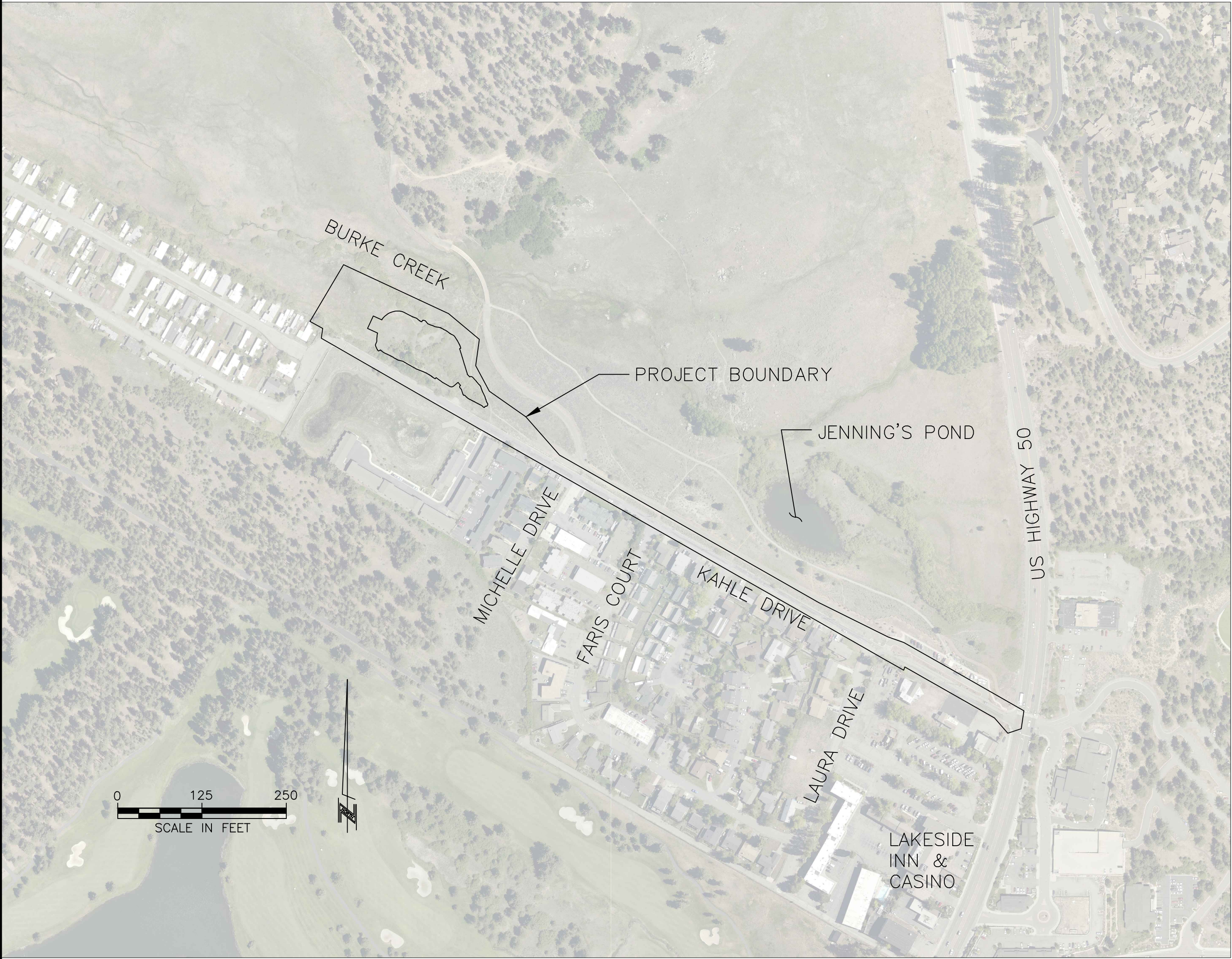


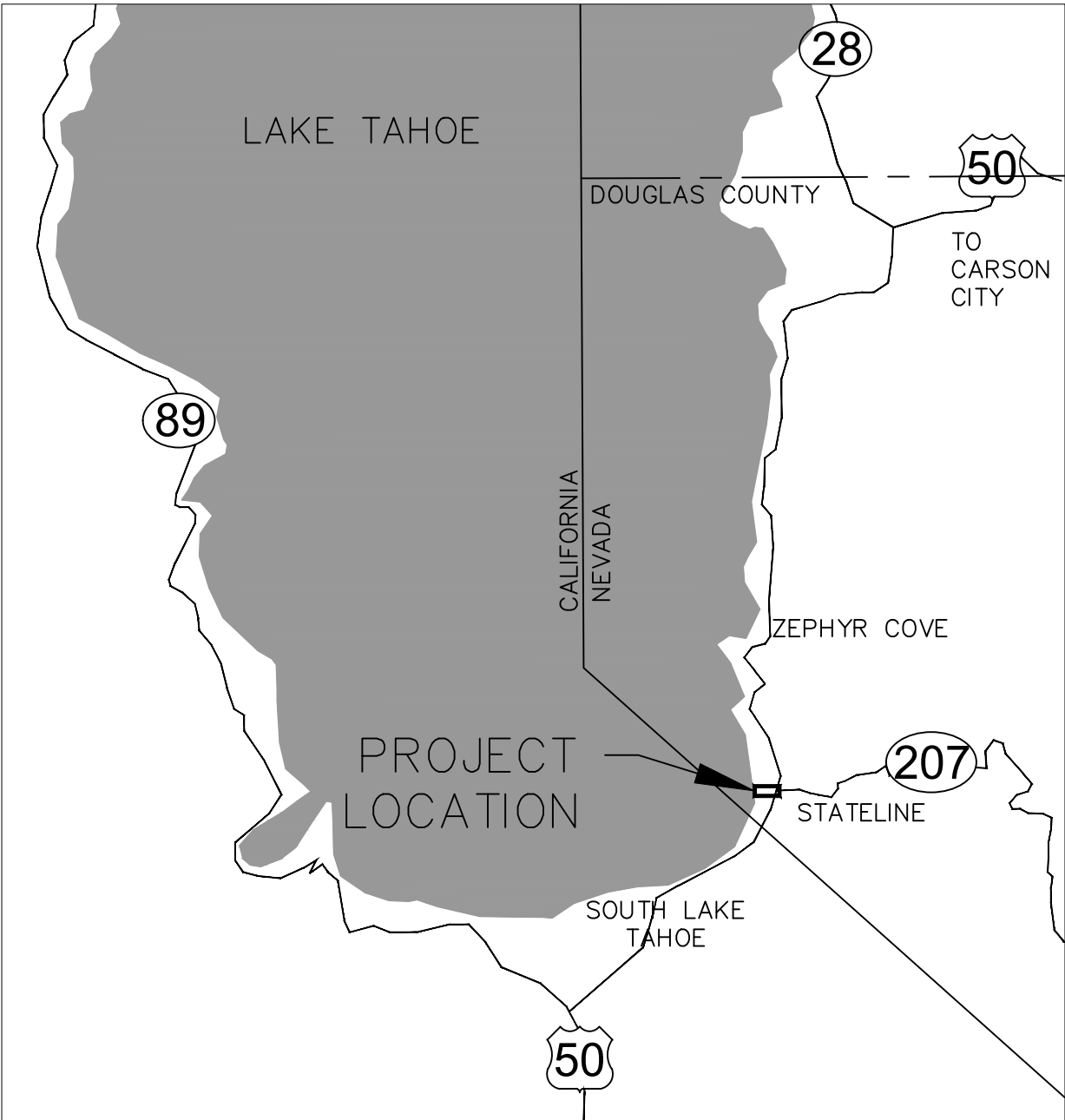
NEVADA TAHOE CONSERVATION DISTRICT
KAHLE WATER QUALITY BASIN
IMPLEMENTATION
IN THE COUNTY OF DOUGLAS
EIP #01.01.01.0084



PLAN

SCALE: 1" = 250'

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VICINITY MAP

NOT TO SCALE

ENGINEER:

Meghan C. Kelly 3/27/18

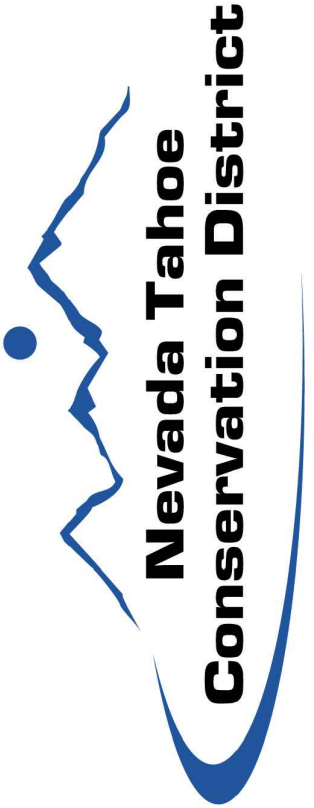
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REGISTERED CIVIL ENGINEER
STATE OF NEVADA, NO. 20851
NEVADA TAHOE CONSERVATION DISTRICT
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DATE

APPROVAL:

ERIK NILSSEN, P.E.
COUNTY ENGINEER
DOUGLAS COUNTY, NEVADA

DATE



TITLE
KAHLE WATER QUALITY BASIN
IMPLEMENTATION

DESIGNED/DRAWN
CFW/MBG
CHECKED
MCK
DATE
MAR 2018
SCALE
AS SHOWN
PROJECT
KB
SHEET

GENERAL NOTES

1. ALL IMPROVEMENTS SHALL BE ACCOMPLISHED UNDER THE APPROVAL, INSPECTION, AND TO THE SATISFACTION OF NEVADA TAHOE CONSERVATION DISTRICT (NTCD) AND DOUGLAS COUNTY. IMPROVEMENT CONSTRUCTION SHALL COMPLY WITH THESE PLANS AND THE MOST RECENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (ORANGE BOOK) ("STANDARD SPECIFICATIONS"). THE CONTRACTOR IS OBLIGATED TO BE FAMILIAR WITH APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS NOT DISCUSSED IN THE GENERAL NOTES. THE CONTRACT SPECIAL TECHNICAL PROVISIONS SHALL SUPERSEDE THOSE OF THE STANDARD SPECIFICATIONS WHERE DISCREPANCIES OCCUR. ALL WORK AND MATERIALS NOT IN CONFORMANCE WITH THESE AMENDED SPECIFICATIONS AND DETAILS ARE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
2. ONE WEEK PRIOR TO THE COMMENCEMENT OF ANY WORK, CONSTRUCTION OR INSTALLATIONS ASSOCIATED WITH THIS PERMIT, THE PERMITTEE SHALL NOTIFY THE DOUGLAS COUNTY INSPECTOR AT (775) 782-6237 OF INTENT TO BEGIN AND REQUEST/SCHEDULE PRECONSTRUCTION MEETING AT THE PROJECT SITE WITH DOUGLAS COUNTY CONSTRUCTION INSPECTOR. FAILURE TO PROVIDE PROPER INSPECTION NOTIFICATION AS PRESCRIBED ABOVE SHALL RESULT IN THIS PERMIT BECOMING INVALID AND WORK BEING STOPPED. NO WORK SHALL BE STARTED WITHOUT FIRST NOTIFYING THE COUNTY ENGINEERING INSPECTOR AT (775) 782-6237 AT LEAST 2 WORKING DAYS BEFORE WORK IS COMMENCED.
3. CONTRACTORS SHALL COMPLY WITH THE REQUIREMENTS TO OBTAIN THE NECESSARY SITE IMPROVEMENT PERMITS AND SHALL COMPLY WITH THE SITE IMPROVEMENT PERMIT CONDITIONS AS FOUND ON THE BACK OF THE PERMIT FORM.
4. THE APPROVED PLAN, PERMIT AND INSPECTION RECORD MUST BE ON THE JOB SITE AT ALL TIMES.
5. DOUGLAS COUNTY PARKS AND RECREATION, COMMUNICATIONS, AND SHERIFF'S OFFICE IS NOT REPRESENTED BY USA DIGS. WHEN THE CONTRACTOR EXCAVATES NEAR OR ADJACENT TO ANY OF THESE FACILITIES/PROPERTIES, THE CONTRACTOR SHALL CONTACT THE ADMINISTRATOR OF APPLICABLE DEPARTMENT AT PHONE NUMBER SHOWN ON COUNTY WEBSITE TO REQUEST ASSISTANCE IN LOCATING ALL THEIR UNDERGROUND FACILITIES. THIS REQUIREMENT MAY ALSO APPLY TO ANY OTHER COUNTY FACILITY/PROPERTY.
6. THE CONTRACTOR SHALL OBTAIN A STORMWATER GENERAL OR A SURFACE AREA DISTURBANCE PERMIT FROM THE NEVADA DEPARTMENT OF ENVIRONMENTAL PROTECTION AS REQUIRED, AND SHALL COMPLY WITH ITS REQUIREMENTS FOR DUST CONTROL ON ALL APPLICABLE PROJECTS. THE CONTRACTOR SHALL PROVIDE A WATER TRUCK TO WATER AREAS AS NECESSARY TO CONTROL DUST. THE CONTRACTOR WILL PROVIDE SWEEPING PER SPECIFICATION. DUST SHALL BE CONTROLLED BY THE CONTRACTOR TO THE SATISFACTION OF THE COUNTY, AND IN ACCORDANCE WITH THE AIR QUALITY PERMIT FROM THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION WHEN REQUIRED.
7. THE ENGINEER HEREBY CERTIFIES AS EVIDENCED BY A PROFESSIONAL SEAL & SIGNATURE, THAT ALL AFFECTED UTILITY COMPANIES BOTH PUBLIC AND PRIVATE HAVE BEEN CONTACTED. ALL EXISTING AND/OR PROPOSED UTILITY LINES AND OTHER RELATED INFORMATION HAVE BEEN TRANSFERRED ONTO THESE PLANS. TO THE BEST OF ENGINEER'S KNOWLEDGE AND BASED ON INFORMATION FROM THE UTILITY COMPANY. THE ENGINEER ALSO HEREBY CERTIFIES THAT ALL EXISTING AND/OR PROPOSED PUBLIC RIGHT-OF-WAY AND EASEMENTS HAVE BEEN CORRECTLY PLOTTED AND SHOWN.
8. THE ENGINEER, OR LAND SURVEYOR OF RECORD SHALL CERTIFY UPON COMPLETION OF CONSTRUCTION THAT ALL PUBLIC IMPROVEMENTS (WATER AND SEWER UTILITIES, STORM DRAINAGE, CONCRETE, PAVING, STREET LIGHTS, ETC.) HAVE BEEN INSTALLED AT THE LOCATIONS AND ELEVATIONS SHOWN ON THE APPROVED PLANS. ANY CHANGES SHALL BE REFLECTED ON "AS-BUILT"/RECORD DRAWINGS PROVIDED BY THE ENGINEER TO THE COUNTY'S ENGINEERING DIVISION.
9. THE REGISTERED ENGINEER OR LAND SURVEYOR SHALL CERTIFY THAT THE MINIMUM HORIZONTAL AND VERTICAL SEPARATIONS BETWEEN UTILITIES WITHIN PUBLIC RIGHT-OF-WAY AND EASEMENTS HAVE BEEN MAINTAINED AS REQUIRED BY LAW OR POLICY.
10. IF A FIRE HYDRANT IS NEEDED TO OBTAIN CONSTRUCTION WATER, THE CONTRACTOR SHALL OBTAIN A FIRE HYDRANT METER FROM DOUGLAS COUNTY PUBLIC WORKS OR APPLICABLE WATER PURVEYOR AND PAY ALL APPLICABLE FEES AND CHARGES.
11. IF DURING THE CONSTRUCTION OF A PUBLIC FACILITY, THE CONTRACTOR FAILS TO OR IS UNABLE TO COMPLY WITH A REQUEST TO THE ENGINEERING INSPECTOR, AND IT IS NECESSARY FOR COUNTY FORCES TO DO WORK THAT IS NORMALLY THE CONTRACTOR'S RESPONSIBILITY, THE COUNTY SHALL BE JUSTIFIED IN BILLING THE CONTRACTOR. EACH INCIDENT REQUIRING WORK BY COUNTY FORCES SHALL BE COVERED BY A SEPARATE BILLING AT THE CURRENT APPLICABLE RATES.
12. THE CONTRACTOR IS ADVISED THAT DAMAGE TO PUBLIC SERVICES OR SYSTEMS AS A RESULT OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AND INSPECTED BY THE ENGINEERING INSPECTOR. UNLESS OTHERWISE APPROVED BY THE COUNTY, ALL REPAIRS SHALL BE DONE WITHIN 24 HOURS. THE CONTRACTOR IS ADVISED THAT ANY COSTS RELATED TO REPAIR OR REPLACEMENT OF DAMAGED PUBLIC SERVICES AND SYSTEMS AS A RESULT OF CONTRACTOR'S ACTIVITIES SHALL BE BORNE BY THE CONTRACTOR.
13. CONTRACTOR SHALL MAINTAIN A SET OF PLANS ON SITE SHOWING "AS CONSTRUCTED" CHANGES. UPON COMPLETION, CONTRACTOR SHALL SUPPLY DOUGLAS COUNTY AND NTCD A SET OF "AS BUILT" PLANS. SEE SPECIAL PROVISIONS.
14. MOBILIZATION/STAGING AND STORAGE AREAS ARE TO BE SECURED BY THE CONTRACTOR AND APPROVED BY TRPA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF MOBILIZATION SITES, INCLUDING PLACEMENT AND MAINTENANCE OF BMPs.
15. PRIOR TO STARTING WORK, THE CONTRACTOR SHALL INSTALL TEMPORARY BMP MEASURES AT LOCATIONS WHERE NEEDED TO CONTROL EROSION AND WATER POLLUTION DURING THE CONSTRUCTION OF THE PROJECT. THE BMP MEASURES SHALL REMAIN IN PLACE AND SHALL BE MAINTAINED IN A FUNCTIONAL CONDITION FOR THE DURATION OF THE CONSTRUCTION. DURING CONSTRUCTION ENVIRONMENTAL PROTECTION DEVICES, SUCH AS EROSION CONTROL, DUST CONTROL, AND VEGETATION PROTECTION DEVICES SHALL BE MAINTAINED AT ALL TIMES. SILT FENCE OR SEDIMENT LOGS WILL BE REQUIRED AT OTHER LOCATIONS AS SHOWN ON THE DRAWINGS OR STAKED IN THE FIELD BY THE ENGINEER. ALL EROSION CONTROL MEASURES SHALL MEET OR EXCEED TRPA REQUIREMENTS.
16. ALL EXISTING VEGETATION SHALL BE PRESERVED UNLESS SPECIFICALLY IDENTIFIED BY THE ENGINEER FOR REMOVAL. BMP'S TO PROTECT VEGETATION SHALL BE INSTALLED BY THE CONTRACTOR IF REQUIRED BY TRPA. CONTRACTOR TO REVEGETATE ANY AREAS OUTSIDE THE DISTURBED AREA SHOWN ON THE PLANS WITH PLANTS APPROVED BY TRPA AT THEIR OWN EXPENSE.
17. NTCD WILL PROVIDE ONE SET OF CONSTRUCTION STAKES AT NTCD'S EXPENSE. ADDITIONAL CONSTRUCTION STAKES WILL BE PROVIDED AT THE CONTRACTOR'S EXPENSE. LIMITS FOR ALL ITEMS OF WORK SHALL BE STAKED IN THE FIELD BY THE ENGINEER. THESE LIMITS AND THE RESULTING TREATMENT LENGTH/AREAS MAY VARY FROM THOSE SHOWN ON THE DRAWINGS. PAYMENT FOR ITEMS OF WORK WILL BE MADE FOR THE AMOUNT AUTHORIZED BY THESE FIELD STAKED LIMITS AND THE SPECIAL TECHNICAL PROVISIONS.
18. UTILITY LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE. WHERE EXCAVATION IS NECESSARY, THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA) AND ALL AFFECTED UTILITY COMPANIES TO LOCATE ALL BURIED UTILITIES AT LEAST 48 HOURS PRIOR TO EXCAVATION. THE CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES FOR RELOCATION OF UTILITIES AS REQUIRED BY THE WORK. WHENEVER CONNECTIONS TO OR CLEARANCE FROM ANY UTILITY IS REQUIRED, THE CONTRACTOR SHALL POTHOLE TO VERIFY THE LOCATION, SIZE AND MATERIAL OF THE UTILITY PRIOR TO CONSTRUCTION. CALL 811 FOR USA DIGS TWO WORKING DAYS PRIOR TO DIGGING.
19. ANY DAMAGE DONE BY THE CONTRACTOR OR HIS SUBCONTRACTORS TO PRIVATE PROPERTY AND/OR OUTSIDE OF THE NOTED LIMITS OF WORK IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AND/OR HIS SUBCONTRACTORS.
20. THE CONTRACTOR WILL PROVIDE INITIAL TESTING AND INSPECTION OF WORK AND MATERIAL AT CONTRACTOR'S EXPENSE. THE COST OF REMOVAL AND/OR REPLACEMENT OF ANY DEFECTIVE WORK OR MATERIAL IS THE RESPONSIBILITY OF THE CONTRACTOR. THE COST OF RETESTING AND/OR INSPECTING OF REPLACED WORK AND MATERIAL IS ALSO THE RESPONSIBILITY OF THE CONTRACTOR. SUCH COSTS WILL BE DEDUCTED FROM ANY MONEYS DUE OR WHICH MAY BECOME DUE TO THE CONTRACTOR.
21. STANDARD WORK DAYS SHALL BE MONDAY THROUGH FRIDAY, SATURDAY AND SUNDAY MAY BE WORKED ON OCCASION ONLY TO MAKE UP FOR WEATHER DELAYS OR OTHER SCHEDULE DELAYS WITH TRPA APPROVAL. NOISE GENERATING ACTIVITIES WILL BE LIMITED TO THE HOURS OF 8:00 AM TO 6:30 PM. NOISE SHALL BE REDUCED BY THE MANDATORY USE OF MUFFLERS ON ALL CONSTRUCTION VEHICLES AND EQUIPMENT. WHERE FEASIBLE, SOLENOIDAL PAVEMENT BREAKERS WILL BE USED IN LIEU OF AIR POWERED JACK HAMMERS.
22. SOIL AND CONSTRUCTION MATERIAL SHALL NOT BE TRACKED OFF THE CONSTRUCTION SITE. GRADING OPERATIONS SHALL CEASE IN THE EVENT THAT A DANGER OF VIOLATING THIS CONDITION EXISTS.
23. LOOSE SOIL MOUNDS OR SURFACES SHALL BE PROTECTED FROM WIND OR WATER EROSION BY BEING APPROPRIATELY COVERED WHEN CONSTRUCTION IS NOT IN ACTIVE PROGRESS OR WHEN REQUIRED BY TRPA.

24. EXCAVATED MATERIAL SHALL BE STORED UPGRADE FROM THE EXCAVATED AREA WHENEVER POSSIBLE. NO MATERIAL SHALL BE STORED IN ANY STREAM ENVIRONMENT ZONE (SEZ) OR WET AREA.
25. SOIL AND CONSTRUCTION MATERIAL SHALL NOT BE TRACKED OFF THE CONSTRUCTION SITE. GRADING OPERATIONS SHALL CEASE IN THE EVENT THAT A DANGER OF VIOLATING THIS CONDITION EXISTS.
26. LOOSE SOIL MOUNDS OR SURFACES SHALL BE PROTECTED FROM WIND OR WATER EROSION BY BEING APPROPRIATELY COVERED WHEN CONSTRUCTION IS NOT IN ACTIVE PROGRESS OR WHEN REQUIRED BY TRPA.
27. EXCAVATED MATERIAL SHALL BE STORED UPGRADE FROM THE EXCAVATED AREA WHENEVER POSSIBLE. NO MATERIAL SHALL BE STORED IN ANY STREAM ENVIRONMENT ZONE (SEZ) OR WET AREA.
28. ONLY EQUIPMENT OF A SIZE AND TYPE THAT WILL DO THE LEAST AMOUNT OF DAMAGE, UNDER PREVAILING SITE CONDITIONS, AND CONSIDERING THE NATURE OF THE WORK TO BE PERFORMED, WILL BE USED.
29. NO WASHING OF VEHICLES OR HEAVY EQUIPMENT, INCLUDING CEMENT MIXERS, SHALL BE PERMITTED ANYWHERE ON THE SUBJECT PROPERTY UNLESS AUTHORIZED BY TRPA IN WRITING.
30. NO VEHICLE OR HEAVY EQUIPMENT SHALL BE ALLOWED IN A STREAM ENVIRONMENT ZONE OR WET AREA EXCEPT AS AUTHORIZED BY TRPA.
31. ALL CONSTRUCTION SHALL BE WINTERIZED BY OCTOBER 15 TO REDUCE THE WATER QUALITY IMPACTS ASSOCIATED WITH WINTER WEATHER.
32. THE CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATE IN, THE COUNTY RIGHT-OF-WAYS AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SYSTEM. PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS SHALL BE USED TO PROTECT ADJOINING PROPERTIES DURING CONSTRUCTION OF IMPROVEMENTS. ALL STREETS SHALL BE MAINTAINED FREE OF DUST AND MUD CAUSED BY GRADING OPERATIONS. ALL OPERATIONS SHALL COMPLY WITH THE REQUIREMENTS OF THE STORMWATER DISCHARGE PERMIT FROM THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION.
33. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LONGER THAN 24 HOURS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS BEEN TEMPORARILY OR PERMANENTLY CEASED.
34. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMP'S WEEKLY, PRIOR TO A FORECASTED RAIN EVENT AND WITHIN 24 HOURS AFTER ANY ACTUAL RAIN EVENT. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS FROZEN GROUND CONDITIONS OF SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO STORM WATER GENERAL PERMIT NVR100000, SECTION 1.B.1.G. AND THE PROJECT SWPPP
35. TRAFFIC CONTROL AND LANE CLOSURES WILL BE PER DOUGLAS COUNTY AND NDOT STANDARD SPECIFICATIONS WHERE APPLICABLE. ANY ROAD CLOSURES REQUIRE THE CONTRACTOR TO OBTAIN A ROAD CLOSURE PERMIT FROM DOUGLAS COUNTY.
36. ACCESS TO HOMES AND BUSINESSES SHALL BE MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION. ALL FRAMES, COVERS, VALVE BOXES, MANHOLES, ETC., SHALL BE INSTALLED TO FINISH GRADE OR SHALL BE ADJUSTED TO FINISH GRADE AFTER PLACING OF ASPHALTIC SURFACE COURSE BY THE CONTRACTOR PER APPLICABLE DOUGLAS COUNTY STANDARD DETAILS. THE STREET PAVING PERMITTEE/CONTRACTOR IS HEREBY NOTIFIED THAT IN THE EVENT THAT ACCEPTANCE OF THE PUBLIC STREET PAVING IS DELAYED, ONE YEAR OR MORE AFTER THE PAVEMENT IS INSTALLED, THE PERMITTEE/CONTRACTOR SHALL APPLY A SEAL COAT TO THE PAVEMENT, TYPE OF MATERIAL AND RATE OF APPLICATION WILL BE DIRECTED BY THE DOUGLAS COUNTY ENGINEERING DEPARTMENT. MANHOLE MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF SECTION 204 "MANHOLES AND CATCH BASINS" OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: 4000 PSI MINIMUM COMPRESSIVE STRENGTH @ 28 DAYS, (CURB AND GUTTER TRANSITION ONLY, ALL UNEXPOSED CONCRETE MAY BE 3000 PSI), MIN. 6 SACKS OF CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES. ALL MATERIALS SHALL CONFORM TO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SECTION 202. REINFORCING STEEL SHALL BE GRADE 40 AND 1.5 INCHES MINIMUM CLEAR COVER. ALL STORM DRAIN PIPE AND STRUCTURES SHALL BE CLEANED OF SEDIMENT AND DEBRIS PRIOR TO ISSUANCE OF A NOTICE OF COMPLETION. FRAMES AND GRATES SHALL BE MATCHED TO ACHIEVE A CLOSE TOLERANCE FIT, WITH MINIMAL GAPS, AS APPROVED BY THE STORM DRAIN UTILITY.
37. PRECAST MANHOLES SECTIONS, OTHER THAN GRADE RINGS, SHALL BE JOINED WITH FLEXIBLE PLASTIC GASKET MATERIAL SUCH AS RAM-NEK OR APPROVED EQUAL PER MANUFACTURER'S RECOMMENDATIONS.
38. MANHOLES LOCATED OUTSIDE PAVED AREAS SHALL REQUIRE ALL WEATHER ACCESS ROADWAY CONSISTING OF 6 INCHES TYPE 2, CLASS B AGGREGATE BASE (CONFORMING TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SECTION 200.01.02) AND STORM DRAIN MANHOLE MARKERS BE INSTALLED. STORM DRAIN MANHOLE MARKERS SHALL BE GREEN CARSONITE UTILITY MARKER (CUM 375), 5'-2" WITH DECAL READING "STORM DRAIN MANHOLE". PLACE MARKERS ON EASEMENT LINE NEAREST TO MANHOLE OR AS DIRECTED BY THE STORM DRAIN UTILITY.
39. GRATES SHALL BE PLACED OUTSIDE OF THE PEDESTRIAN TRAVELED WAY. GRATE OPENINGS SHALL NOT EXCEED 0.5 INCHES IN WIDTH OR 4 INCHES IN LENGTH. GRATES SHALL BE TRAFFIC RATED AND ADA COMPLIANT.
40. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, OSHA REQUIREMENTS FOR EXCAVATION, AND SPECIAL REQUIREMENTS OF THE PERMIT. VIOLATIONS WILL RESULT IN THE STOPPAGE OF ALL WORK UNTIL THE VIOLATION IS CORRECTED.
41. SLOPES SHALL BE NO STEEPER THAN 2 HORIZONTAL TO 1 VERTICAL, OR AS DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE COUNTY.
42. FILLS SHALL BE PLACED IN ACCORDANCE WITH THE REQUIREMENTS OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION."
43. THE ENGINEER OF RECORD SHALL PROVIDE THE COUNTY AND ALL OTHER APPROPRIATE ENTITIES WITH COPIES OF ALL TEST RESULTS ON A WEEKLY BASIS AND A BOUND REPORT OF THE TEST RESULTS AND INSPECTION REPORTS. ARRANGED IN CHRONOLOGICAL ORDER, AT THE COMPLETION OF THE PROJECT. THE ENGINEER OF RECORD SHALL PROVIDE THE COUNTY WITH AN OPINION REGARDING THE CONSTRUCTION SIMILAR TO THE FOLLOWING:

ENGINEER'S OPINION

I HEREBY CERTIFY THAT I AM A LICENSED ENGINEER IN THE STATE OF NEVADA. TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THE PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THE PLANS AND SPECIFICATIONS, AND IN MY PROFESSIONAL OPINION, IS IN COMPLIANCE WITH APPLICABLE LAWS, CODES AND ORDINANCES.

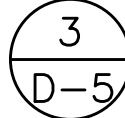
44. FILL AREAS SHALL BE CLEARED OF ALL VEGETATION AND DEBRIS, SCARIFIED, AND BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO THE PLACING OF FILL.
45. NO ROCK OR SIMILAR MATERIAL GREATER THAN 4" IN DIAMETER SHALL BE PLACED IN THE FILL UNLESS RECOMMENDATIONS FOR SUCH PLACEMENT HAVE BEEN SUBMITTED BY THE GEOTECHNICAL ENGINEER IN ADVANCE AND APPROVED BY THE COUNTY.

46. FILL AREAS SHALL BE CLEARED OF ALL VEGETATION AND DEBRIS, SCARIFIED, AND BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO THE PLACING OF FILL.
47. NO ROCK OR SIMILAR MATERIAL GREATER THAN 4" IN DIAMETER SHALL BE PLACED IN THE FILL UNLESS RECOMMENDATIONS FOR SUCH PLACEMENT HAVE BEEN SUBMITTED BY THE GEOTECHNICAL ENGINEER IN ADVANCE AND APPROVED BY THE COUNTY.
48. THE GEOTECHNICAL ENGINEER SHALL VERIFY ALL GRADING INCLUDING COMPACTION REQUIREMENTS AND THE STABILITY OF SLOPES CREATED, EXISTING OR REMAINING.
49. IN THE EVENT OF CHANGES ARISING DURING CONSTRUCTION, THE NTCD ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR REVIEW AND APPROVAL BY THE COUNTY. NO CHANGES IN THE DESIGN WILL BE PERMITTED UNLESS WRITTEN APPROVAL IS GIVEN BY THE COUNTY.
50. A STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES. NECESSARY MATERIALS SHALL BE AVAILABLE ON-SITE AND STOCKPILED AT APPROVED LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES OR TO REPAIR DAMAGED EROSION CONTROL MEASURES.
51. AFTER A RAINSTORM, ALL SILT AND DEBRIS SHALL BE REMOVED FROM CHECK BERMS AND DESILTING FACILITIES. GRADED SLOPE SURFACE PROTECTION MEASURES DAMAGED DURING THE RAINSTORM SHALL ALSO BE REPAIRED.
52. FILL SLOPES AT THE PROJECT PERIMETER MUST DRAIN AWAY FROM THE TOP OF THE SLOPE AT THE CONCLUSION OF EACH WORKING DAY.
53. A SIX-FOOT HIGH PERIMETER FENCE OR A 24-HOUR GUARD SHALL BE POSTED ON THE SITE WHENEVER THE DEPTH OF WATER IN A FACILITY EXCEEDS 18 INCHES.

ABBREVIATIONS

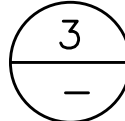
NOT ALL ABBREVIATIONS LISTED ARE USED IN THESE PLANS

A.B.	AGGREGATE BASE	MDD	MAXIMUM DRY DENSITY
AC.	ACRE	MJ	MECHANICAL JOINT
AC OR A.C.	ASPHALT CONCRETE OR ASBESTOS CEMENT	MI	MILE
@	AT	MIN.	MINIMUM
APPROX.	APPROXIMATE	MISC.	MISCELLANEOUS
AVG.	AVERAGE	N	NORTH
AWWA	AMERICAN WATER WORKS ASSOCIATION	NAC	NEVADA ADMINISTRATIVE CODE
BC	BEGIN CURVE	N.I.C.	NOT IN CONTRACT
BGN	BEGIN	NDOT	NEVADA DEPT OF TRANSPORTATION
C&G	CURB AND GUTTER	NTCD	NEVADA TAHOE CONSERVATION DISTRICT
CATV	CABLE TELEVISION	N.T.S.	NOT TO SCALE
C.B.	CATCH BASIN	NO.	NUMBER
CBM	CHANNEL BED MATERIAL	OC	ON CENTER
CL	CENTERLINE	OD	OUTSIDE DIAMETER
CLF	CONSTRUCTION LIMIT FENCE	OFF	OFFSET
CLR.	CLEAR	OG	ORIGINAL GRADE
CO.	CLEAN OUT	OH(E/T)	OVERHEAD ELECTRIC OR TELEPHONE LINES
CONST.	CONSTRUCT	±	PLUS OR MINUS
CF	CUBIC FEET	PT.	POINT
CMP	CORRIGATED METAL PIPE	PCC	POINT OF COMPOUND CURVE, PORTLAND CEMENT
CMAP	CORRIGATED METAL ARCH PIPE	PC	POINT OF CURVATURE
CY	CUBIC YARD	PI	POINT OF INFLECTION
DBH	DIAMETER AT BREST HEIGHT	PIP	PROTECT IN PLACE
DEG	DEGREE(S)	PVC	POLYVINYL CHLORIDE
D.G.	DECOMPOSED GRANITE	PVMT	PAVEMENT
DI	DROP INLET	POC	POINT ON CURVE
DIA.	DIAMETER	POS	POSITIVE
DR	DIMENSION RATIO	PRC	POINT OF REVERSE CURVE
DWG	DRAWING	PSI	POUNDS PER SQUARE INCH
DW, DWY	DRIVEWAY	PL	PROPERTY LINE
EA.	EACH	PO	PUSH ON
EASE.	EASEMENT	PUE	PUBLIC UTILITY EASEMENT
EG	EXISTING GRADE	R	RADIUS
ELEC	ELECTRIC	RCP	REINFORCED CONCRETE PIPE
ELEV	EDGE OF PAVEMENT	REVEG	REVEGETATION
ELEV. OR EL	ELEVATION	RLC	ROCK LINED CHANNEL
EC	END CURVE	RT,R	RIGHT
EWEF	EACH WAY EACH FACE	R/W, ROW	RIGHT-OF-WAY
EX.	EXISTING	S	SLOPE OR SOUTH
FG	FINISH GRADE	SD	STORM DRAIN
FH	FIRE HYDRANT	SDMH	STORM DRAIN MANHOLE
FCA	FLANGE COUPLER ADAPTER	SDR	STANDARD DIMENSION RATIO
FES	FLARED END SECTION (METAL)	SF	SQUARE FOOT/FEET
FF	FILTER FENCE	SHA	SHEET
FL	FLOWLINE	STA	STATION
FLG	FLANGED	STD	STANDARD
FT.	FOOT, FEET	SS	SANITARY SEWER, STAINLESS STEEL
FTG	FOOTING	SSCO	SANITARY SEWER CLEAN OUT
FV	FLUSH VALVE	SSMH	SANITARY SEWER MANHOLE
G	DEGREE	SSPWC	STANDARD SPECIFICATIONS FOR PUBLIC WORKS
GAS	GATE VALVE	SWPPP	STORM WATER POLLUTION PREVENTION PLAN
GV	GRADE VALVE	SY	SQUARE YARD
GB	GRADE BREAK	TBC	TOP BACK OF CURB
HDPE	HIGH DENSITY POLYETHYLENE	TOC	TOP OF CURB
HDPE-NP	NON-PERFORATED HIGH DENSITY POLYETHYLENE	TRPA	TAHOE REGIONAL PLANNING AGENCY
HDPE-P	PERFORATED HIGH DENSITY POLYETHYLENE	TW	TOP OF WALL
HP	HIGH POINT	(TYP)	TYPICAL
HOR., HORIZ.	HORIZONTAL	UGE	UNDERGROUND ELECTRIC LINES
HWY	HIGHWAY	UGT	UNDERGROUND TELEPHONE LINES
IN.	INCH	VC	VERTICAL CURVE
IE	INVERT ELEVATION	VG	VALLEY GUTTER
IRR.	IRRIGATION	VPC	VERTICAL POINT OF CURVATURE
IVGID	INCLINE VILLAGE GENERAL IMPROVEMENT DISTRICT	VPI	VERTICAL POINT OF INFLECTION
L	LEFT	VPT	VERTICAL POINT OF TANGENT
LEN.	LENGTH	W	WATER
LF	LINEAR FEET	WL	WATERLINE
LID	LOW IMPACT DEVELOPMENT	W	WEST
LP	LOW POINT	W/	WITH
LS	LUMP SUM	WM	WATER METER
MH	MANHOLE		
MAX.	MAXIMUM		



SECTION OR DETAIL IDENTIFICATION

NUMBER OF SHEET ON WHICH SECTION OR DETAIL IS DRAWN



SECTION OR DETAIL IDENTIFICATION

SYMBOL FOR DETAIL ON THE SAME SHEET



GENERAL NOTES
KAHLE WATER QUALITY BASIN
IMPLEMENTATION

DESIGNED/DRAWN
CFW/MBG

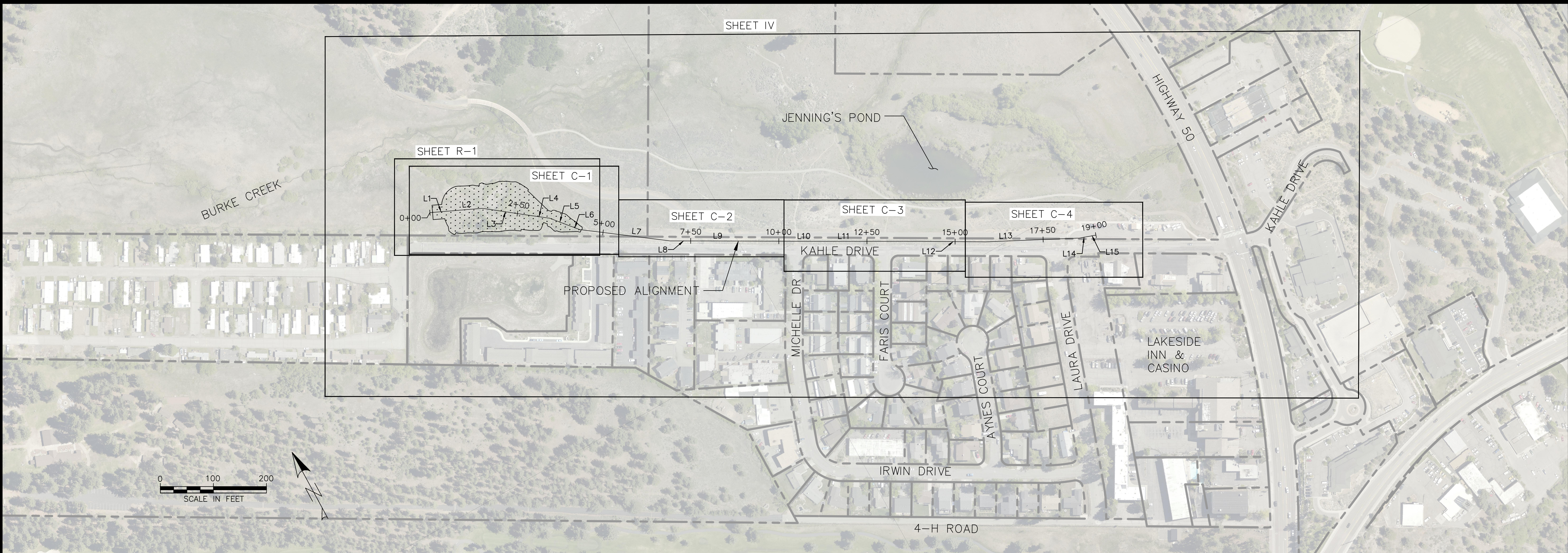
CHECKED
MCK

DATE
MAR 2018

SCALE
AS SHOWN

PROJECT
KB

SHEET



PROPOSED ALIGNMENT LINE TABLE				
LINE #	LENGTH (FT)	BEARING	START POINT (N,E)	END POINT (N,E)
L1	63.06	S65° 24' 06.26"E	14663804.8(2238413.6,)	(,14663778.52238471.0)
L2	86.34	S65° 24' 06.26"E	14663778.5(2238471.0,)	(,14663742.62238549.5)
L3	132.27	S52° 07' 13.10"E	14663742.6(2238549.5,)	(,14663661.42238653.9)
L4	60.58	S52° 37' 53.68"E	14663661.4(2238653.9,)	(,14663624.62238702.0)
L5	61.96	S39° 56' 32.90"E	14663624.6(2238702.0,)	(,14663577.12238741.8)
L6	29.34	S40° 16' 57.64"E	14663577.1(2238741.8,)	(,14663554.72238760.8)
L7	257.84	S53° 31' 50.39"E	14663554.7(2238760.8,)	(,14663401.52238968.1)
L8	76.85	S60° 27' 55.35"E	14663401.5(2238968.1,)	(,14663363.62239035.0)
L9	117.00	S60° 28' 02.36"E	14663363.6(2239035.0,)	(,14663305.92239136.8)
L10	219.16	S60° 28' 02.36"E	14663305.9(2239136.8,)	(,14663197.92239327.5)
L11	297.74	S60° 39' 52.50"E	14663197.9(2239327.5,)	(,14663052.02239587.0)
L12	184.73	S60° 14' 14.72"E	14663052.0(2239587.0,)	(,14662960.32239747.4)
L13	267.27	S62° 57' 41.15"E	14662960.3(2239747.4,)	(,14662838.82239985.5)
L14	24.31	S70° 50' 55.30"E	14662838.8(2239985.5,)	(,14662830.82240008.4)
L15	21.83	S71° 07' 24.67"E	14662830.8(2240008.4,)	(,14662823.82240029.1)

UTILITIES

CABLE TELEVISION	CHARTER COMMUNICATIONS, (775) 588-1077
NATURAL GAS	SOUTHWEST GAS, (877) 860-6022
ELECTRIC	NV ENERGY, (775) 834-4444
STORM DRAIN	DOUGLAS COUNTY PUBLIC WORKS (775) 782-9989
SEWER	DOUGLAS COUNTY SEWER IMPROVEMENT DISTRICT (775) 588-3558
WATER	KINGSBURY GID, (775) 588-3548
PHONE	FRONTIER (775) 782-0966
USA DIGS	(800) 642-2444 OR 811

HORIZONTAL AND VERTICAL PROJECTION

VERTICAL CONTROL IS DATUM NAVD 88 (US FEET);
HORIZONTAL CONTROL IS HORIZONTAL DATUM NAD 83 STATE PLANE COORDINATE SYSTEM
NEVADA ZONE WEST (U.S. FEET).

LEGEND			
NOTE: LEGENDS PROVIDED ON INDIVIDUAL PLAN SHEETS OVERRIDE THIS LEGEND			
EXISTING		PROPOSED	
	MAJOR CONTOUR		MAJOR CONTOUR
	MINOR CONTOUR		MINOR CONTOUR
	EXISTING MAJOR CONTOUR LABEL		PROPOSED MAJOR CONTOUR LABEL
	EXISTING ALIGNMENT		PROPOSED ALIGNMENT(ROAD CENTERLINE)
	EXISTING GRADE (SECTION VIEW)		GRADING DAYLIGHT LINE/GRADING LIMIT
	PROPERTY LINE		GRADING LINE/FEATURE LINE
	EXISTING FENCE		PROPOSED GRADE (SECTION VIEW)
	OR PAVEMENT		CONSTRUCTION LIMIT FENCE
	SD STORM DRAIN LINE		FILTER FENCE
	CATCH BASIN		SEDIMENT ROLL
	STORM DRAIN MANHOLE		EROSION CONTROL BLANKET
	W WATER LINE		STAGING AREA
	WATER METER/ VALVE		PROPOSED PIPE
	SS SANITARY SEWER LINE		PROPOSED CONCRETE
	SS SANITARY SEWER MANHOLE		PROPOSED VEGETATION/WILLOW
	OH E OVERHEAD ELECTRIC LINE		ROCK LINED CHANNEL (PLAN VIEW)
	POWER POLE		SEDIMENT REMOVAL
	UG T UNDER GROUND TELEPHONE LINES		ROCK (SECTION VIEW)
	OH T OVERHEAD TELEPHONE LINES		ROCK DISSIPATER
	UG FO UNDERGROUND FIBER OPTIC LINES		PROJECT BOUNDARY
	GAS UNDERGROUND GAS LINES		PROPOSED FENCE (TYPE SPECIFIED ON PLAN)
	DRAINAGE		
	TREE		
	FIRE HYDRANT		
	CURB		
	OR CONCRETE		
	CONTROL POINT		
	BUILDING		
	PRIVATE DRIVEWAY		
	SIGN		
	ROCK LINED CHANNEL		
	EXISTING ROCK WALL		
	125-382-13 ASSESSOR PARCEL NUMBER		
	JOHN A. SMITH OWNER (PRIVATE LOT)		

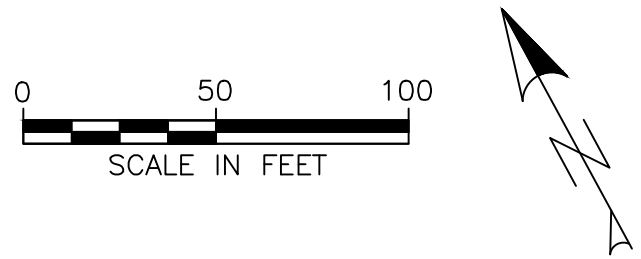
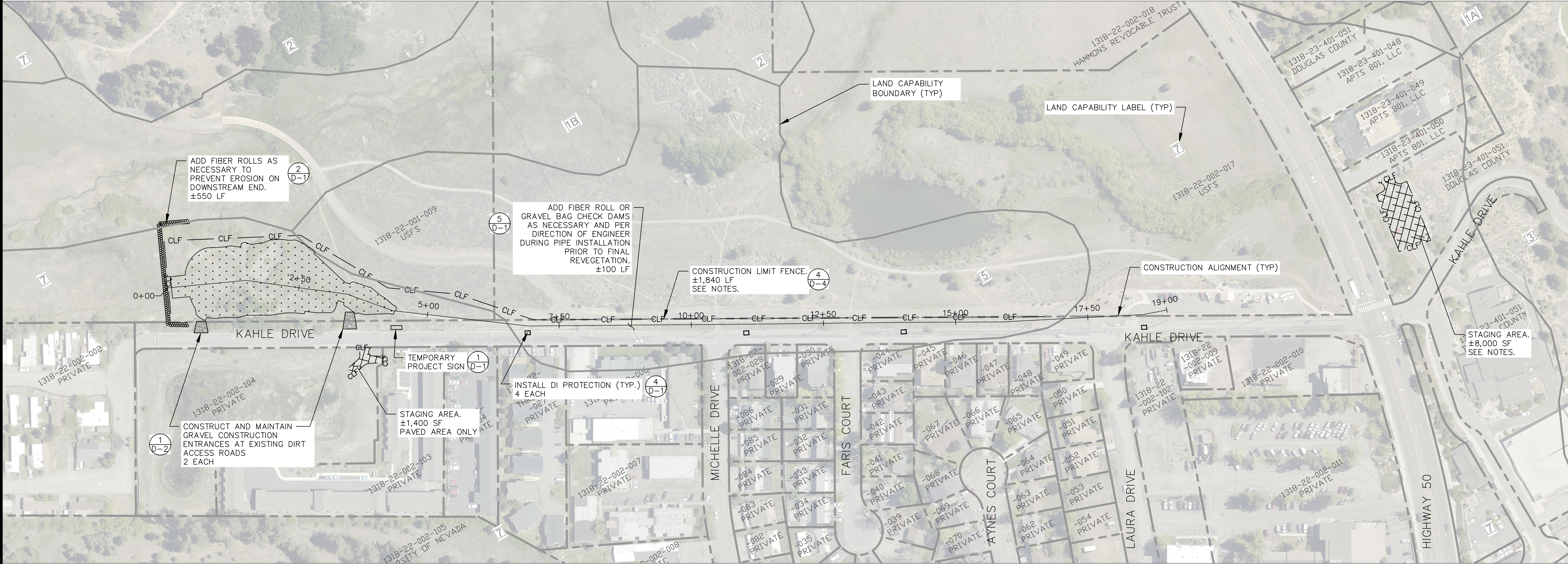
Nevada Tahoe
Conservation District

PROFESSIONAL ENGINEER-STATE OF NEVADA
MEGHAN C. KELLY
Exp: 6/30/2019
CIVIL
No. 20851

INDEX & LEGEND
KAHLE WATER QUALITY BASIN
IMPLEMENTATION

DESIGNED/DRAWN	CFW/MBG
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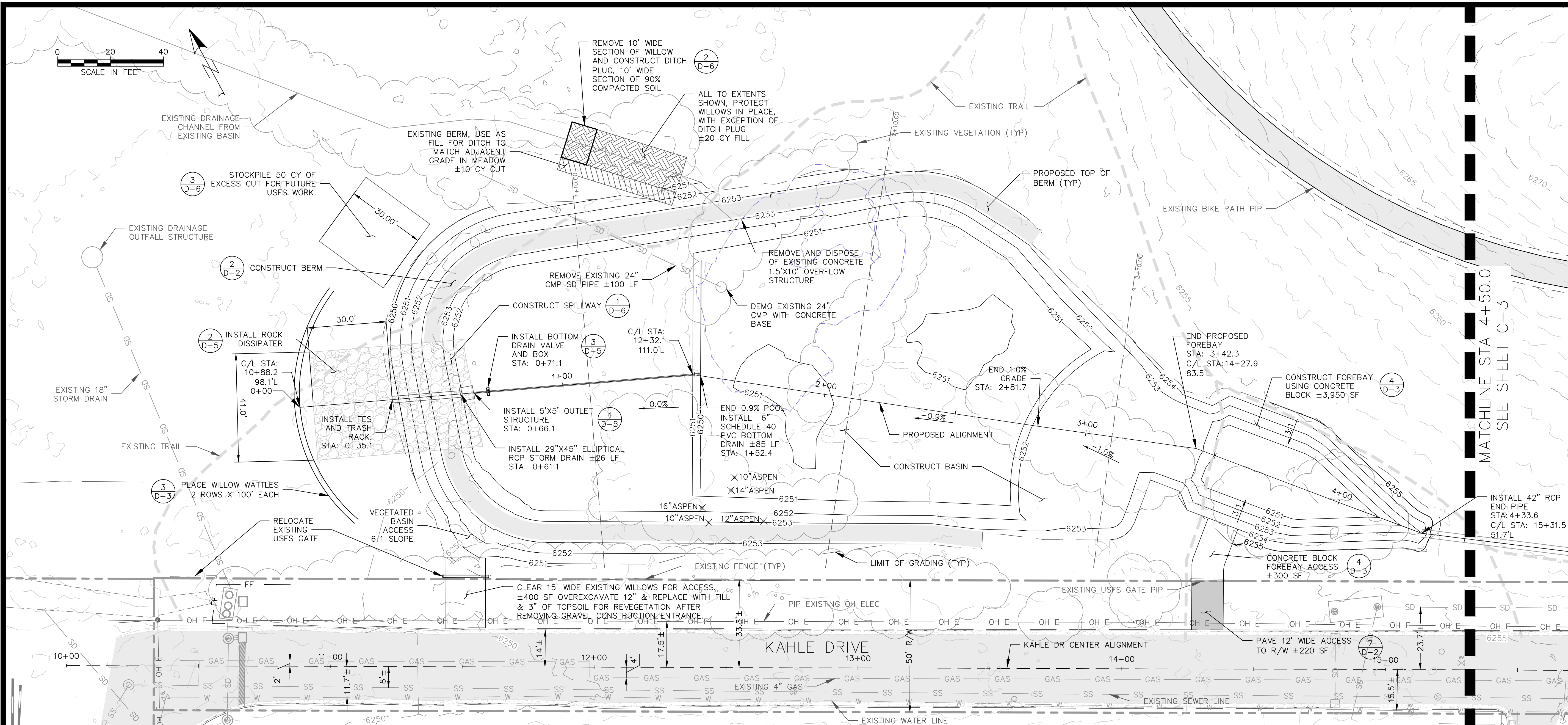


- NOTES:
1. CONSTRUCTION LIMIT FENCE SHALL BE PLACED STRATEGICALLY IN PROJECT AREA TO LIMIT THE CONSTRUCTION DISTURBANCE IN THE MEADOW TO THE CONFINES OF THE PROJECT BOUNDARY AND PREVENT PEDESTRIAN ACCESS FROM THE MEADOW OR BIKE PATH.
 2. ACCESS TO THE STAGING AND STORAGE AREA SHOWN WITHIN THE PARKING LOT ON DOUGLAS COUNTY PROPERTY SHALL BE FROM KAHLE DRIVE ONLY.
 3. ANY DISTURBANCE SHALL BE RETURNED TO EXISTING CONDITIONS PRIOR TO THE COMPLETION OF CONSTRUCTION.
 4. REFER TO SPECIFICATION AND SWPPP FOR ADDITIONAL EROSION CONTROL MEASURES.
 5. ANY ADDITIONAL STAGING AREAS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 6. FILTER FABRIC MAY BE USED IN LIEU OF FIBER ROLLS WITH APPROVAL FROM ENGINEER.
 7. SPECIAL USE PERMIT REQUIRED FOR WORK ON USFS PARCELS.
 8. LAND CAPABILITIES SHOWN ARE NOT VERIFIED.



STAGING AND EROSION CONTROL
KAHLE WATER QUALITY BASIN
IMPLEMENTATION

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PROJECT
KB
SHEET



PLAN

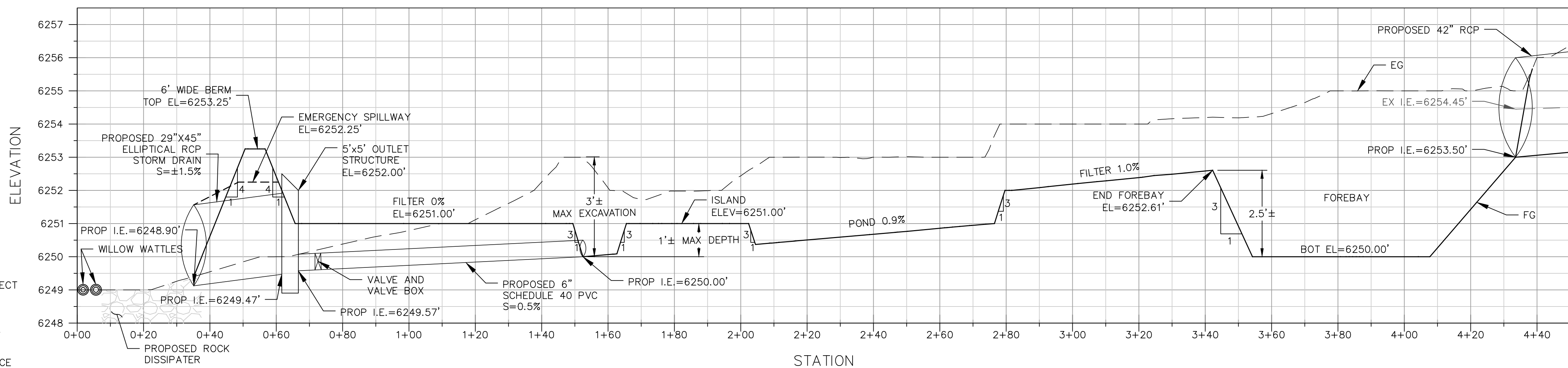
SCALE 1"=20'

AREA OF DISTURBANCE	41,300 SF
TREE REMOVAL >10" DBH	5
CUT	1,750 CY
FILL	630 CY
NET	1,120 CY

TREATMENT CAPACITIES

BASIN VOLUME	34,330 CF
FOREBAY VOLUME	6,680 CF
MAX BERM HEIGHT	3.75 FT
SURFACE AREA	26,750 SF

- NOTE:
- TEMPORARY MAT ROAD (2) D-2 MAY BE NECESSARY TO PROTECT MEADOW VEGETATION FOR ACCESS TO SITE ±100 LF.
 - ALL STATIONING IS OFF PROPOSED CONSTRUCTION ALIGNMENT. KAHLE DRIVE ALIGNMENT IS SHOWN SOLELY FOR REFERENCE.
 - SALVAGE UP TO 15 LARGE PIECES OF DOWNED WOOD TO PLACE THROUGHOUT THE BASIN AND NEAR THE OUTLET AS DIRECTED BY ENGINEER.
 - WILLOW & ALDER ARE CONSIDERED PART OF CLEARING & GRUBBING AND SHOULD NOT BE INCLUDED IN TREE REMOVAL QUANTITY.



PROFILE STA 0+00-4+50

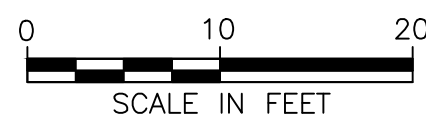
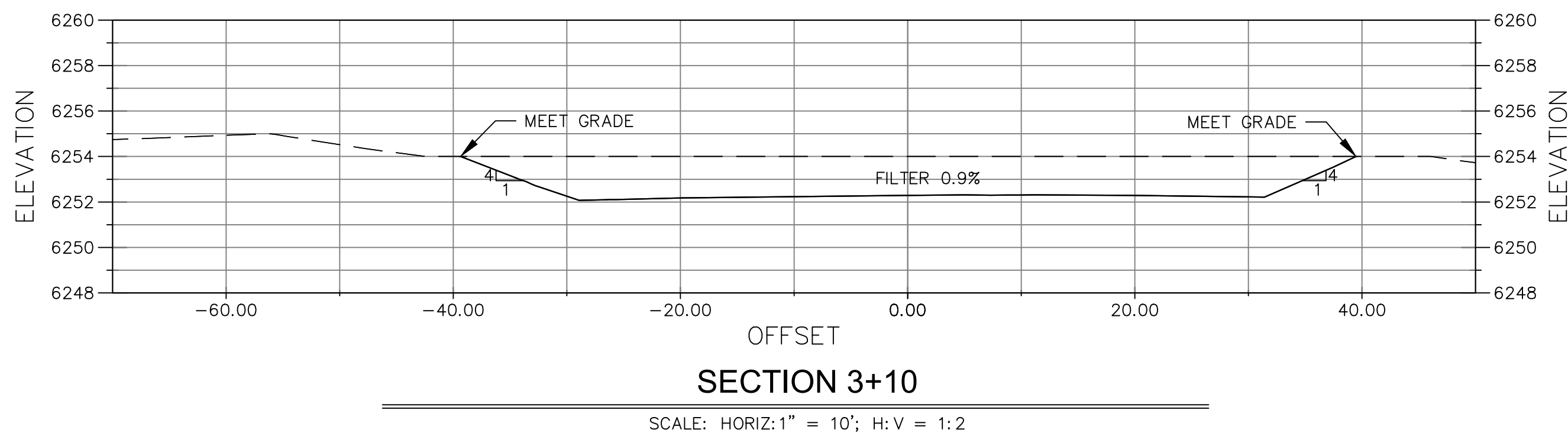
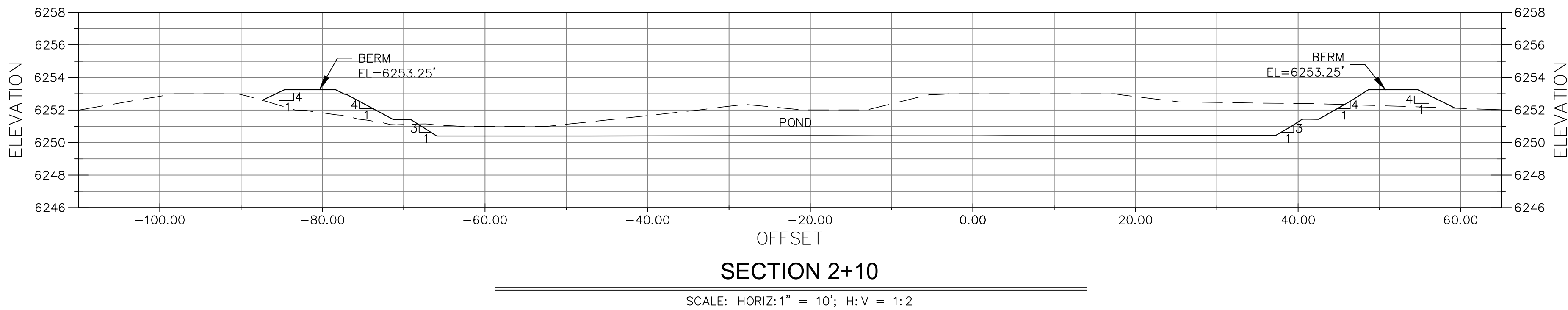
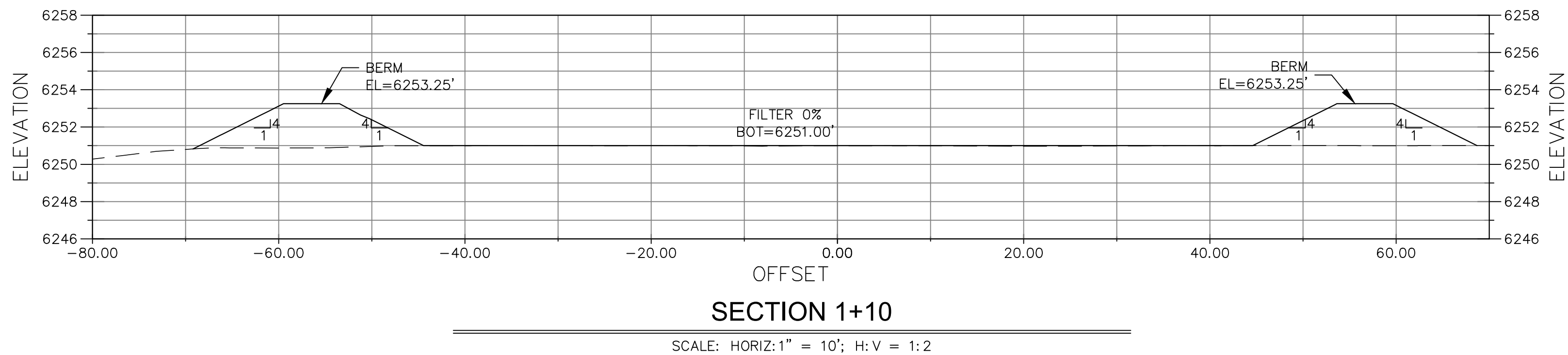
SCALE: HORIZ: 1" = 20'; H:V = 1:10

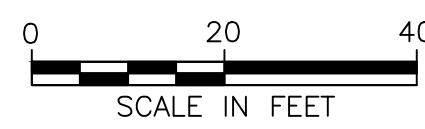
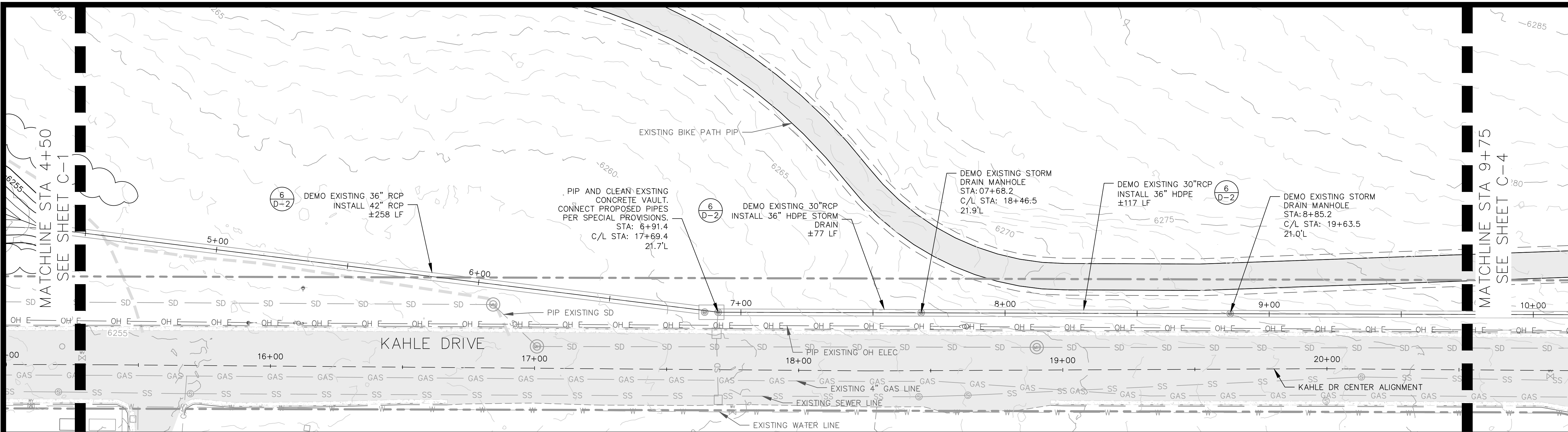
BASIN SECTIONS
KAHLE WATER QUALITY BASIN
IMPLEMENTATION

DESIGNED/DRAWN
CFW/MBG
CHECKED
MCK
DATE
MAR 2018
SCALE
AS SHOWN
PROJECT
KB

SHEET

C-2
6 OF 17

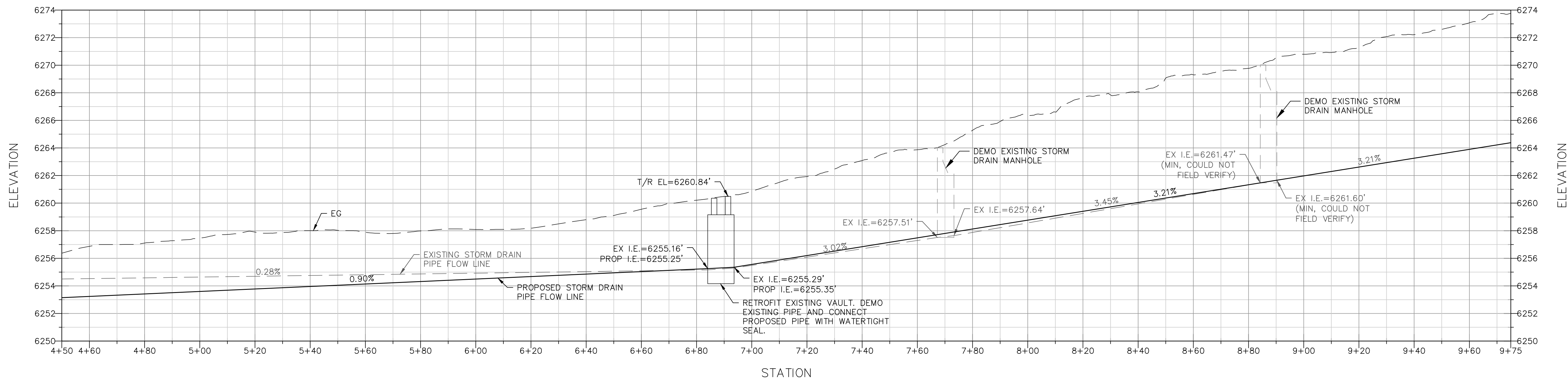




PLAN

SCALE 1"=20'

NOTE:
1. WATER STOPS (5/D-2) SHALL BE CONSTRUCTED AT 200' MAX SPACING.



PROFILE STA 4+50-9+75

SCALE: HORIZ: 1" = 20'; H: V = 1:5

**Nevada Tahoe
Conservation District**

PROFESSIONAL ENGINEER-STATE OF NEVADA
MEGHAN C. KELLY
Exp: 6/30/2019
CIVIL
No. 20851

PLAN & PROFILE
KAHLE WATER QUALITY BASIN
IMPLEMENTATION

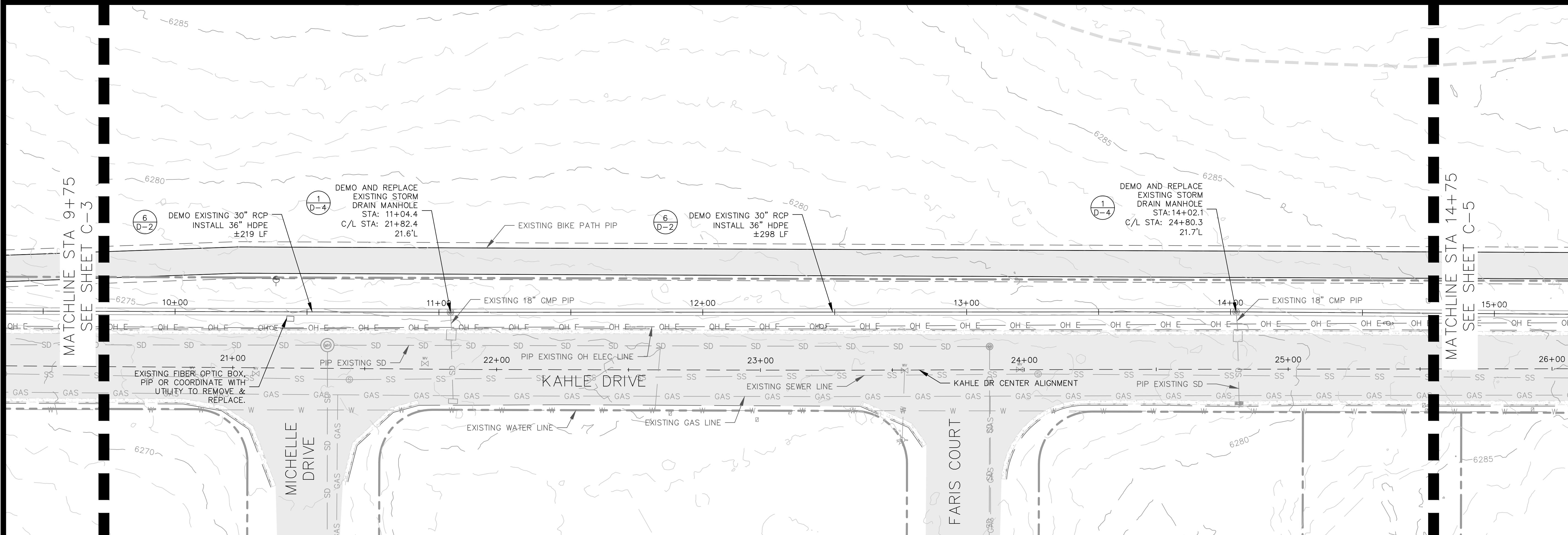
REVISIONS	
NO	DATE
1	4/10/18

DESIGNED/DRAWN
CFW/MBG
CHECKED
MCK
DATE
APR 2018
SCALE
AS SHOWN
PROJECT
KB

SHEET

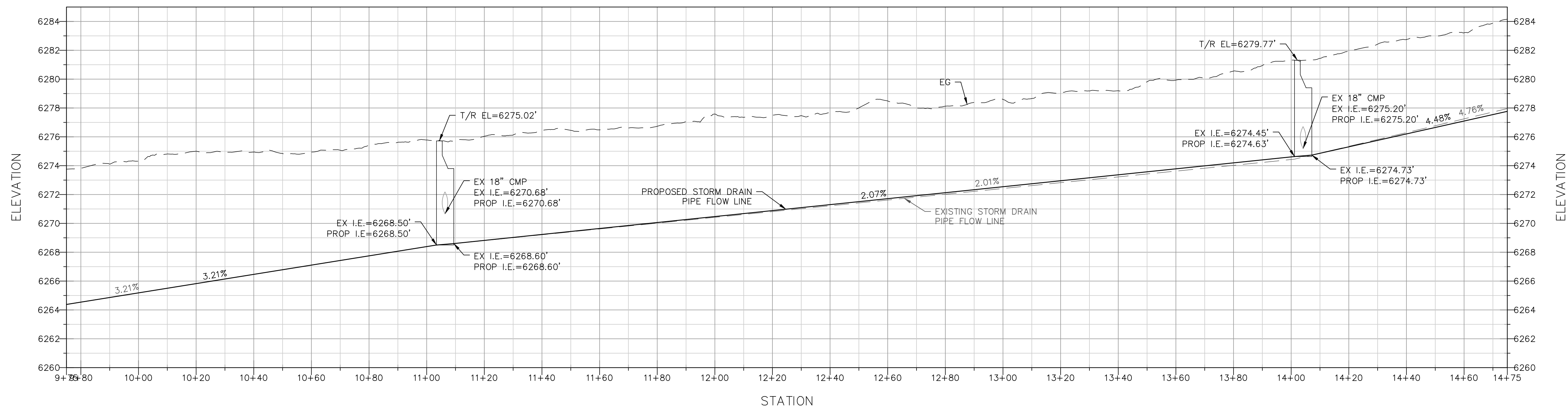
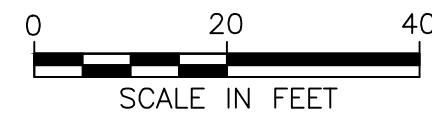
C-3

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PLAN

SCALE 1"=20'



PROFILE 9+75-14+75

SCALE: HORIZ:1" = 20'; H:V = 1:5

Nevada Tahoe
Conservation District

PROFESSIONAL ENGINEER-STATE OF NEVADA
MEGHAN C. KELLY
Exp: 6/30/2019
CIVIL
No. 20851

PLAN & PROFILE
KAHLE WATER QUALITY BASIN
IMPLEMENTATION

REVISIONS	
NO	DATE
1	4/10/18
ADDENDUM 1	

DESIGNED/DRAWN CFW
CHECKED MCK
DATE APR 2018
SCALE AS SHOWN
PROJECT KB
SHEET C-4

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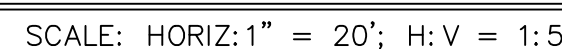
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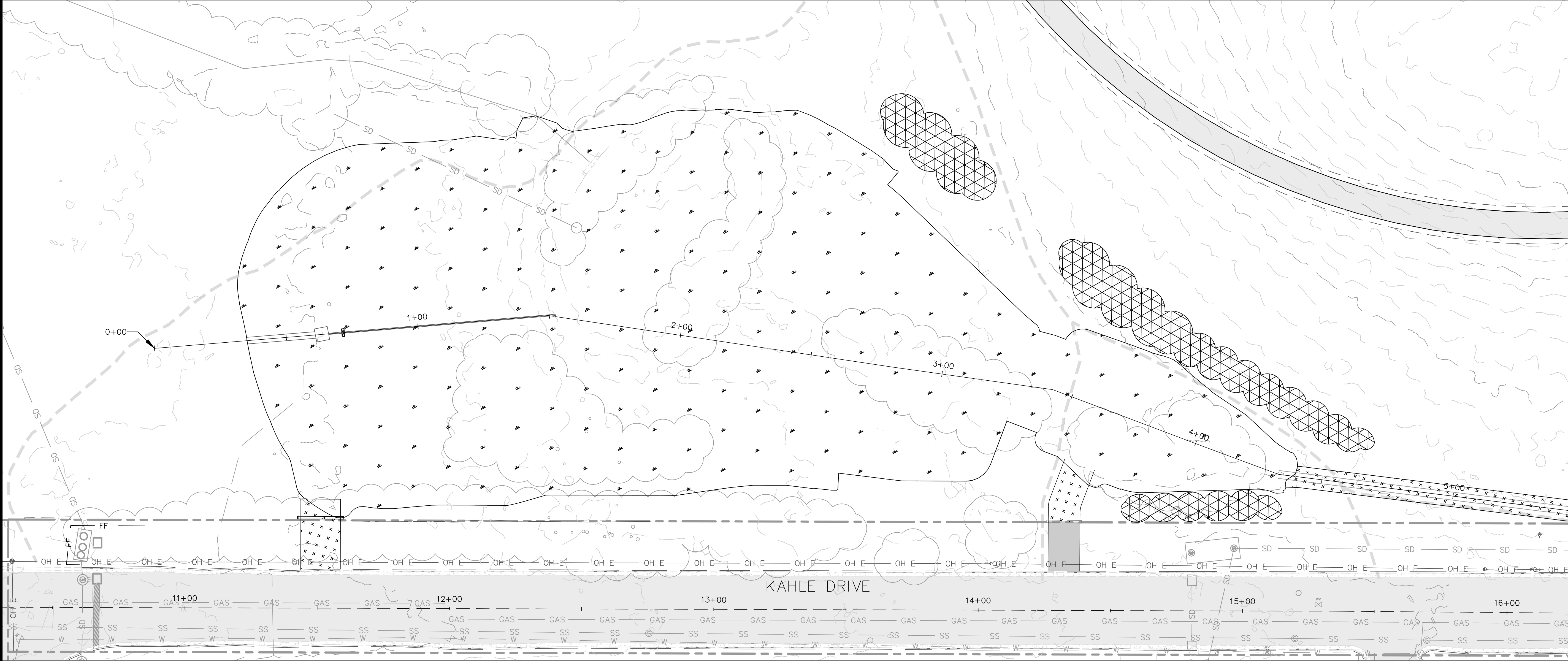
SHEET

C-5



SCALE 1"=20'

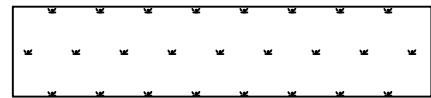




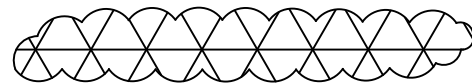
0 20 40
SCALE IN FEET



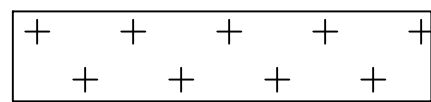
TYPE 1 REVEGETATION
±41,300 SF



TYPE 2 REVEGETATION (SCREENING)
±3,300 SF



TYPE 3 PIPE REVEGETATION
±12,300 SF



NOTES:

1. ANY DISTURBANCE OUTSIDE FOOTPRINT SHOWN SHALL BE REVEGETATED UNDER THE GUIDANCE OF THE ENGINEER.
2. THE ENTIRE LENGTH OF THE PIPE AND ITS REVEGETATION LIMITS ARE NOT SHOWN ON THE PLAN ABOVE. THE SQUARE FOOTAGE FOR TYPE 3 PIPE REVEGETATION INCLUDES THE PIPELINE NOT SHOWN ON THESE PLANS, BUT SHOWN ON SHEETS C-3, C-4, AND C-5. FOR THE WIDTH USED TO ESTIMATE THE SQUARE FOOTAGE, ASSUME AN 8' WIDE TRENCH. REVEGETATION FOR DISTURBANCE IN EXCESS OF THIS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. SOD AND OTHER REVEGETATION MATERIALS MAY BE STOCKPILED ALONG THE PIPELINE WHILE THE BASIN IS CONSTRUCTED.
4. PLACE TEMPORARY REVEGETATION SIGN, 5 EACH, AS DIRECTED

BY ENGINEER. $\frac{4}{D-2}$

5. SOD SALVAGE FOR TYPE 1 REVEGETATION SHALL BE PER

DETAIL $\frac{1}{D-3}$

6. WILLOW AND ROSE RELOCATION FOR TYPE 2 REVEGETATION

SHALL BE PER DETAIL $\frac{2}{D-3}$

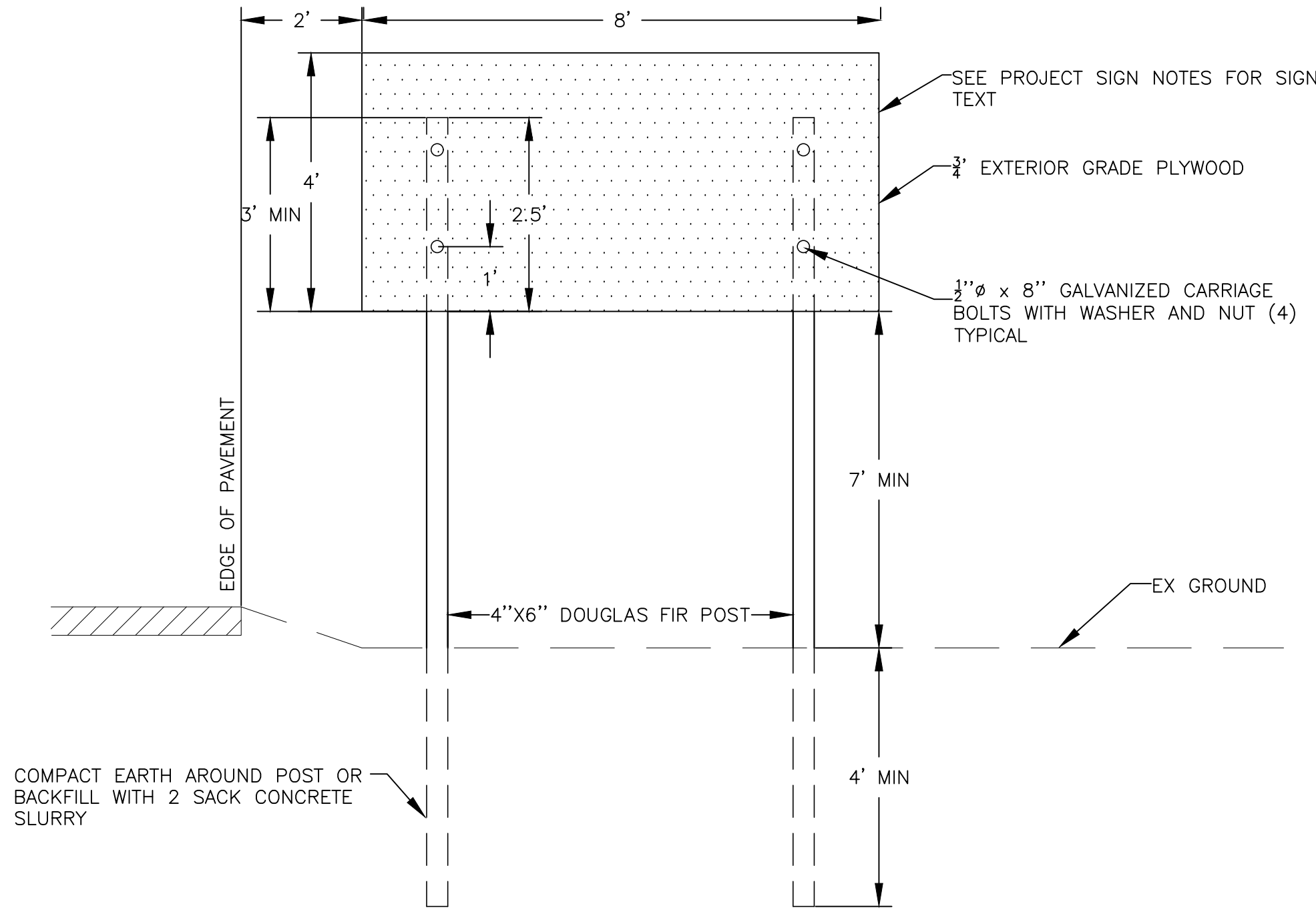
REVEGETATION PLAN
KAHLE WATER QUALITY BASIN
IMPLEMENTATION

DESIGNED/DRAWN
CFW/MBG
CHECKED
MCK
DATE
MAR 2018
SCALE
AS SHOWN
PROJECT
KB

SHEET

R-1
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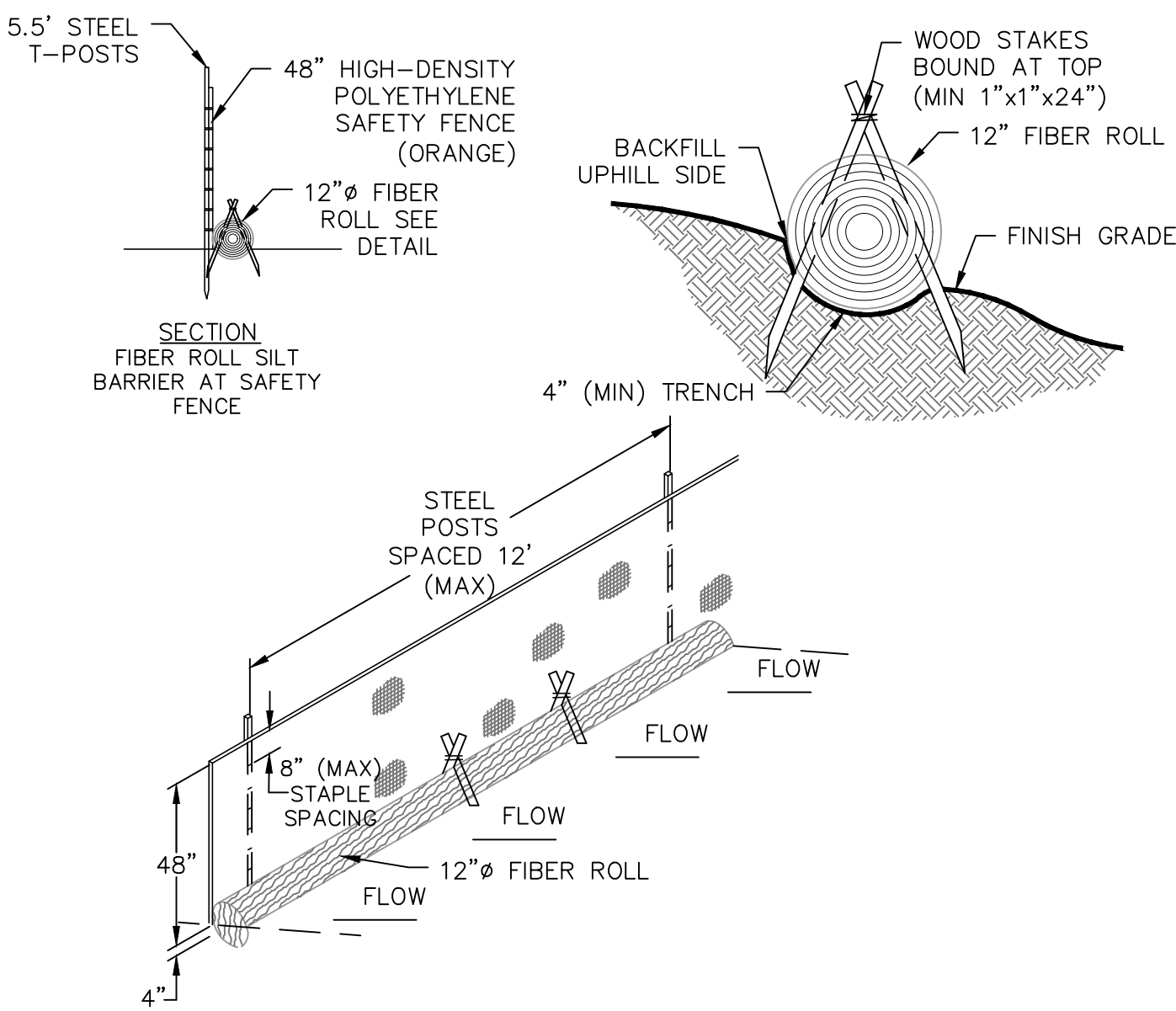
SIGN NOTES:
1. CONTRACTOR SHALL CONTACT NTCO FOR THE LETTER FONT, STYLE, SIZE, SPACING, AND GRAPHIC ART. SIGN MAY BE ADJUSTED BY THE CONTRACTOR AS NEEDED TO CREATE THE HIGHEST QUALITY CRAFTSMANSHIP DISPLAYED BY THE FINISHED PRODUCT.
2. LOCATION AS DIRECTED BY ENGINEER.



TEMPORARY PROJECT SIGN

SCALE: N.T.S.

1
D-1



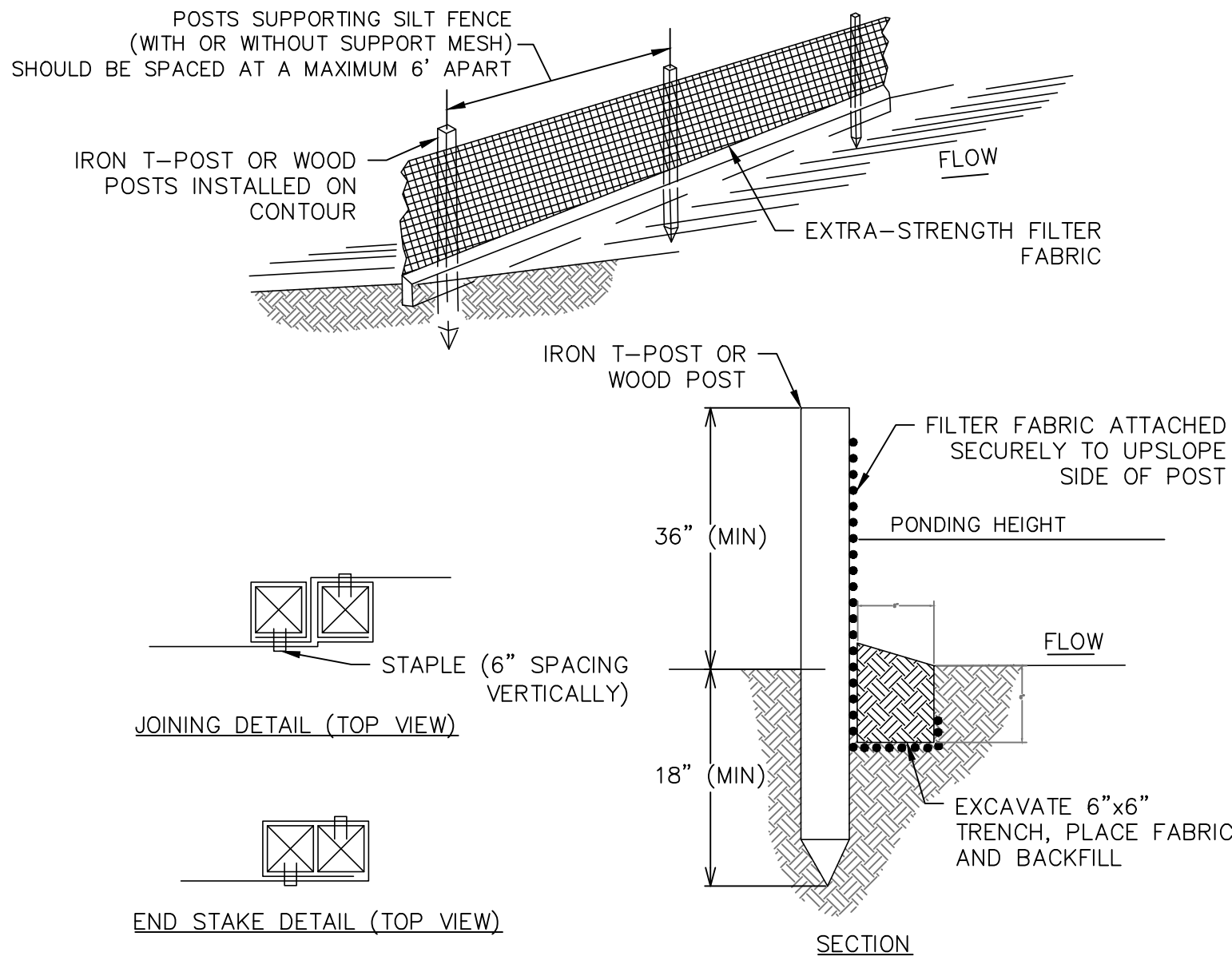
FIBER ROLL NOTES:

1. FIBER ROLL SHALL NOT BE MADE FROM STRAW. FIBER ROLLS SHALL BE BOUND BY HIGH STRENGTH COIR NETTING, AND HAVE A MINIMUM WEIGHT OF 5 LBS PER LINEAL FOOT.
2. ORANGE SAFETY FENCE IS INTENDED TO PROTECT FIBER ROLLS FROM COMPRESSION BY VEHICLES, CONSTRUCTION EQUIPMENT, ETC. FENCES SHALL BE HIGH DENSITY POLYETHYLENE WITH A MESH OPENING OF APPROXIMATELY 1 INCH BY 4 INCHES AND A MINIMUM HEIGHT OF 4 FEET. SAFETY FENCE MAY BE OMITTED IN LOW TRAFFIC AREAS.
3. FIBER ROLL SILT BARRIER SHALL BE INSTALLED ALONG CONTOUR AND ON SLOPES 5H:1V OR FLATTER UNLESS OTHERWISE APPROVED BY TRPA.
4. THE INSTALLATION CONFIGURATION SHALL PREVENT RUNOFF FROM LEAVING THE SITE OR ENTERING A WATERCOURSE WITHOUT PASSING THROUGH A SILT BARRIER.
5. THE MAXIMUM LENGTH OF SLOPE DRAINING TO THE SILT BARRIER SHALL BE 100 FEET.
6. FIBER ROLL SHALL BE INSTALLED BY SHAPING A 4 INCH DEEP FURROW TO MATCH THE SHAPE OF THE LOG, SECURING IN FURROW WITH WOOD STAKES, AND TAMPING THE GROUND AROUND THE FIBER ROLL TO FILL VOIDS BETWEEN THE LOG AND THE GROUND.

FIBER ROLL SILT BARRIER

SCALE: N.T.S.

2
D-1



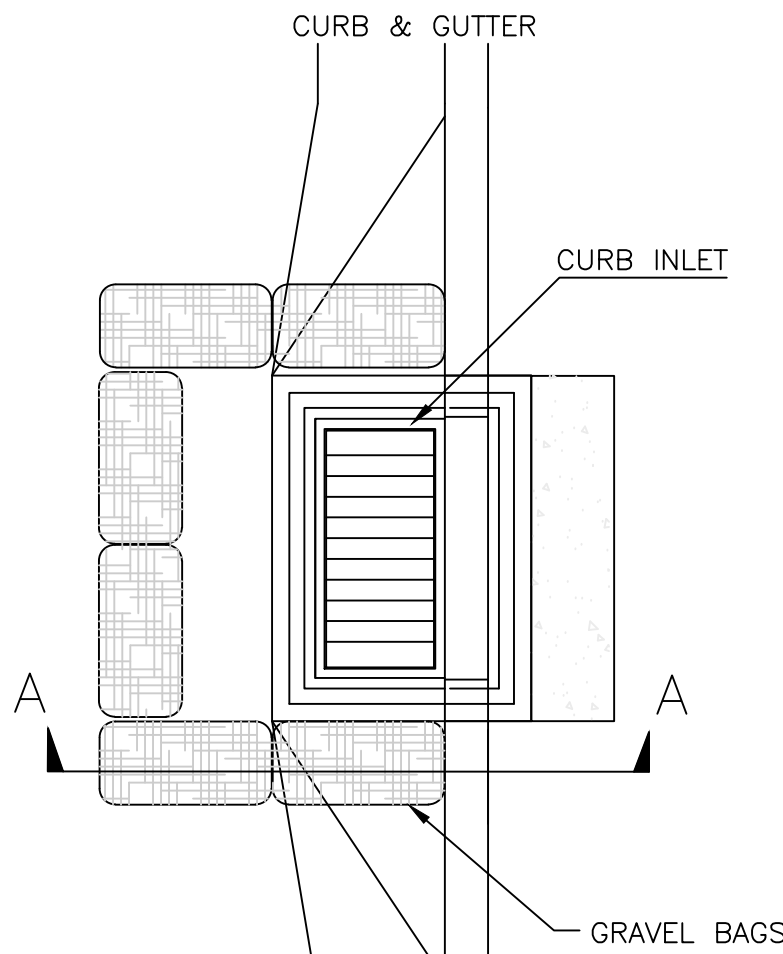
SILT FENCE NOTES:

1. USED IN AREAS WHERE SHEET FLOW OCCURS.
2. DO NOT USE IN STREAMS, CHANNELS, OR ANYWHERE FLOW IS CONCENTRATED. DO NOT USE SILT FENCES TO DIVERT FLOW.
3. DO NOT USE BELOW SLOPES SUBJECT TO CREEP, SLUMPING, OR LANDSLIDES.
4. SILT FENCE SHOULD BE WOVEN POLYPROPYLENE WITH A MINIMUM WIDTH OF 36 INCHES AND A MINIMUM TENSILE STRENGTH OF 100 LB FORCE.
5. INSTALL ALONG A LEVEL CONTOUR SO WATER DOES NOT POND MORE THAN 1.5 FEET AT ANY POINT ALONG THE SILT FENCE.
6. THE MAXIMUM LENGTH OF SLOPE DRAINING TO ANY POINT ALONG THE SILT FENCE SHOULD BE 200 FEET OR LESS.
7. THE MAXIMUM SLOPE PERPENDICULAR TO THE FENCE LINE SHOULD BE 1:1.
8. PROVIDE SUFFICIENT ROOM FOR RUNOFF TO POND BEHIND THE FENCE AND TO ALLOW SEDIMENT REMOVAL EQUIPMENT TO PASS BETWEEN THE SILT FENCE AND TOES OF SLOPES OR OTHER OBSTRUCTIONS.
9. TURN THE ENDS OF THE FILTER FENCE UPHILL TO CREATE A "J" SHAPE, TO PREVENT STORMWATER FROM FLOWING AROUND THE FENCE.
10. LEAVE AN UNDISTURBED OR STABILIZED AREA IMMEDIATELY DOWN SLOPE FROM THE FENCE WHERE FEASIBLE.
11. SILT FENCES SHOULD REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED.
12. REMOVE SEDIMENT WHEN DEPOSITS REACH APPROXIMATELY 1/3 HEIGHT OF BARRIER.

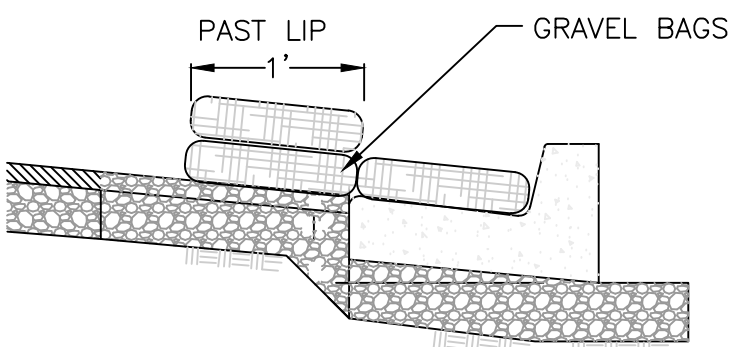
FILTER FENCE SILT BARRIER

SCALE: N.T.S.

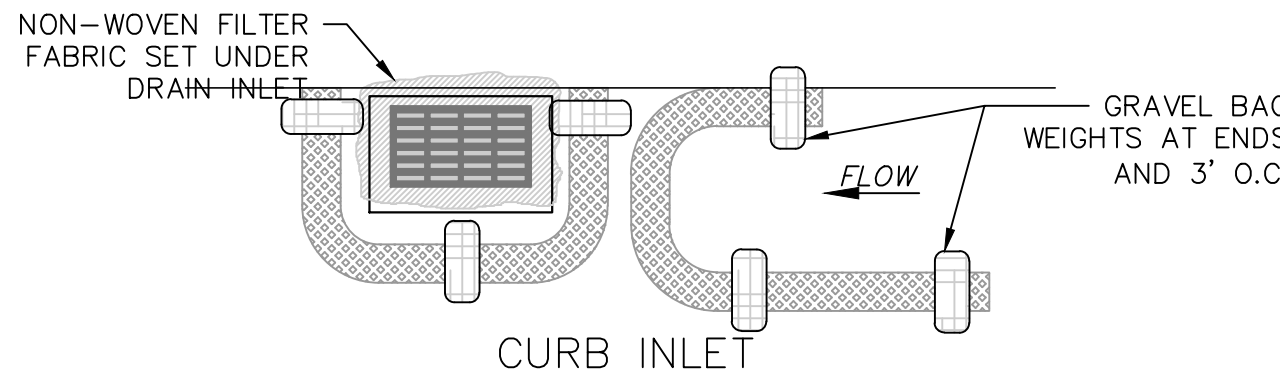
3
D-1



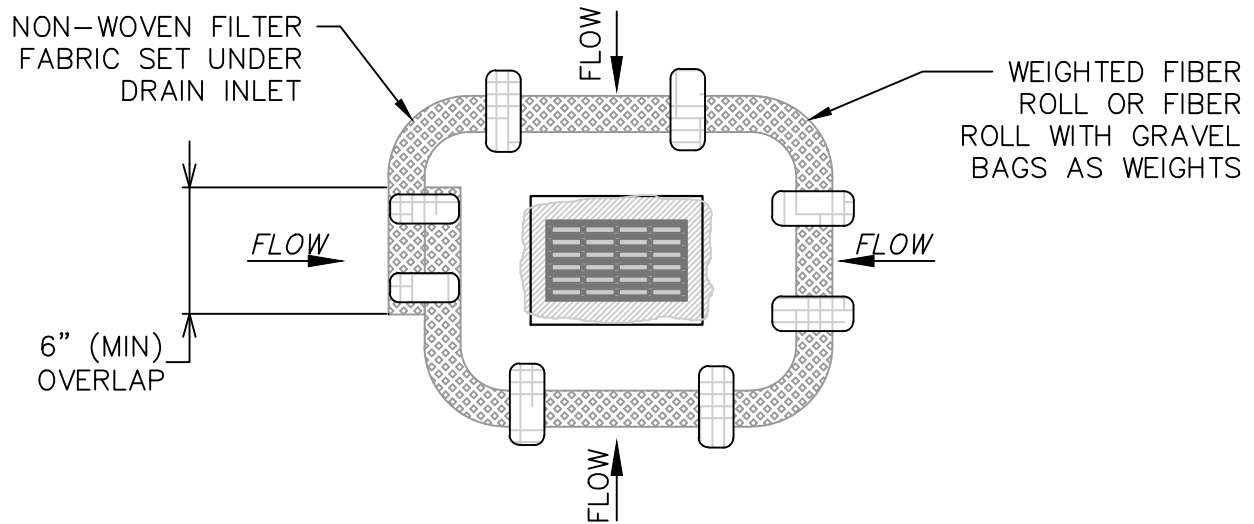
ALTERNATE CURB INLET



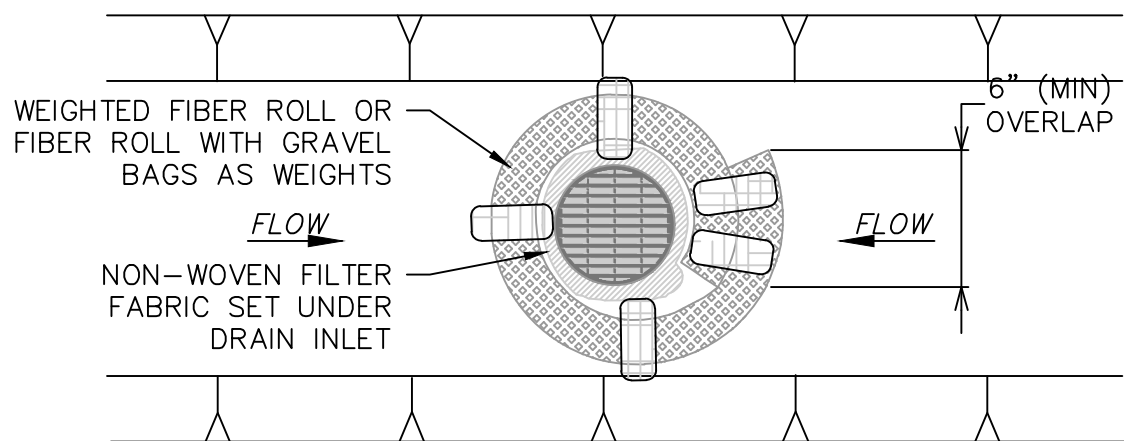
SECTION A-A



CURB INLET



SHEET FLOW INLET

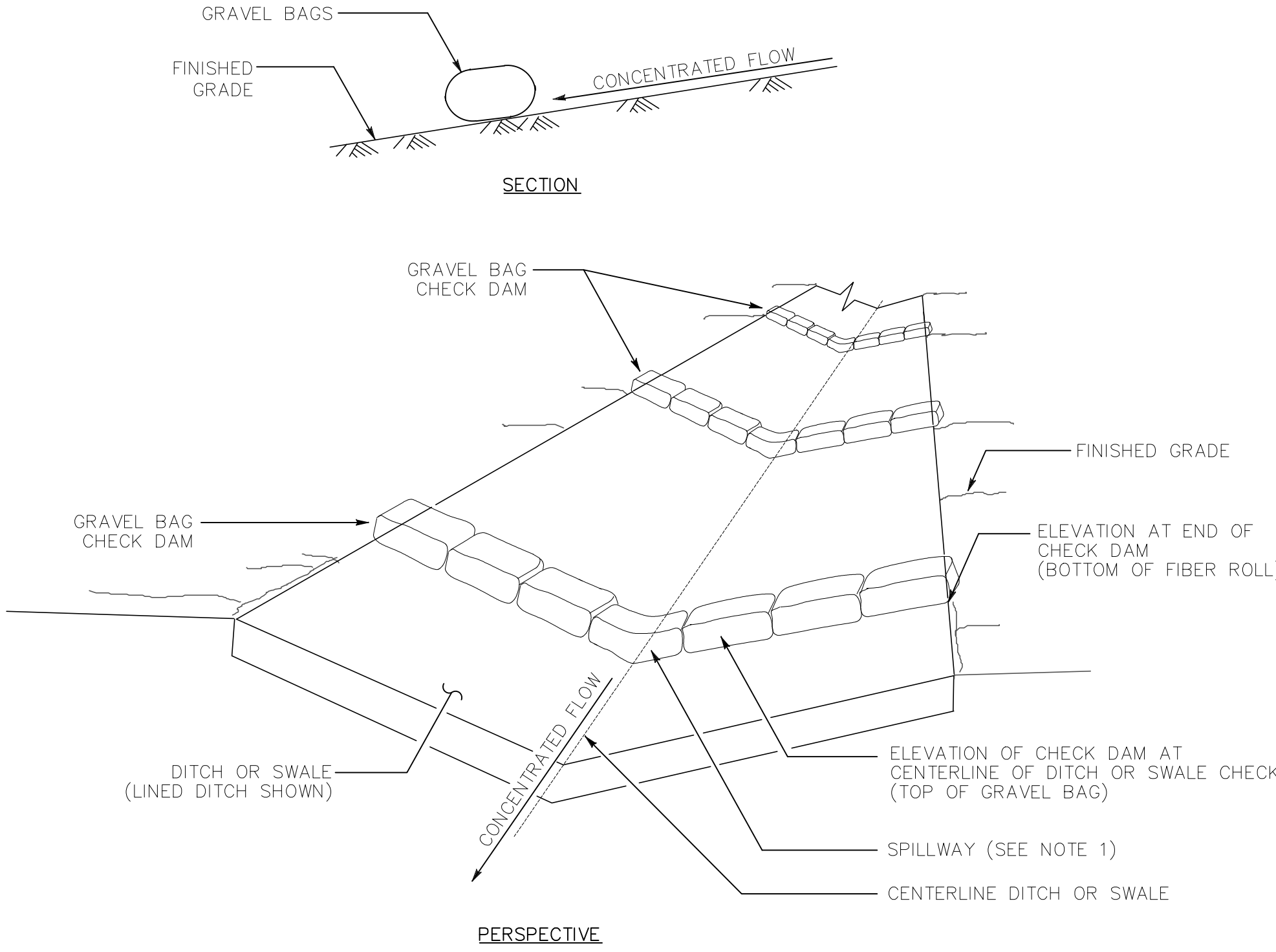


DRAINAGE DITCH INLET

DI PROTECTION

SCALE: N.T.S.

4
D-1



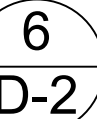
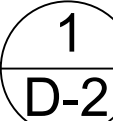
TEMPORARY CHECK DAM NOTES:

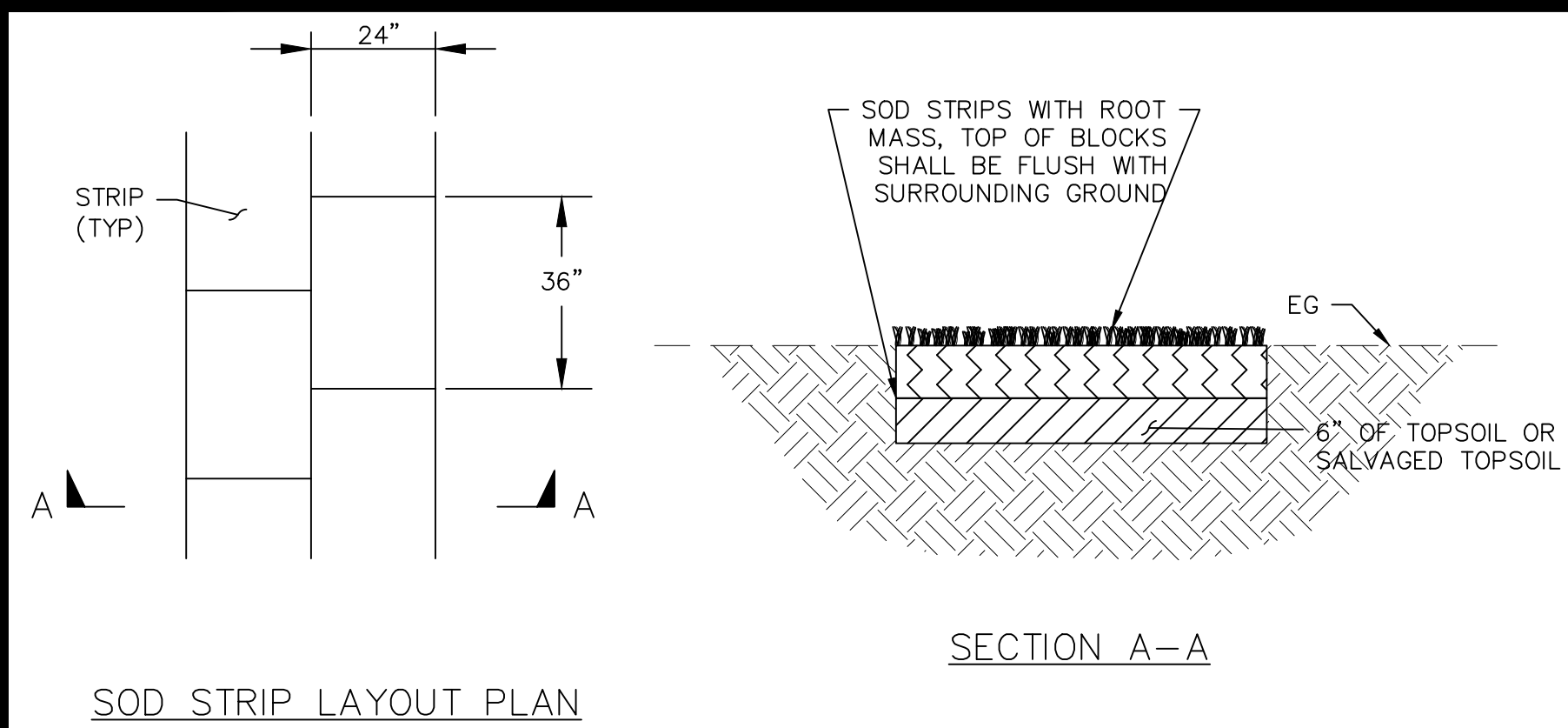
1. CHECK DAM DIMENSIONS TO BE VERIFIED BY CIVIL ENGINEER.
2. ONLY CLEAN/WASHED GRAVEL MUST BE USED IN BAGS
3. SAND BAGS MAY BE REPLACED WITH GRAVEL BAGS BY APPROVAL OF CIVIL ENGINEER.

TEMPORARY CHECK DAM

SCALE: N.T.S.

5
D-1



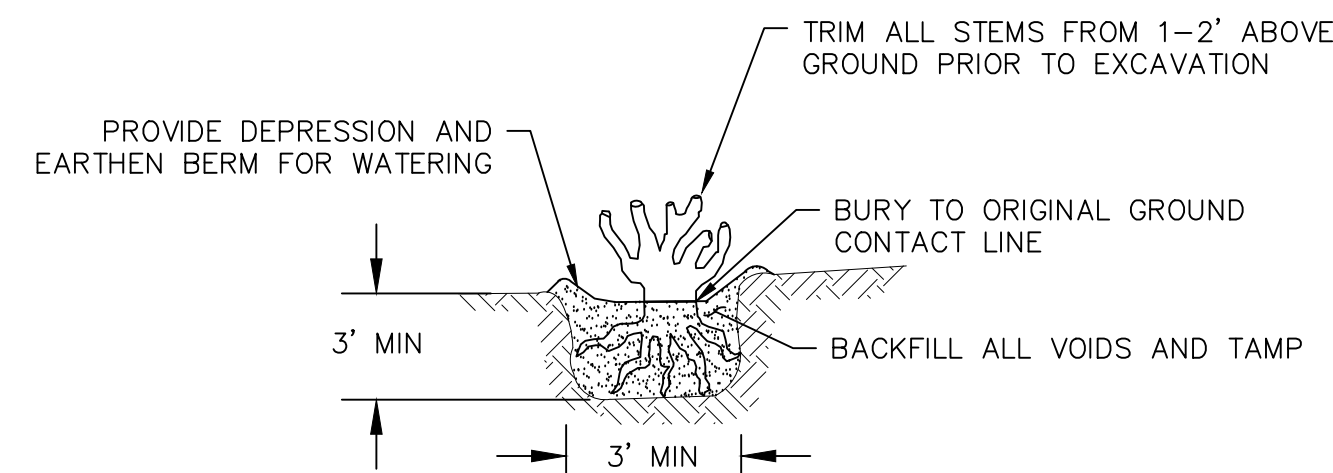


SOD STRIP NOTES:
REVEGETATION AND REPLACEMENT PLANTINGS SHALL CONSIST OF LOCALLY-OBTAINED, NATIVE SPECIES, PER SPECIFICATIONS.

SOD SALVAGE

SCALE: N.T.S.

1
D-3

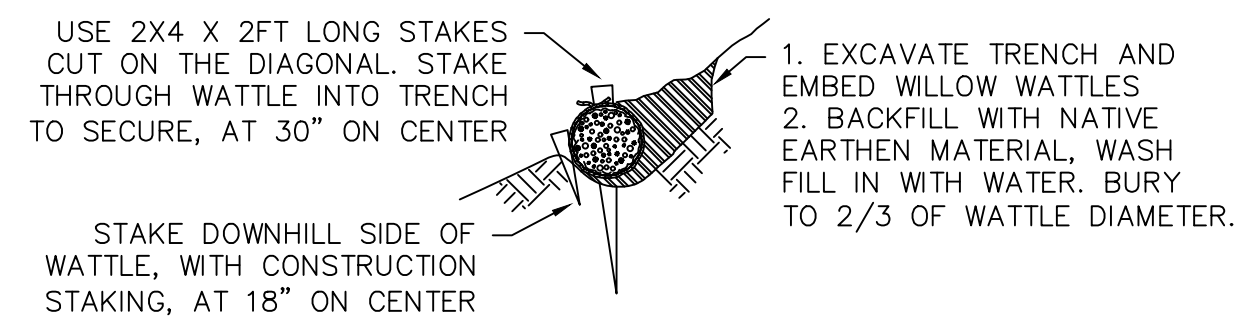


WILLOW/ROSE RELOCATION NOTES:
1. RETAIN SOIL SURROUNDING ROOT BALL. TRIM ROOTS AS NEEDED

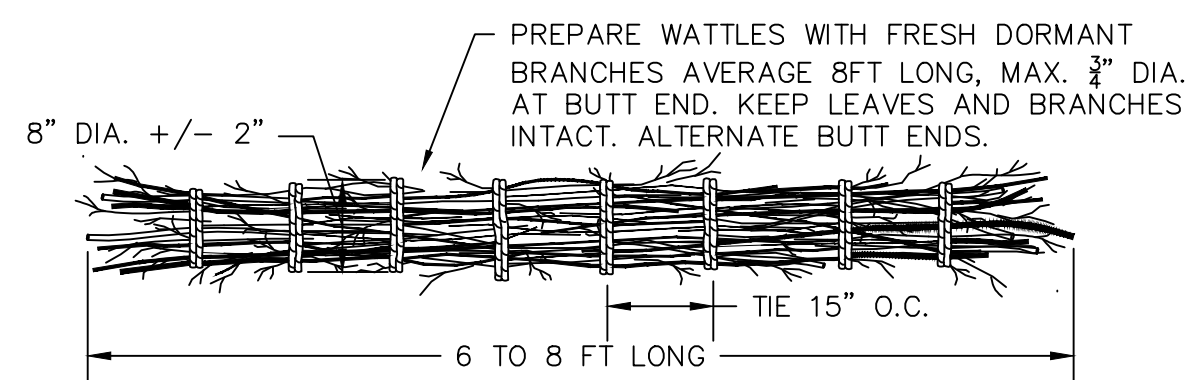
WILLOW AND ROSE RELOCATION

SCALE: N.T.S.

2
D-3



SECTION

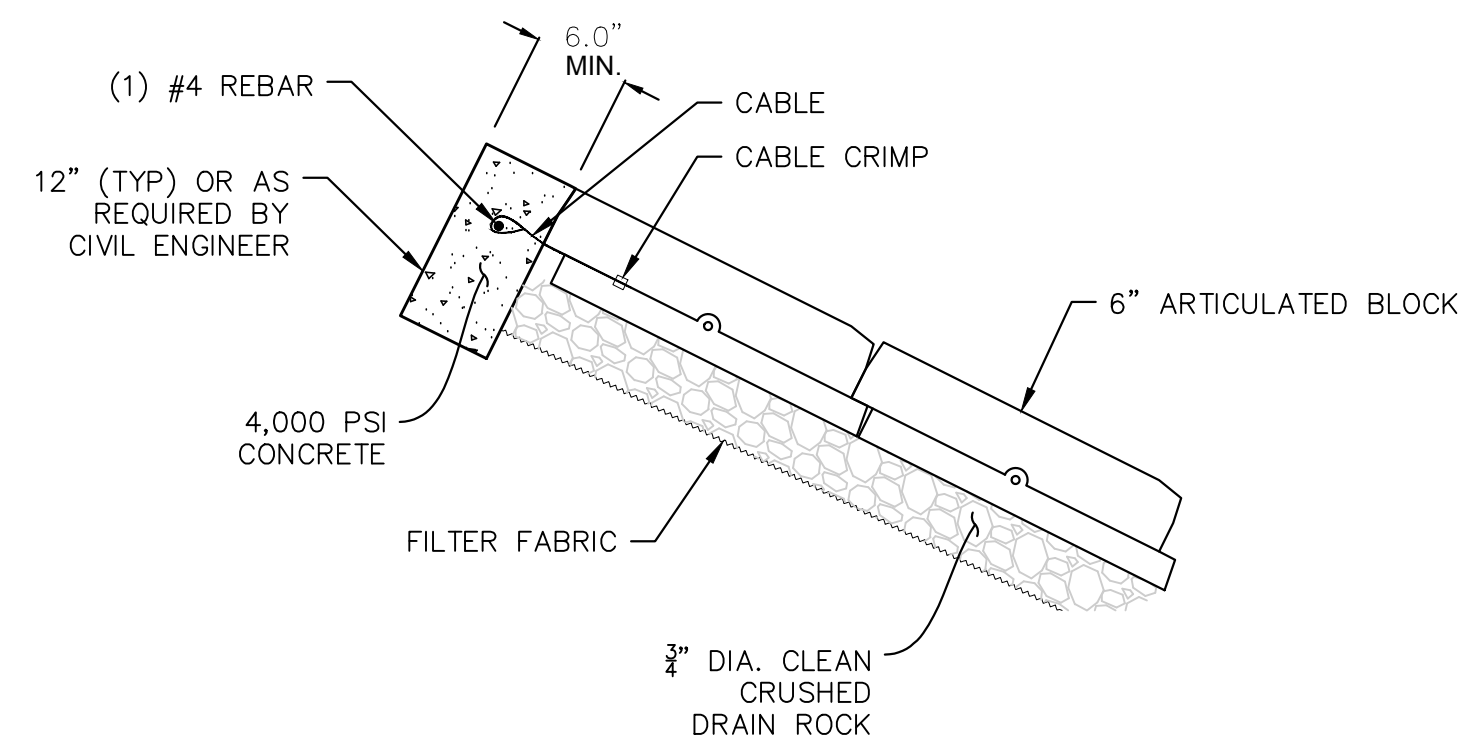


PLAN

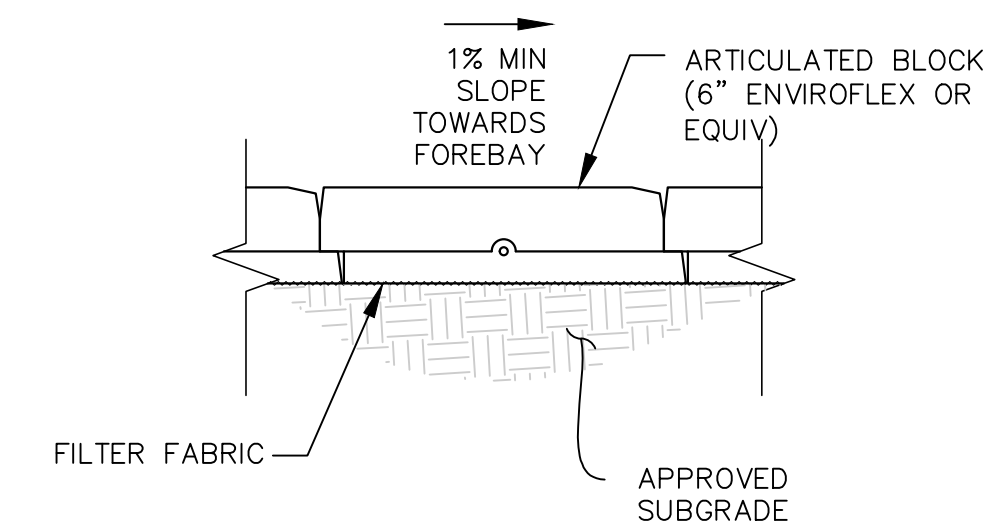
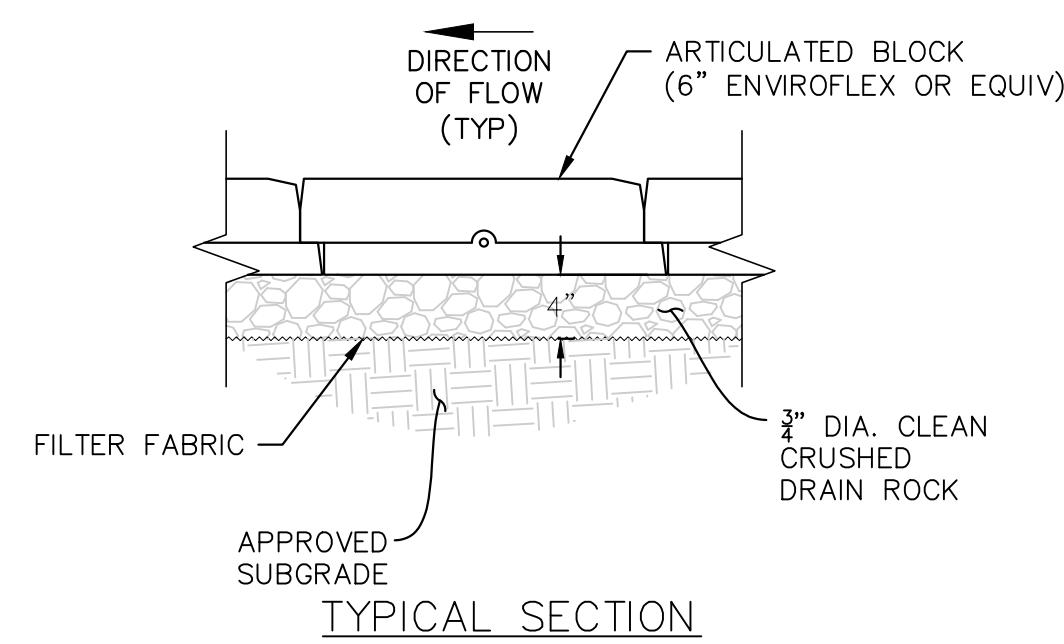
WILLOW WATTLING DETAIL

SCALE: N.T.S.

3
D-3

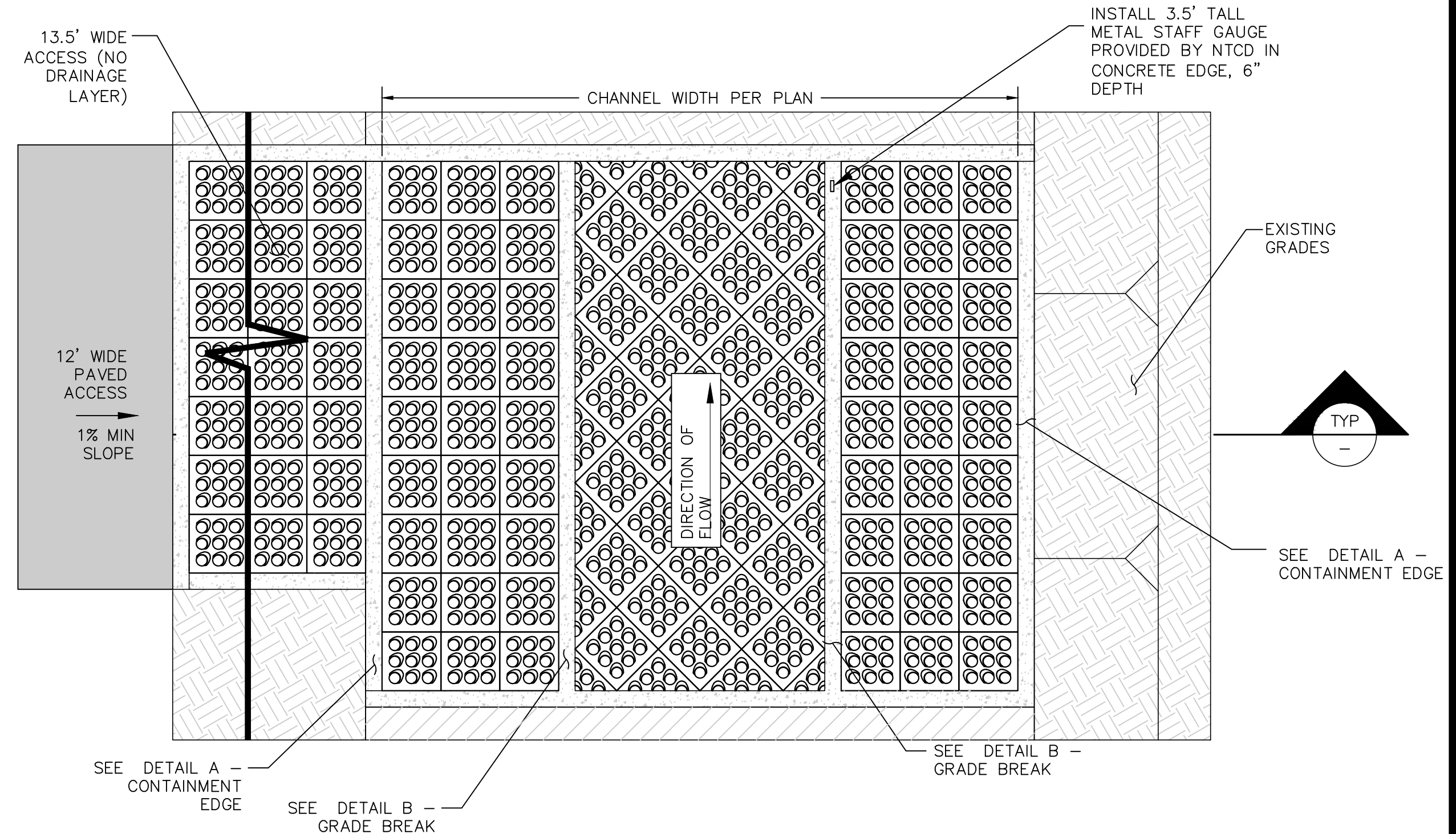
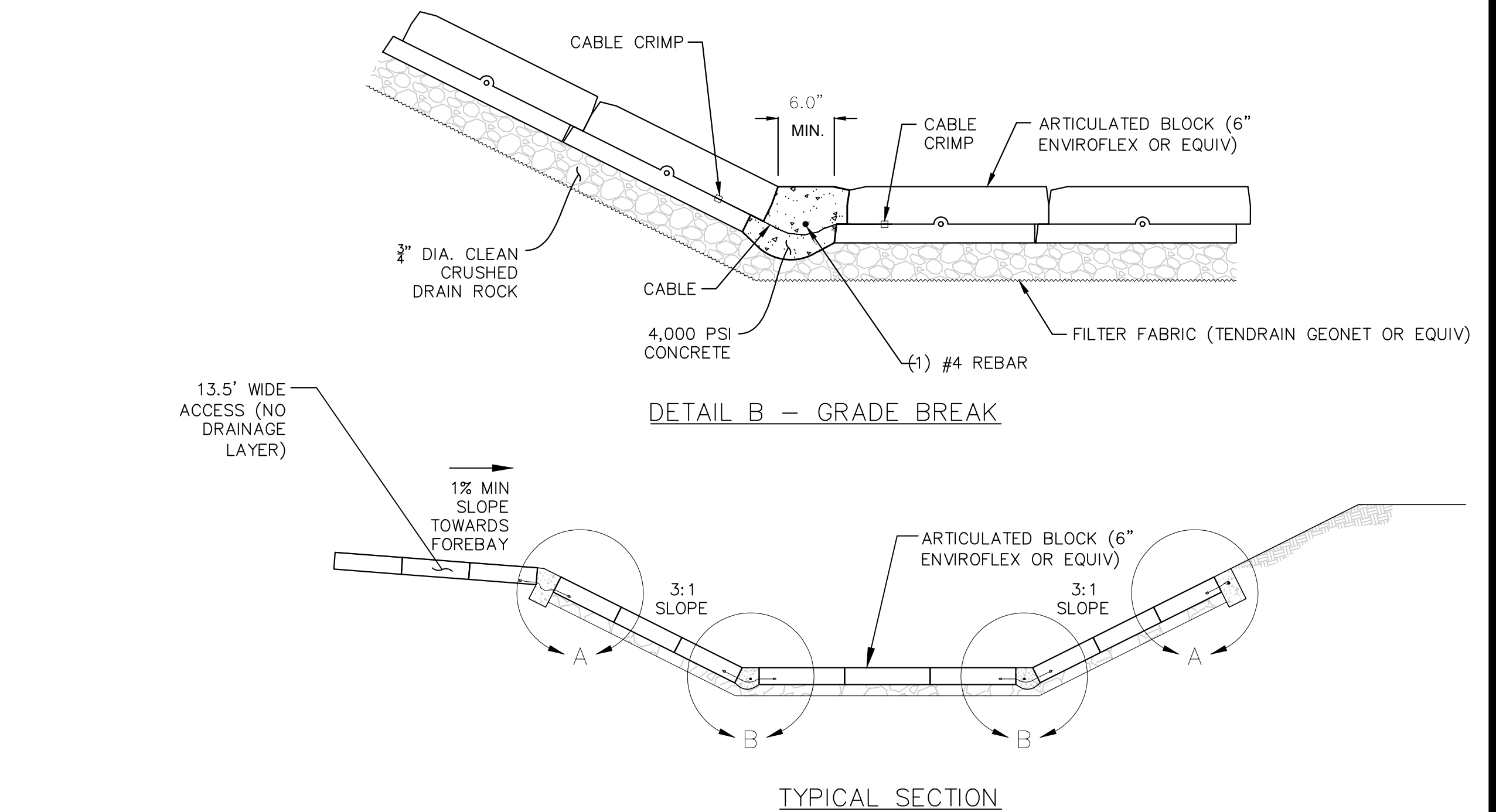


DETAIL A - CONTAINMENT EDGE



TYPICAL SECTION FOR ACCESS ROAD (NO DRAINAGE LAYER)

FOREBAY NOTES:
1. THE OPEN AREA OF THE ARTICULATING CONCRETE BLOCK SYSTEM SHALL BE BACKFILLED WITH SUITABLE TOPSOIL FOR REVEGETATION. BACKFILLING WITH SOIL WITHIN THE CELLS OF THE SYSTEM SHALL BE COMPLETED AS SOON AS PRACTICABLE AFTER THE REVETMENT HAS BEEN INSTALLED.
2. REVEGETATE PER REVEGETATION PLAN AND SPECIAL PROVISIONS.

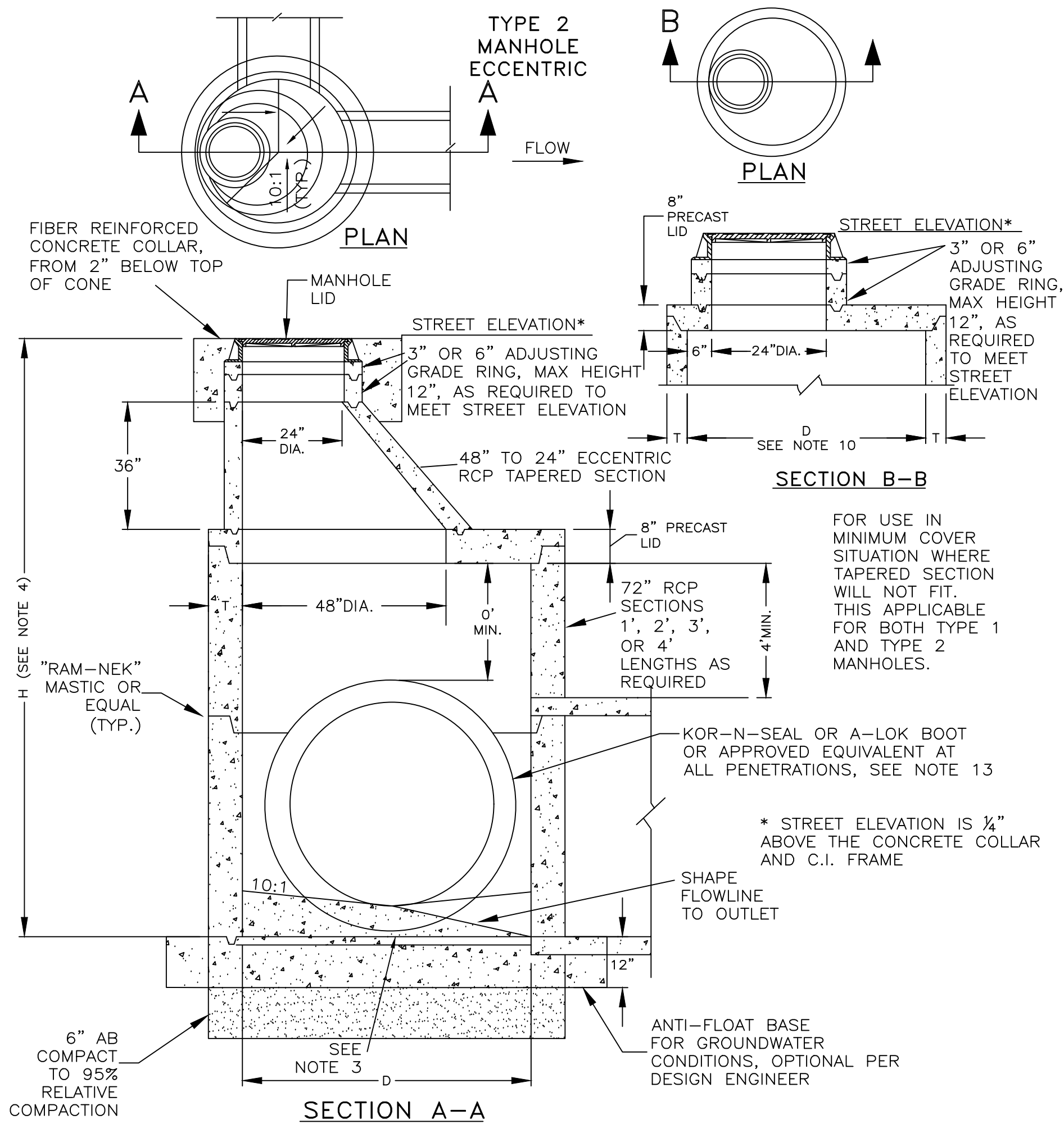


FOREBAY PLAN

FOREBAY

SCALE: N.T.S.

4
D-3

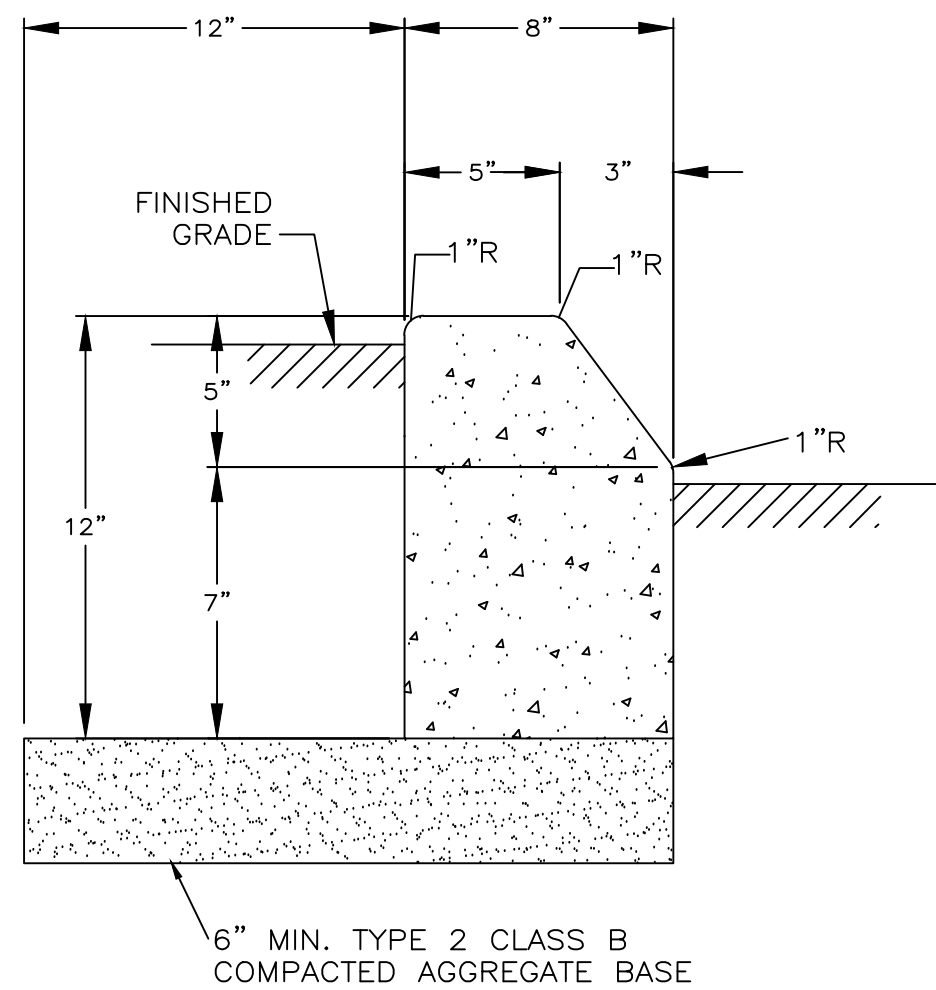


- MANHOLE NOTES:**
1. ALL MANHOLES SHALL BE PRECAST UNLESS APPROVAL IS GIVEN BY ENGINEER. HIGH GROUNDWATER CONDITIONS MAY EXIST. ALL MANHOLES MUST HAVE WATERPROOFING MEMBRANE APPLIED: MASTERSSEAL HLM 5000 OR APPROVED EQUAL. SEE STANDARD SPECIFICATION FOR APPLICATION AND CURING METHODS.
 2. FOR CAST IN PLACE CONCRETE BASE ALL REINFORCING STEEL TO BE NO. 4 BARS AT 18 INCH CENTERS TIGHTLY WOUND AT ALL INTERSECTIONS AND EMBEDDED IN CONCRETE AT LEAST 2 INCHES AND BAR ENDS MUST CLEAR CONCRETE SURFACES BY 1-1/2 INCHES.
 3. ALL CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 202 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION FOR CONCRETE EXPOSED TO FREEZE-THAW ENVIRONMENTS.
 4. MANHOLE WITH MORE THAN ONE PIPE-INFLOW, PIPE INVERT ELEVATIONS SHALL BE ≥ 0.1 FOOT ABOVE OUTFLOW PIPE ELEVATION FOR STRAIGHT FLOW THROUGH, OR 0.2 FOOT FOR 90° BEND FLOW THROUGH.
 5. FOR VALUES OF "H" SEE PLANS. "H" IS THE DIFFERENCE IN ELEVATION BETWEEN THE OUTFLOW PIPE INVERT ELEVATION AND THE TOP OF MANHOLE ELEVATION AT STREET GRADE.
 6. DO NOT PLACE PIPES IN TAPERED SECTION.
 7. MANHOLE COVER SHALL BEAR "STORM DRAIN" ON LID.
 8. IF PIPES OF DIFFERENT DIAMETERS ENTER OR EXIT THE SAME MANHOLE, THE CROWNS OF THE PIPE SHALL BE AT THE SAME ELEVATION. THE LARGEST PIPE IN THE MANHOLE SHALL GOVERN THE DIAMETER OF THE MANHOLE.
 9. LADTECH HDPE ADJUSTMENT RINGS FOR MANHOLES MAY BE USED PER MANUFACTURER'S RECOMMENDATIONS. WOOD SHIMS MAY NOT BE USED IN CONJUNCTION WITH LADTECH RINGS. OTHER ADJUSTING RINGS MAY BE CONSIDERED FOR APPROVAL BY ENTITY THAT WILL MAINTAIN THE ROADWAY.
 10. T = THICKNESS PIPE WALL.
 11. D = DIAMETER. D = 6'-0" FOR 30" TO 48" STORM DRAIN PIPE
 12. SUBGRADE SHALL BE COMPACTED IN CONFORMANCE WITH SECTION 302 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
 13. FOR MANHOLE CONNECTIONS WITH PIPE DIAMETER GREATER THAN 36-INCHES, THE BOOT SHALL NOT BE REQUIRED. ALL PIPE CONNECTIONS GREATER THAN 36-INCH IN DIAMETER SHALL BE GROUTED IN INTERIOR & EXTERIOR OF THE MANHOLE. GROUT SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION SECTION 200.04.
 14. WHERE HIGH GROUNDWATER CONDITIONS ARE EXPECTED, INSTALL WATERTIGHT GASKET OR BOOT. ADS WATERSTOP GASKET OR APPROVED EQUAL SHALL BE INSTALLED IN PIPE TO MANHOLE CONNECTIONS PER MANUFACTURER'S RECOMMENDATIONS

STORM DRAIN MANHOLE

SCALE: N.T.S.

1
D-4



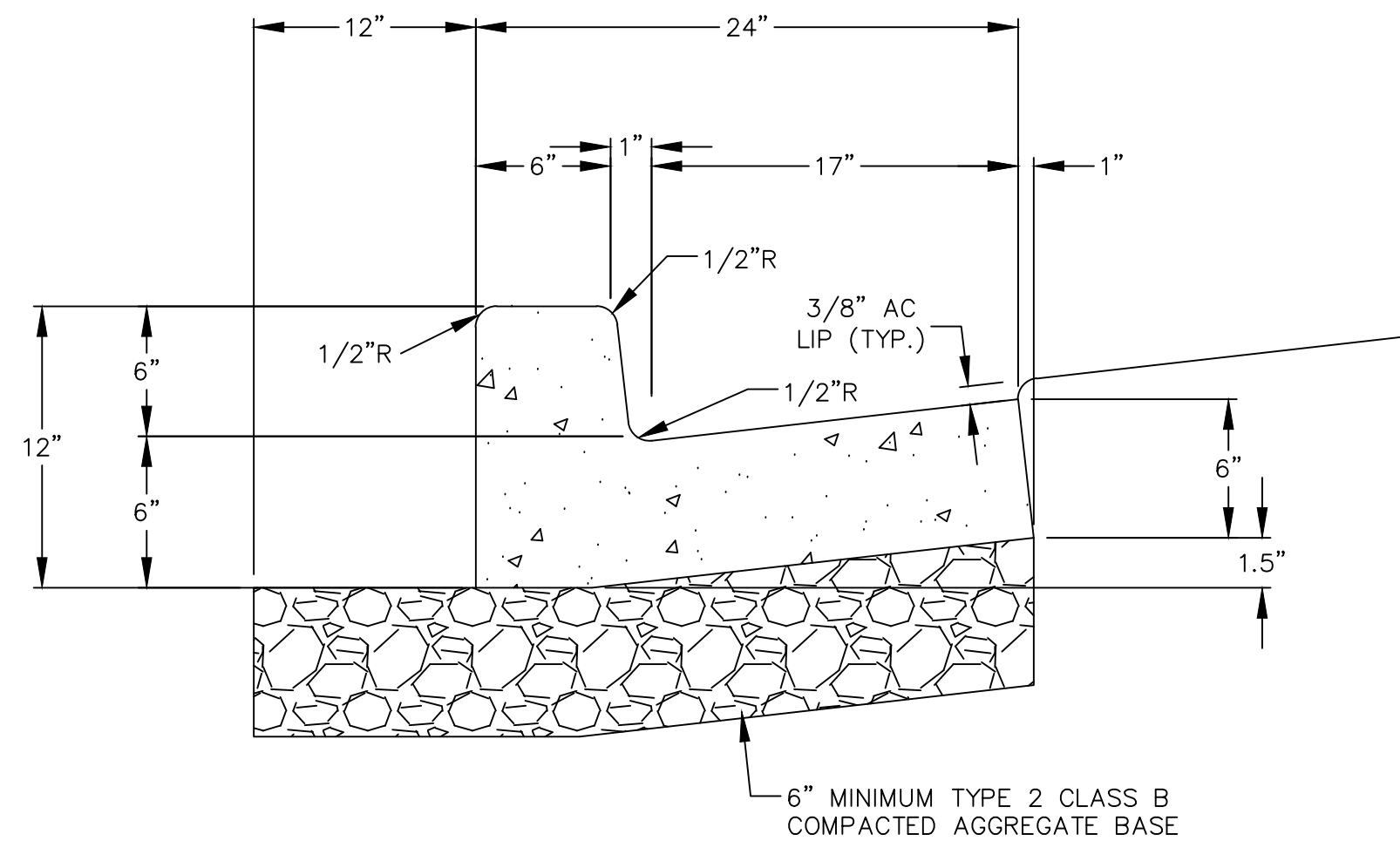
MEDIAN NOTES:

1. PORTLAND CEMENT CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 337 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION FOR CONCRETE EXPOSED TO FREEZE-THAW ENVIRONMENTS.
2. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED EVERY 10 FEET. THE JOINTS SHALL BE CONSTRUCTED IN CONFORMANCE WITH SECTION 312 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
3. EXPANSION JOINTS SHALL BE CONSTRUCTED AT LOCATIONS DESIGNATED IN SECTION 312 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
4. TYPE 2, CLASS B AGGREGATE BASE SHALL CONFORM TO SECTION 200 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, AND SHALL BE MECHANICALLY COMPACTED IN CONFORMANCE WITH SECTION 308 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

PCC MEDIAN CURB

SCALE: N.T.S.

2
D-4



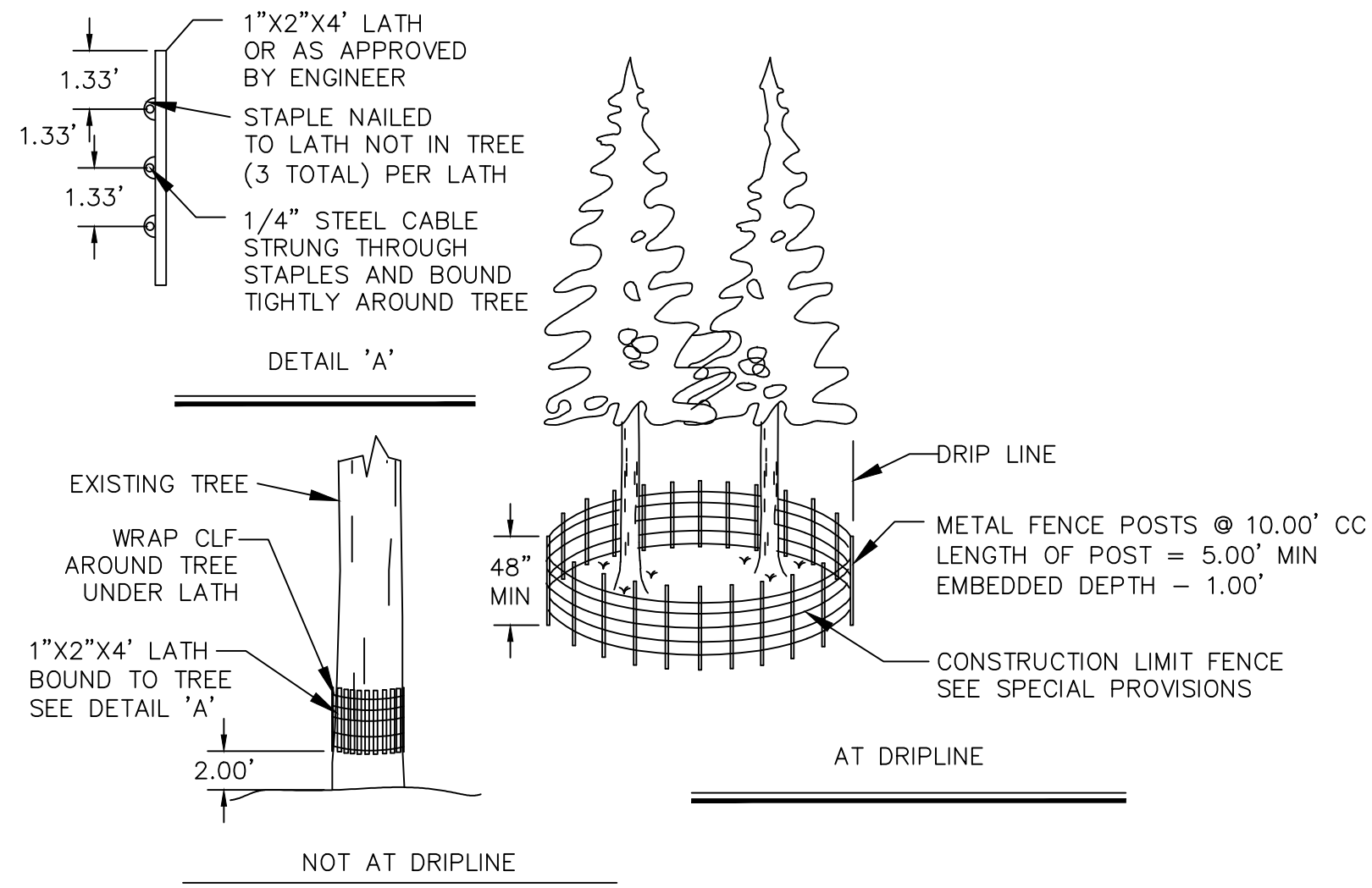
C&G NOTES:

1. PORTLAND CEMENT CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 337 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION FOR CONCRETE EXPOSED TO FREEZE-THAW ENVIRONMENTS.
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TYPE 1 PCC CURB AND GUTTER

SCALE: N.T.S.

3
D-4



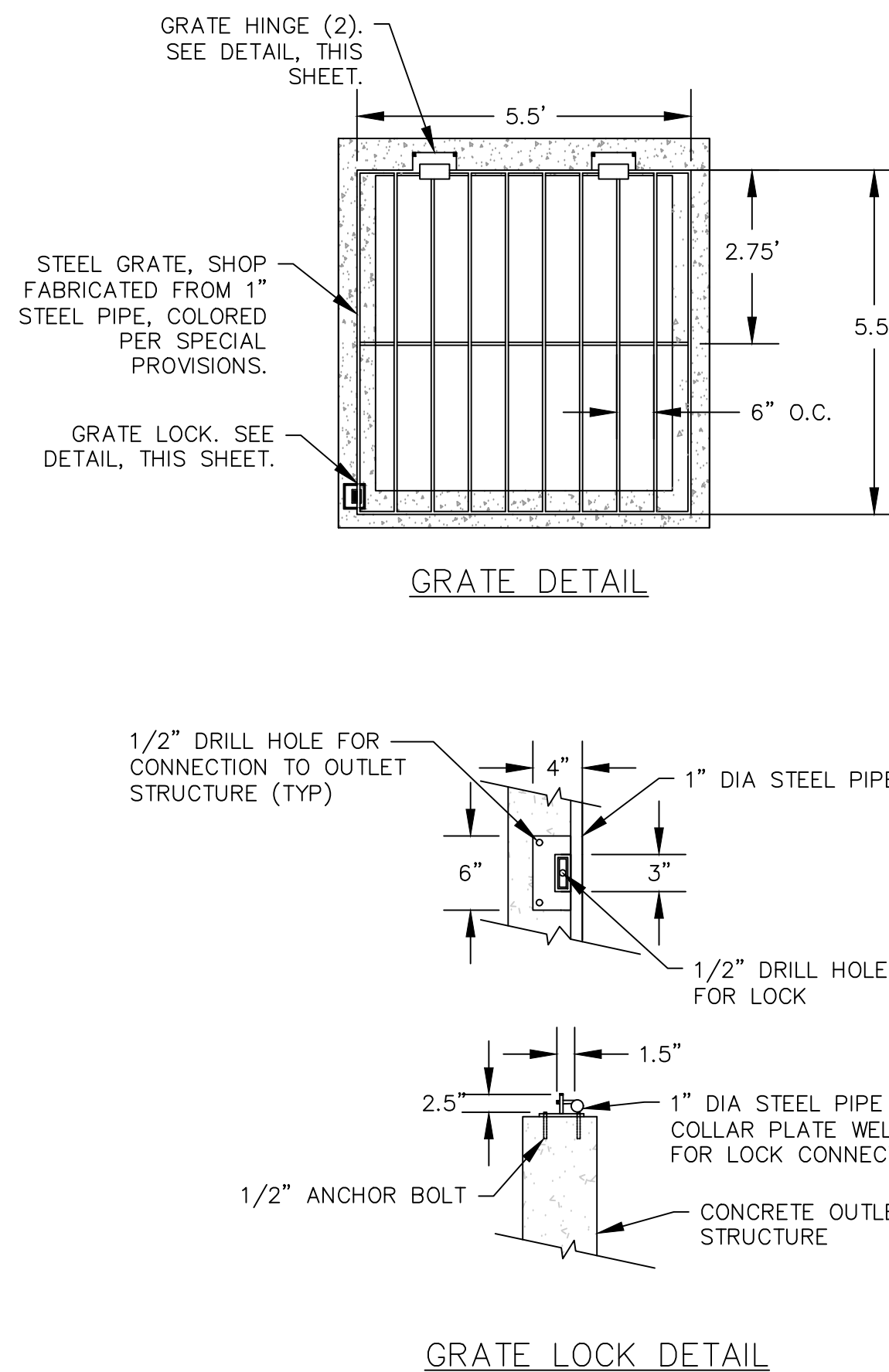
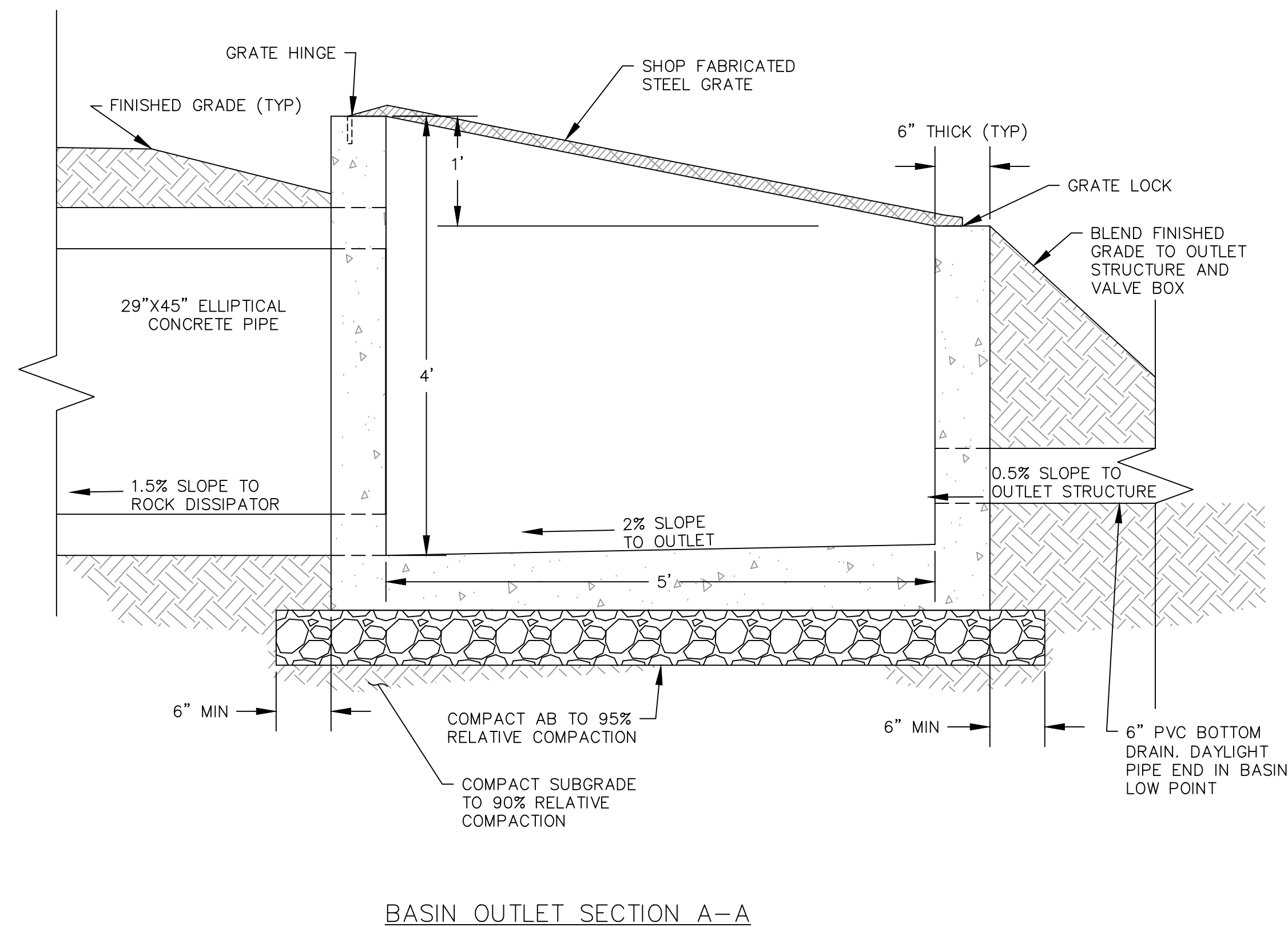
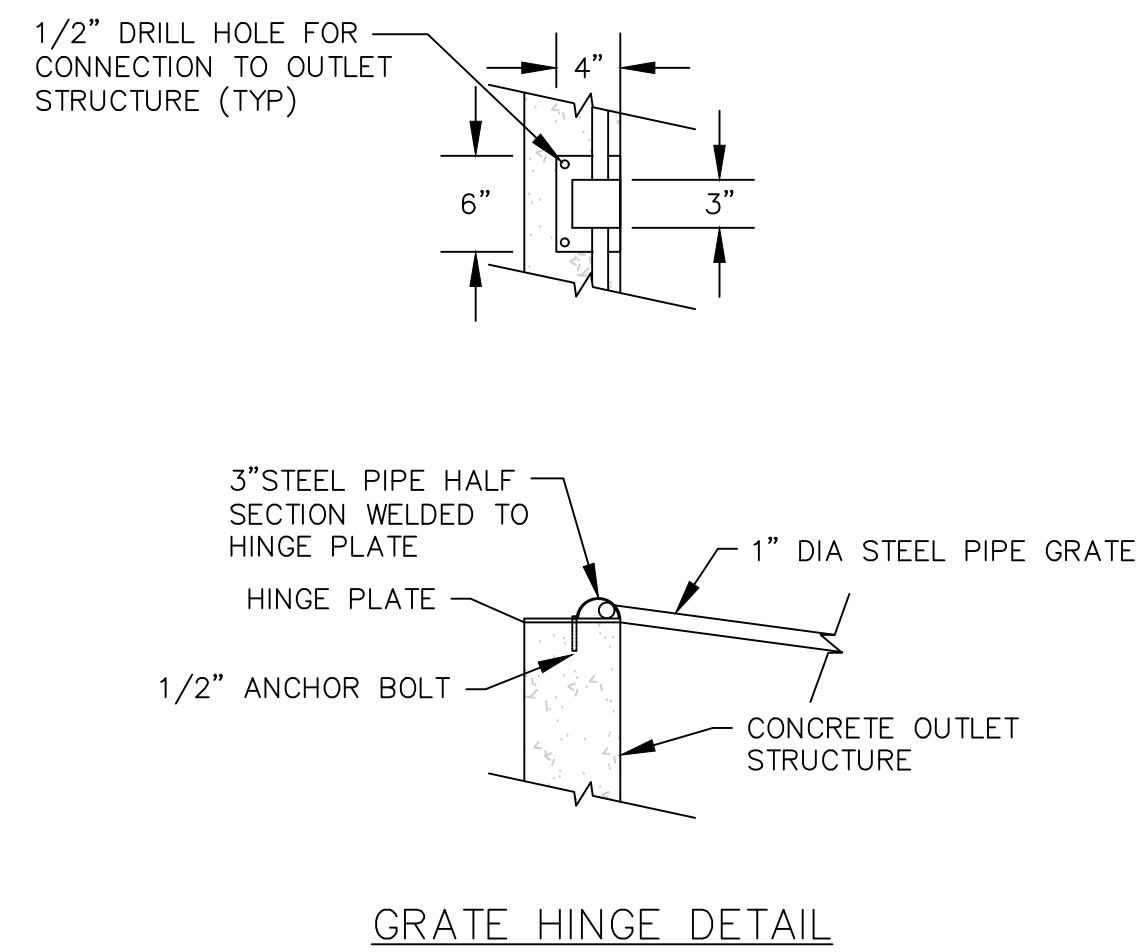
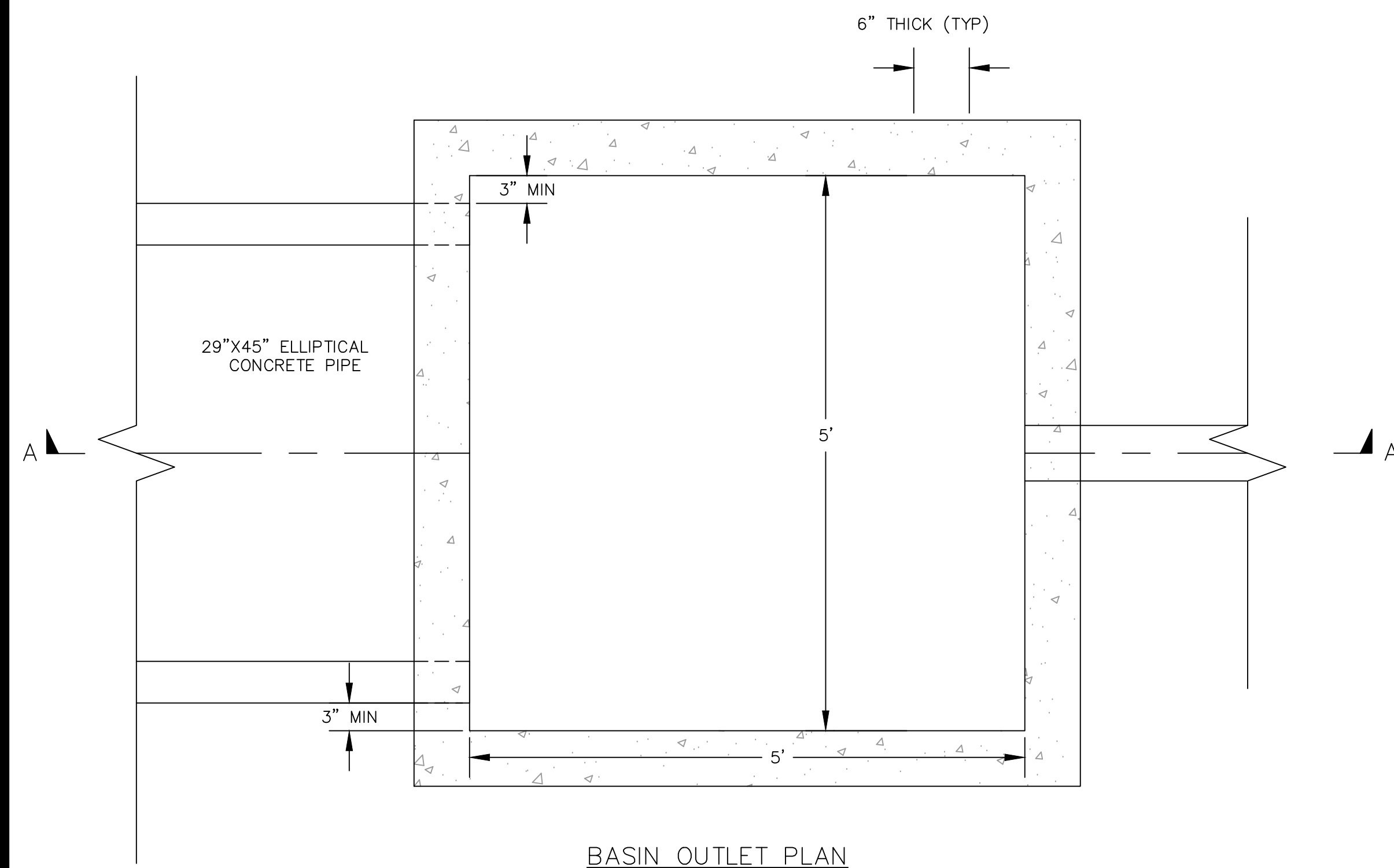
NOTE:

1. CLF AND TREE PROTECTION FENCE SHALL BE A MINIMUM OF 48" HIGH. FOR TREES WITH DRIPLINES THAT OVERHANG THE CONSTRUCTION AREAS, THE LOCATION OF THE TREE PROTECTION FENCE SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER AND/OR THE TRPA AT THE PREGRADE MEETING.
2. THE DETAIL SHOWN IS FOR TREE PROTECTION. MATERIAL AND SPACING SHOWN ALSO APPLIES TO CLF.
3. 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.

CONSTRUCTION LIMIT FENCE AND TREE PROTECTION

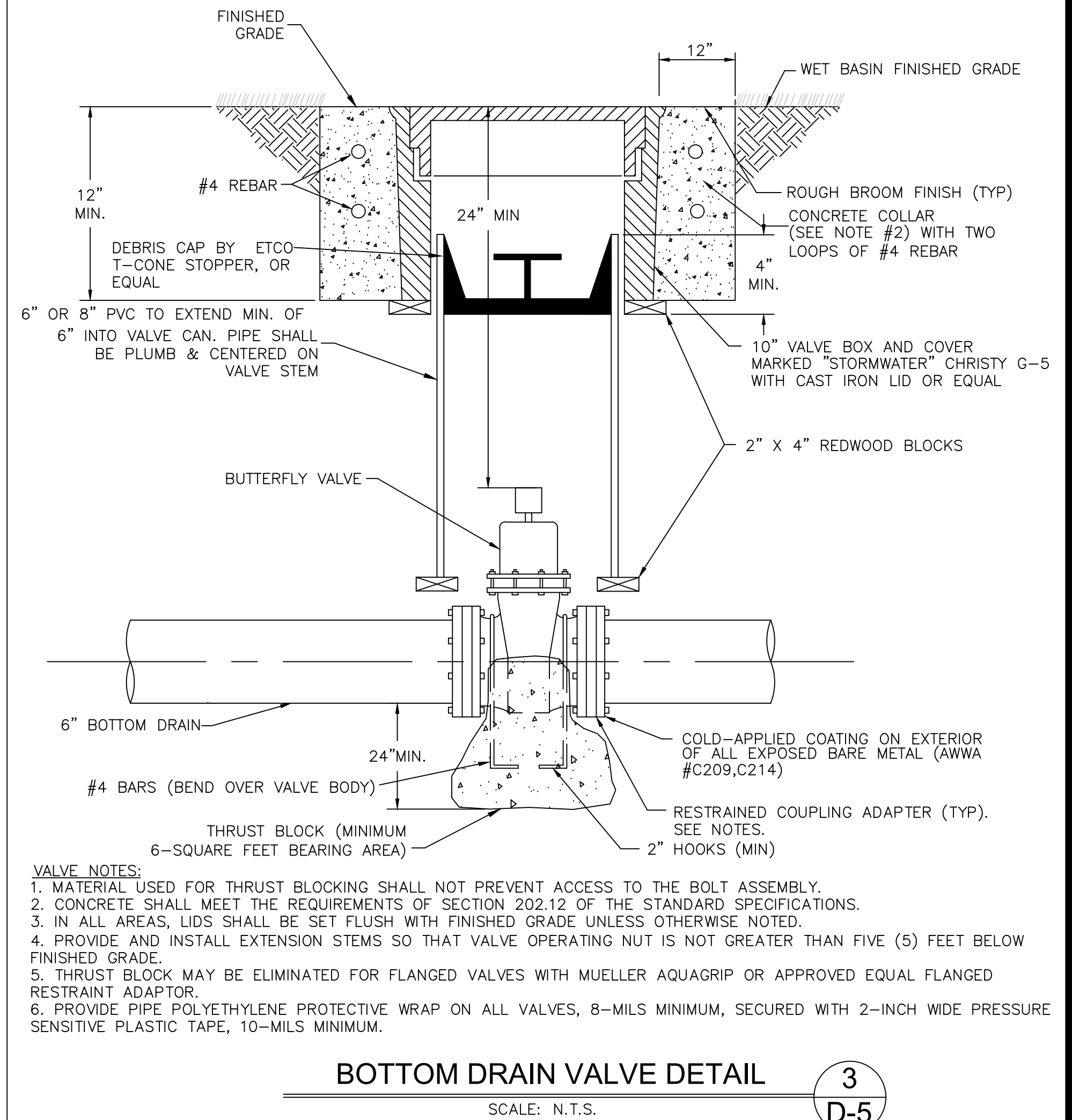
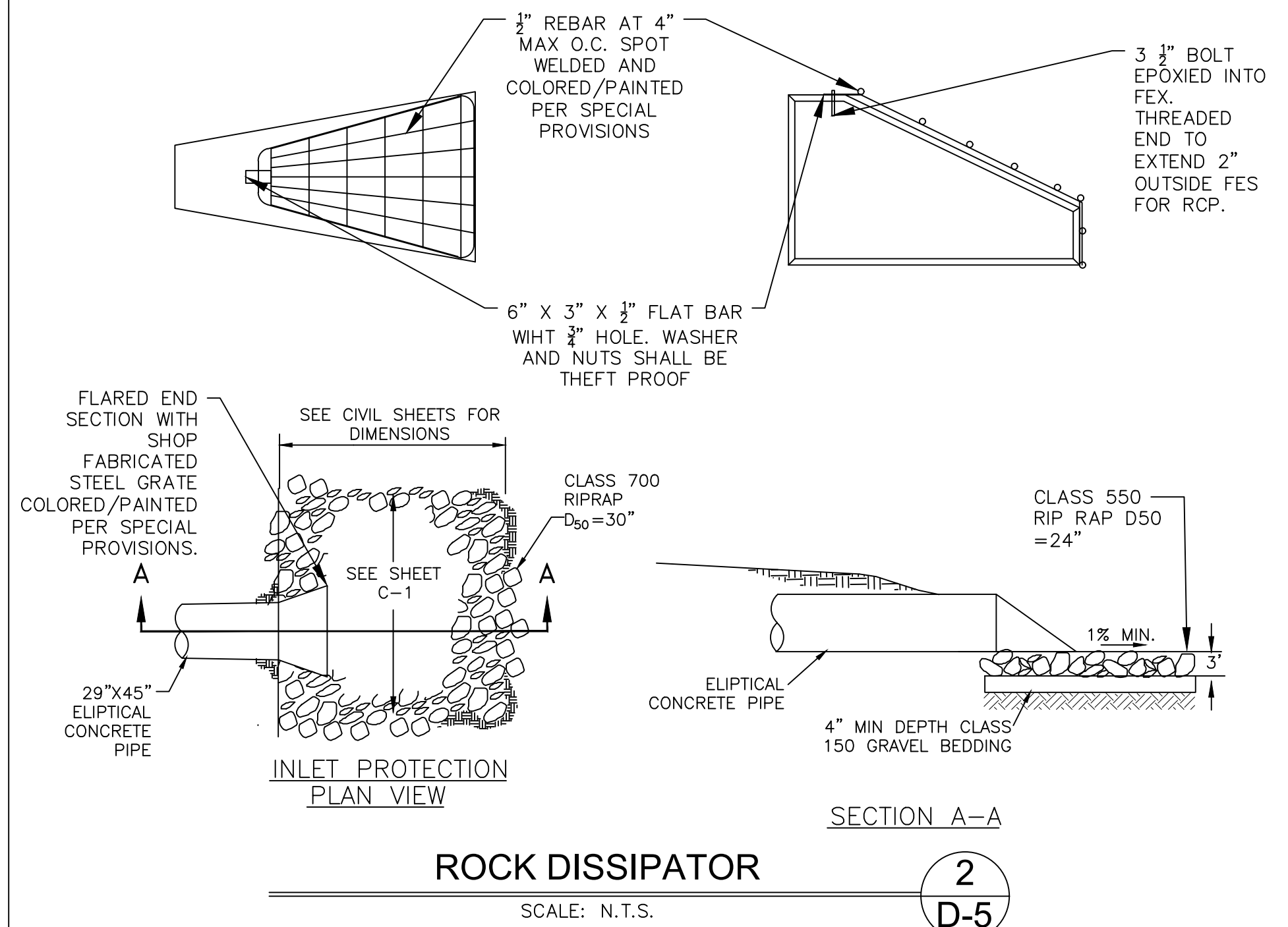
SCALE: N.T.S.

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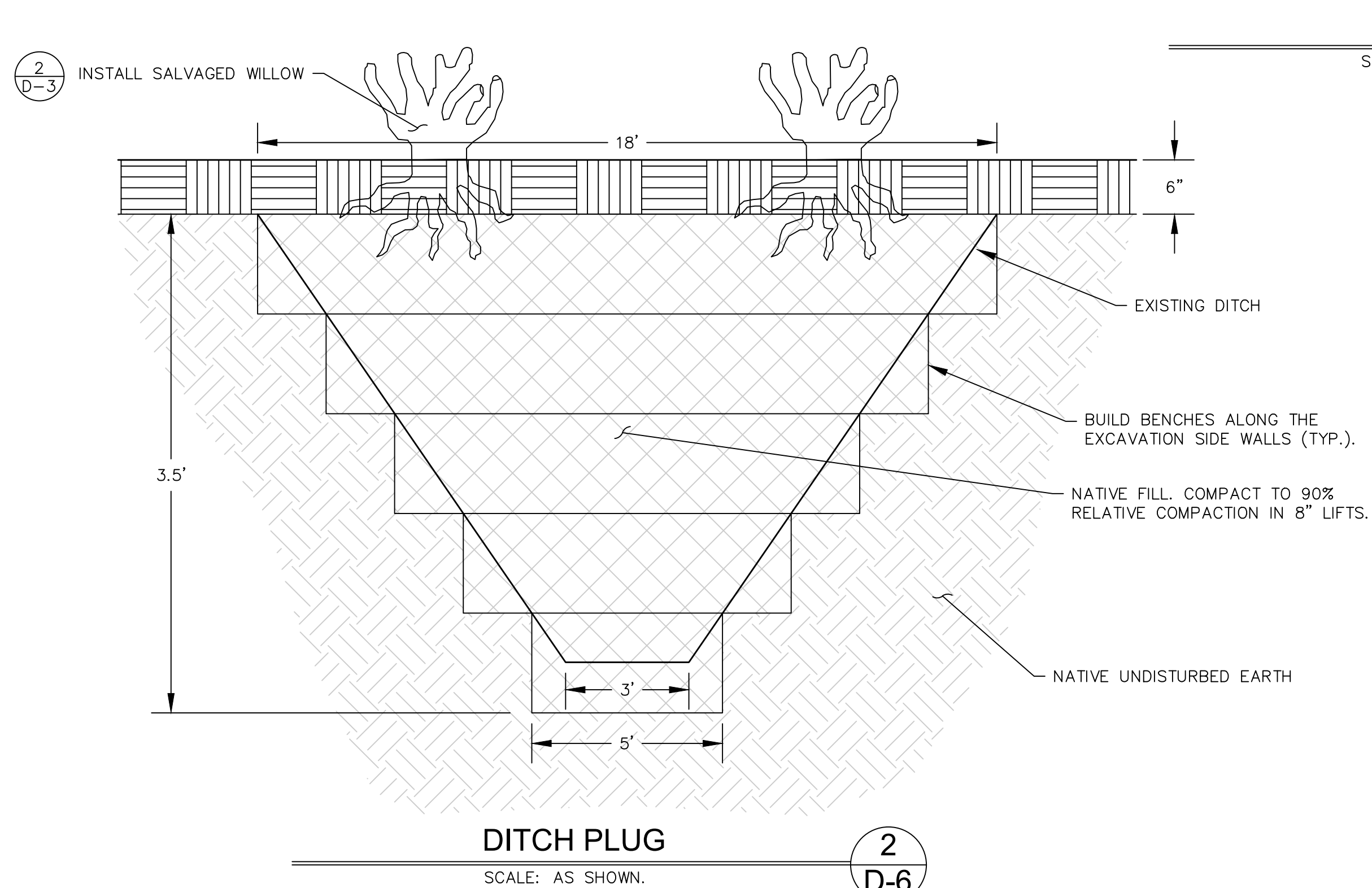
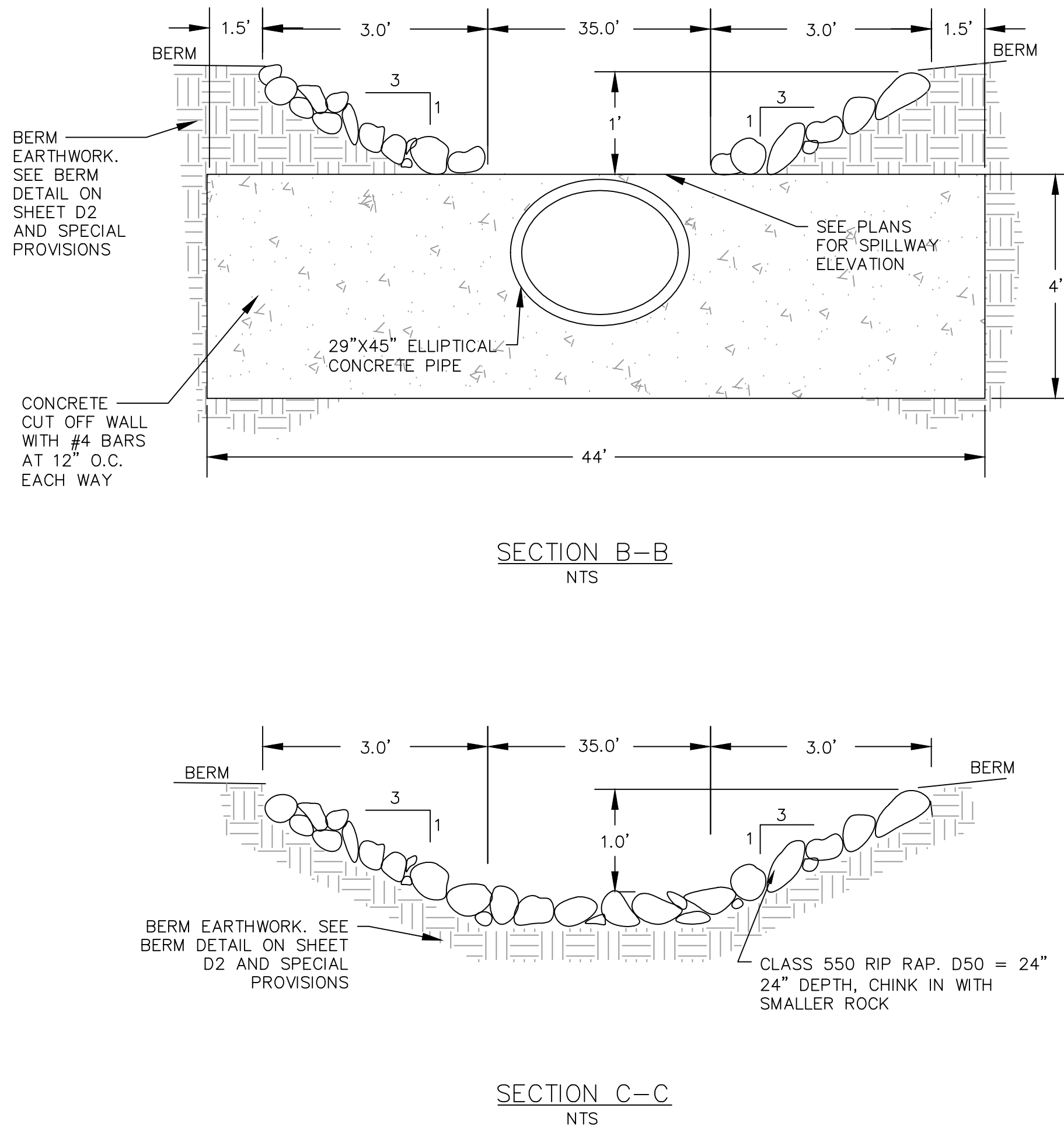
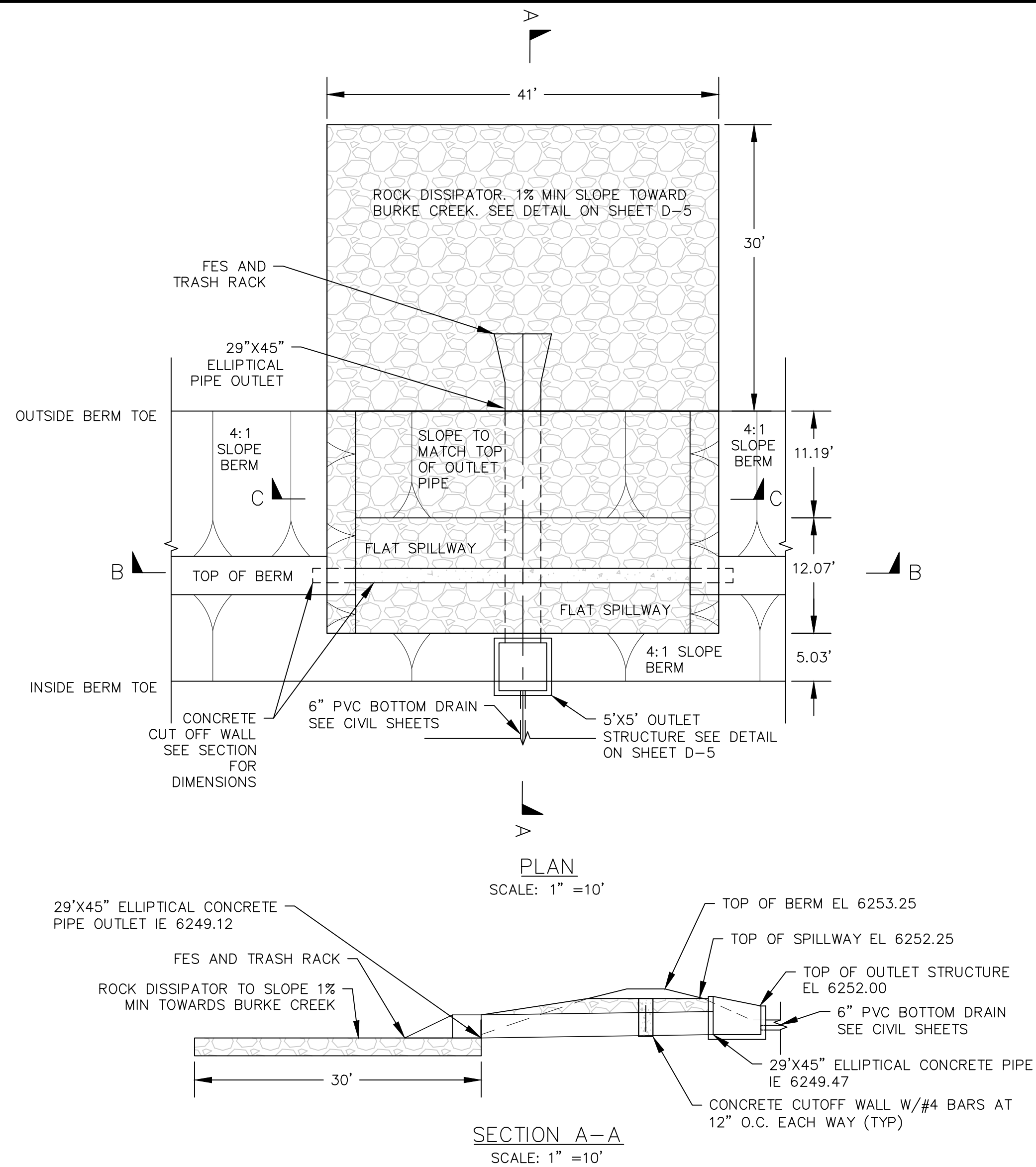
OUTLET STRUCTURE NOTES:

1. ALL MANHOLES SHALL BE PRECAST UNLESS APPROVAL IS GIVEN BY ENGINEER. HIGH GROUNDWATER CONDITIONS MAY EXIST. ALL MANHOLES MUST HAVE WATERPROOFING MEMBRANE APPLIED: MASTERSSEAL HLM 5000 OR APPROVED EQUAL. SEE STANDARD SPECIFICATION FOR APPLICATION AND CURING METHODS.
2. ALL CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 202 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION FOR CONCRETE EXPOSED TO FREEZE-THAW ENVIRONMENTS.
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7. GATE VALVE AND VALVE BOX FOR BOTTOM DRAIN LOCATED JUST OUTSIDE OF OUTLET STRUCTURE



REVISIONS		
NO	DATE	DESCRIPTION
1	4/17/18	ADDENDUM 2

DESIGNED/DRAWN CFW/MBG
CHECKED MCK
DATE APR 2018
SCALE AS SHOWN
PROJECT KB



SPILLWAY
SCALE: AS SHOWN.

