS AND POTTED PLANTS	15 EACH

SEED MIX 2	COMMON NAME	SPECIES	PLANT HEIGHT
	WILDFIRE CREEPING	<i>Festuca ovina</i>	6"
	WILDFIRE CREEPING	<i>Festuca ovina</i>	6"
	WHEATGRASS STREAMBANK SO	<i>Elymus trichocaulis</i>	3'
	WHEATGRASS STREAMBANK SO	<i>Elymus trichocaulis</i>	3'
	WHEATGRASS SLENDER REVENU	<i>Elymus trichocaulis</i>	2-2.5'

SEED MIX 3	COMMON NAME	SPECIES	PLANT HEIGHT
	FESCUE SHEEP COVAB	<i>Festuca ovina</i>	6"
	WHEATGRASS STREAMBANK SO	<i>Elymus lanceolatus</i> ssp. <i>Psomophilus</i>	12-18"
	PENSTEMON SPECIOSUS	<i>Penstemon speciosus</i>	1-3'
	BUCKWHEAT SLEUDOR	<i>Eriogonum umbellatum</i>	1-2'
	FLAX BLUE	<i>Adolpha millegratum</i>	1-2'
	POPPY CALIFORNIA	<i>Estrosciolia californica</i>	18-24"
	WHEATGRASS SLENDER REVENU	<i>Elymus trichocaulis</i>	16"
			2-2.5'

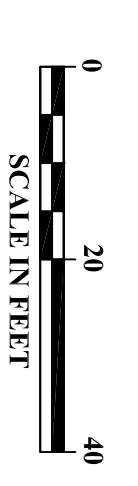
PLUGS AND POTTED PLANTS	COMMON NAME	SPECIES	PLANT HEIGHT
	MOUNTAIN PRIDE PENSTEMON	<i>Penstemon newberryi</i>	1'
	MINIHULA MANZANITA	<i>Acrostaphylos nevadensis</i>	1'
	MOUNTAIN SNOWBERRY	<i>Spartea densiflora</i>	2'
	CREEPING SNOWBERRY	<i>Spartea densiflora</i>	2'
	SHRUBBY CINQUEFOIL	<i>Potentilla fruticosa</i>	2.5'



NOTE:  
 1. REVEGETATION IS NOT INCLUDED IN THE CONTRACT AND WILL BE COMPLETED BY THE NEVADA TAHOE CONSERVATION DISTRICT  
 2. MATURE PLANT HEIGHTS SHALL BE LIMITED TO 3' TO THE SATISFACTION OF WASHOE COUNTY.

**LEGEND**

	SEED MIX 1
	SEED MIX 2
	SEED MIX 3
	PLUGS AND POTTED PLANTS



NOT A PART OF  
 CONTRACT



REVEGETATION (STA 4+73 - 11+01)  
 HYBRID BMP PROJECT



DESIGNED/DRAWN	MP/MCK
CHECKED	MP
DATE	7/2011
SCALE	AS SHOWN
PROJECT	HYBRID BMP
SHEET	R-1
	16 OF 17



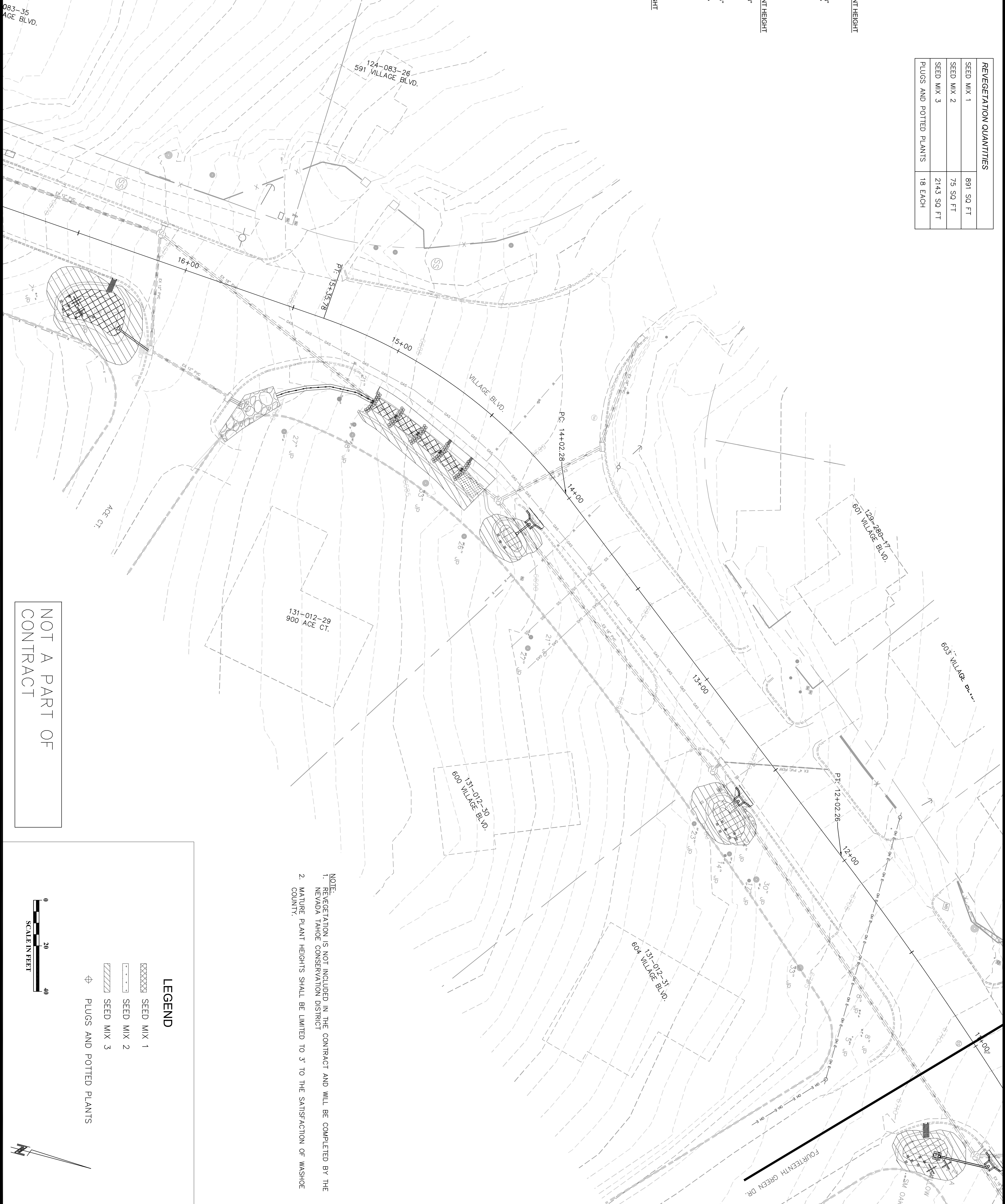
SEED MIX 1	COMMON NAME	SPECIES	PLANT HEIGHT
	WILDFIRE BLUE HIGH ELEVATION	<i>Elymus glaucus</i>	2'-3'
	FESCUE SHEEP COVAR	<i>Festuca ovina</i>	6"
	FESCUE HARD DURAR	<i>Festuca trachyphylla</i>	1-2'
	RUSH BALDIE	<i>Juncus balticus</i>	8-32"
	WILDFIRE DORRERS	<i>Elymus triticoides</i>	3'
	WHEATGRASS STAMANK SO	<i>Elymus torreyanus ssp. Psammophilus</i>	10-14"
	WHEATGRASS SLENDER REVENU	<i>Elymus triticoides</i>	2-2.5'
	SERRA WILDFLOWER MIX	VARIES	6'-3'

REVEGETATION QUANTITIES	
SEED MIX 1	891 SQ FT
SEED MIX 2	75 SQ FT
SEED MIX 3	2143 SQ FT
PLUGS AND POTTED PLANTS	18 EACH

SEED MIX 2	COMMON NAME	SPECIES	PLANT HEIGHT
	WILDFIRE BLUE HIGH ELEVATION	<i>Elymus glaucus</i>	2'-3'
	FESCUE SHEEP COVAR	<i>Festuca ovina</i>	6"
	WILDFIRE DORRERS	<i>Elymus triticoides</i>	3'
	WHEATGRASS STAMANK SO	<i>Elymus torreyanus ssp. Psammophilus</i>	10-14"
	WHEATGRASS SLENDER REVENU	<i>Elymus triticoides</i>	2-2.5'

SEED MIX 3	COMMON NAME	SPECIES	PLANT HEIGHT
	FESCUE SHEEP COVAR	<i>Festuca ovina</i>	6"-18"
	WHEATGRASS STAMANK SO	<i>Elymus torreyanus ssp. Psammophilus</i>	10-14"
	WHEATGRASS SLENDER REVENU	<i>Elymus triticoides</i>	3'
	BUCKWHEAT SULTUR	<i>Eriogonum umbellatum</i>	1-2'
	YARROW WHITE	<i>Achillea millefolium</i>	18-24"
	FLAX BLUE	<i>Linum perenne</i>	16"
	POPPY CALIFORNIA	<i>Eschscholzia californica</i>	16"
	WHEATGRASS SLENDER REVENU	<i>Elymus triticoides</i>	2-2.5'

PLUGS AND POTTED PLANTS	COMMON NAME	SPECIES	PLANT HEIGHT
	ARISTIDA	<i>Artemisia tridentata</i>	1'
	PIÑON	<i>Pinus ponderosa</i>	6"
	MAHALA MAT	<i>Conoclinium coquimbense</i>	2'
	MOUNTAIN SPIREA	<i>Spiraea densiflora</i>	2'
	CREeping SNOWBERRY	<i>Symphoricarpos mollis</i>	2.5'
	SHRUBBY CINQUEFOIL	<i>Potentilla fruticosa</i>	2.5'

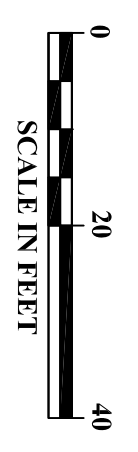


NOTE:  
 1. REVEGETATION IS NOT INCLUDED IN THE CONTRACT AND WILL BE COMPLETED BY THE NEVADA TAHOE CONSERVATION DISTRICT  
 2. MATURE PLANT HEIGHTS SHALL BE LIMITED TO 3' TO THE SATISFACTION OF WASHOE COUNTY.

NOT A PART OF CONTRACT

**LEGEND**

	SEED MIX 1
	SEED MIX 2
	SEED MIX 3
	PLUGS AND POTTED PLANTS



MEGHAN O. KELLY  
 CIVIL  
 No. 20885

DESIGNED/DRAWN  
 MP/MCK

CHECKED  
 MP

DATE  
 7/2011

SCALE  
 AS SHOWN

PROJECT  
 HYBRID BMP

SHEET  
**R-2**  
 17 OF 17

REVEGETATION (STA 6+32 - 12+10)  
 HYBRID BMP PROJECT

**Nevada Tahoe  
 Conservation District**