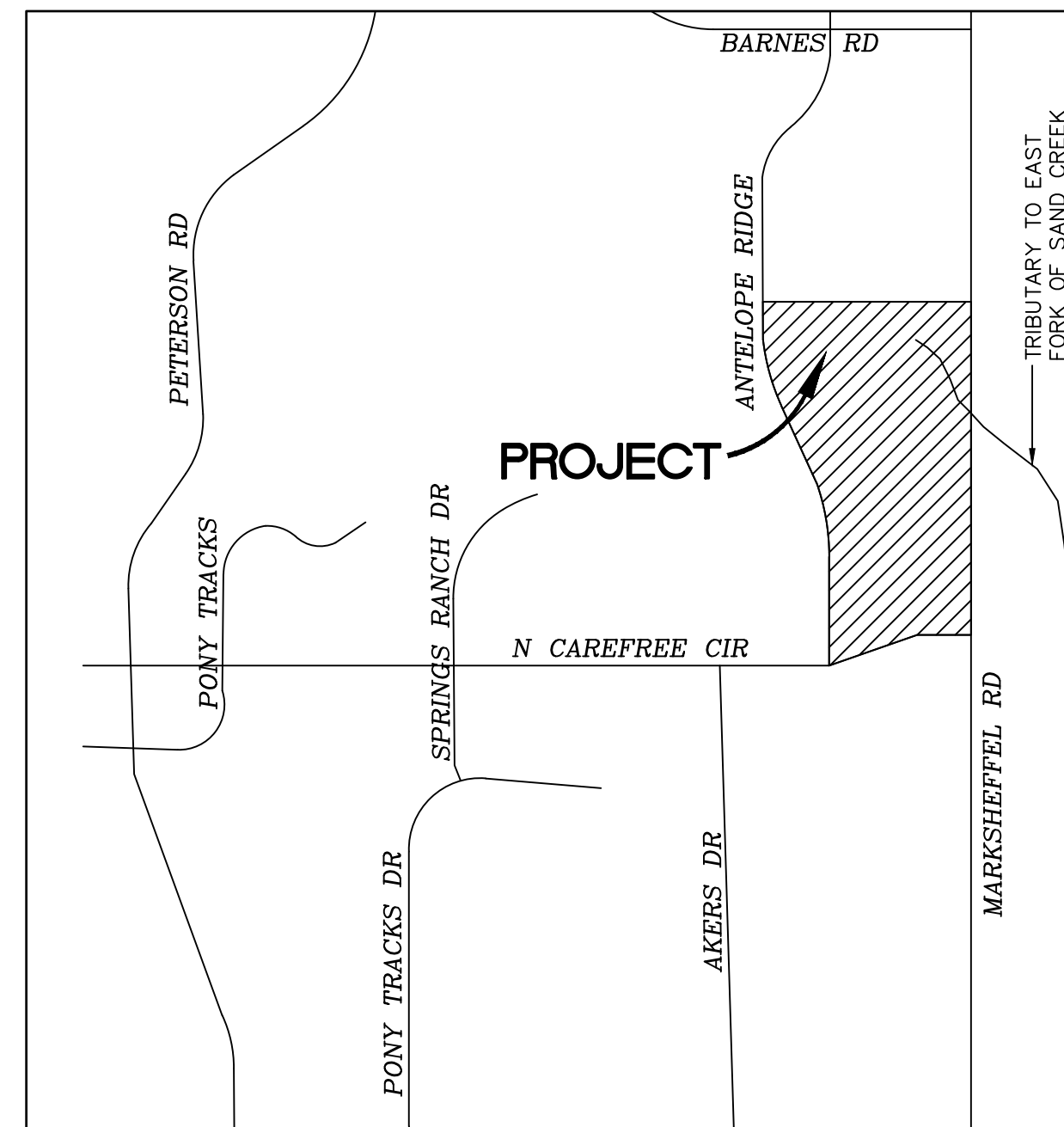


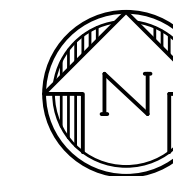
WINDERMERE

EROSION CONTROL AND STORMWATER QUALITY PLAN

E 1/2 OF SECTION 29, T13S, R65W OF THE 6TH P.M. EL PASO COUNTY, COLORADO



VICINITY MAP
NOT TO SCALE



SHEET INDEX

EC01	COVER SHEET
EC02	NOTES
EC03	INITIAL/INTERIM GEC PLAN
EC04	FINAL GEC PLAN
EC05	EROSION CONTROL DETAILS
EC06	EROSION CONTROL DETAILS
EC07	EROSION CONTROL DETAILS
PD-1	NORTH POND OUTLET STRUCTURE DETAILS
PD-2	SOUTH POND OUTLET STRUCTURE DETAILS
FB	POND FOREBAY DETAILS

AGENCY CONTACTS

COUNTY	EL PASO COUNTY PLANNING & COMMUNITY DEVELOPMENT KARI PARSONS, PROJECT MANAGER/PLANNER II 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 (719) 520-6300	ELECTRIC	MOUNTAIN VIEW ELECTRIC ASSOCIATION LES ULFERS 11140 E. WOODMEN ROAD FALCON, CO 80831 (719) 495-2283
FIRE	CIMARRON HILLS FIRE DEPARTMENT STEVE CONNER, FIRE CHIEF 1835 TUSKEGEE PL COLORADO SPRINGS, CO 80915 (719) 591-0960	GAS	COLORADO SPRINGS UTILITIES TODD STURTEVANT 1521 HANCOCK EXPRESSWAY COLORADO SPRINGS, CO 80947 (719) 668-3556
WATER	CHEROKEE METROPOLITAN DISTRICT JONATHAN SMITH, SUPERINTENDENT OF WATER & WASTEWATER 6250 PALMER PARK BLVD COLORADO SPRINGS, CO 80915 (719) 597-5080	TELEPHONE	CENTURY LINK PATTY MOORE (719) 636-6096 (LOCATORS) (719) 597-8418 AT&T (LOCATORS) (719) 635-3674
WASTEWATER	CHEROKEE METROPOLITAN DISTRICT JONATHAN SMITH, SUPERINTENDENT OF WATER & WASTEWATER 6250 PALMER PARK BLVD COLORADO SPRINGS, CO 80915 (719) 597-5080	CABLE	COMCAST DALE STEWART 213 N. UNION BLVD COLORADO SPRINGS, CO 80909 (719) 442-4733

ESTIMATED COST OF TEMPORARY + PERMANENT BMPs INCLUDING INSTALLATION AND MAINTENANCE UNTIL FINAL STABILIZATION (FINAL + INTERIM STAGE)

Description	Quantity	Units	Cost	Total	% Complete	Remaining
SECTION 1 - GRADING AND EROSION CONTROL (Construction and Permanent BMPs)						
* Earthwork						
less than 1,000; \$5,300 min		CY	\$ 8.00	= \$ -	-	\$ -
1,000-5,000; \$8,000 min		CY	\$ 6.00	= \$ -	-	\$ -
5,001-20,000; \$30,000 min		CY	\$ 5.00	= \$ -	-	\$ -
20,001-50,000; \$100,000 min		CY	\$ 3.50	= \$ -	-	\$ -
50,001-200,000; \$175,000 min	140,000	CY	\$ 2.50	= \$ 350,000.00	100.00%	\$ -
greater than 200,000; \$500,000 min		CY	\$ 2.00	= \$ -	-	\$ -
* Permanent Seeding (inc. noxious weed mgmt.)	15	AC	\$ 828.00	= \$ 12,420.00		\$ 12,420.00
* Mulching		AC	\$ 777.00	= \$ -	-	\$ -
* Permanent Erosion Control Blanket		SY	\$ 6.20	= \$ -	-	\$ -
* Permanent Pond/BMP Construction		CY	\$ 21.00	= \$ -	-	\$ -
* Permanent Pond/BMP (spillway)	2	EA	\$ 15,000.00	= \$ 30,000.00		\$ 30,000.00
* Permanent Pond/BMP (outlet structure)	2	EA	\$ 12,000.00	= \$ 24,000.00		\$ 24,000.00
Safety Fence		LF	\$ 3.10	= \$ -	-	\$ -
Temporary Erosion Control Blanket		SY	\$ 3.10	= \$ -	-	\$ -
Vehicle Tracking Control	2	EA	\$ 2,453.00	= \$ 4,906.00	100.00%	\$ -
Silt Fence	3,470	LF	\$ 2.60	= \$ 9,022.00	100.00%	\$ -
Temporary Seeding	52	AC	\$ 650.00	= \$ 33,800.00		\$ 33,800.00
Temporary Mulch	52	AC	\$ 777.00	= \$ 40,404.00		\$ 40,404.00
Erosion Bales	90	EA	\$ 26.00	= \$ 2,340.00	100.00%	\$ -
Erosion Logs/Straw Waddle		LF	\$ 5.20	= \$ -	-	\$ -
Rock Check Dams		EA	\$ 518.00	= \$ -	-	\$ -
Inlet Protection	15	EA	\$ 173.00	= \$ 2,595.00	20.00%	\$ 2,076.00
Sediment Basin	3	EA	\$ 1,824.00	= \$ 5,472.00	100.00%	\$ -
Concrete Washout Basin	1	EA	\$ 932.00	= \$ 932.00	100.00%	\$ -
Riprap runoff	1	EA	\$ 10,000.00	= \$ 10,000.00		\$ 10,000.00
[Insert items not listed but part of construction plans]				= \$ -	-	\$ -
MAINTENANCE (35% of Construction BMPs)				= \$ 38,314.85		\$ 38,314.85
Section 1 Subtotal				= \$ 564,205.85		\$ 191,014.85

* - Subject to defect warranty financial assurance. A minimum of 20% shall be retained until final acceptance (MAXIMUM OF 80% COMPLETE ALLOWED)

STRUCTURAL FILL

DURING EARTHWORK BALANCING ACROSS THE SITE, AREAS TO RECEIVE STRUCTURAL FILL SHOULD HAVE TOPSOIL, ORGANIC MATERIAL, OR DEBRIS REMOVED. LOOSE, WET SOILS, ESPECIALLY THOSE FROM NOTED DRAINAGE AREAS, SHOULD BE EXCAVATED TO DRY SOLID MATERIAL, STOCKPILED AND EVALUATED FOR SUITABILITY OF RE-USE AS STRUCTURAL FILL. IF SOIL IS FOUND TO BE UNSUITABLE AS STRUCTURAL FILL, IT MAY STILL BE SUITABLE AS BACKFILL IN NON-STRUCTURAL APPLICATIONS.

STRUCTURAL FILL COMPOSED OF ON-SITE SOILS SHOULD CONSIST OF GRANULAR, NIL TO LOW-EXPANSIVE MATERIAL. IF CLAYSTONE IS ELECTED TO BE RE-USED IT SHOULD BE THOROUGHLY PROCESSED, MOISTURE CONDITIONED AND BLENDED WITH SAND SOIL. FILL SHOULD BE SPREAD ACROSS THE SITE AND PLACED IN EVEN LOOSE LIFTS NOT EXCEEDING 10-INCHES. MOISTURE CONDITIONED TO FACILITATE COMPACTION (USUALLY WITHIN 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT), AND COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROTOR TEST, ASTM D-698. THE MATERIALS SHOULD BE SPREAD AND COMPACTED BY MECHANICAL MEANS.

STRUCTURAL FILL PLACED ON SLOPES SHOULD BE BENCHED INTO THE SLOPE. MAXIMUM BENCH HEIGHTS SHOULD NOT EXCEED 4 FEET, AND BENCH WIDTHS SHOULD BE WIDE ENOUGH TO ACCOMMODATE COMPACTION EQUIPMENT. MATERIALS USED FOR STRUCTURAL FILL SHOULD BE APPROVED BY RMG PRIOR TO USE. STRUCTURAL FILL SHOULD NOT BE PLACED ON FROZEN SUBGRADE OR ALLOWED TO FREEZE DURING MOISTURE CONDITIONING AND PLACEMENT.

BENCHMARK

ELEVATIONS ARE BASED ON COLORADO SPRINGS UTILITIES FACILITIES INFORMATION SYSTEM (FIMS). A 2" ALUMINUM CAP STAMPED "BL1100" IN SE CORNER OF CATCH BASIN ON EAST SIDE OF ANTELOPE RIDGE DRIVE 1500'± NORTH OF NORTH CAREFREE CIR., WITH AN ELEVATION OF 6607.03 (NGVD 29).

LEGAL DESCRIPTION

THE EAST HALF OF SECTION 29, TOWNSHIP 13 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO.

FLOODPLAIN STATEMENT

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) PANEL #08041C0543 G (DECEMBER 7, 2018) THE PROJECT SITE IS WITHIN A DESIGNATED ZONE X AREA DESCRIBED AS "AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN".

TIMING

ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING: WINTER/SPRING 2021-SUMMER/FALL 2021

AREAS

TOTAL AREA OF THE SITE TO BE CLEARED, EXCAVATED OR GRADED: APPROXIMATELY 54.9 ACRES

RECEIVING WATERS

SAND CREEK

SOILS

HYDROLOGIC TYPE A: TRUCKTON SANDY LOAM

VEGETATION

EXISTING SITE IS UNDEVELOPED AND COVERED WITH NATIVE GRASSES

DESIGN ENGINEER'S STATEMENT

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLAN.

Tim D. McConnell 2-7-22
TIM D. MCCONNELL DATE
P.E.# 33797

OWNER'S STATEMENT

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN

Jeff Mark 2-7-22
JEFF MARK DATE
OWNER

EL PASO COUNTY

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

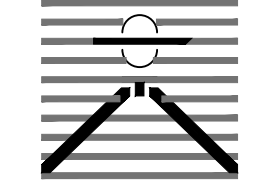
FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL, AS AMENDED.

IN ACCORDANCE WITH EGM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

APPROVED
Engineering Department
04/04/2022 3:25:50 PM
dsnjikamp
EPC Planning & Community
Development Department

JENNIFER IRVINE, P.E.
COUNTY ENGINEER

PREPARED BY:



DREXEL, BARRELL & CO.
Engineers & Surveyors
3 SOUTH 7TH STREET
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CONTACT: TIM D. MCCONNELL, P.E.
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CLIENT:



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CONTACT: JEFF MARK

**WINDERMERE
GRADING & EROSION CONTROL**
N. MARKSHEFFEL ROAD
EL PASO COUNTY, COLORADO

ISSUE	DATE
INITIAL ISSUE	2/21/19
LATEST ISSUE	2/7/22

DESIGNED BY:	SBN
DRAWN BY:	SBN
CHECKED BY:	TDM
FILE NAME:	21187-01ECCV

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF
DREXEL, BARRELL & CO.



DRAWING SCALE:
HORIZONTAL: N/A
VERTICAL: N/A

COVER SHEET

PROJECT NO. 21187-01CSCV
DRAWING NO.

EC01

SHEET: 1 OF 10

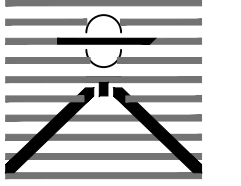
COUNTY FILE NO.: SF2126

STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL PLANS

1. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF SITE WATERS, INCLUDING WETLANDS.
2. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS TO REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
3. A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON-SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
4. ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL BMPS AS INDICATED ON THE GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF.
5. CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
6. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
7. TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.
8. FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
9. ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
10. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
11. COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOOSENEED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).
12. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF-SITE.
13. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
14. DURING DEWATERING OPERATIONS, UNCONTAMINATED GROUNDWATER MAY BE DISCHARGED ON-SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.
15. EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
17. WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
18. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
19. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
20. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
21. NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ON-SITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
22. BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS ON-SITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
23. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
24. OWNER/DEVELOPER AND THEIR AGENTS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
25. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
26. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
27. A WATER SOURCE SHALL BE AVAILABLE ON-SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
28. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY RMG ENGINEERS, OCTOBER 26, 2020 AND SHALL BE CONSIDERED A PART OF THESE PLANS.
29. AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
WATER QUALITY CONTROL DIVISION
WQCD - PERMITS
4300 CHERRY CREEK DRIVE SOUTH
DENVER, CO 80246-1530
ATTN: PERMITS UNIT

PREPARED BY:



DREXEL, BARRELL & CO.
Engineers & Surveyors
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COLORADO SPGS, COLORADO 80905
CONTACT: TIM D. McCONNELL, P.E.
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BOULDER • COLORADO SPRINGS • GREELEY

CLIENT:



THE LANDHUIS COMPANY

212 N. WAHSATCH AVE., #301
COLORADO SPRINGS, CO 80903
(719) 635-3200
CONTACT: JEFF MARK

**WINDERMERE
GRADING & EROSION CONTROL**
N. MARKSHEFFEL ROAD
EL PASO COUNTY, COLORADO

ISSUE	DATE
INITIAL ISSUE	2/21/19
LATEST ISSUE	2/7/22
DESIGNED BY:	SBN
DRAWN BY:	SBN
CHECKED BY:	TDM
FILE NAME:	21187-01ECCV

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF
DREXEL, BARRELL & CO.



DRAWING SCALE:
HORIZONTAL: N/A
VERTICAL: N/A

NOTES

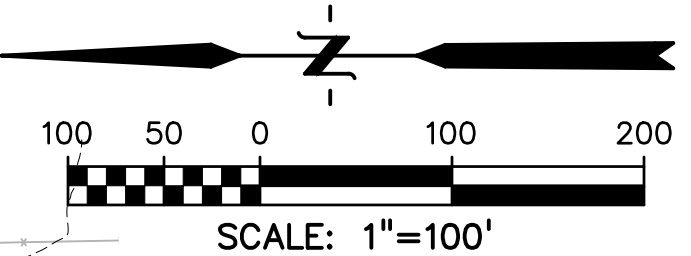
PROJECT NO. 21187-01CSCV
DRAWING NO.

EC02

SHEET: 2 OF 10

EPC 4/4/2022

COUNTY FILE NO.: SF2126



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**WINDERMERE
 GRADING & EROSION CONTROL**
 N. MARKSHEFFEL ROAD
 EL PASO COUNTY, COLORADO

ISSUE	DATE
INITIAL ISSUE	2/21/19
LATEST ISSUE	2/7/22

DESIGNED BY: GES
 DRAWN BY: GES
 CHECKED BY: TDM
 FILE NAME: 21187-01EC2

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF DREXEL, BARRELL & CO.



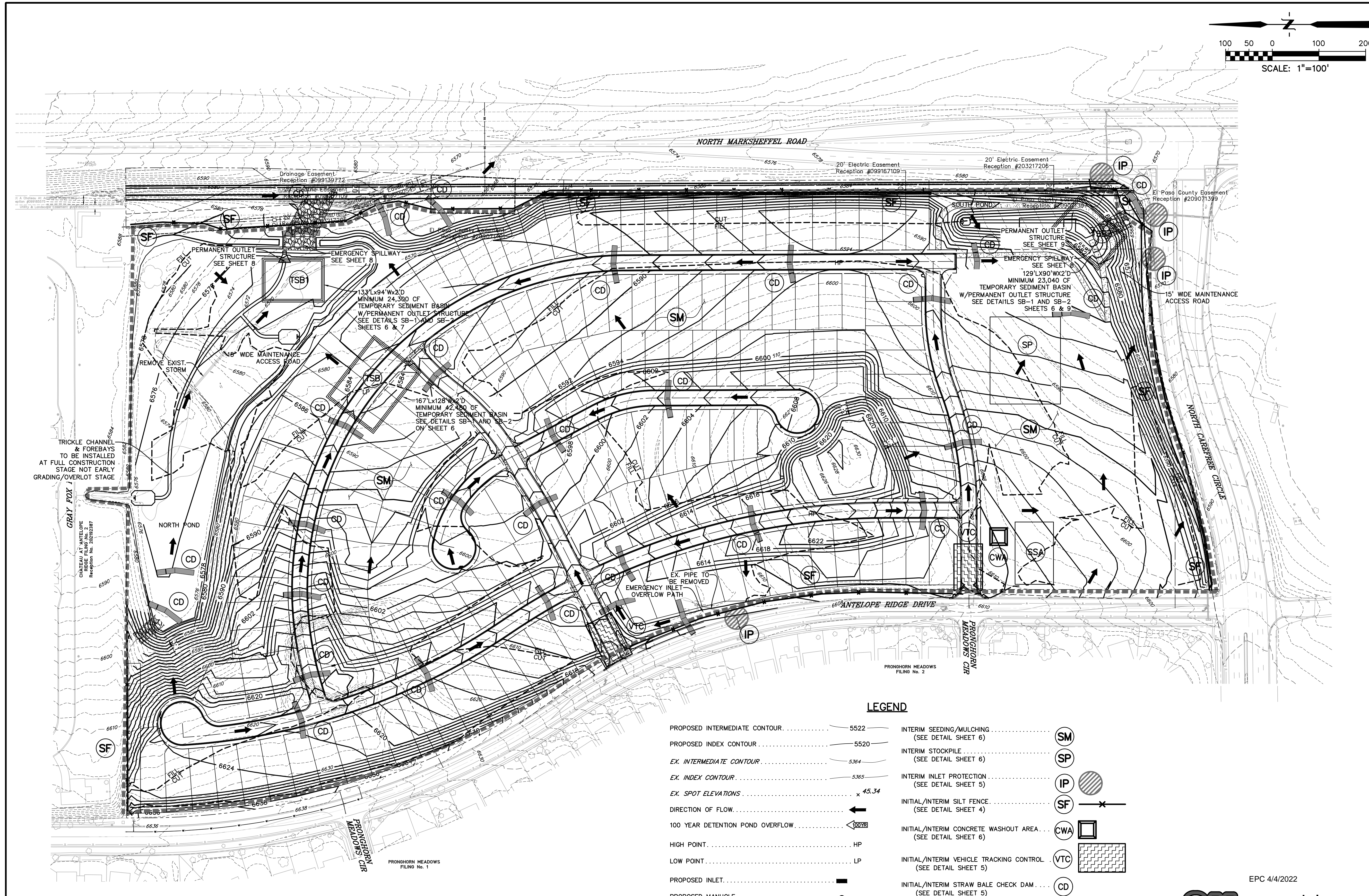
DRAWING SCALE:
 HORIZONTAL: 1" = 100'
 VERTICAL: N/A

**INITIAL/INTERIM
 EROSION CONTROL
 PLAN**

PROJECT NO. 21187-01CSCV
 DRAWING NO.

EC03

SHEET: 3 OF 10



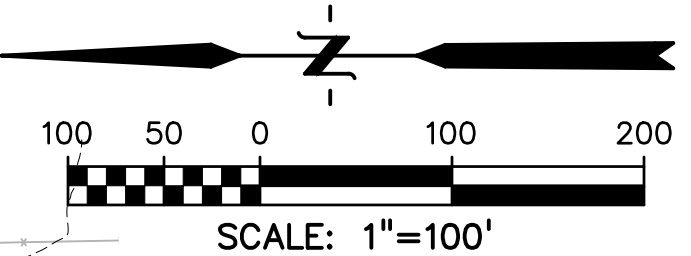
LEGEND

PROPOSED INTERMEDIATE CONTOUR	5522	INTERIM SEEDING/MULCHING	SM
PROPOSED INDEX CONTOUR	5520	(SEE DETAIL SHEET 6)	
EX. INTERMEDIATE CONTOUR	5364	INTERIM STOCKPILE	SP
EX. INDEX CONTOUR	5365	(SEE DETAIL SHEET 6)	
EX. SPOT ELEVATIONS	x 45.34	INTERIM INLET PROTECTION	IP
DIRECTION OF FLOW	←	(SEE DETAIL SHEET 5)	
100 YEAR DETENTION POND OVERFLOW	← 100YR	INITIAL/INTERIM SILT FENCE	SF
HIGH POINT	HP	(SEE DETAIL SHEET 4)	
LOW POINT	LP	INITIAL/INTERIM CONCRETE WASHOUT AREA	CWA
PROPOSED INLET	■	(SEE DETAIL SHEET 6)	
PROPOSED MANHOLE	●	INITIAL/INTERIM VEHICLE TRACKING CONTROL	VTC
LIMITS OF DISTURBANCE/ CONSTRUCTION SITE BOUNDARY	— — — — —	(SEE DETAIL SHEET 5)	
CUT/FILL LINE	— CUT — — FILL —	INITIAL/INTERIM STRAW BALE CHECK DAM	CD
		(SEE DETAIL SHEET 5)	
		INITIAL/INTERIM STABILIZED STAGING AREA	SSA
		(SEE DETAIL SHEET 6)	
		INITIAL/INTERIM TEMPORARY SEDIMENT BASIN	TSB
		(SEE DETAIL SHEET 7)	

- NOTES:
1. WASTE DISPOSAL BIN LOCATIONS ARE TBD AND WILL BE ADDED TO THE SWMP ONCE DETERMINED BY THE CONTRACTOR.
 2. ONSITE LOCATION OF THE SWMP IS TBD AND WILL BE ADDED TO THE SWMP ONCE DETERMINED BY THE CONTRACTOR.
 3. THE NEED FOR DEWATERING IS NOT ANTICIPATED. IN THE EVENT THAT DEWATERING BECOMES NECESSARY THE CONTRACTOR, WITH INPUT FROM THE COUNTY STORMWATER INSPECTOR, WILL DESIGN THE LOCATIONS OF DIVERSION, PUMP & DISCHARGES.

811 Know what's below.
 Call before you dig.
 CALL 3-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

COUNTY FILE NO.: SF2126



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**WINDERMERE
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 EL PASO COUNTY, COLORADO

ISSUE	DATE
INITIAL ISSUE	2/21/19
LATEST ISSUE	2/7/22

DESIGNED BY:	GES
DRAWN BY:	GES
CHECKED BY:	TDM
FILE NAME:	21187-01EC3

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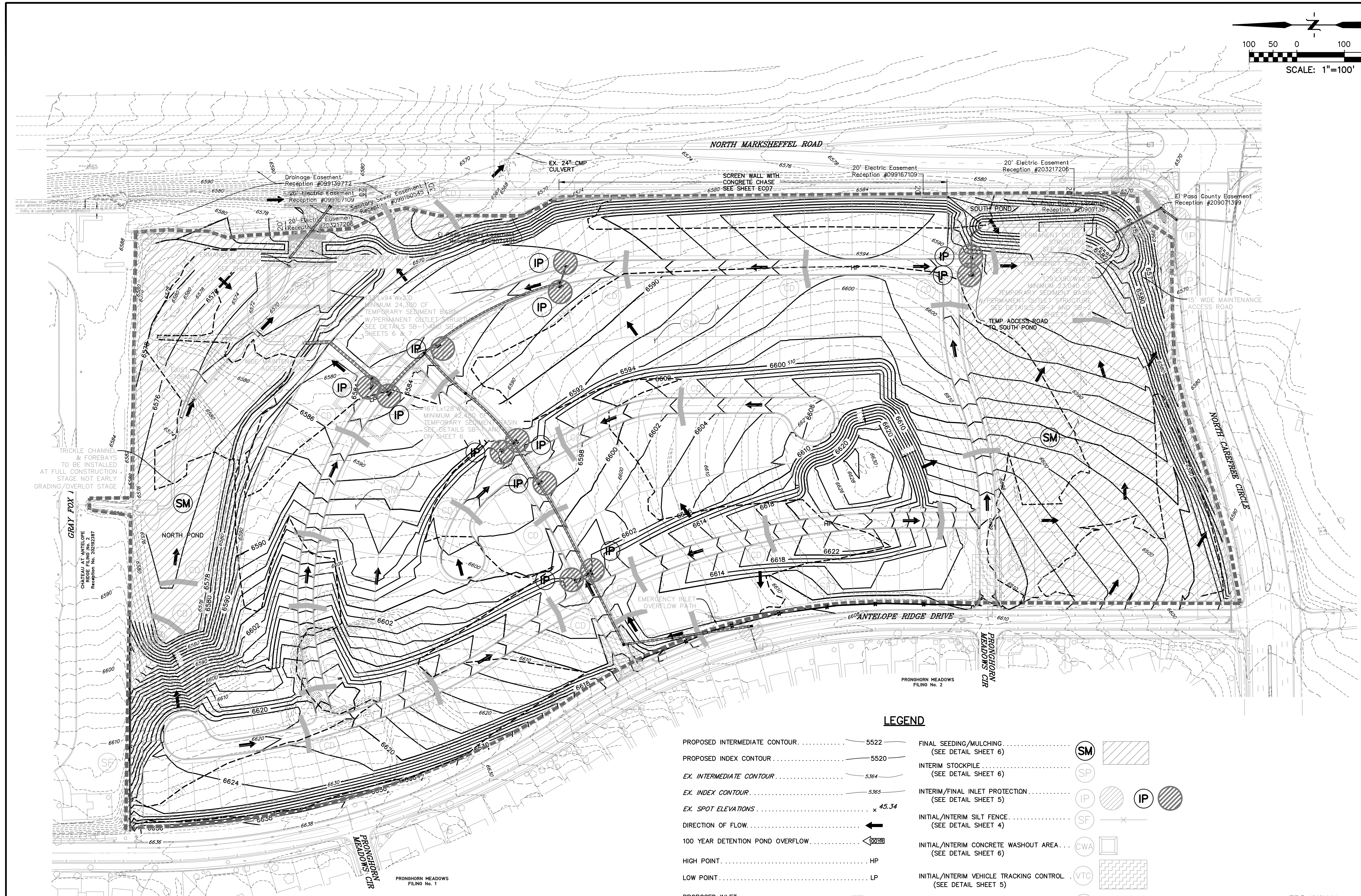
DRAWING SCALE:
 HORIZONTAL: 1" = 100'
 VERTICAL: N/A

**FINAL
 EROSION CONTROL
 PLAN**

PROJECT NO. 21187-01CSCV
 DRAWING NO.

EC04

SHEET: 4 OF 10



LEGEND

PROPOSED INTERMEDIATE CONTOUR	5522	FINAL SEEDING/MULCHING	
PROPOSED INDEX CONTOUR	5520	(SEE DETAIL SHEET 6)	
EX. INTERMEDIATE CONTOUR	5364	INTERIM STOCKPILE	
EX. INDEX CONTOUR	5365	(SEE DETAIL SHEET 6)	
EX. SPOT ELEVATIONS	x 45.34	INTERIM/FINAL INLET PROTECTION	
DIRECTION OF FLOW		(SEE DETAIL SHEET 5)	
100 YEAR DETENTION POND OVERFLOW		INITIAL/INTERIM SILT FENCE	
HIGH POINT	HP	(SEE DETAIL SHEET 4)	
LOW POINT	LP	INITIAL/INTERIM CONCRETE WASHOUT AREA	
PROPOSED INLET		(SEE DETAIL SHEET 6)	
PROPOSED MANHOLE		INITIAL/INTERIM VEHICLE TRACKING CONTROL	
LIMITS OF DISTURBANCE/ CONSTRUCTION SITE BOUNDARY		(SEE DETAIL SHEET 5)	
CUT/FILL LINE		INITIAL/INTERIM STRAW BALE CHECK DAM	
		(SEE DETAIL SHEET 5)	
		INITIAL/INTERIM STABILIZED STAGING AREA	
		(SEE DETAIL SHEET 6)	
		INITIAL/INTERIM TEMPORARY SEDIMENT BASIN	
		(SEE DETAIL SHEET 7)	

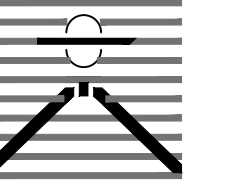
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EPC 4/4/2022

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COUNTY FILE NO.: SF2126

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EL PASO COUNTY, COLORADO

Table with 2 columns: ISSUE, DATE. Rows: INITIAL ISSUE 2/21/19, LATEST ISSUE 2/7/22

Table with 2 columns: DESIGNED BY: SBN, DRAWN BY: SBN, CHECKED BY: TDM

FILE NAME: 21187-01ECDT

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DRAWING SCALE: HORIZONTAL: N/A, VERTICAL: N/A

EROSION CONTROL DETAILS

PROJECT NO. 21187-01CSCV, DRAWING NO.

EC05

SHEET: 5 OF 10

SC-6 Inlet Protection (IP)

General Inlet Protection Installation Notes, Inlet Protection Maintenance Notes, and CIP-1 Culvert Inlet Protection details.

Inlet Protection (IP) SC-6

Culvert Inlet Protection details including plan and section views, and CIP-1 Culvert Inlet Protection notes.

SC-6 Inlet Protection (IP)

Overexcavation Inlet Protection details including plan and section views, and Straw Bale for Sump Inlet Protection notes.

Inlet Protection (IP) SC-6

Rock Sock Sump/Area Inlet Protection and Silt Fence for Sump Inlet Protection details.

SC-6 Inlet Protection (IP)

Block and Rock Sock Inlet Protection and Curb Rock Socks Upstream of Inlet Protection details.

EC-12 Check Dams (CD)

Check Dam Installation Notes, Check Dam Maintenance Notes, and Spacing Check Dams details.

SM-4 Vehicle Tracking Control (VTC)

Stabilized Construction Entrance/Exit Installation Notes, Stabilized Construction Entrance/Exit Maintenance Notes, and Check Dam Notes.

SM-4 Vehicle Tracking Control (VTC)

Stabilized Construction Entrance/Exit Installation Notes, Stabilized Construction Entrance/Exit Maintenance Notes, and Check Dam Notes.

SM-4 Vehicle Tracking Control (VTC)

Aggregate Vehicle Tracking Control details including plan and section views.

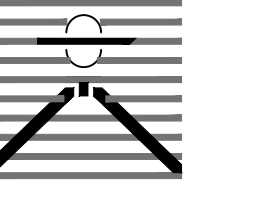
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CHECKED BY: TDM
FILE NAME: 21187-01ECDT

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DRAWING SCALE:
HORIZONTAL: N/A
VERTICAL: N/A

EROSION CONTROL DETAILS

PROJECT NO. 21187-01CSCV
DRAWING NO.

EC06

SHEET: 6 OF 10

TEMPORARY SEEDING NOTES

- 1. SOIL IS TO BE CONDITIONED FOR PLANT GROWTH BY APPLYING TOPSOIL, FERTILIZER OR LIME.
2. SOIL IS TO BE TILLED IMMEDIATELY PRIOR TO APPLYING SEEDS. COMPACT SOILS ESPECIALLY NEED TO BE LOOSENED.
3. SEEDBED DEPTH IS TO BE 4 INCHES FOR SLOPES FLATTER THAN 2:1 AND 1 INCH FOR SLOPES STEEPER THAN 2:1.
4. ANNUAL GRASSES LISTED IN THE TABLE BELOW ARE TO BE USED FOR TEMPORARY SEEDING. SEED MIXES ARE NOT TO CONTAIN ANY NOXIOUS WEED SEEDS INCLUDING RUSSIAN OR CANADIAN THISTLE, KNAPWEED, PURPLE LOOSESTRIPE, EUROPEAN BINDWEED, JOHNSON GRASS, AND LEAFY SPURGE.
5. THE TABLE BELOW ALSO PROVIDES REQUIREMENTS FOR SEEDING RATES, SEEDING DATES, AND PLANTING DEPTHS FOR THE APPROVED TYPES OF ANNUAL GRASSES.
6. SEEDING IS TO BE APPLIED USING MECHANICAL TYPE DRILLS EXCEPT WHERE SLOPES ARE STEEP OR ACCESS IS LIMITED THEN HYDRAULIC SEEDING MAY BE USED.
7. ALL SEEDED AREAS ARE TO BE MULCHED.
8. IF HYDRAULIC SEEDING IS USED THEN HYDRAULIC MULCHING SHALL BE DONE SEPARATELY TO AVOID SEEDS BECOMING ENCAPSULATED IN THE MULCH.

MULCHING NOTES

- 1. MATERIAL USED FOR MULCH CAN BE CERTIFIED CLEAN, WEED-AND SEED-FREE LONG STEMMED FIELD OR MARSH HAY, OR STRAW OF OATS, BARLEY, WHEAT, RYE, OR TRITICALE CERTIFIED BY THE COLORADO DEPARTMENT OF AGRICULTURE WEED FREE FORAGE CERTIFICATION PROGRAM.
2. HYDRAULIC MULCHING MATERIAL SHALL CONSIST OF VIRGIN WOOD FIBER MANUFACTURED FROM CLEAN WHOLE WOOD CHIPS. WOOD CHIPS CANNOT CONTAIN ANY GROWTH OR GERMINATION INHIBITORS OR BE PRODUCED FROM RECYCLED MATERIAL.
3. MULCH IS TO BE APPLIED EVENLY AT A RATE OF 2 TONS PER ACRE.
4. MULCH IS TO BE ANCHORED EITHER BY CRIMPING (TUCKING MULCH FIBERS 4 INCHES INTO THE SOIL), USING NETTING (USED ON SMALL AREAS WITH STEEP SLOPES) OR WITH A TACKIFIER.
5. HYDRAULIC MULCHING AND TACKIFIERS ARE NOT TO BE USED IN THE PRESENCE OF FREE SURFACE WATER.

MAINTENANCE REQUIREMENTS

- 1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL MULCHED AREAS.
2. MULCH IS TO BE REPLACED IMMEDIATELY IN THOSE AREAS IT HAS BEEN REMOVED, AND IF NECESSARY THE AREA SHOULD BE RESEDED.

SEEDING PLAN

NATIVE SEEDING MIX

SOIL PREPARATION, FERTILIZER, SEEDING, MULCHING AND MULCH TACKIFIER WILL BE REQUIRED FOR DISTURBED AREAS EXCLUDING THE RIGHT-OF-WAYS.

THE FOLLOWING TYPES AND RATES SHALL BE USED:

Table with 3 columns: COMMON NAME, SCIENTIFIC NAME, and LBS PLS/ACRE. Lists various native grasses like Sand Bluestem, Western Wheatgrass, etc.

Table with 2 columns: FERTILIZER and RATE PER ACRE. Lists Nitrogen and Phosphorus (P205) rates.

SEEDING APPLICATION: DRILL SEED 0.25"-0.5" INTO TOPSOIL. AREA NOT ACCESSIBLE TO A DRILL SEEDER AND SLOPES STEEPER THAN 2:1 SHALL BE HAND BROADCAST AND DOUBLE THE ABOVE SEED RATE AND RAKED AT 1/4 TO 1/2 INTO THE TOPSOIL.

MULCHING APPLICATION: 1 1/2 TONS CERTIFIED WEED FREE NATIVE HAY PER ACRE MECHANICALLY CRIMED IN TOPSOIL IN COMBINATION WITH AN ORGANIC MULCH TACKIFIER.

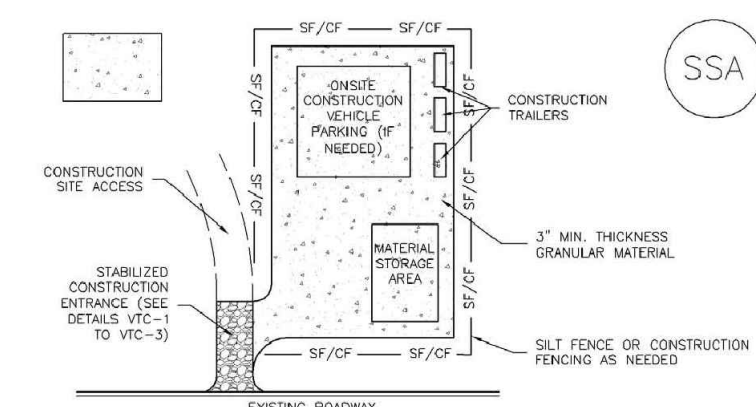


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EPC 4/4/2022

CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES. COUNTY FILE NO.: SF2126

Stabilized Staging Area (SSA) SM-6



SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

- 1. SEE PLAN VIEW FOR LOCATION OF STAGING AREAS.
2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE.
3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SPECIFIED AGGREGATE OR 4" UNWASHED ROCK.
6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

- 1. INSPECT BMPs EACH WORKDAY AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SHALL BE REPAIRED OR REGRASSED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

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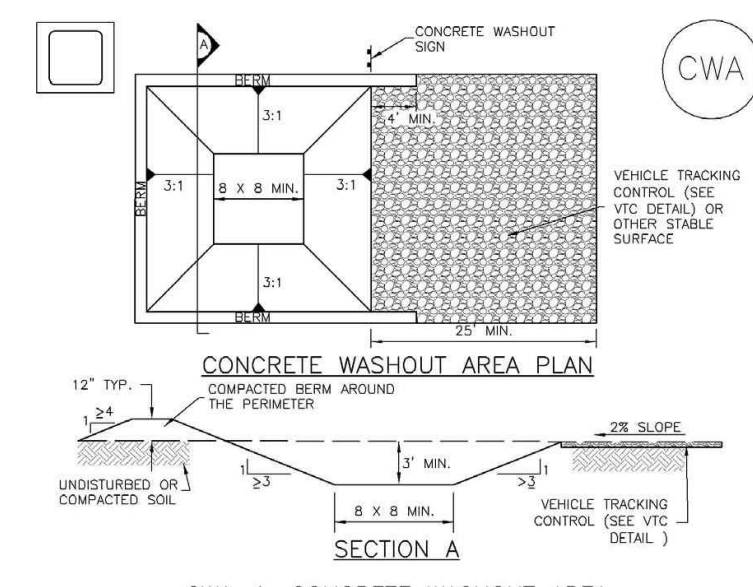
SM-6 Stabilized Staging Area (SSA)

STABILIZED STAGING AREA MAINTENANCE NOTES

- 5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION.
NOTE: MANY JURISDICTIONS PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTY WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

SSA-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

Concrete Washout Area (CWA) MM-1



CWA-1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

- 1. SEE PLAN VIEW FOR CWA REGULATION LOCATION.
2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODIES.
3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
4. CWA SHALL INCLUDE A FLAT SUBSURFACE THAT IS AT LEAST 8" BY 8" SLOPES LEADING OUT OF THE SUBSURFACE TO A DRAINAGE POINT OR FLATTER. THE FLAT SHALL BE AT LEAST 3" DEEP.
5. BATHY SUBSURFACES SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
6. VEHICLE TRACKING AND SHALL BE SLOPED 2% TOWARDS THE CWA.

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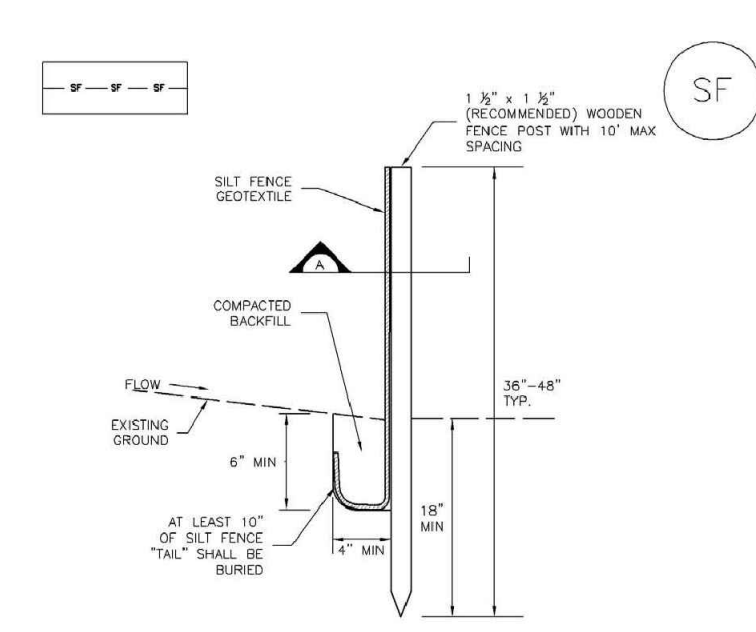
MM-1 Concrete Washout Area (CWA)

CWA MAINTENANCE NOTES

- 1. INSPECT BMPs EACH WORKDAY AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE.
5. CONCRETE WASHOUT WATER, WASTE PIECES OF CONCRETE AND ALL OTHER SOLIDS IN THE SUBSURFACE SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.

CWA-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

Silt Fence (SF) SC-1



SILT FENCE



SECTION A

November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SF-3

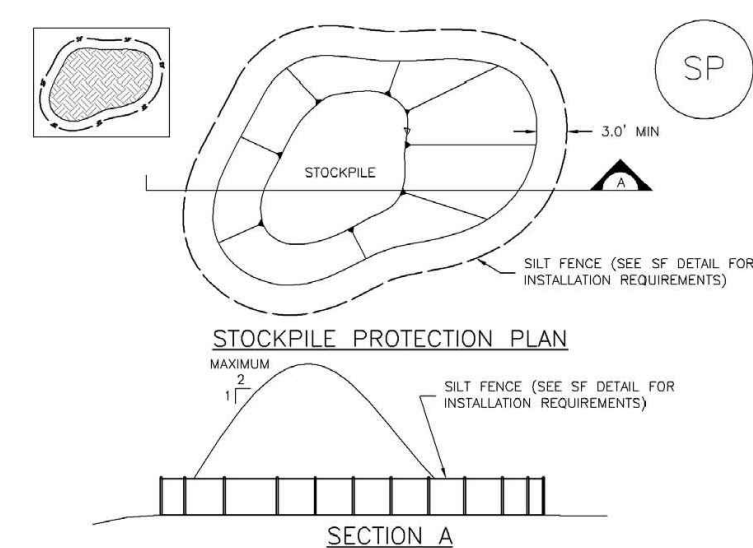
SC-1 Silt Fence (SF)

SILT FENCE INSTALLATION NOTES

- 1. SILT FENCE MUST BE INSTALLED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER FLOWING.
2. A MINIMUM 4" x 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE.
3. CONTACT ANCHOR TRENCH BY HAND WITH A "SLIMPING JACK" OR BY WHEEL ROLLING.
4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES.
5. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS.

SC-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

Stockpile Management (SP) MM-2



SP-1. STOCKPILE PROTECTION

STOCKPILE PROTECTION INSTALLATION NOTES

- 1. SEE PLAN VIEW FOR LOCATION OF STOCKPILES.
2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS.
3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE BROADCASTING, TEMPORARY SEEDING AND MULCHING.
4. FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOMINANT CONTROLS INCLUDING PERIMETER CONTROL ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

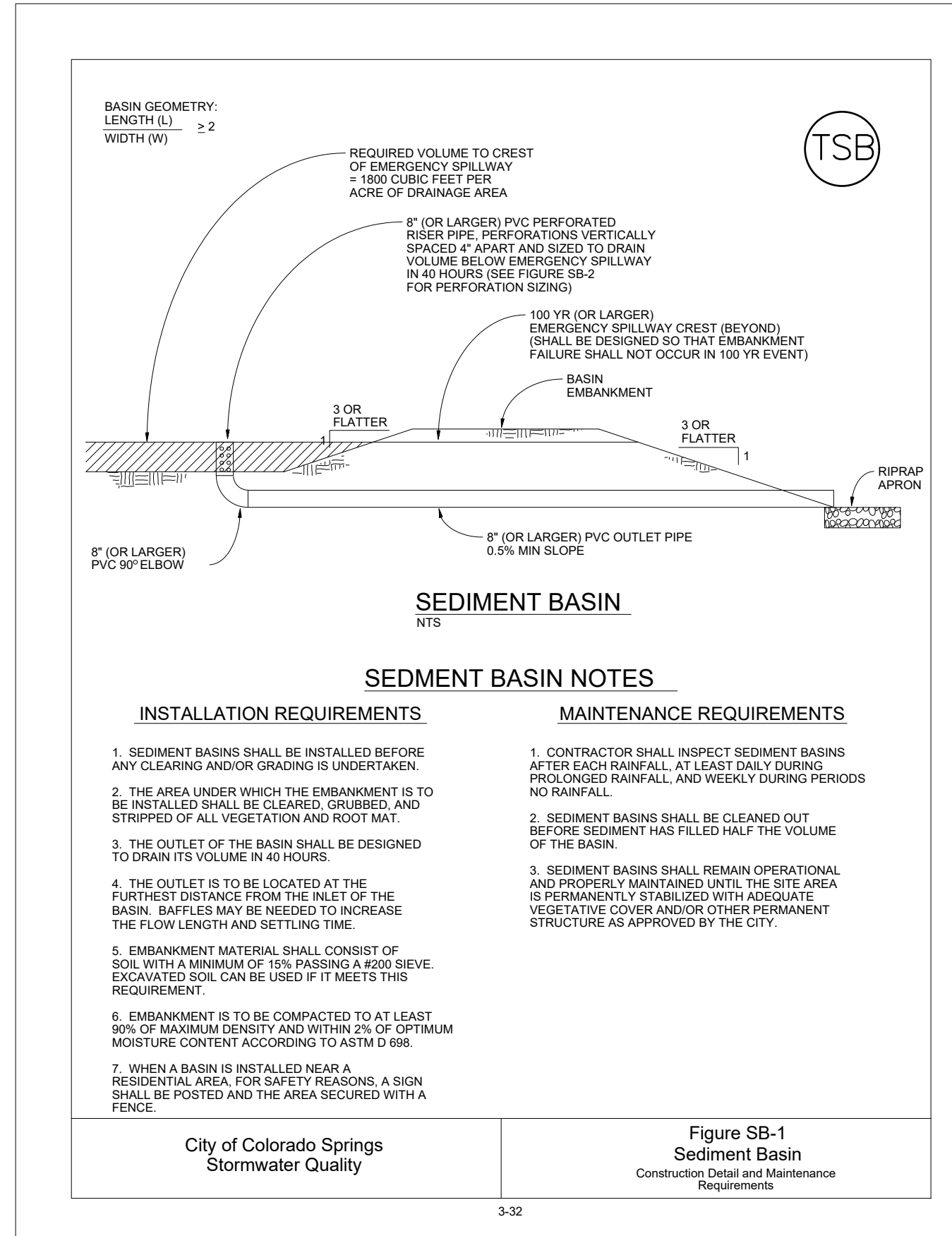
November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SP-3

MM-2 Stockpile Management (SM)

STOCKPILE PROTECTION MAINTENANCE NOTES

- 1. INSPECT BMPs EACH WORKDAY AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. IF PERIMETER PROTECTION MUST BE USED TO ACCESS SOIL, STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.
5. STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.

SP-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010



SEDIMENT BASIN

SEDIMENT BASIN NOTES

- INSTALLATION REQUIREMENTS**
- SEDIMENT BASINS SHALL BE INSTALLED BEFORE ANY CLEARING AND/OR GRADING IS UNDERTAKEN.
 - THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.
 - THE OUTLET OF THE BASIN SHALL BE DESIGNED TO DRAIN ITS VOLUME IN 40 HOURS.
 - THE OUTLET IS TO BE LOCATED AT THE FURTHEST DISTANCE FROM THE INLET OF THE BASIN. Baffles MAY BE NEEDED TO INCREASE THE FLOW LENGTH AND SETTLING TIME.
 - EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.
 - EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.
 - WHEN A BASIN IS INSTALLED NEAR A RESIDENTIAL AREA, FOR SAFETY REASONS, A SIGN SHALL BE POSTED AND THE AREA SECURED WITH A FENCE.
- MAINTENANCE REQUIREMENTS**
- CONTRACTOR SHALL INSPECT SEDIMENT BASINS AFTER EACH RAINFALL AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.
 - SEDIMENT BASINS SHALL BE CLEANED OUT BEFORE SEDIMENT HAS FILLED HALF THE VOLUME OF THE BASIN.
 - SEDIMENT BASINS SHALL REMAIN OPERATIONAL AND PROPERLY MAINTAINED UNTIL THE SITE AREA IS PERMANENTLY STABILIZED WITH ADEQUATE VEGETATIVE COVER AND/OR OTHER PERMANENT STRUCTURE AS APPROVED BY THE CITY.

City of Colorado Springs
Stormwater Quality

Figure SB-1
Sediment Basin
Construction Detail and Maintenance
Requirements

3-32

Required Area per Row (sq ft)

Design Volume (acre-ft)	Depth at Outlet (ft)							
	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5
2	15.04	7.71	5.10	3.76	2.95	2.41	2.02	1.73
1	7.52	3.86	2.55	1.88	1.48	1.21	1.01	0.87
0.6	4.51	2.31	1.53	1.13	0.89	0.72	0.61	0.52
0.4	3.01	1.54	1.02	0.75	0.59	0.48	0.40	0.35
0.2	1.50	0.77	0.51	0.38	0.30	0.24	0.20	0.17
0.1	0.75	0.39	0.26	0.19	0.15	0.12	0.10	0.09
0.06	0.45	0.23	0.15	0.11	0.09	0.07	0.06	0.05
0.04	0.30	0.15	0.10	0.08	0.06	0.05	0.04	0.03
0.02	0.15	0.08	0.05	0.04	0.03	0.02	0.02	0.02
0.01	0.08	0.04	0.03	0.02	0.01	0.01	0.01	0.01

TABLE SB-1

Circular Perforation Sizing

Hole Diameter (in)	Hole Diameter (in)	Area per Row (sq ft)		
		n = 1	n = 2	n = 3
1/4	0.250	0.05	0.10	0.15
5/16	0.313	0.08	0.15	0.23
3/8	0.375	0.11	0.22	0.33
7/16	0.438	0.15	0.30	0.45
1/2	0.500	0.20	0.39	0.59
9/16	0.563	0.25	0.50	0.75
5/8	0.625	0.31	0.61	0.92
11/16	0.688	0.37	0.74	1.11
3/4	0.750	0.44	0.88	1.33
7/8	0.875	0.60	1.20	1.80
1	1.000	0.79	1.57	2.36
1 1/8	1.125	0.99	1.99	2.98
1 1/4	1.250	1.23	2.45	3.68
1 3/8	1.375	1.48	2.97	4.45
1 1/2	1.500	1.77	3.53	5.30
1 5/8	1.625	2.07	4.15	6.22
1 3/4	1.750	2.41	4.81	7.22
1 7/8	1.875	2.76	5.52	8.28
2	2.000	3.14	6.28	9.42

n = Number of columns of perforations

Minimum steel plate thickness: 1/4" 5/16" 3/8"

TABLE SB-2

City of Colorado Springs
Stormwater Quality

Figure SB-2
Outlet Sizing
Application Techniques and Maintenance
Requirements

3-33

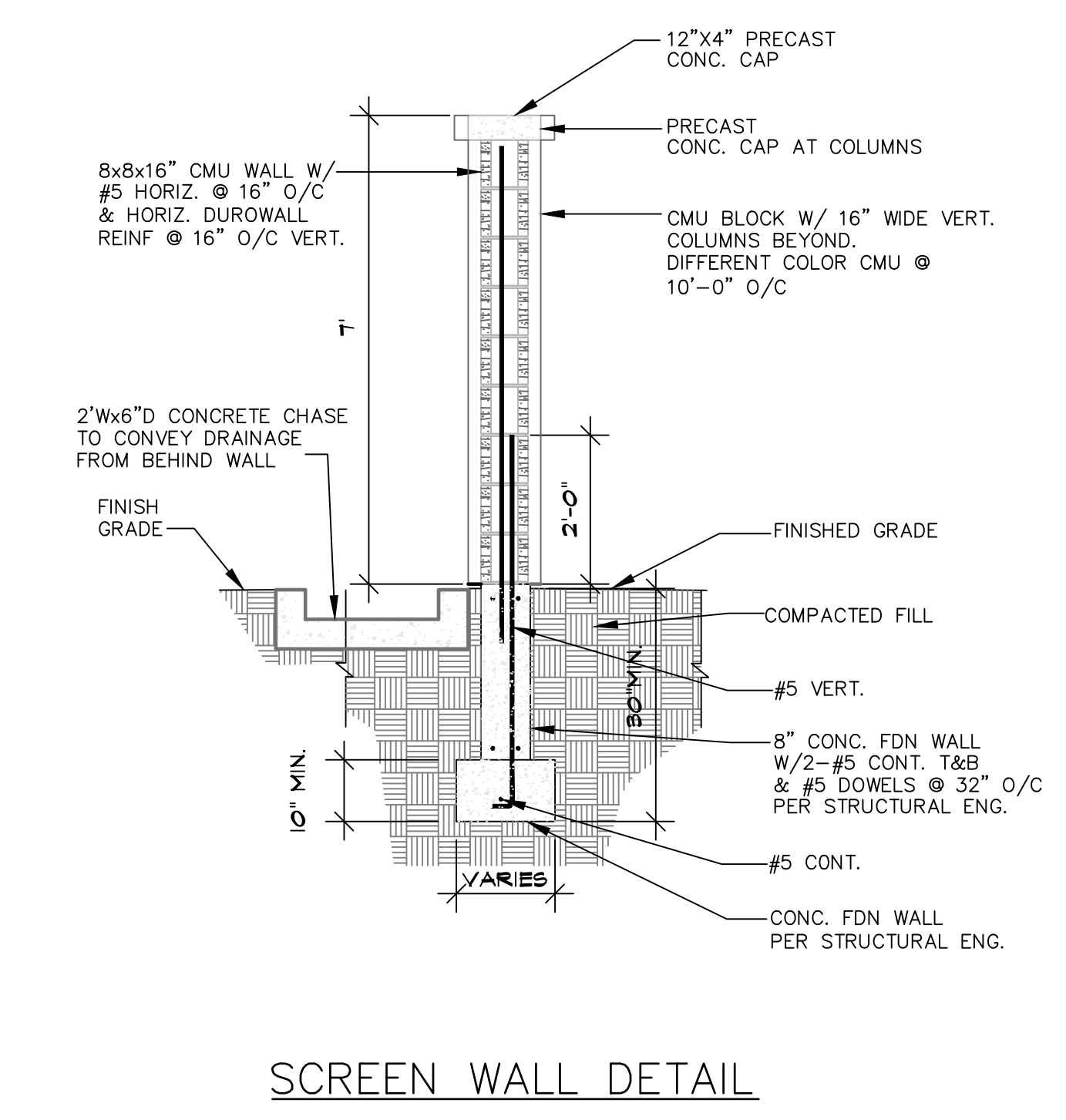
506.02

Table 506-2

Pay Item	Stone Size d50 ¹ (Inches)	Percent of Material Smaller Than Typical Stone ²	Typical Stone Dimensions ³ (Inches)	Typical Stone Weight ⁴ (Pounds)
Riprap	9	70-100 50-70 35-50 2-10	15 12 9 3	160 85 35 1.3
Riprap	12	70-100 50-70 35-50 2-10	21 18 12 4	440 275 85 3
Riprap	18	100 50-70 35-50 2-10	30 24 18 6	1280 650 275 10
Riprap	24	100 50-70 35-50 2-10	42 33 24 9	3500 1700 650 35

¹d50 = nominal stone size
²based on typical rock mass
³equivalent spherical diameter
⁴based on a specific gravity = 2.5

Nominal stone size and total thickness of the riprap shall be as shown on the plans.
 CDOT SECTION 506 REQUIREMENTS APPLY



SCREEN WALL DETAIL

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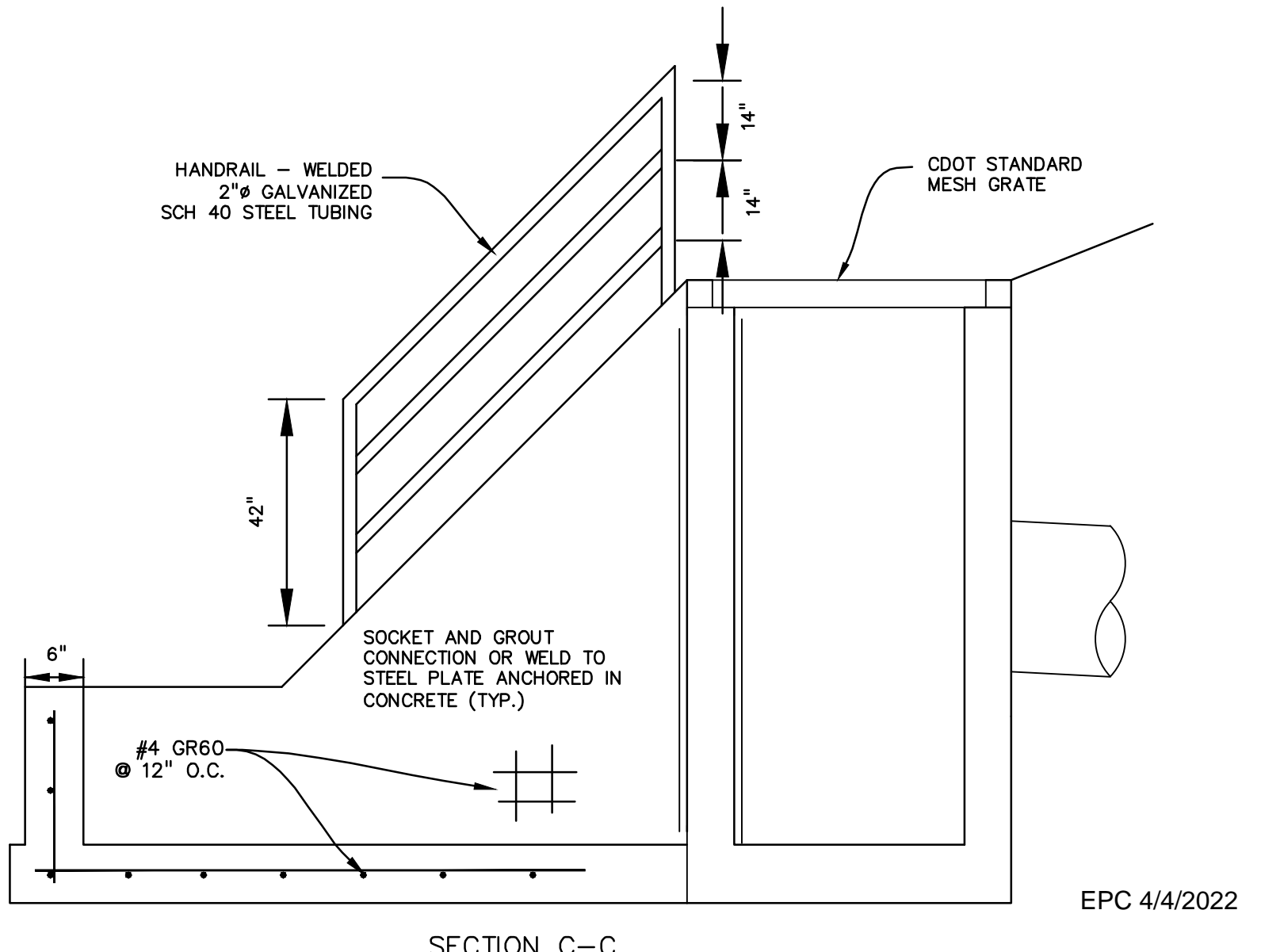
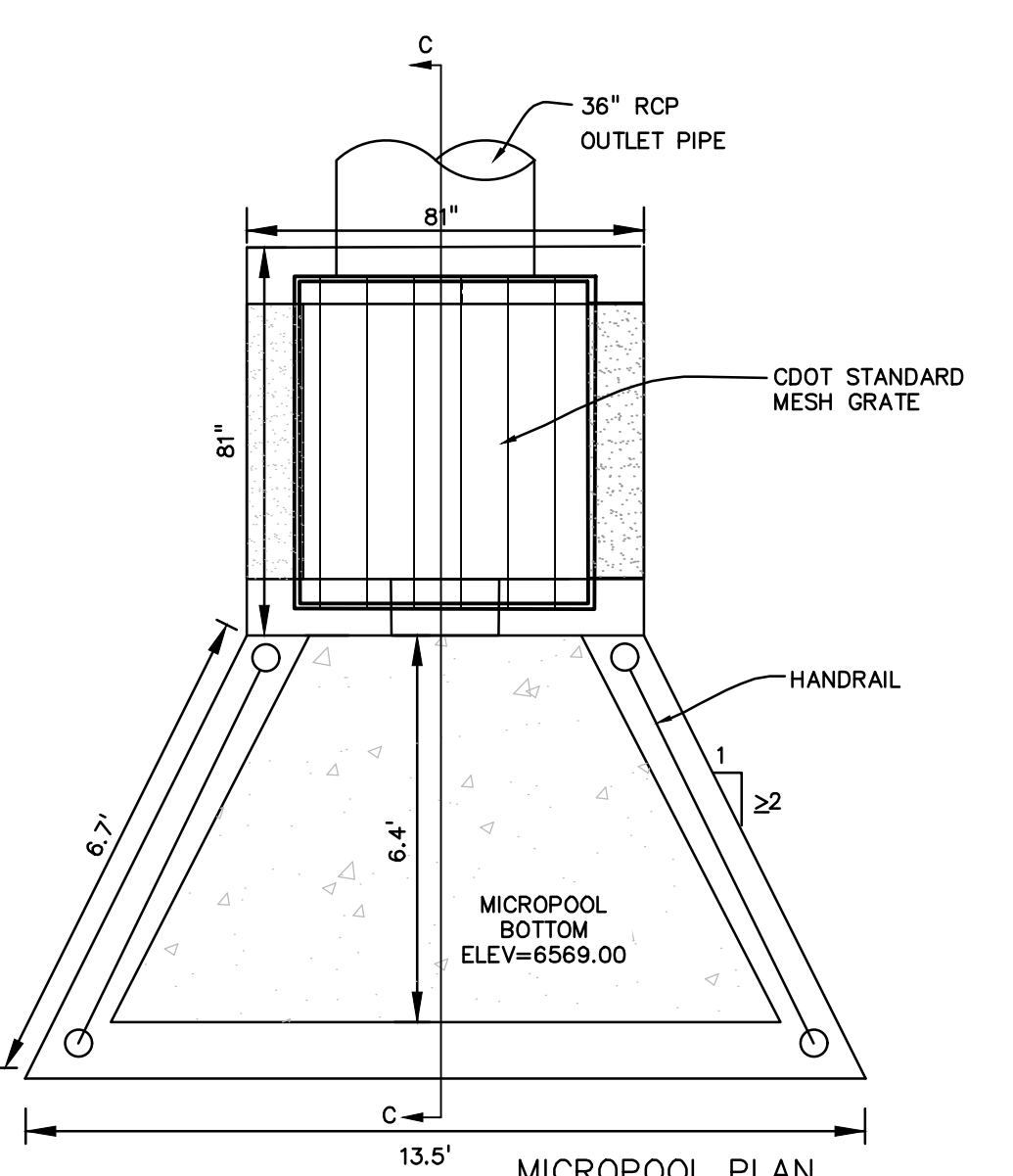
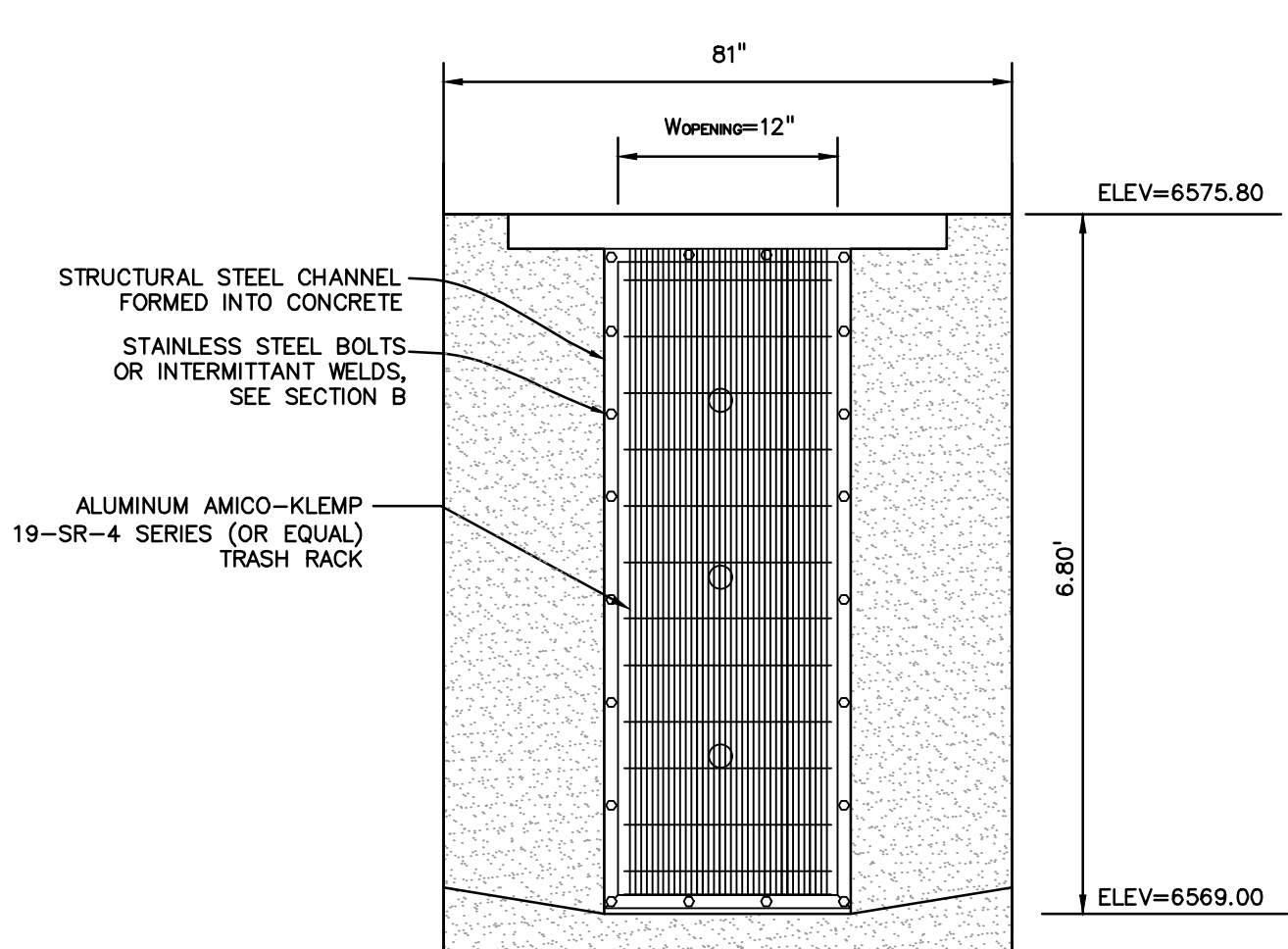
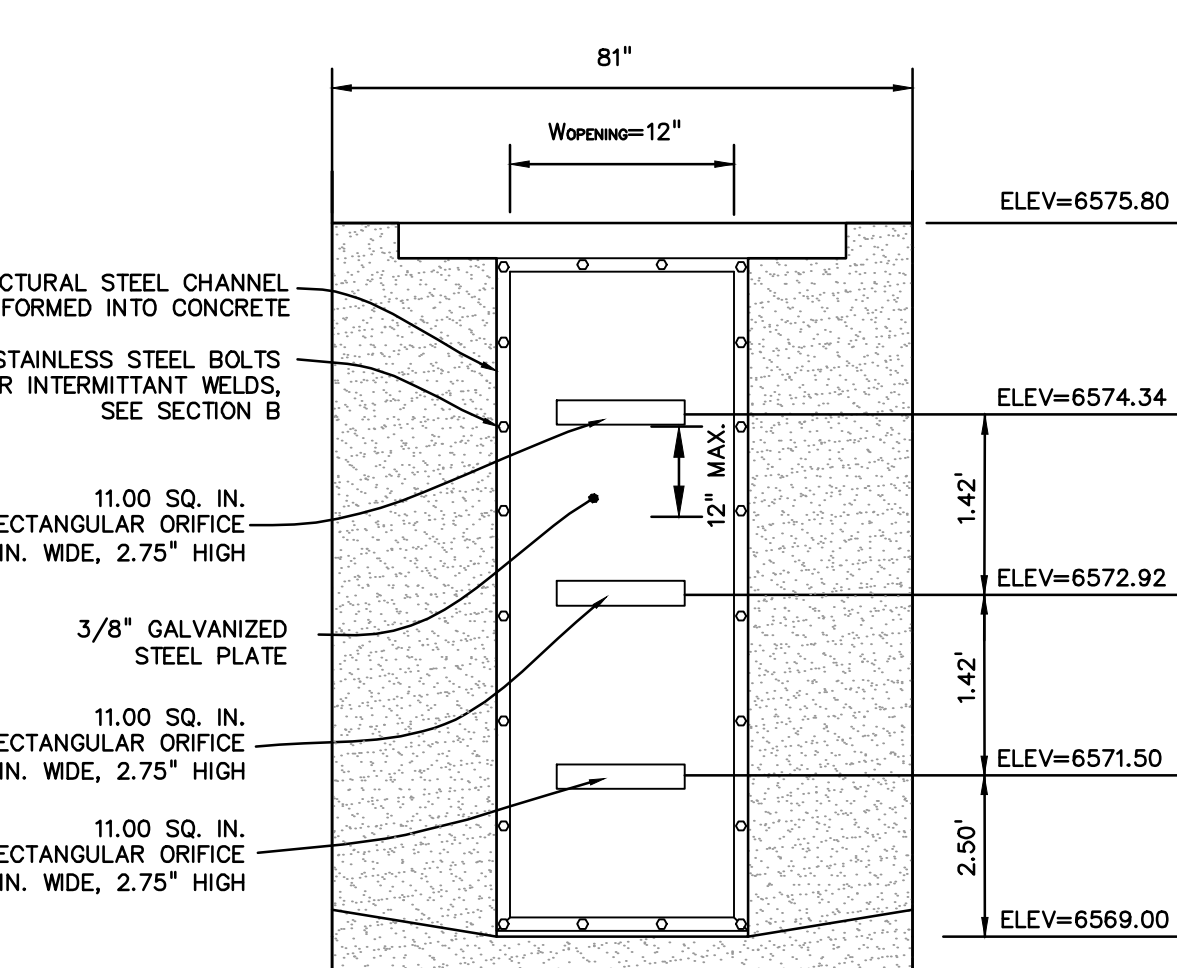
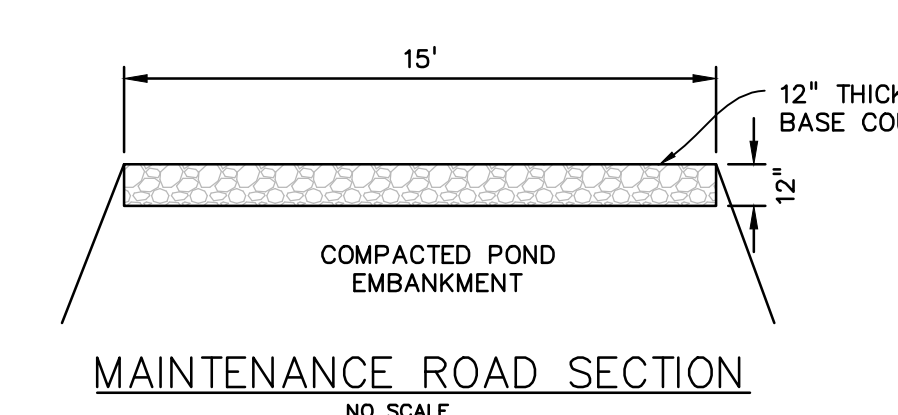
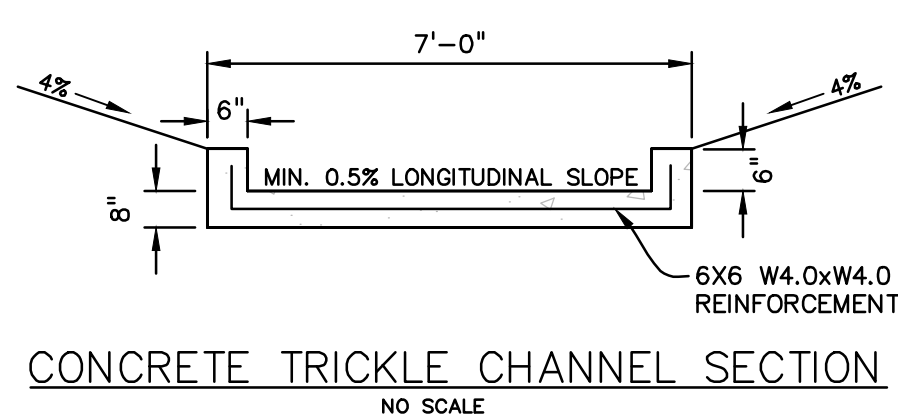
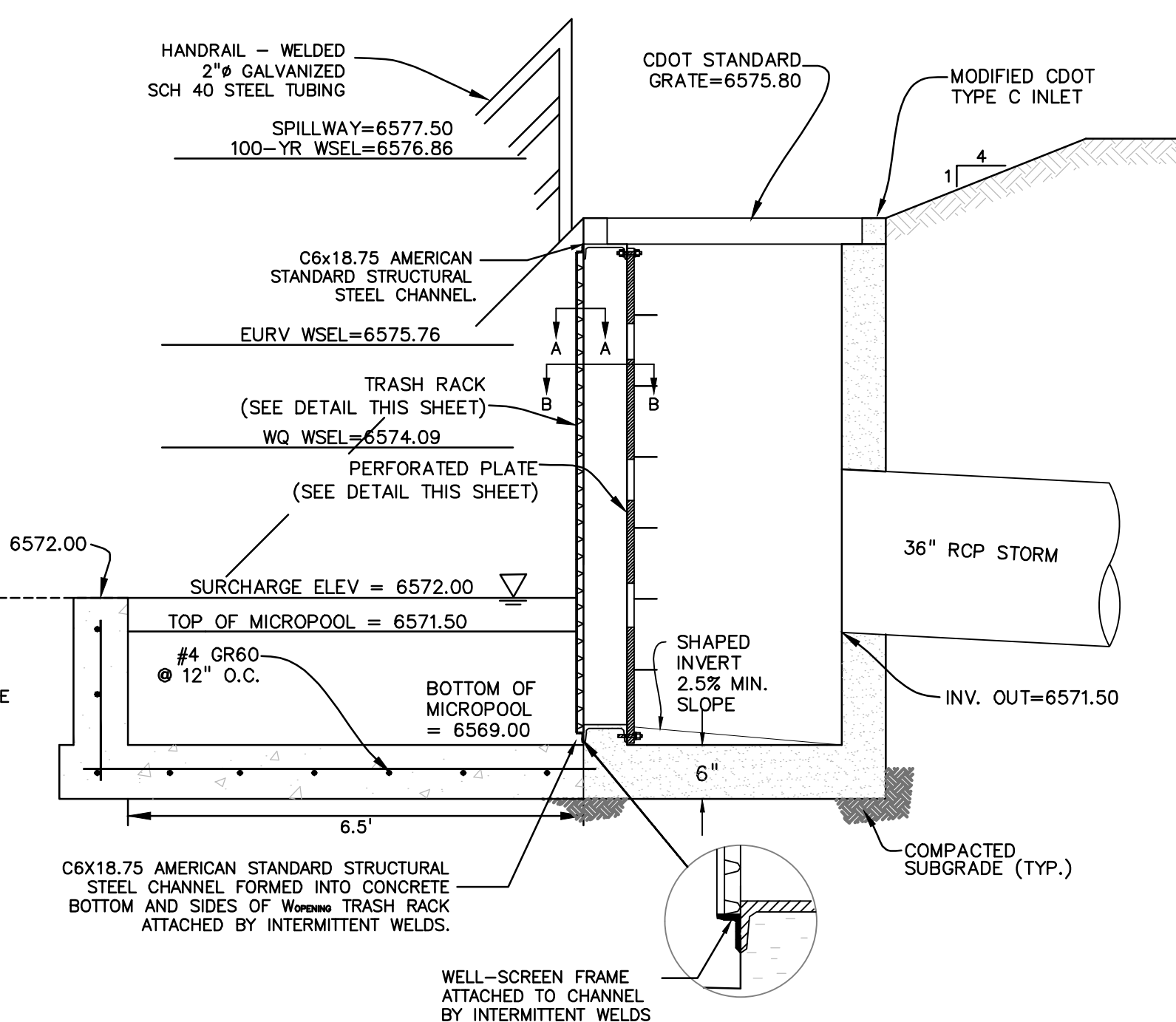
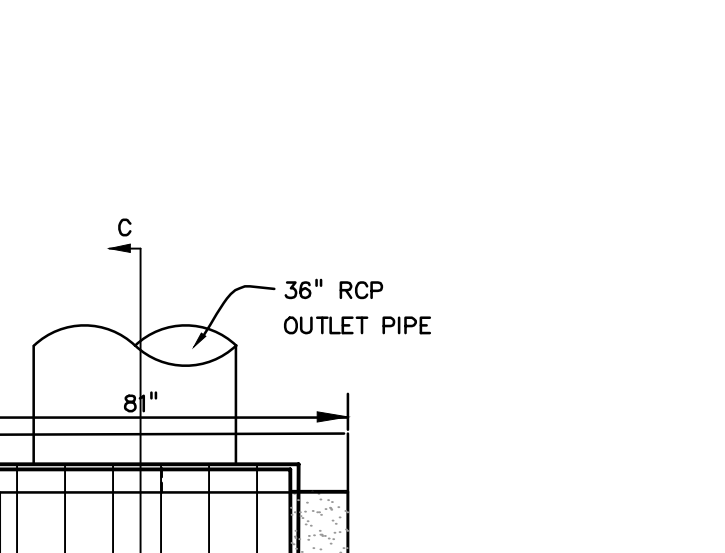
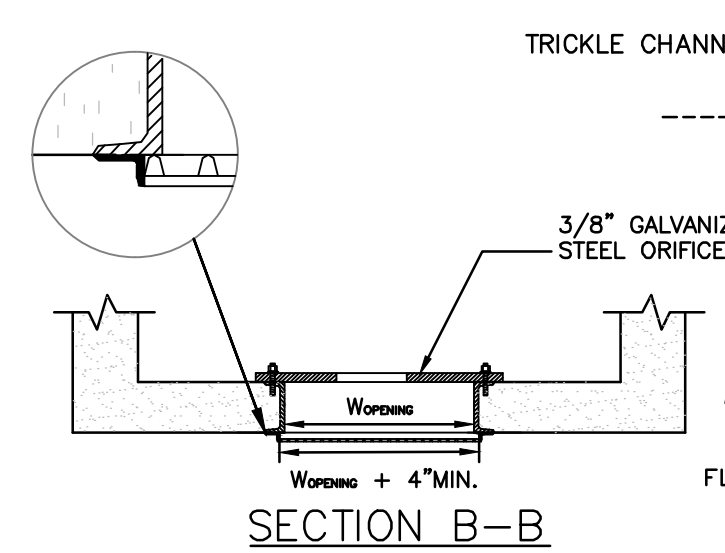
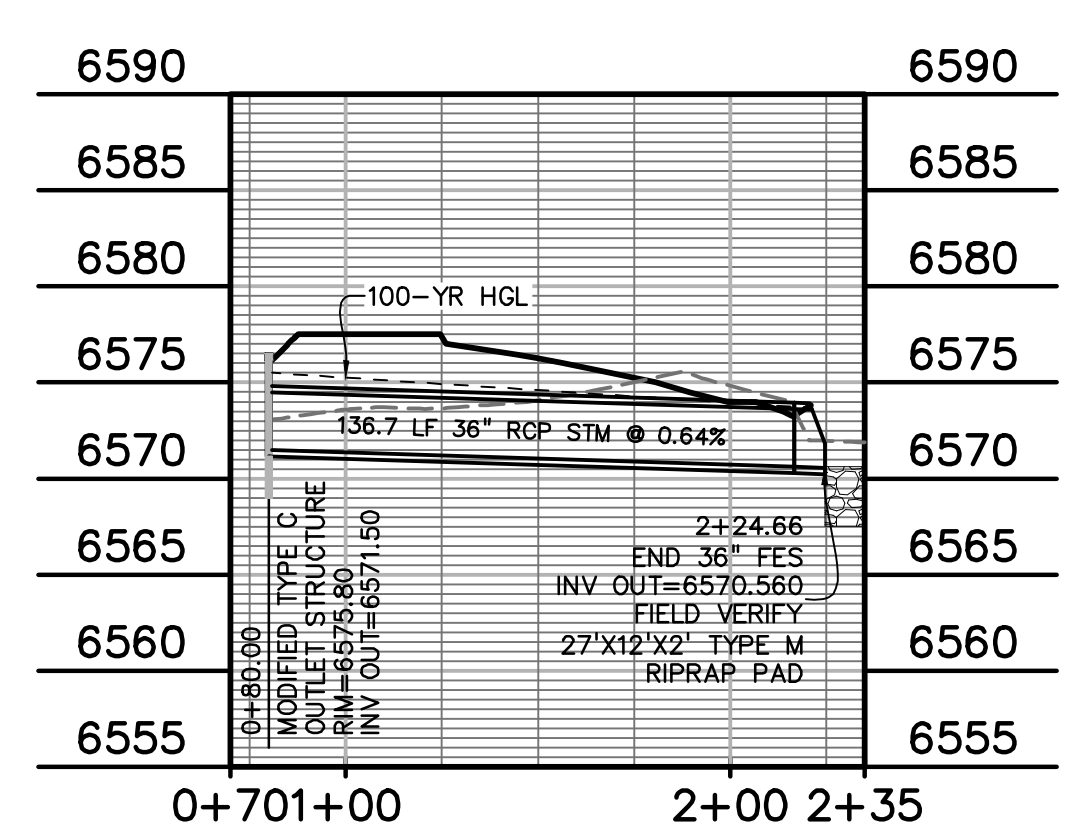
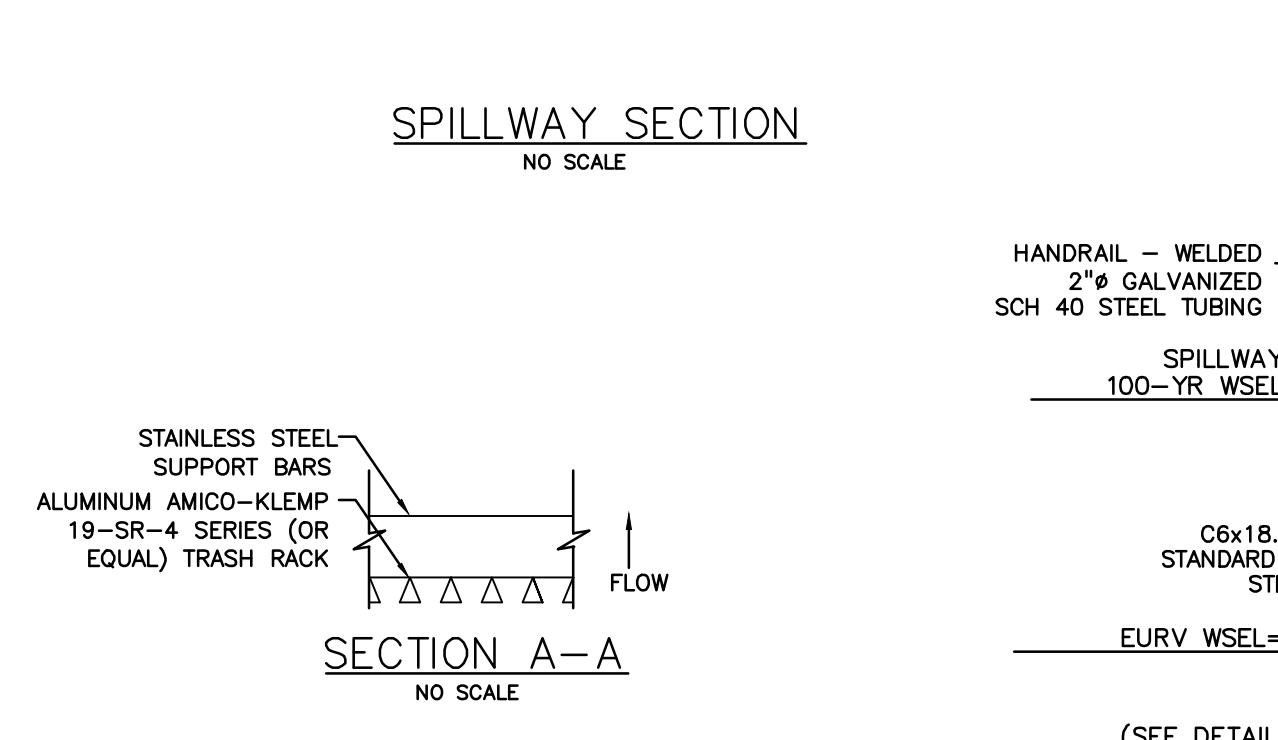
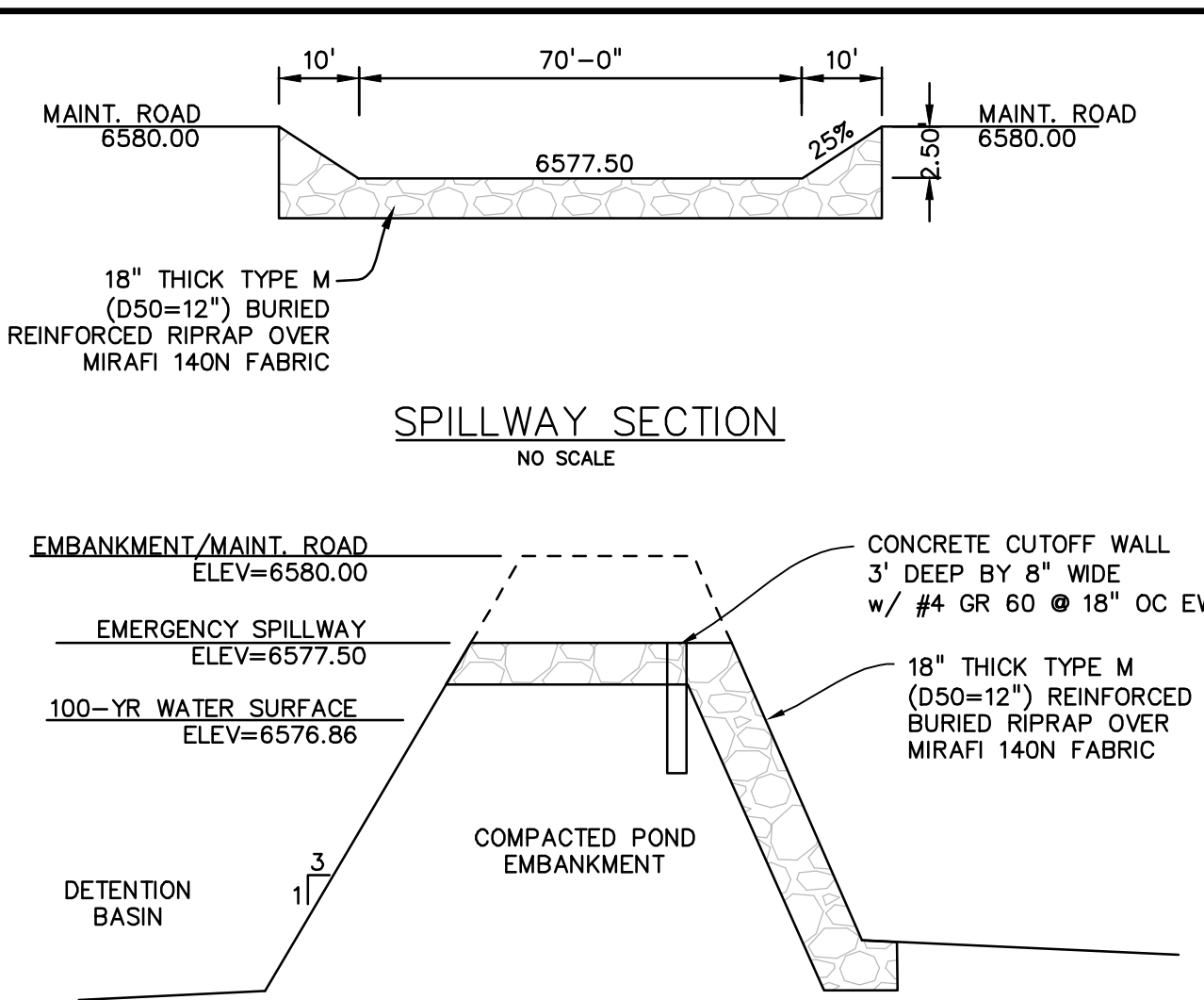
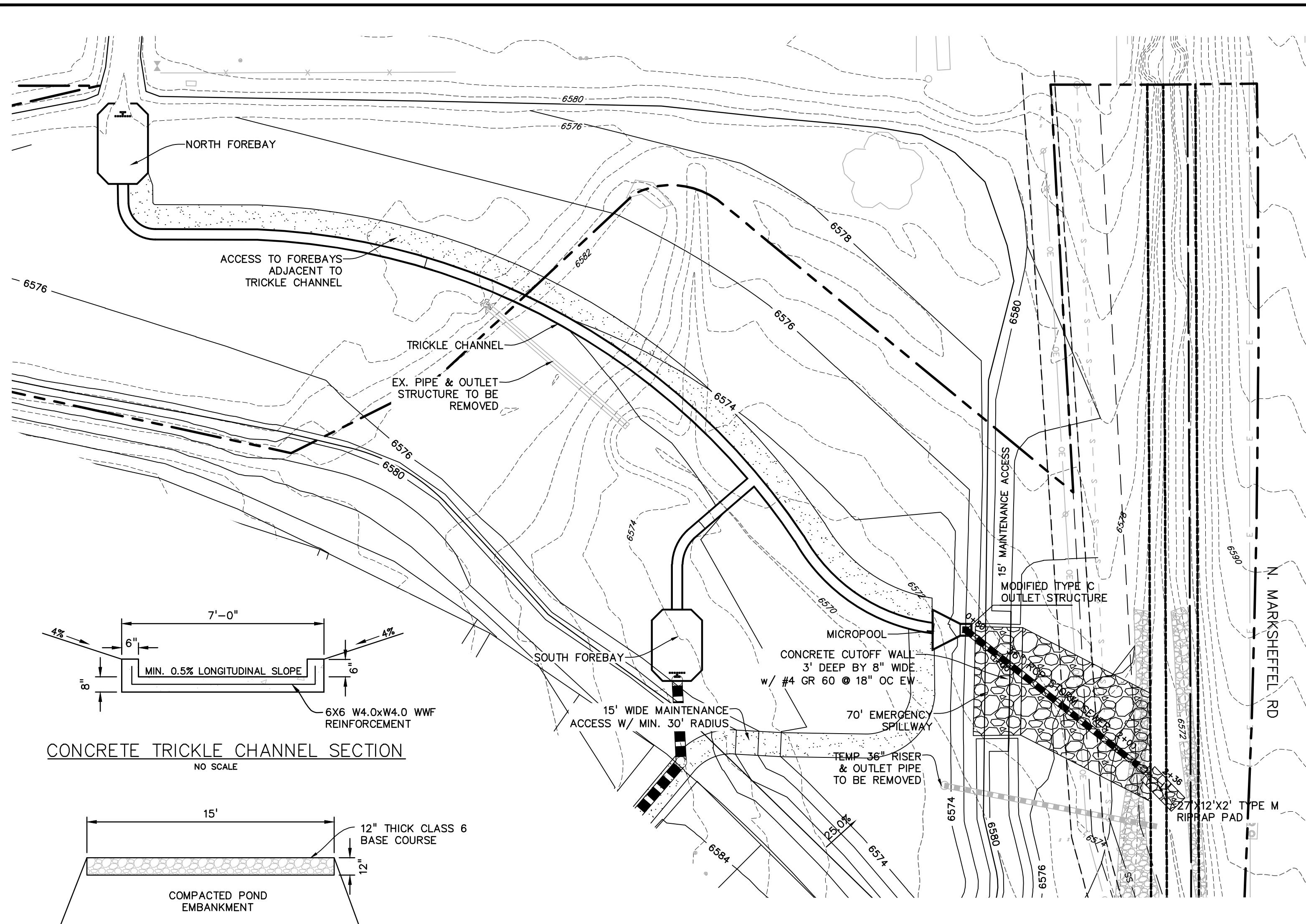
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GRADING & EROSION CONTROL
N. MARKSHEFFEL ROAD
EL PASO COUNTY, COLORADO

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INITIAL ISSUE	2/21/19
LATEST ISSUE	2/7/22
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DRAWN BY:	SBN
CHECKED BY:	TDM
FILE NAME:	21187-01ECDT
PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF DREXEL, BARRELL & CO.	
DRAWING SCALE: HORIZONTAL: N/A VERTICAL: N/A	
EROSION CONTROL DETAILS	
PROJECT NO. 21187-01CSCV	
DRAWING NO.	
EC07	
SHEET: 7 OF 10	

811 Know what's below.
Call before you dig.
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



- PERFORATED PLATE NOTES:**
1. PROVIDE GASKET MATERIAL OR CAULK BETWEEN THE ORIFICE PLATE AND CONCRETE.
 2. BOLT PLATE TO CONCRETE @ 12" MAX. ON CENTER. ORIFICE PLATE IS TO BE REMOVABLE.
 3. ALL STEEL SURFACES ARE TO BE COATED WITH ZRC COLD GALVANIZING COMPOUND.
- WQV TRASH RACKS:**
1. TRASH RACKS SHALL BE STAINLESS STEEL OR ALUMINUM AND SHALL BE ATTACHED BY INTERMITTENT WELDS ALONG THE EDGE OF THE MOUNTING FRAME.
- GENERAL NOTES:**
1. ALL EXTERIOR STEEL SHALL BE EITHER STAINLESS OR HOT DIPPED GALVANIZED

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ISSUE	DATE
INITIAL ISSUE	2/21/19
LATEST ISSUE	2/7/22

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DRAWN BY: KGV
CHECKED BY: TDM
FILE NAME: 21187-01PND1

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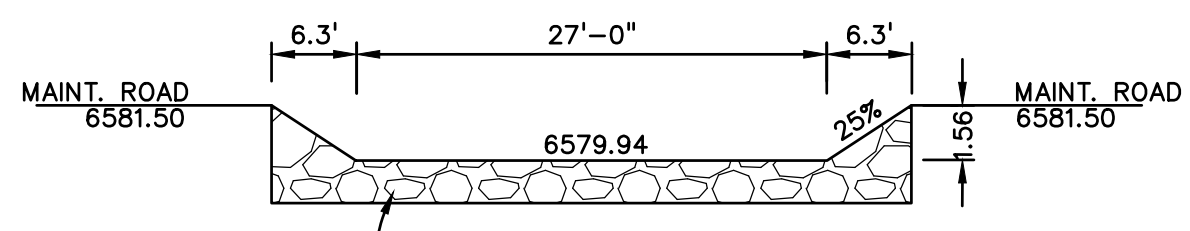
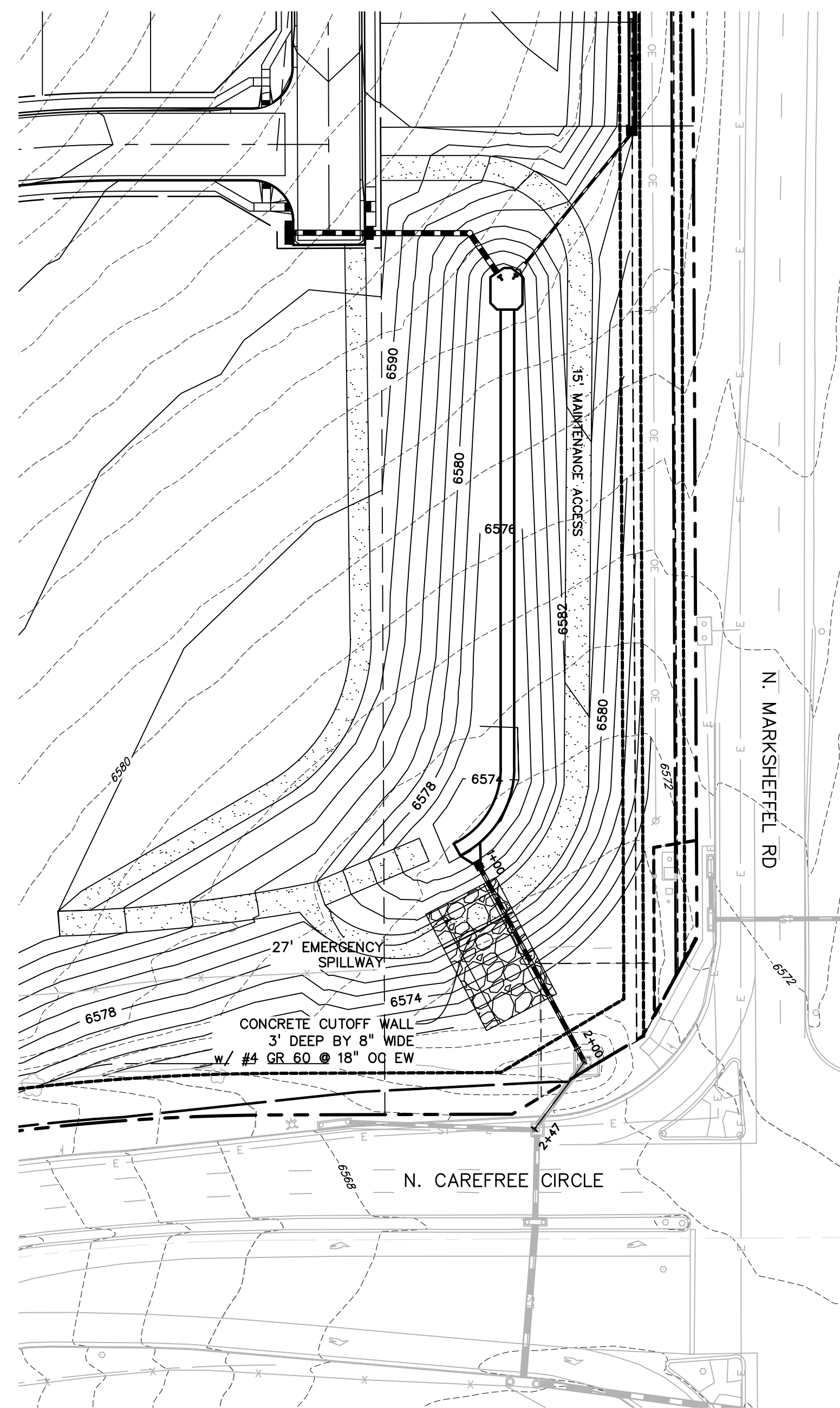


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VERTICAL: N/A

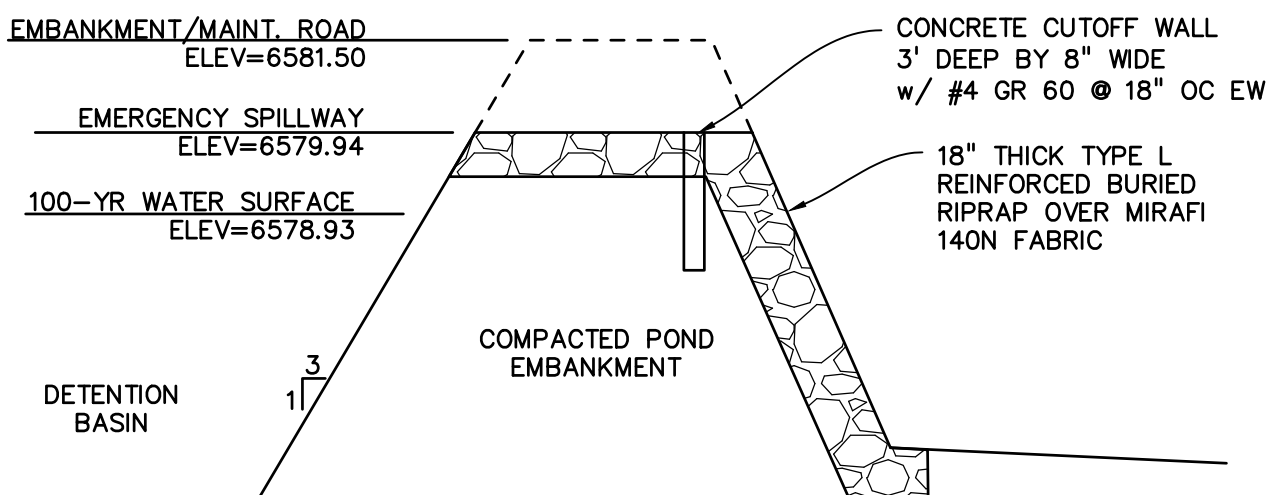
NORTH POND FINAL OUTLET DETAILS

PROJECT NO. 21187-01CSCV
DRAWING NO.

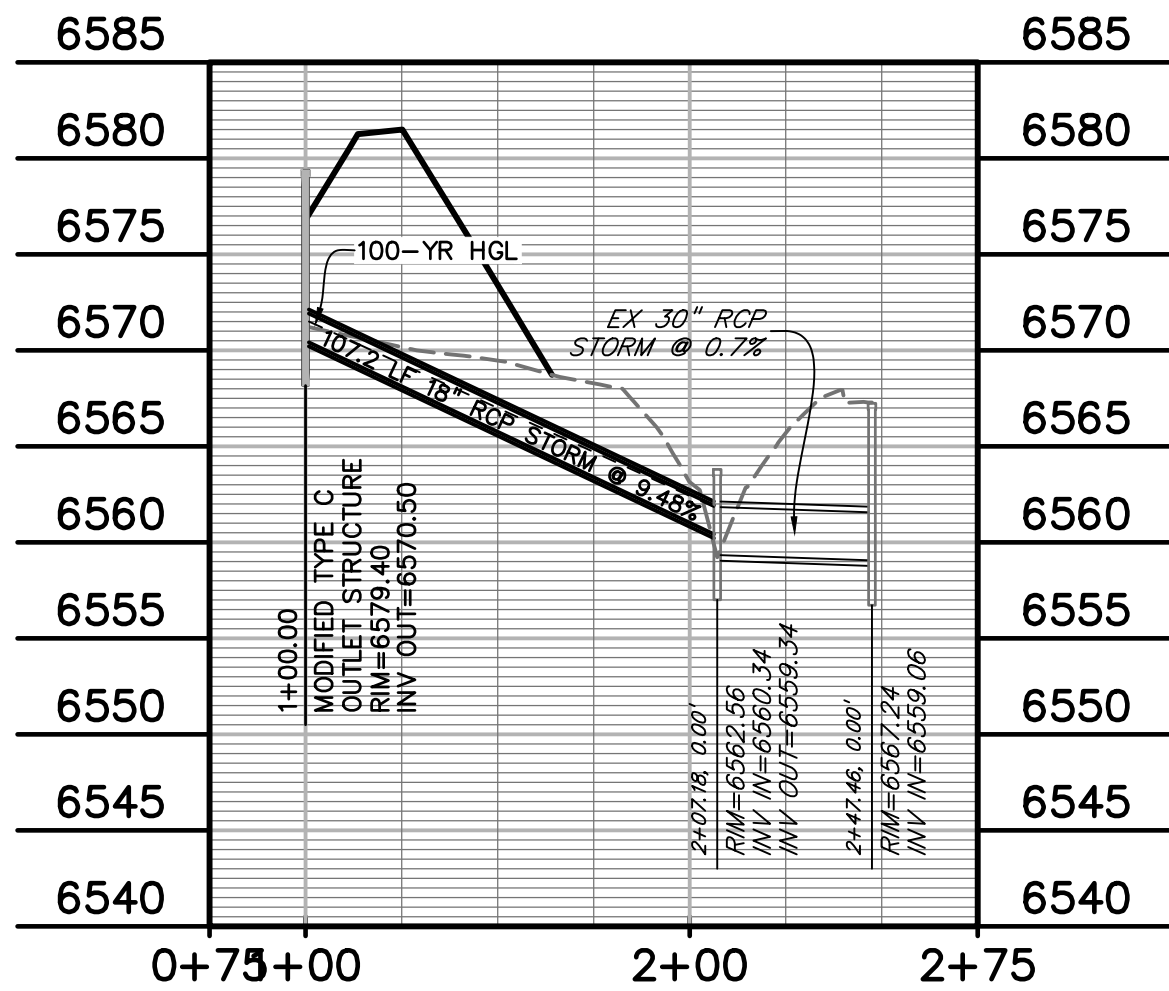
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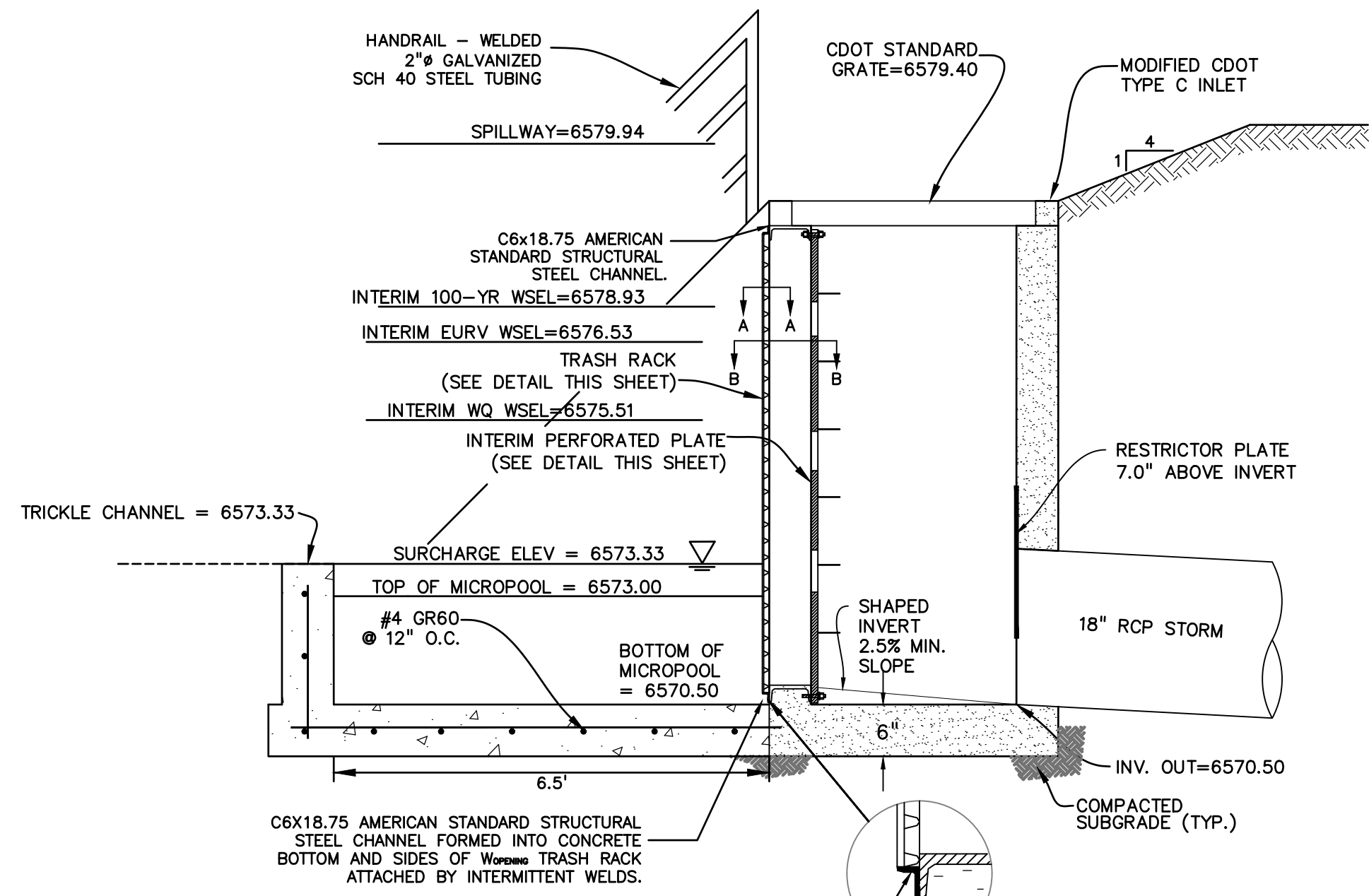
SPILLWAY SECTION
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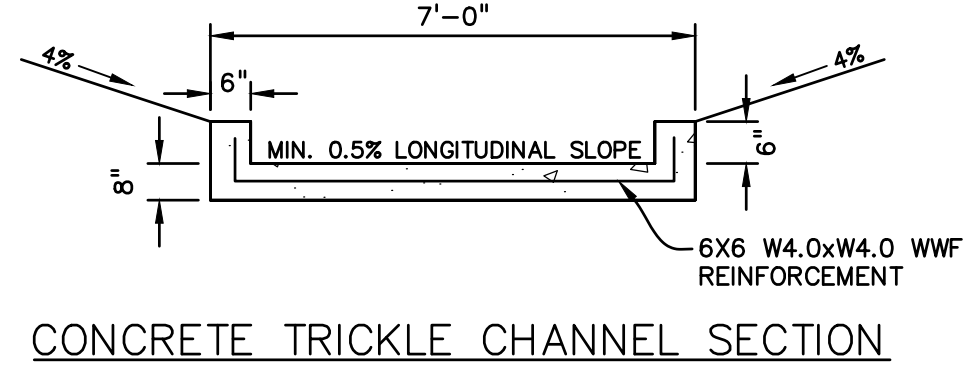
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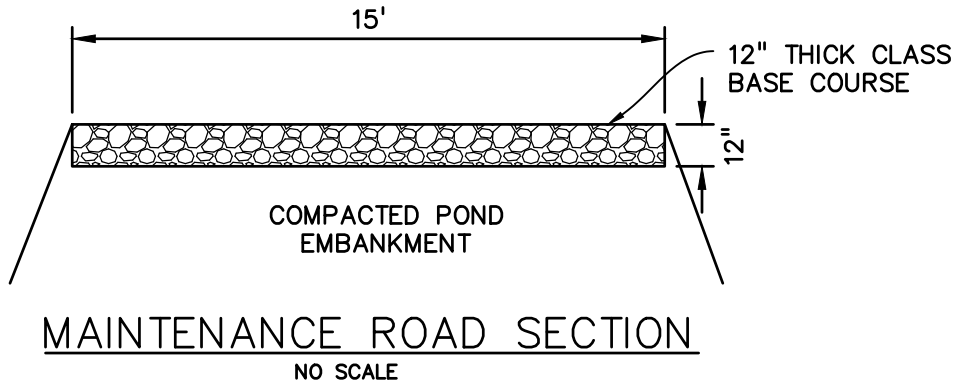
OUTLET PROFILE
SCALE: 1"=50'



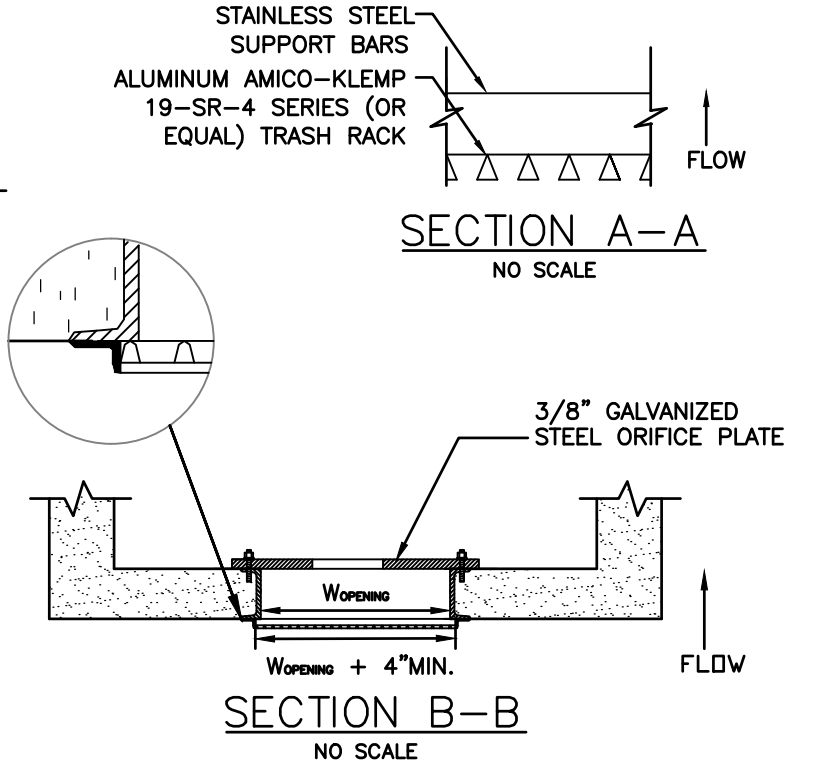
POND OUTLET PROFILE SECTION C-C
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CONCRETE TRICKLE CHANNEL SECTION
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MAINTENANCE ROAD SECTION
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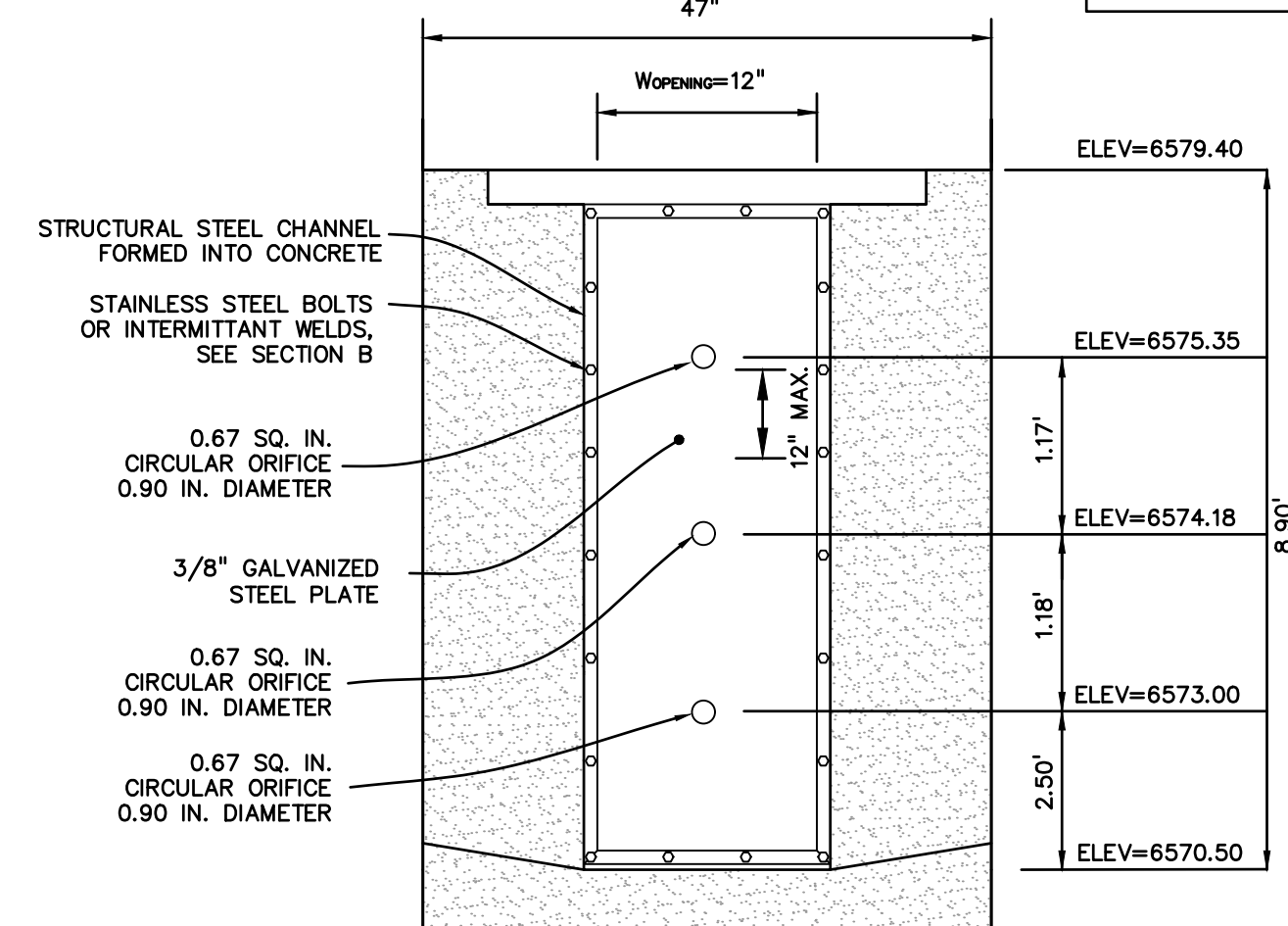
SECTION A-A
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SECTION B-B
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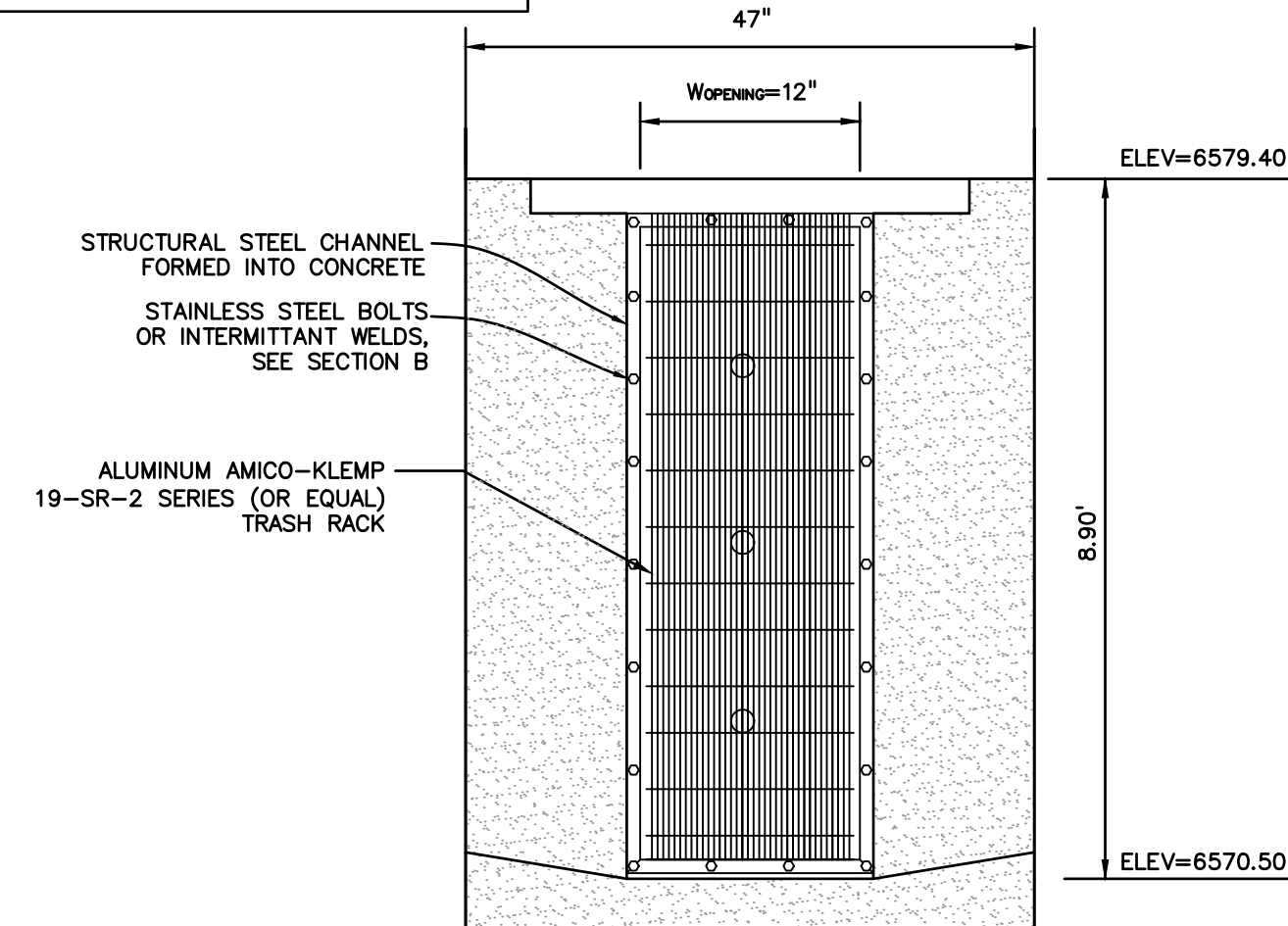
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SOUTH POND PLAN VIEW
SCALE: 1"=50'

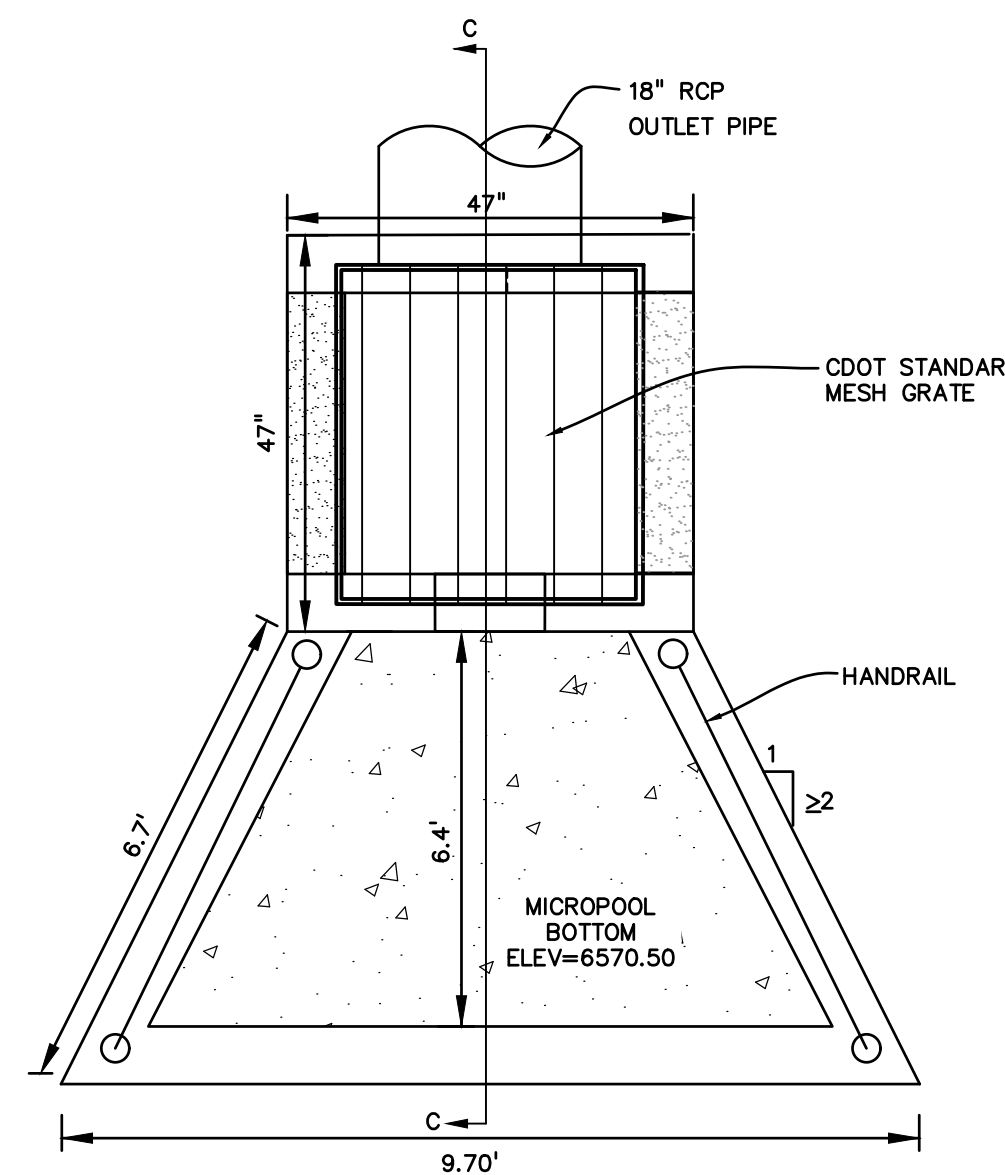
INTERIM OUTLET PLATE TO REMAIN UNTIL FINAL DESIGN FOR REPLAT OF TRACT B



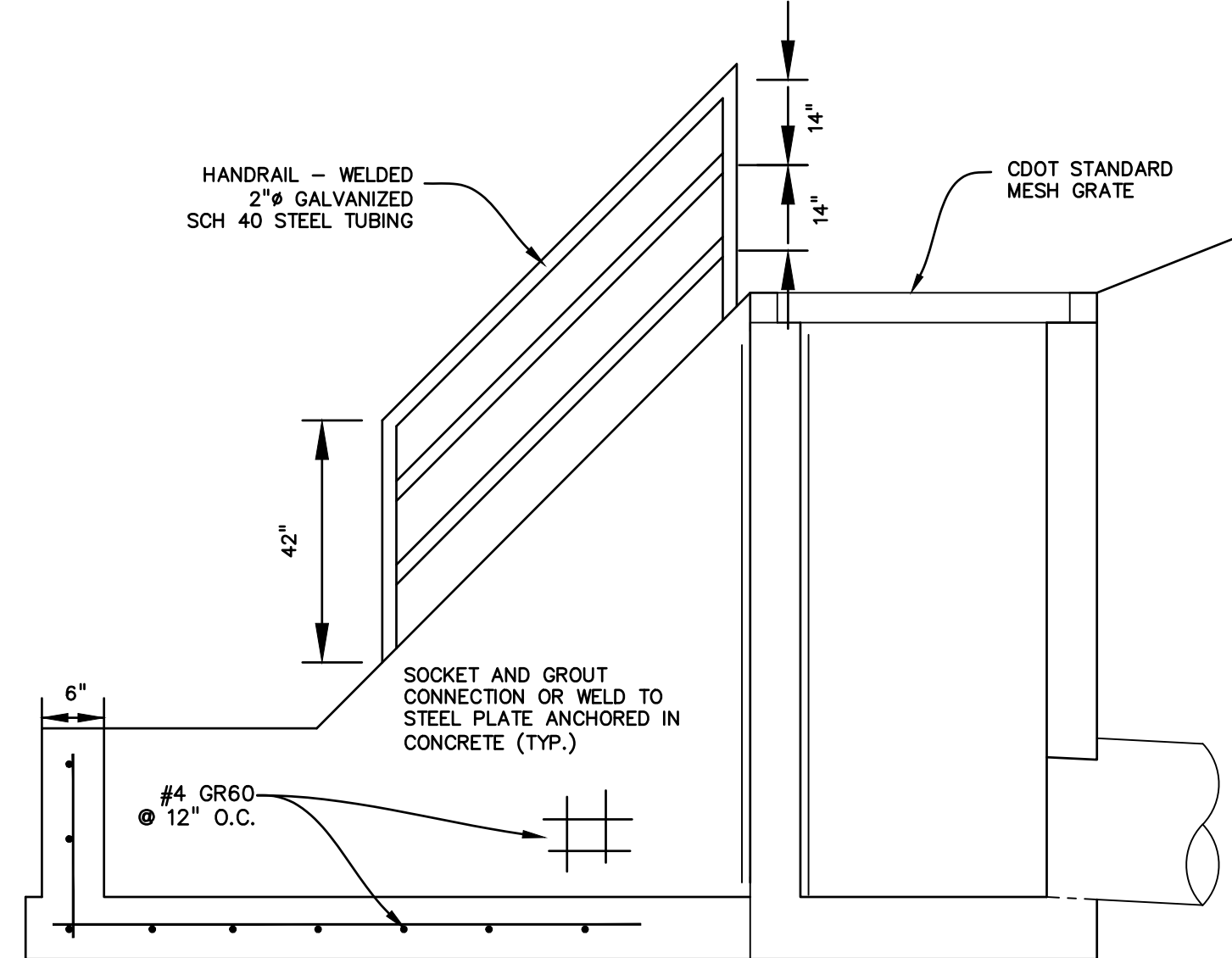
ELEVATION
INTERIM PERFORATED PLATE DETAIL
NO SCALE



ELEVATION
TRASH RACK
NO SCALE



MICROPOOL PLAN
NO SCALE



SECTION C-C
NO SCALE

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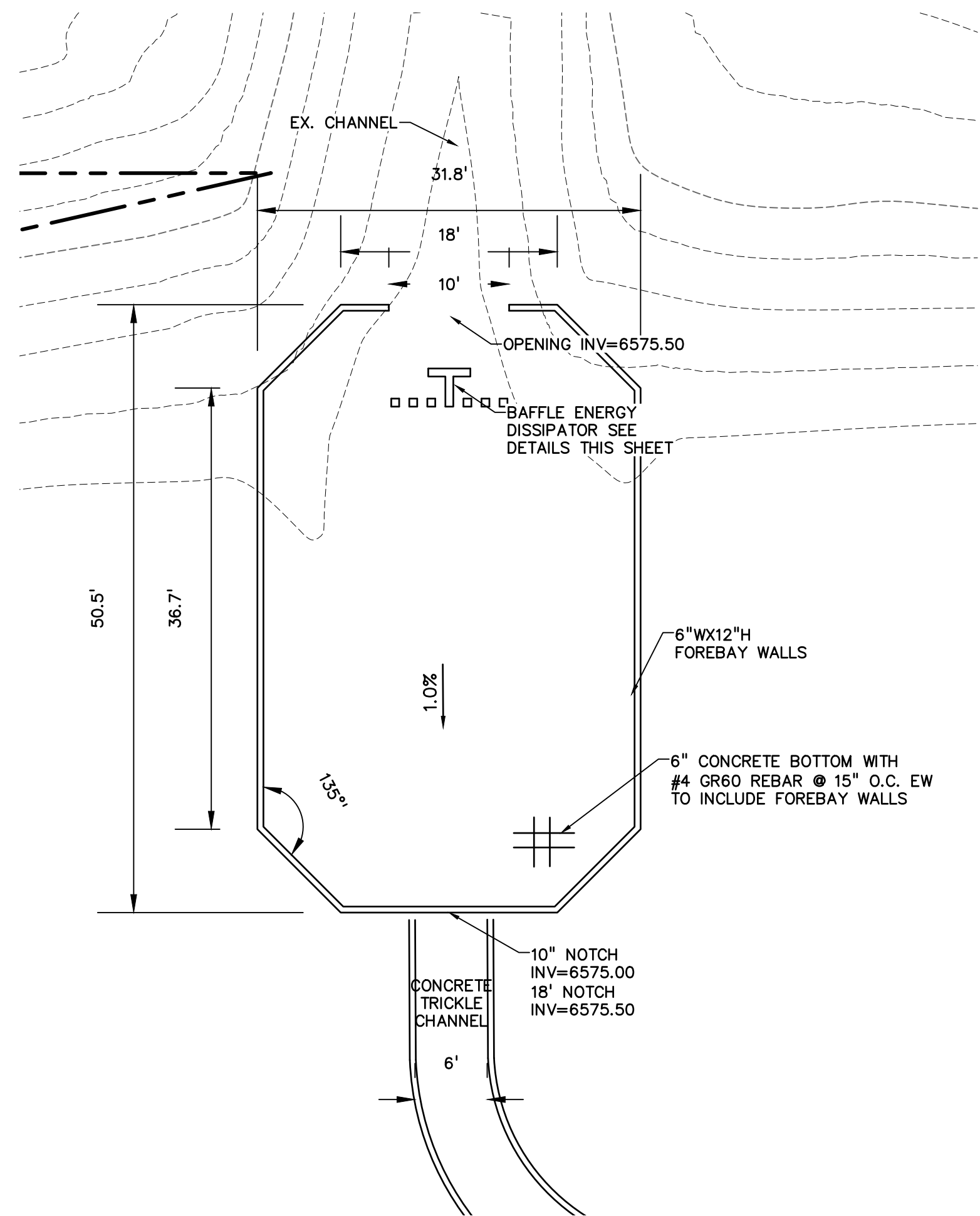


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VERTICAL: N/A

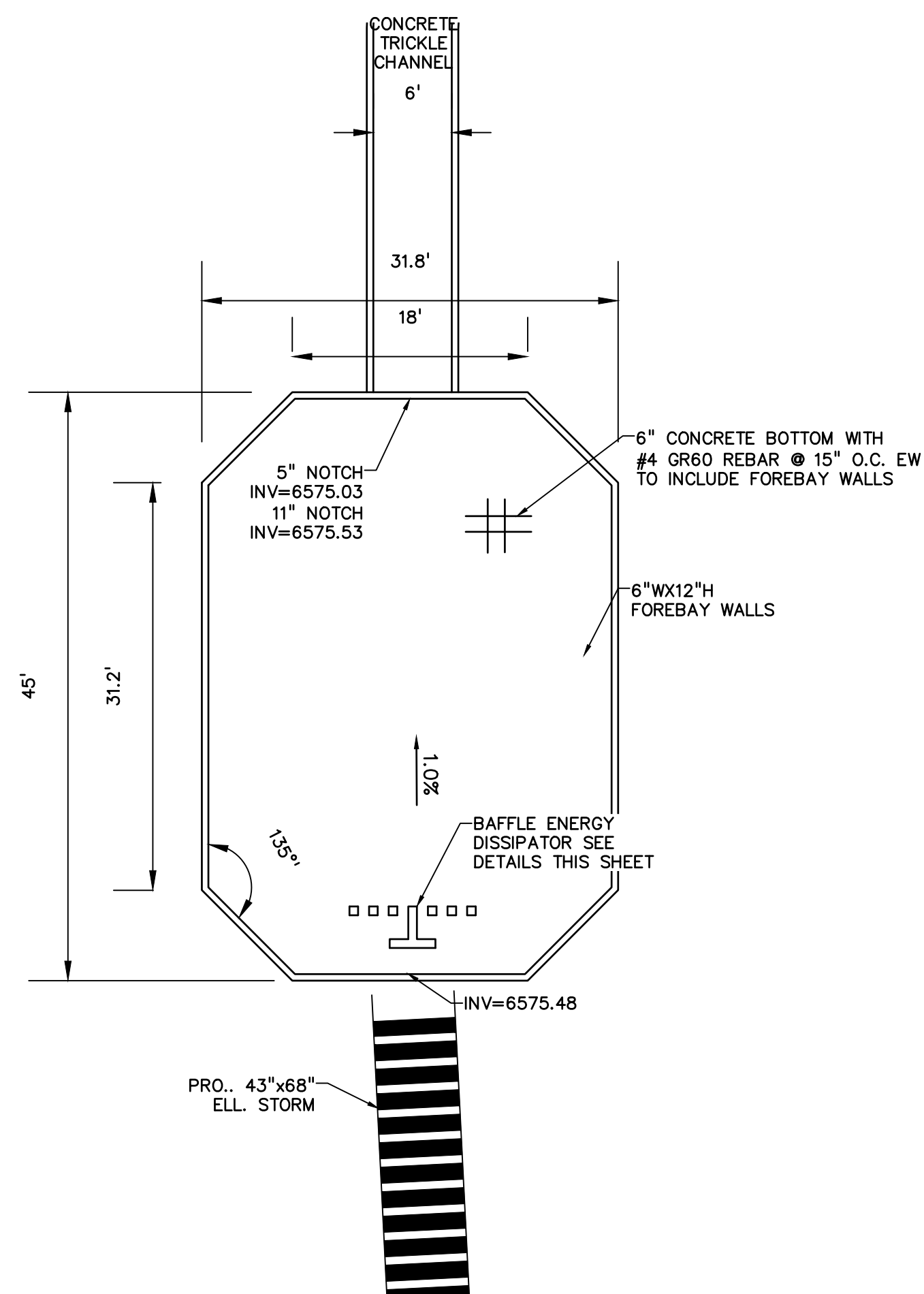
SOUTH POND
INTERIM
OUTLET DETAILS

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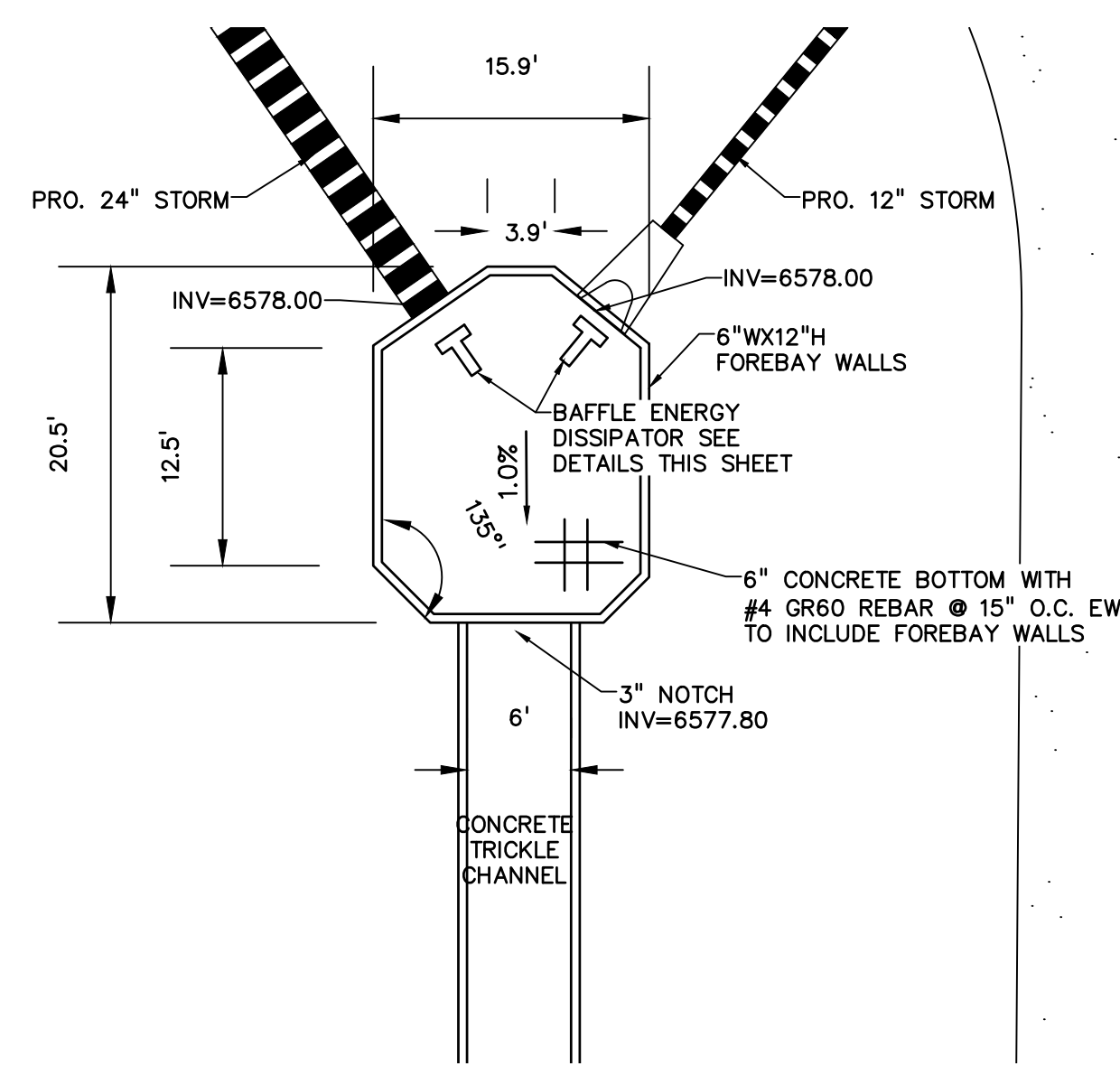
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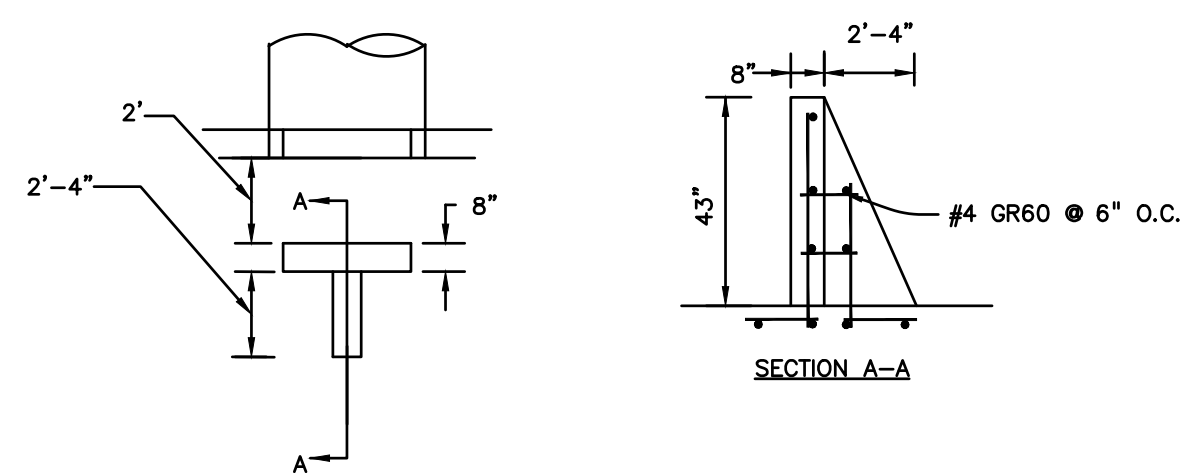
NORTH POND NORTH FOREBAY
SCALE: 1"=10'



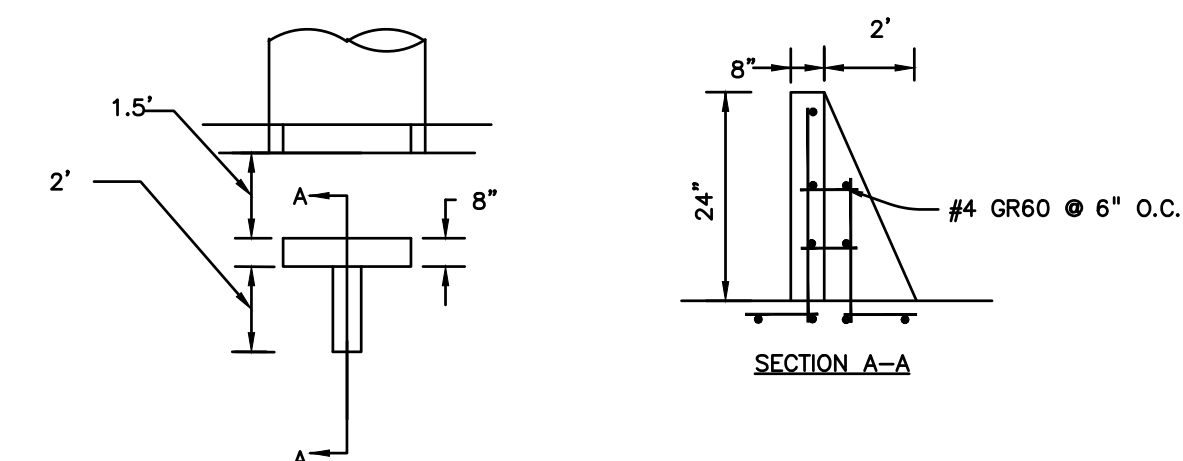
NORTH POND SOUTH FOREBAY
SCALE: 1"=10'



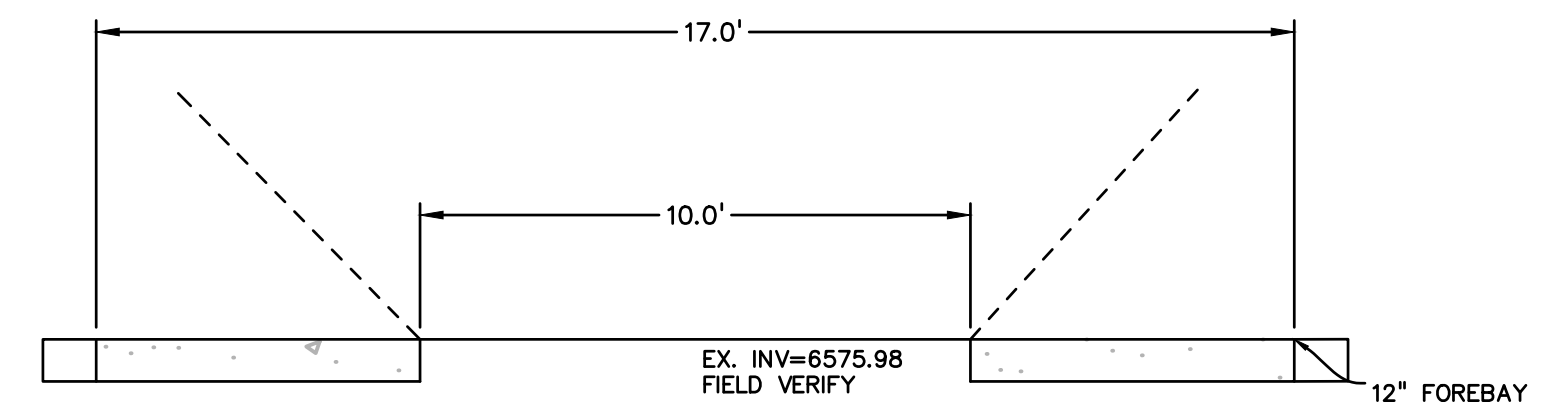
SOUTH POND FOREBAY
SCALE: 1"=10'



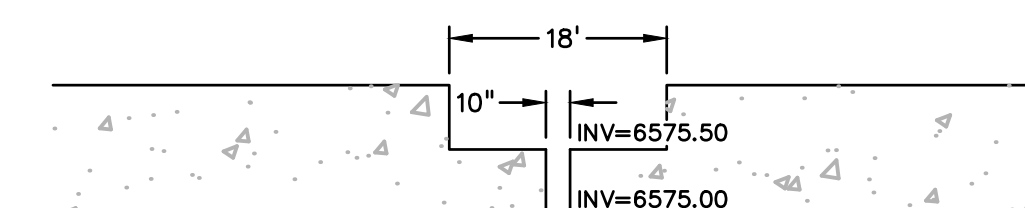
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NO SCALE



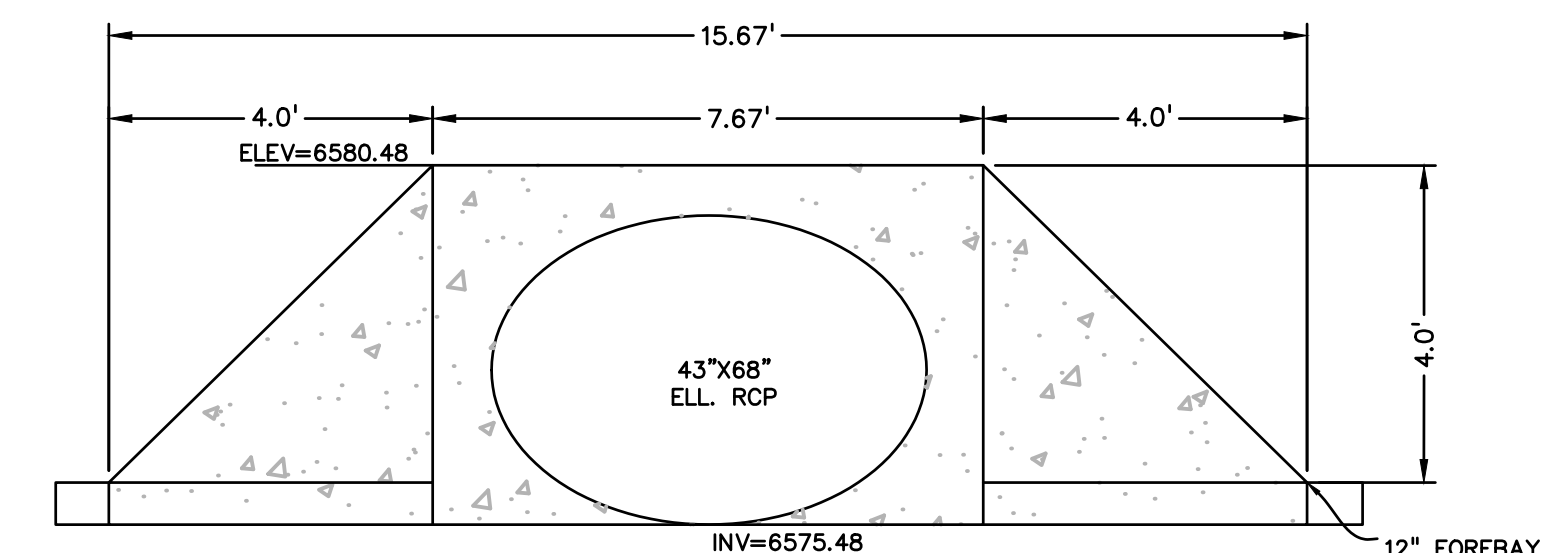
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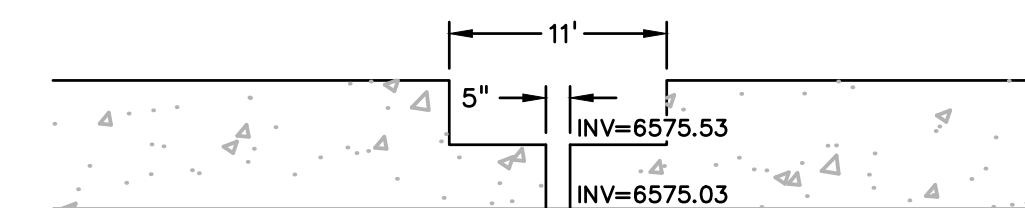
NORTH POND NORTH FOREBAY HEADWALL
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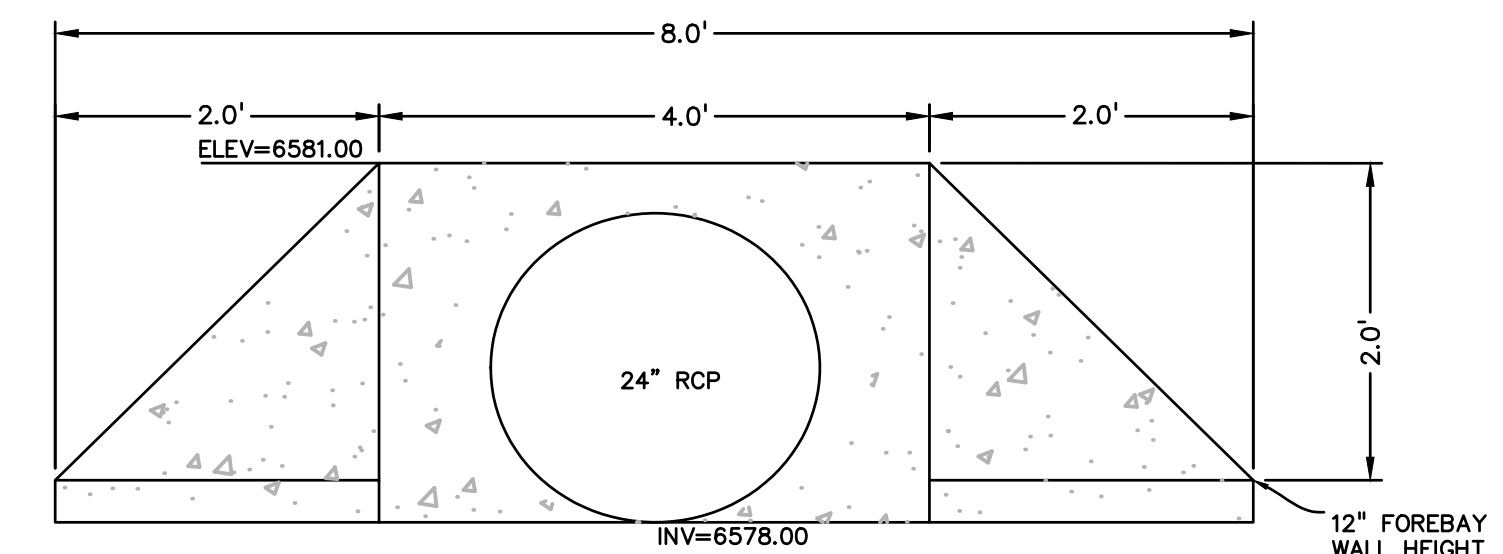
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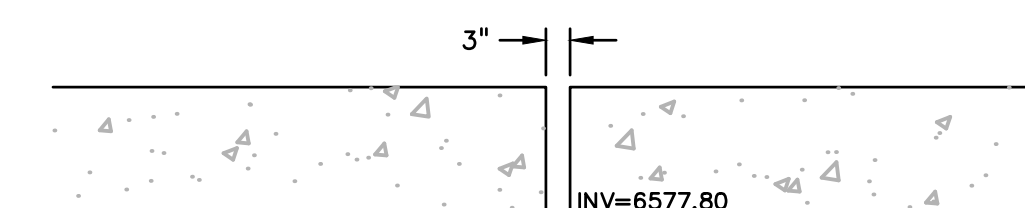
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NO SCALE



NORTH POND SOUTH FOREBAY NOTCH
NO SCALE

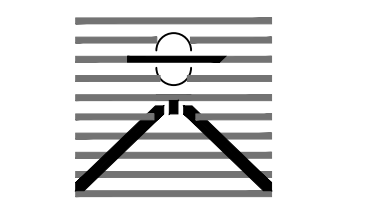


SOUTH POND FOREBAY HEADWALL
NO SCALE



SOUTH POND FOREBAY NOTCH
NO SCALE

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DRAWING SCALE:
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VERTICAL: N/A

FOREBAY
DETAILS

PROJECT NO. 21187-01CSCV
DRAWING NO.

FB

EPC 4/4/2022

COUNTY FILE NO.: SF2126

SHEET: 10 OF 10