



**STATE OF IOWA
DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP
DIVISION OF SOIL CONSERVATION AND WATER QUALITY**

Winn981024A NUTRIENT REDUCTION WETLAND PROJECT

CONSTRUCTION CONTRACT BID NO. 25-20

**SECTION 24, TOWNSHIP 98 NORTH, RANGE 10 WEST
WINNISHEIK COUNTY, IOWA**

**PREPARED FOR: IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP
DIVISION OF SOIL CONSERVATION AND WATER QUALITY
HOOVER STATE OFFICE BUILDING
1305 EAST WALNUT STREET
DES MOINES, IOWA 50319**

**PREPARED BY: BOLTON & MENK
1519 BALTIMORE DR
AMES, IA 50010
515-509-9296**

December 2025

PLANS

GOVERNING SPECIFICATIONS

THE SPECIFICATIONS AS PREPARED BY IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP AND BOLTON & MENK, INC. SHALL BE CONSIDERED AS PART OF THIS DOCUMENT. NATURAL RESOURCES CONSERVATION SERVICE CONSTRUCTION SPECIFICATIONS SHALL APPLY.

THE CURRENT EDITION OF THE "IOWA STATEWIDE URBAN STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS" SHALL GOVERN.

IOWA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION" AND ALL CURRENT GENERAL SUPPLEMENTAL SPECIFICATIONS AND MATERIALS INSTRUCTIONAL MEMORANDUM SHALL GOVERN AS REFERENCED.

ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.



THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."
THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING IOWA ONE CALL BY PHONE AT 811, OR ON THE WEB AT [HTTP://WWW.IOWAONECALL.COM/](http://www.iowaonecall.com/). TICKET# _____
TICKET NUMBER MUST BE PROVIDED TO THE NRCS PRIOR TO COMMENCEMENT OF WORK.



NOTES

- IF A CULTURAL RESOURCE IS IDENTIFIED DURING CONSTRUCTION, STOP WORK IMMEDIATELY AND NOTIFY THE LOCAL NATURAL RESOURCES CONSERVATION SERVICE OFFICE.
- THERE IS NO GUARANTEE THAT THE WETLAND WILL FILL OR REMAIN FILLED WITH WATER.



IOWA DEPARTMENT OF
**AGRICULTURE &
LAND STEWARDSHIP**



**BOLTON
& MENK**

1519 BALTIMORE DRIVE
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Phone: (515) 233-6100
Email: Ames@bolton-menk.com
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DESIGNED	REV	DESCRIPTION	DATE
BCS	1.1	ADDRESS IDALS COMMENTS	09/26/2025
BCS	1.2	BID PLANS	11/12/2025
CHECKED	JPR		
CLIENT PROJ. NO.	017.134539		

PROJECT DATUM: STATE PLANE
HORIZONTAL: IOWA NORTH
VERTICAL: NAVD 1988

SHEET NUMBER	SHEET LIST TABLE
A.01	TITLE SHEET
A.02	PLAN OVERVIEW SHEET
B.01	CPDT INSTALLATION DETAILS
B.02	MISC. DETAILS
B.03	WATER CONTROL STRUCTURE DETAIL
C.01	ESTIMATE QUANTITIES
D.01	GRADING OVERVIEW
D.02	PLAN & PROFILE - EMBANKMENT
D.03	PLAN & PROFILE - CHUTE
D.04	PLAN & PROFILE - AUX SPILLWAY & DIVERSION BERM 1
D.05	PLAN & PROFILE - DIVERSION BERM 2 & 3
K.01	SEEDING PLAN
M.01	DRAWDOWN PIPE AND SOUTH RE-LAY
M.02	NORTH TILE RE-LAY

CONSERVATION PRACTICE STANDARDS USED:
656 - CONSTRUCTED WETLAND

NRCS JOB CLASS: IV
300 AC<WATERSHED AREA<1000 AC

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE,
JUDGEMENT, AND BELIEF, THESE PLANS MEET APPLICABLE
NRCS STANDARDS AND APPLICABLE LAWS AND
REGULATIONS.

CLIENT ACCEPTANCE

SIGNATURE _____ DATE _____



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

BRANDON C. SHORT, PE
LICENSE NUMBER: 29449 DATE: 11/12/2025

MY LICENSE RENEWAL DATE IS 12/31/2026
PAGES OR SHEETS COVERED BY THIS SEAL:

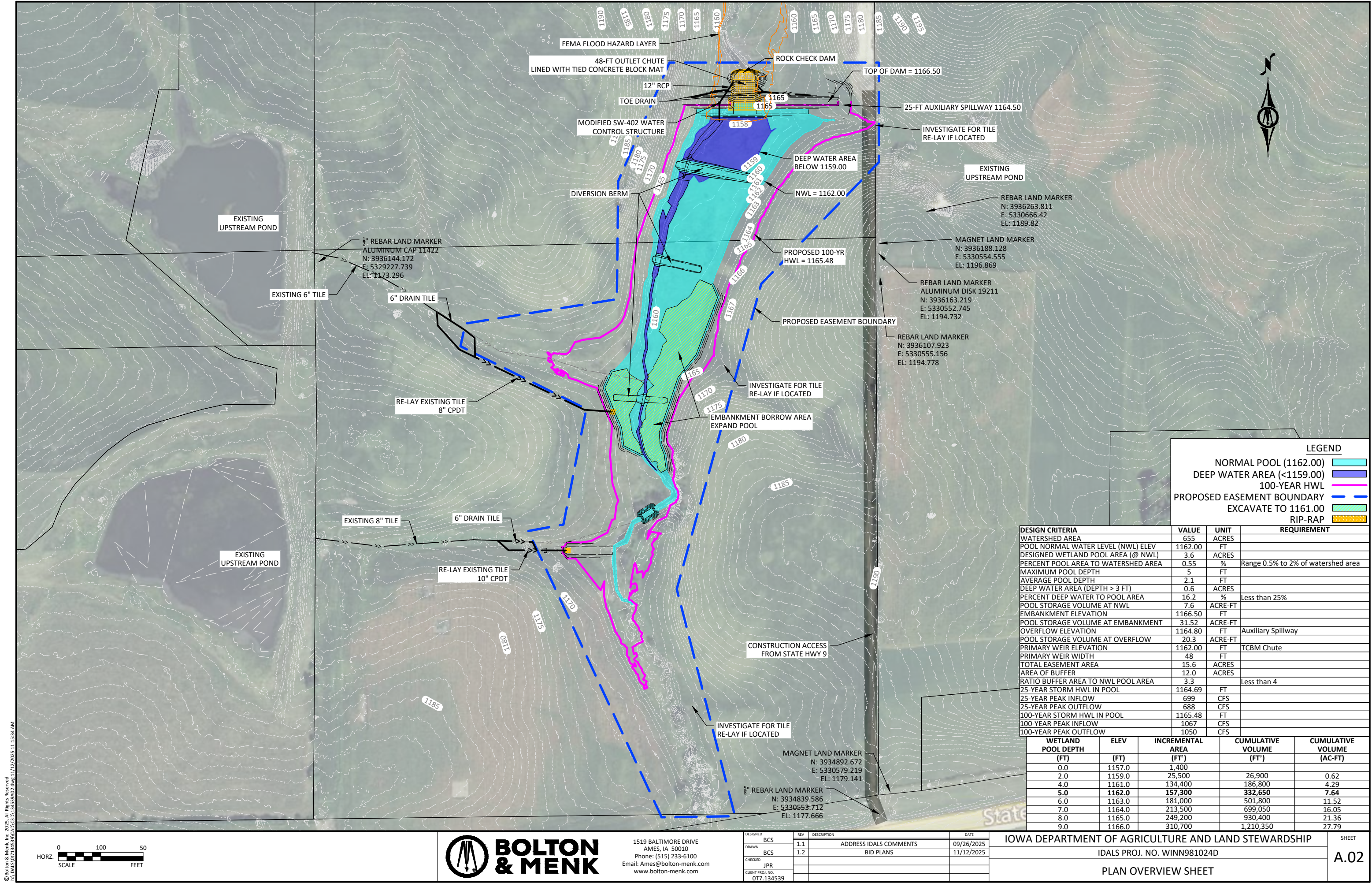
ALL SHEETS

IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP
IDALS PROJ. NO. WINN981024D

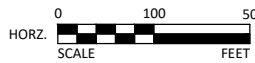
TITLE SHEET

SHEET

A.01



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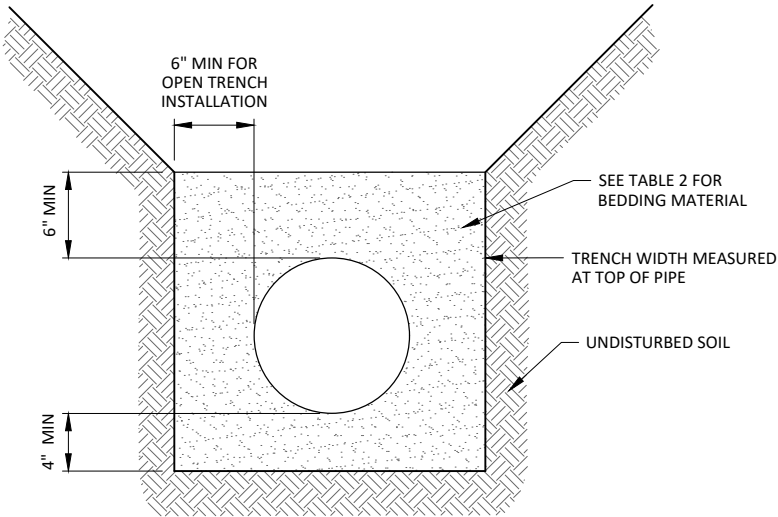
IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP
IDALS PROJ. NO. WINN981024D
PLAN OVERVIEW SHEET

SHEET
A.02

CORRUGATED POLYETHYLENE DRAINAGE TUBING
MATERIAL & INSTALLATION NOTES

- ALL CPDT AND CONNECTORS FURNISHED SHALL BE IN COMPLIANCE WITH MATERIAL STANDARDS ASTM F405 AND F667, AS APPLICABLE, AND SHALL BE CLASSIFIED AS HEAVY-DUTY UNDER THOSE STANDARDS.
- EXCEPT MODIFIED HEREIN OR OTHERWISE APPROVED BY ENGINEER, ALL CPDT SHALL BE INSTALLED IN COMPLIANCE WITH THE ASTM 449 STANDARD PRACTICE.
- FOR PIPES 6" DIAMETER AND SMALLER A 90° V GROOVE BOTTOM MAY BE USED, FOR ALL LARGER PIPE A TRAPEZOIDAL BOTTOM OR A CIRCULAR BOTTOM CONFORMING TO THE OUTSIDE DIAMETER OF THE PIPE SHALL BE USED. PRIOR TO THE INSTALLATION OF CPDT, CONTRACTOR MUST PROVE TO ENGINEER THAT THE INSTALLATION REQUIREMENTS, INCLUDING THE SHAPE OF THE TRENCH BOTTOM, WILL BE ACCOMPLISHED.
- WHERE TRENCH BOTTOM IS IN FIRM UNDISTURBED SOIL, SHAPE TRENCH BASE GROOVE. WHERE EXCESS CUT OCCURS, OVEREXCAVATE AND PLACE MINIMUM THREE (3) INCH THICK, GRAVELLY SAND BEDDING TO RESTORE GRADE. THIS BEDDING SHALL MEET THAT REQUIRED FOR TRENCH INSTALLATION TYPE 3 ON PLAN SHEET C.02. IF DUE TO CONTRACTOR ERROR THIS MATERIAL AND WORK IS SUBSIDIARY TO THE INSTALLATION OF THE PIPE. CONTRACTOR MAY SUBSTITUTE PIPE BEDDING ROCK AS THE BEDDING MATERIAL.
- NATIVE SOILS MAY BE USED AS BACKFILL MATERIAL UNLESS UNSTABLE TRENCH CONDITIONS PREVENT THE TRENCH BOTTOM HOLDING THE SHAPED GROOVE. IF TRENCH BOTTOM WILL NOT HOLD GROOVE SHAPE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY. A FLAT BOTTOM TRENCH INSTALLATION WILL THEN BE ASSUMED. THE REQUIRED BEDDING MATERIAL WILL BE PAID UNDER THE TILE TRENCH STABILIZATION AND CRADLING ROCK BID ITEM.
- MINIMUM TRENCH WIDTH IS PIPE OUTSIDE DIAMETER PLUS FOUR (4) INCHES FOR PLOWED INSTALLATION AND PIPE OUTSIDE DIAMETER PLUS TWELVE (12) INCHES FOR OPEN TRENCH INSTALLATION.
- ALL LATERAL CONNECTIONS, ELBOWS, TEES, ALIGNMENT CURVES, START HOLES AND ALL PORTIONS OF THE TRENCH NOT MEETING THE GROOVED TRENCH INSTALLATION REQUIREMENTS SHALL BE FILLED TO A MINIMUM OF SIX (6) INCH COVER OVER THE PIPE WITH GRADED CRUSHED STONE OR GRAVEL AS SHOWN ON TABLE 2 OF THIS SHEET. UNLESS DUE TO CONTRACTOR ERROR THIS BEDDING MATERIAL WILL BE PAID UNDER THE TILE TRENCH STABILIZATION AND CRADLING ROCK BID ITEM.
- MANUFACTURER'S ENDCAPS SHALL BE INSTALLED AT THE TERMINATION OF EACH LINE UNLESS A CONNECTION TO AN EXISTING DRAIN IS MADE.
- WITH THE INSTALLATION OF THE FIRST REACH OF CPDT ON THE PROJECT, CONTRACTOR IS REQUIRED TO WORK WITH THE ENGINEER TO CHECK AND CONFIRM THAT THE PIPE STRETCH, IF ANY, DOES NOT EXCEED 5%.
- ALIGNMENT TURNS MAYBE MADE USING EITHER A MANUFACTURED FITTING OR CURVING THE LINE WITH A 25' MINIMUM RADIUS.

Table 1 Maximum Allowable Buried Depth to Flowline of CPDT					
Nominal Pipe Diameter (IN)	Pipe Quality (ASTM)	Trench Width at Top of the Pipe (FT)			
		12"	18"	24"	30" or Greater
4	Standard	13	7	5.5	5
	Heavy-duty	Any	10	7	6
6	Standard	10	7	5.5	5
	Heavy-duty	Any	9.5	6.5	6
8	Standard	10	7	5.5	5
	Heavy-duty	Any	10	7	6
10	Heavy-duty	...	9	7	6
12	Heavy-duty	...	9	7	6
15	Heavy-duty	...	...	7	6
Table 2 Acceptable Bedding Material and Compaction Requirements					
Description	Percentage Passing Sieve Sizes			Minimum Standard Density (%)	Maximum Compaction Layer Height (IN.)
	1"	3/4"	No. 4		
Crushed Stone Crushed Gravel*	100%	> 95%	< 5%	Dumped	18
* Class 1 Bedding Material Per SUDAS 3010.202A is an Allowable Substitute					

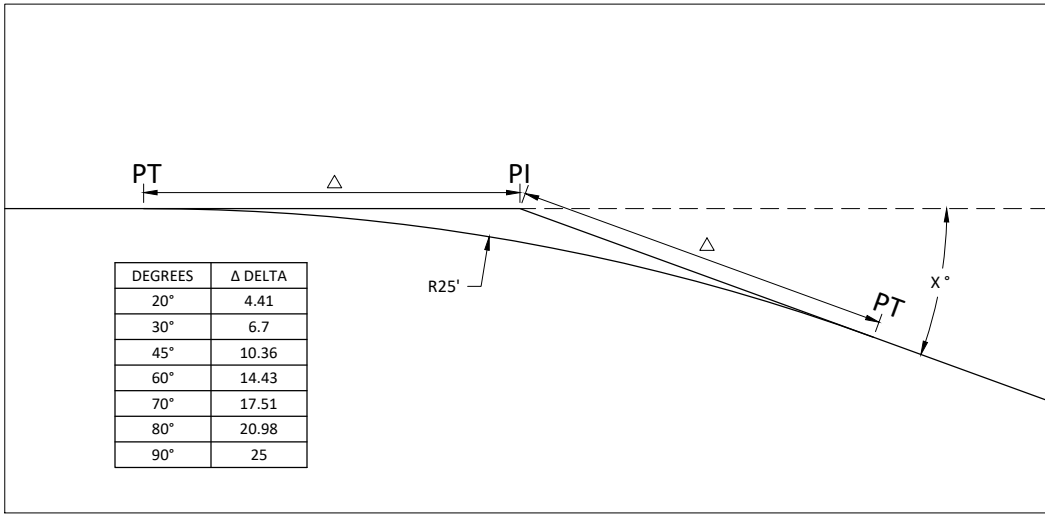


FILL TRENCH TO 6" ABOVE TOP OF PIPE WITH CRUSHED STONE OR GRAVEL MEETING THE REQUIREMENTS IN TABLE 2. BEDDING MATERIAL SHALL BE INCIDENTAL TO THE PIPE INSTALLATION.

FLAT BOTTOM TRENCH INSTALLATION

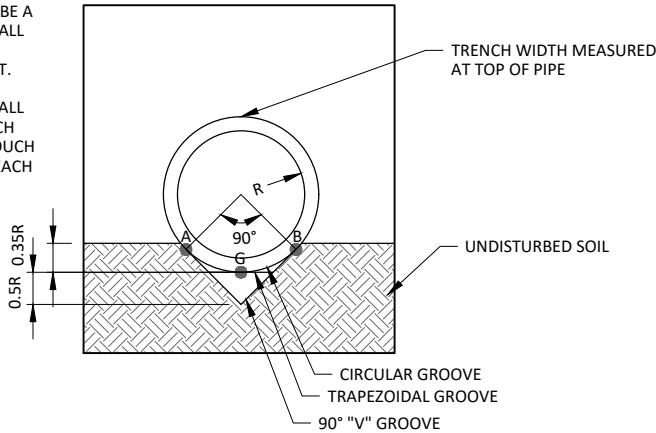
NOT TO SCALE
SOURCE: ASTM F449

NOTE: THIS IS AN ALLOWED ALTERNATIVE INSTALLATION FOR CPDT



THE CIRCULAR GROOVE SHALL BE A MINIMUM 0.35R DEEP AND SHALL MATCH THE OUTSIDE CURVE SHAPE OF THE DEFLECTED CPDT.

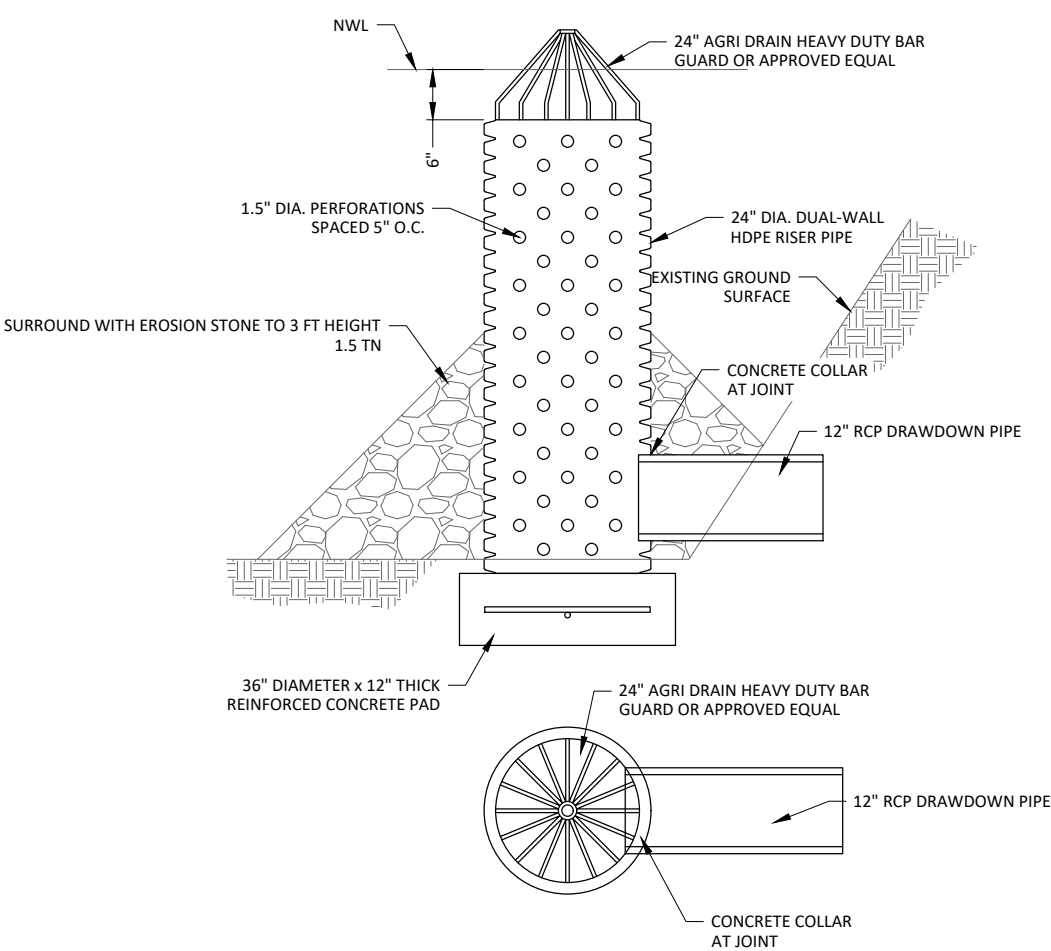
THE TRAPEZOIDAL GROOVE SHALL BE SHAPED AND ADJUSTED SUCH THAT POINTS A, B, & C WILL TOUCH THE UNDEFLECTED CPDT FOR EACH SIZE INSTALLED.



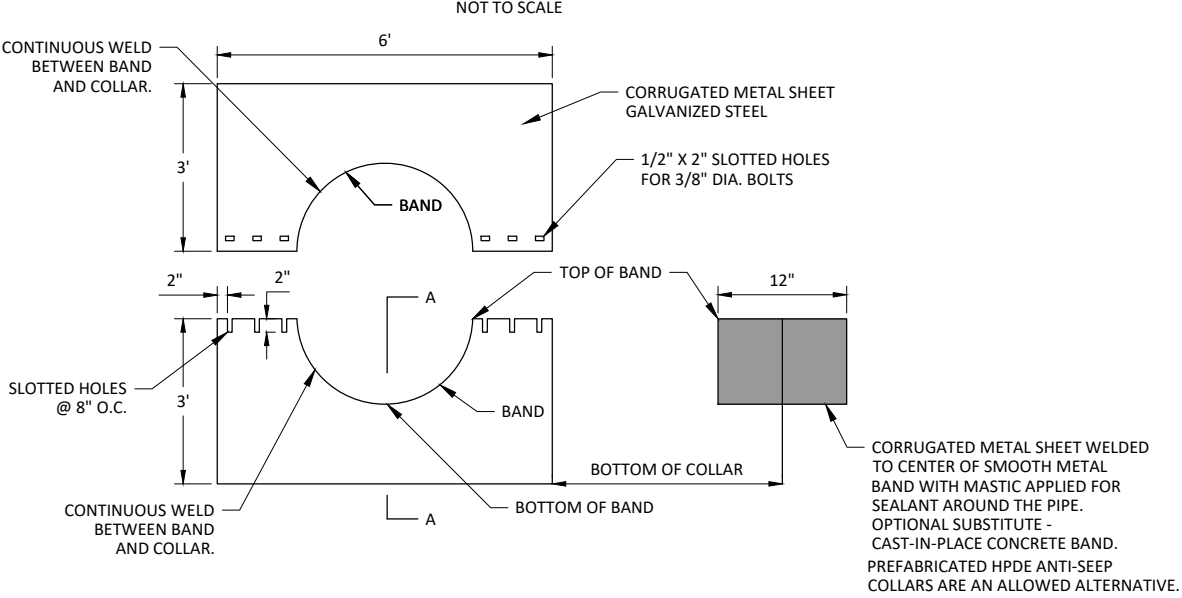
PREFERRED TRENCH INSTALLATION BOTTOM

TRAPEZOIDAL GROOVE, "V" GROOVE, & CIRCULAR GROOVE
NOT TO SCALE
SOURCE: ASTM F449

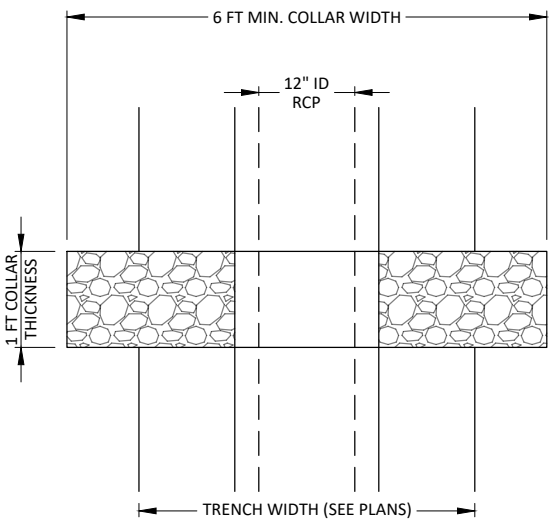
OUTLET RISER DETAIL



ANTI-SEEP COLLAR DETAILS
ALTERNATIVE 1: RCP ANTI-SEEP COLLAR

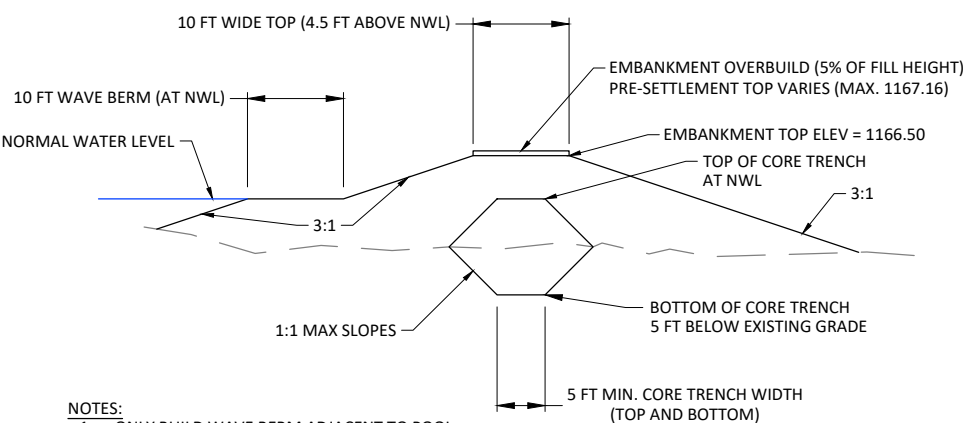


ALTERNATIVE 2: COMPOSITE BENTONITE AGGREGATE COLLAR



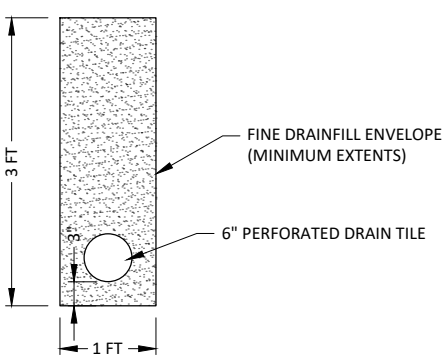
- NOTES:
1. COMPOSITE BENTONITE AGGREGATE (CBA) SHALL BE AQUABLOK OR APPROVED EQUAL.
 2. COLLAR SHALL EXTEND 2 FT BELOW BOTTOM OF PIPE AND 2 FT ABOVE TOP OF PIPE
 3. COLLAR SHALL BE A MINIMUM OF 6 FT WIDE AND EXTEND A MINIMUM OF 6" BEYOND EDGE OF TRENCH
 4. NO COMPACTION OF CBA IS REQUIRED.
 5. EXCAVATE AND BACKFILL THE REMAINDER OF THE TRENCH AS NOTED IN THE PLANS.

EMBANKMENT CROSS SECTION

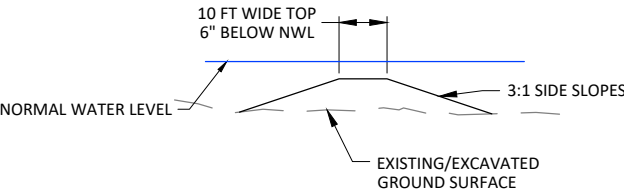


- NOTES:
1. ONLY BUILD WAVE BERM ADJACENT TO POOL. EMBANKMENT SHALL BE OVER-BUILT BY 5% OF FILL HEIGHT. THE OVERBUILD FILL VOLUME IS NOT INCLUDED IN THE PLAN QUANTITIES. A 5% REQUIRED OVERBUILD LINE IS SHOWN ON D.02.
 - 2.

TOE DRAIN CROSS SECTION



DIVERSION BERM CROSS SECTION



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IDALS PROJ. NO. WINN981024D
MISC. DETAILS



1. STRUCTURE FABRICATION AND INSTALLATION SHALL CONFORM TO SUDAS 6010.302 SW-402 RECTANGULAR STORM SEWER MANHOLE
2. STRUCTURE SHOP DRAWINGS ARE REQUIRED FOR ENGINEER'S REVIEW AND APPROVAL BEFORE FABRICATION OF WATER CONTROL STRUCTURE.
3. PRECAST WATER CONTROL STRUCTURE SHALL BE SUPPLIED IN 2 OR 3 SECTIONS, PLUS AN 8" THICK COVER SECTION. SECTION SIZE IS LEFT TO CONTRACTOR'S DISCRETION EXCEPT BOTTOM SECTION SHALL INCLUDE BASE AND WALLS TO 12" ABOVE INLET HOLE.
4. A CONCRETE INVERT IS TO BE INSTALLED AFTER STOP LOG CHANNEL IS INSTALLED. THE BOTTOM STOP LOG IS TO BE CAST INTO THE INVERT WITH THREE HALF INCH DIA. "J BOLTS" FASTENED TO THE BOTTOM STOP LOG. NO LIFTING HOLES ARE REQUIRED FOR THIS BOTTOM LOG.
5. ALL SECTIONS OF THE STRUCTURE ARE TO HAVE "TONGUE AND GROOVE" JOINTS SEALED WITH O RING GASKETS IN THE JOINT AND MASTIC AND FABRIC WRAP ON THE STRUCTURE EXTERIOR.
6. INTERIOR JOINTS SHALL BE FILLED AND SEALED TO PREVENT WATER FLOW IN JOINT BEHIND STOP LOG CHANNEL USING EITHER CONCRETE GROUT OR MASTIC.
7. A-LOK (OR EQUIVALENT) WATERTIGHT SEALS ARE REQUIRED FOR PIPE CONNECTIONS TO THE DRAWDOWN CONTROL STRUCTURE.
8. MANHOLE STEPS ARE TO BE INSTALLED FOR MAINTENANCE ACCESS TO THE STOP LOGS. STEPS ARE TO BE PER SUDAS SECTION 6010-2-2.13.
9. ENSURE THAT ALL JOINTS ARE WATER-TIGHT AND PROPERLY SEALED

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Bid Item	Sub-Item	Description	Specification No.	Plan No.	Estimated Quantities	
					Quantity	Unit
1	-	Site stripping & preparation	IA CS-001	A.02	1	LS
2	-	Crop damage	IA CS-001		0	AC
3	-	Structure & channel seeding	IA CS-006	K.01	1.0	AC
4	-	Buffer seeding	IA CS-006	K.01	7.0	AC
5	-	Mobilization and demobilization	IA CS-008	A.02	1	LS
6	-	Drain tile investigation and removal	IA CS-009	A.02	6	HR
7	-	Tied Concrete Block Mat				
	A.	Tied Concrete Block Mat	IA CS-031	D.03	6608	SF
	B.	U-Anchors	IA CS-031	D.03	170	EA
	C.	Cross Plate Percussion Anchors	IA CS-031	D.03	220	EA
8	-	Excavation	IA CS-021	D.01	2702	CY
9	-	Earthfill (General)	IA CS-023	D.02	762	CY
10	-	Earthfill (General Dam)	IA CS-023	D.02	531	CY
11	-	Earthfill (Dam Core)	IA CS-023	D.02	809	CY
12	-	12" Pond Liner	IA CS-023	D.01	19564	SY
13	-	Drainfill, fine	IA CS-024	D.02	22	CY
14	-	Topsoil Strip, Salvage, and Respread	IA CS-026	D.01	3868	CY
15	-	Corrugated Dual-Wall HDPE				
	C.	8" Non-Perforated	IA CS-046	M.02	40	LF
	D.	8" Perforated	IA CS-046	M.02	440	LF
	E.	10" Non-Perforated	IA CS-046	M.01	50	LF
	F.	10" Perforated	IA CS-046	M.01	100	LF
16	-	Reinforced Concrete Pipe				
	A.	12" Diameter	IA CS-031	M.01	108	LF
17	-	Modified SW-402 Water Control Structure	IA CS-031	B.03, M.01	1	EA
18	-	Stoplog Storage Structure	IA CS-046	B.03	1	EA
19	-	Outlet Riser Structure	IA CS-046	B.02, M.01	1	EA
20	-	CMP tile outlets (20 LF each):				
	A.	10" Diameter	IA CS-051	M.02	1	EA
	B.	12" Diameter	IA CS-051	M.01	1	EA
21	-	Riprap	IA CS-061	D.03, M.01, M.02	48	TN
22	-	Anti-Seep Collars	IA CS-051	M.01	2	EA
23	-	Reinforced Concrete Apron, Footing, Bar Guard	IA CS-031	M.01	1	EA
24	-	Corrugated Single-Wall HDPE				
	A.	6" Non-Perforated	IA CS-046	M.02	78	LF
	B.	6" Perforated	IA CS-046	D.01	386	LF



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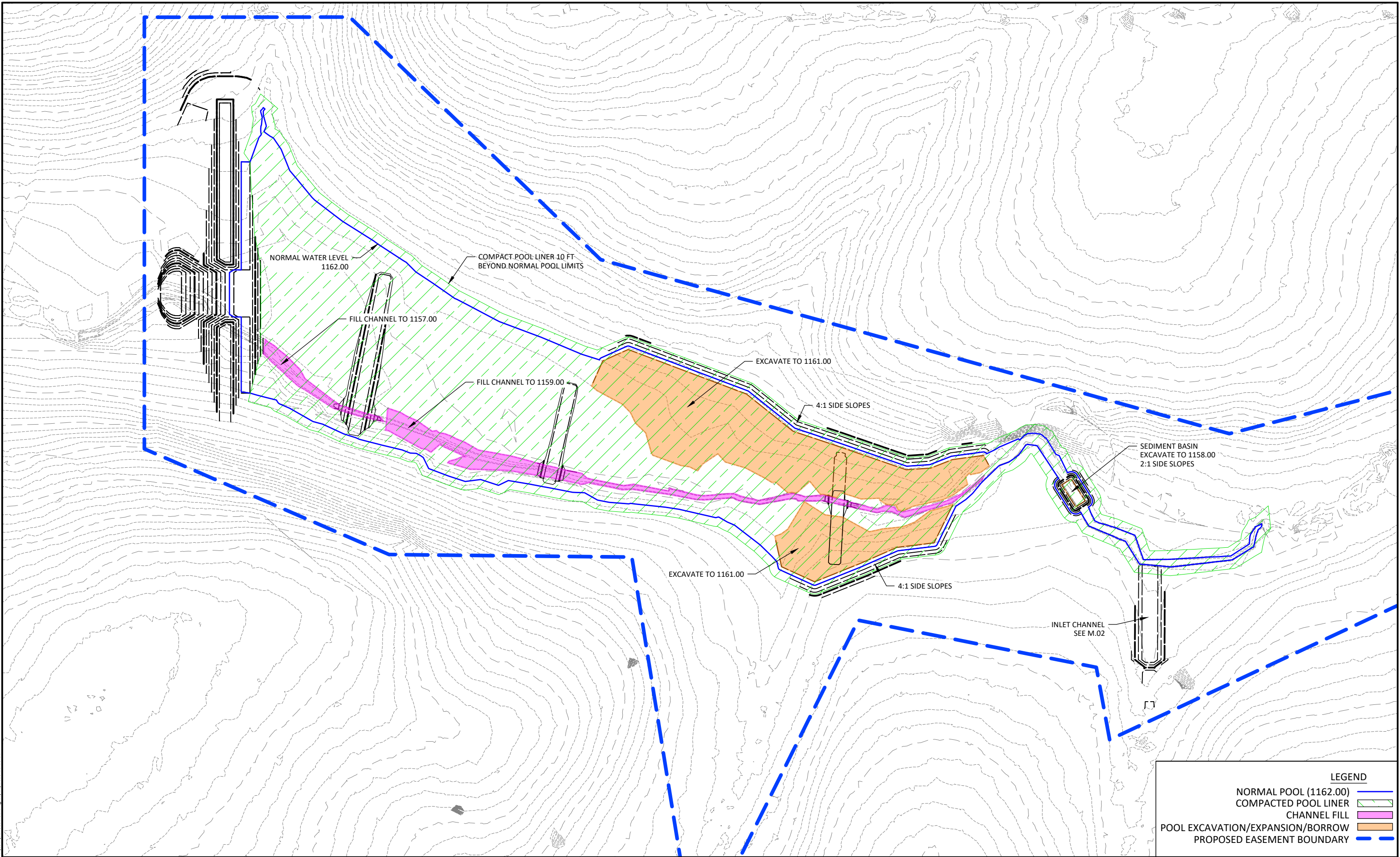
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ESTIMATE QUANTITIES

SHEET

C.01

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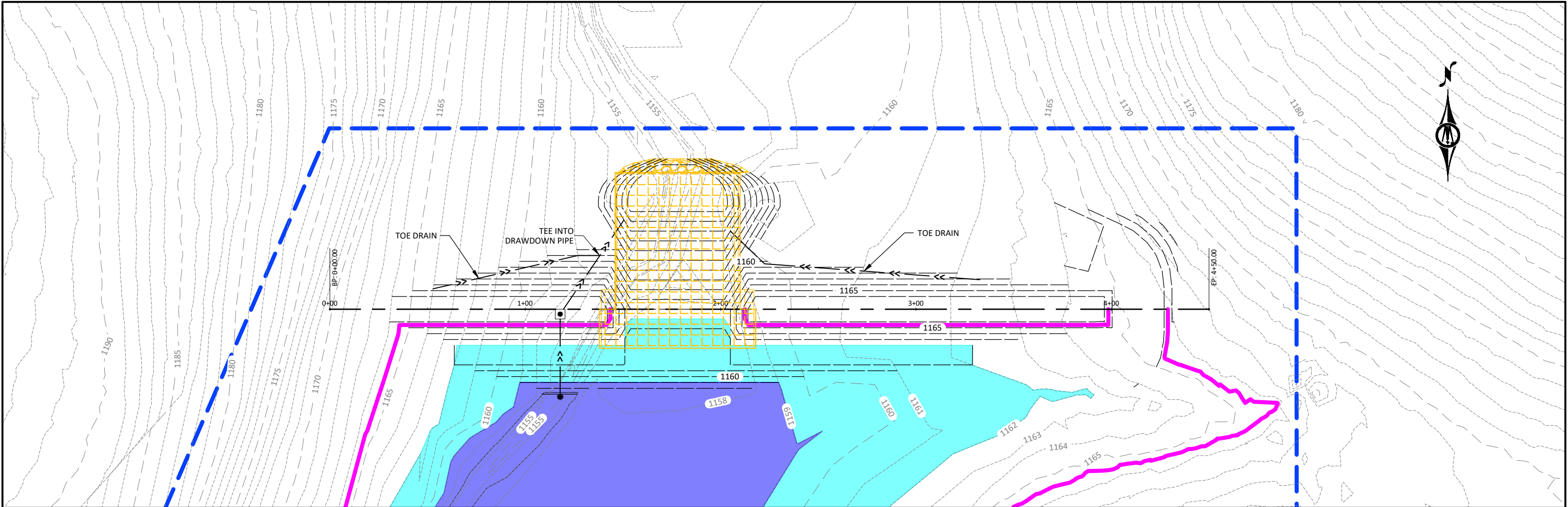
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IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP
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GRADING OVERVIEW

SHEET
D.01

LEGEND	
NORMAL POOL (1162.00)	
COMPACTED POOL LINER	
CHANNEL FILL	
POOL EXCAVATION/EXPANSION/BORROW	
PROPOSED EASEMENT BOUNDARY	



- DAM CORE NOTES**
1. DAM CORE SHALL BE EXCAVATED TO THE DEPTH OF THE BEDROCK OR 7 FEET, WHICHEVER IS SHALLOWER.
 2. WHERE BEDROCK IS ENCOUNTERED WITHIN THE CORE TRENCH, IT SHALL BE SCRAPED TO REMOVE AS MUCH LOOSE ROCK AS REASONABLE.
 3. DAM CORE SHALL BE CONSTRUCTED OF GOOD, COHESIVE MATERIAL WITH THE HIGHEST CLAY CONTENT AVAILABLE ON-SITE.
 4. DAM CORE SHALL BE PLACED IN 6" LIFTS AND FOLLOW THE COMPACTION METHOD LISTED IN SPECIFICATION IA CS-023.

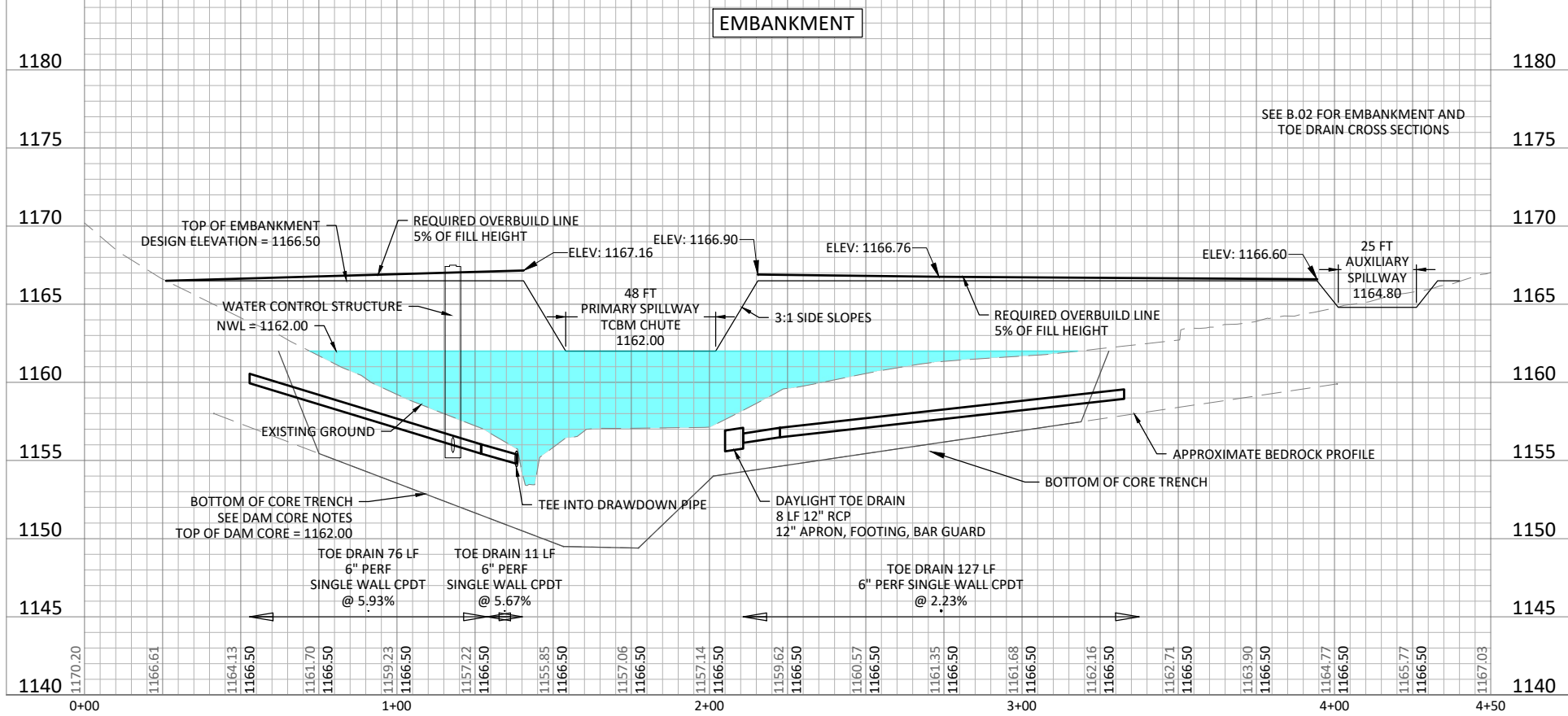
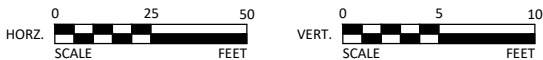
LEGEND

NORMAL POOL (1162.00) 

DEEP WATER AREA (<1159.00) 

100-YEAR HWL 

PROPOSED EASEMENT BOUNDARY 

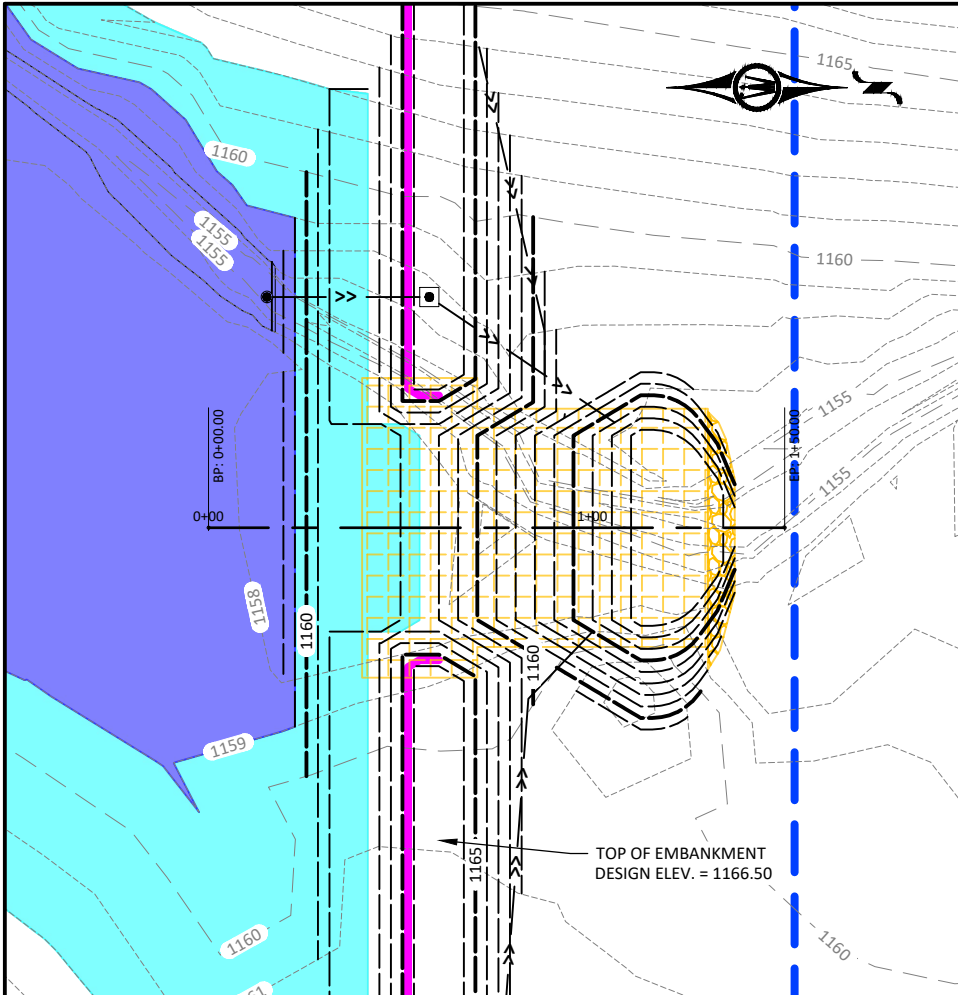


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PLAN & PROFILE - EMBANKMENT

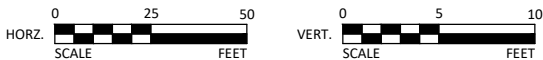
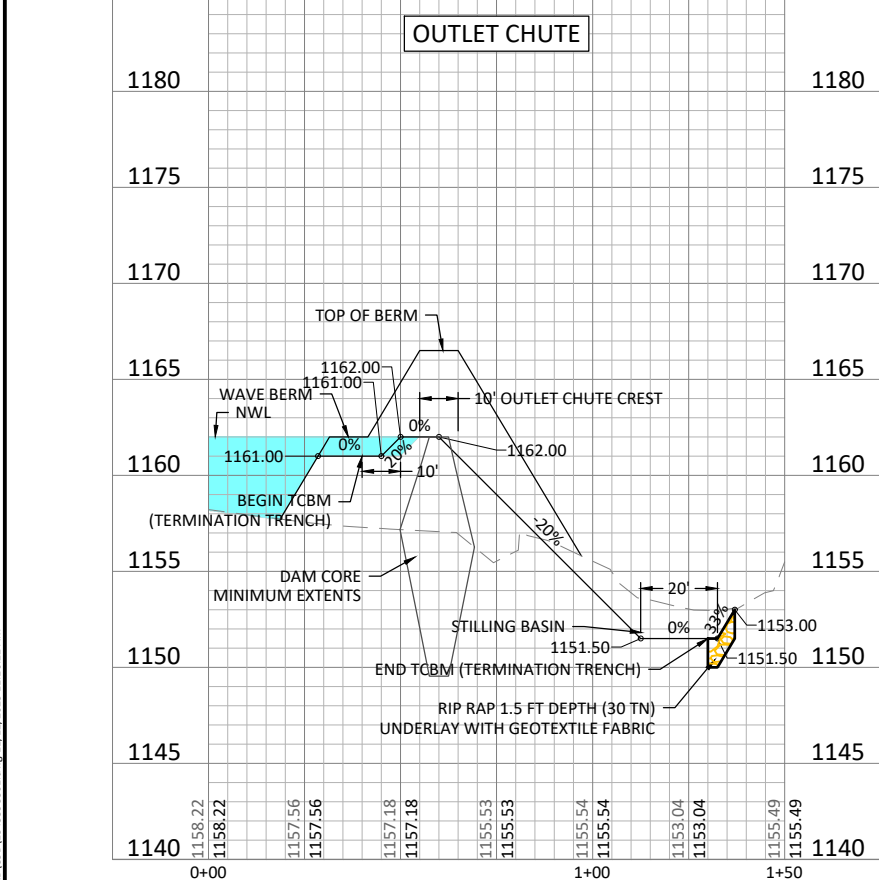
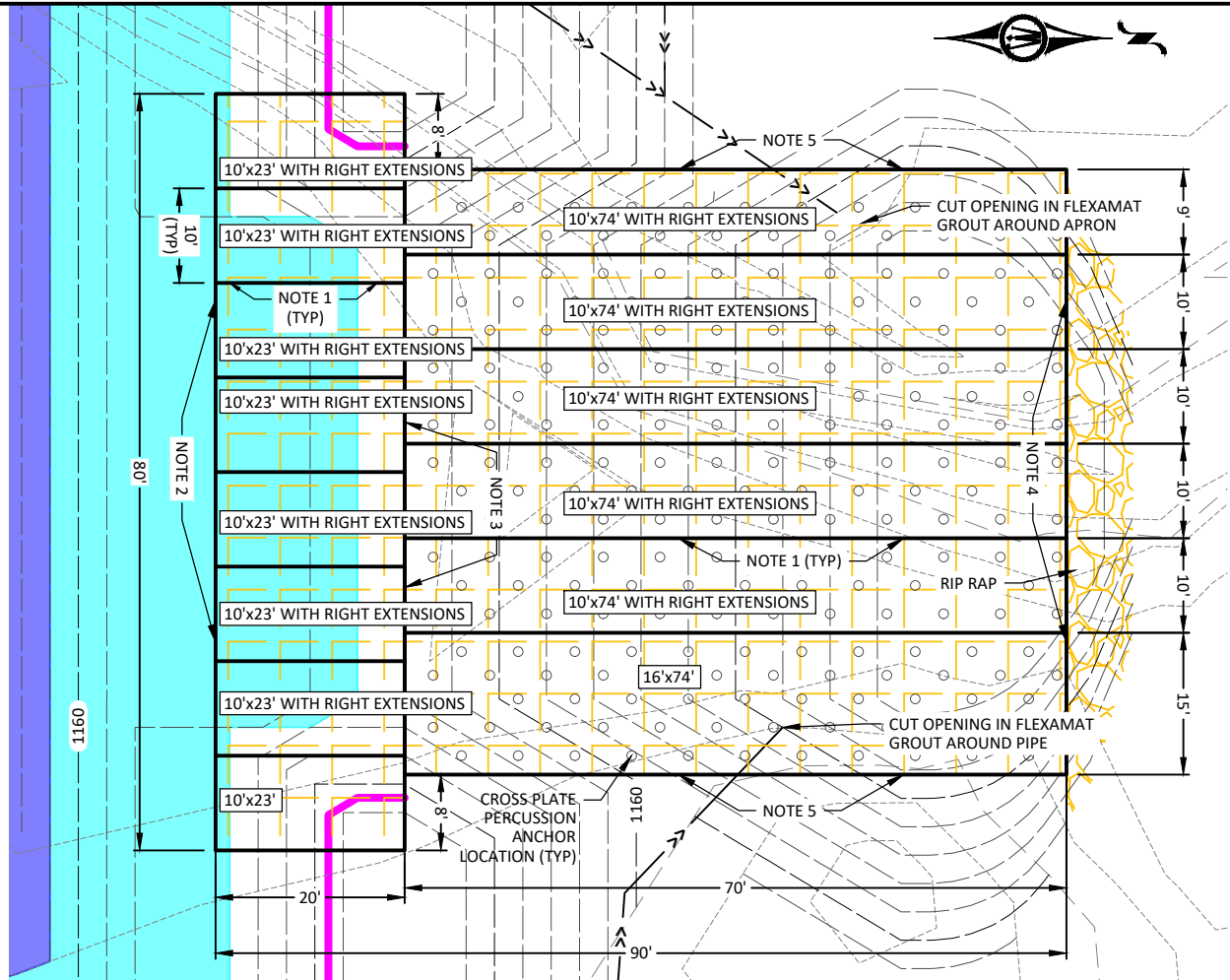
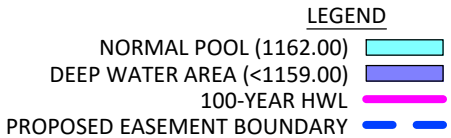
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D.02



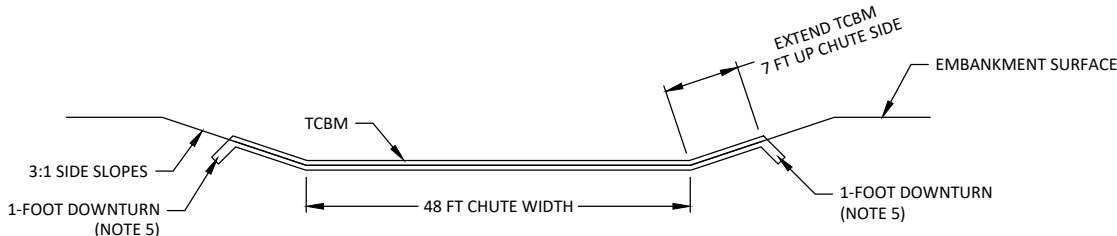
- TCBM NOTES:**
1. PROVIDE GEOGRID AND TRM EXTENSIONS ON SPECIFIED ROLLS. INSTALL ADJACENT MAT OVER EXTENSIONS AND SECURE WITH U ANCHORS AT 2' INCREMENTS.
 2. 18" VERTICAL ANCHOR TRENCH, BACKFILL WITH COHESIVE SOILS AND COMPACT FIRMLY
 3. 18" VERTICAL ANCHOR TRENCH, BACKFILL WITH COHESIVE SOILS AND COMPACT FIRMLY. ABUT 10x33' ROLLS TO BACK SIDE OF ANCHOR TRENCH AND SECURE WITH U ANCHORS IN 2' INCREMENTS
 4. EXTEND FLEXAMAT A MINIMUM OF 18" UNDER RIP RAP; FLEXAMAT SHALL GO ON TOP OF FABRIC AND UNDER RIP RAP
 5. 1-FOOT DOWNTURN: RECESS THE OUTSIDE 2 BLOCKS INTO THE SLOPE AT A 45° ANGLE.

- ANCHORING NOTES:**
1. INSTALL CROSS PLATE PERCUSSION ANCHORS (CPAs) IN DIAMOND PATTERN ON SPILLWAY SLOPE. FOR EACH 10' ROLL, INSTALL 2 ANCHORS BEHIND LEADING EDGE OF ANCHOR TRENCH, 2' FROM EACH EDGE OF THE MAT. 3 FEET DOWN THE SLOPE, PLACE 1 ANCHOR IN THE MIDDLE OF THE MAT (3 FEET LATERALLY FROM EACH OF THE FIRST TWO ANCHORS). CIRCLES IN PLAN VIEW REPRESENT CPA PLACEMENT
 2. INSTALL U ANCHORS AS NOTED FOR SEAMS

- ADDITIONAL NOTES**
1. SEED BEFORE PLACING TCBM
 2. USE SEAM TYPES AS SPECIFIED BY MANUFACTURER.
 3. 6080 SF TOTAL FLEXAMAT
 4. 220 CROSS PLATE PERCUSSION ANCHORS
 5. 170 U ANCHORS
 6. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL ROLL SIZES AND QUANTITIES.
 7. ENGINEER AND MANUFACTURER'S REPRESENTATIVE SHALL BE ON-SITE FOR FLEXAMAT INSTALLATION.



CHUTE CROSS SECTION



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BCS	1.1	ADDRESS IDALS COMMENTS	09/26/2025
BCS	1.2	BID PLANS	11/12/2025
CHECKED	JPR		
CLIENT PROJ. NO.	017.134539		

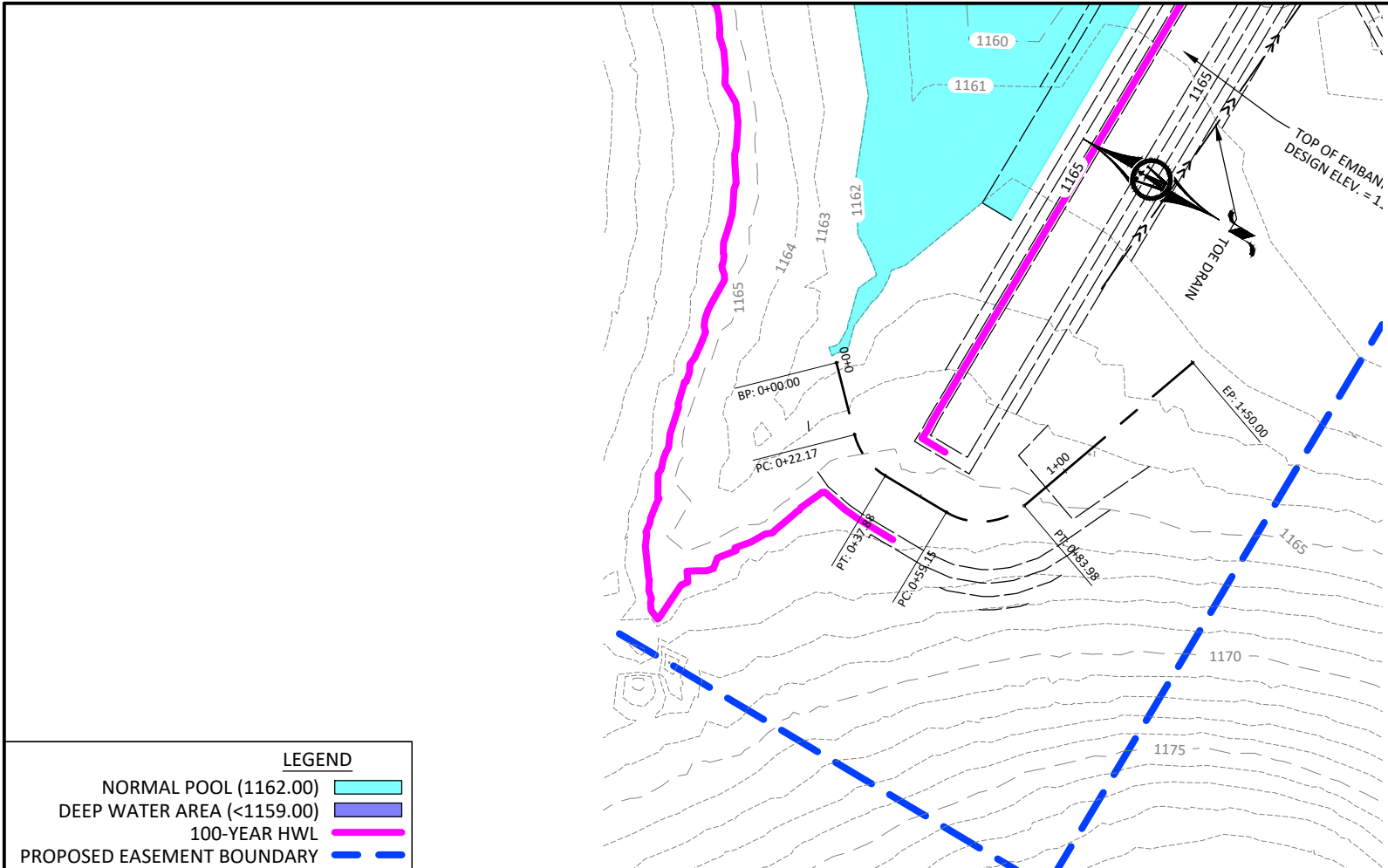
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IDALS PROJ. NO. WINN981024D

PLAN & PROFILE - CHUTE

SHEET

D.03



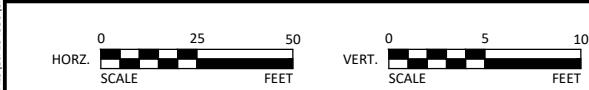
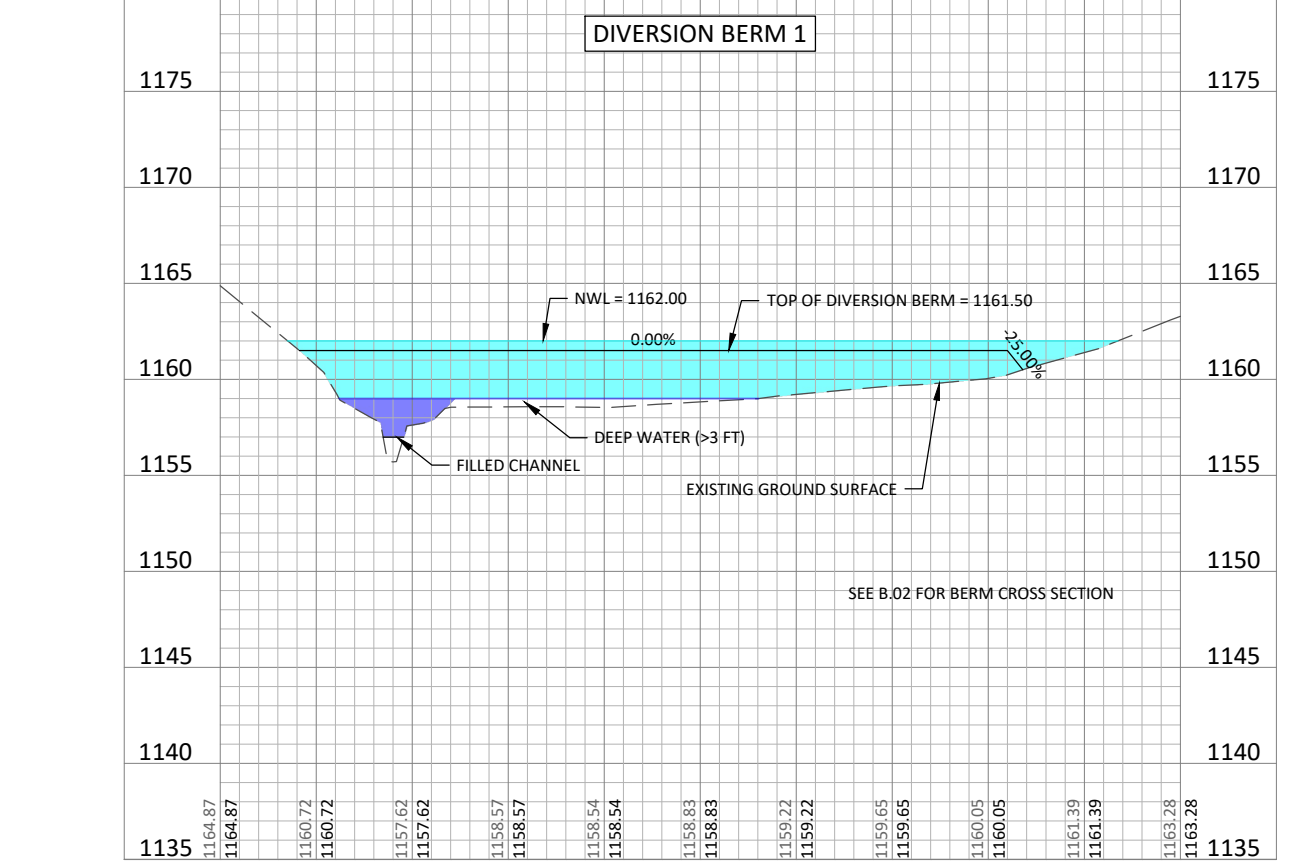
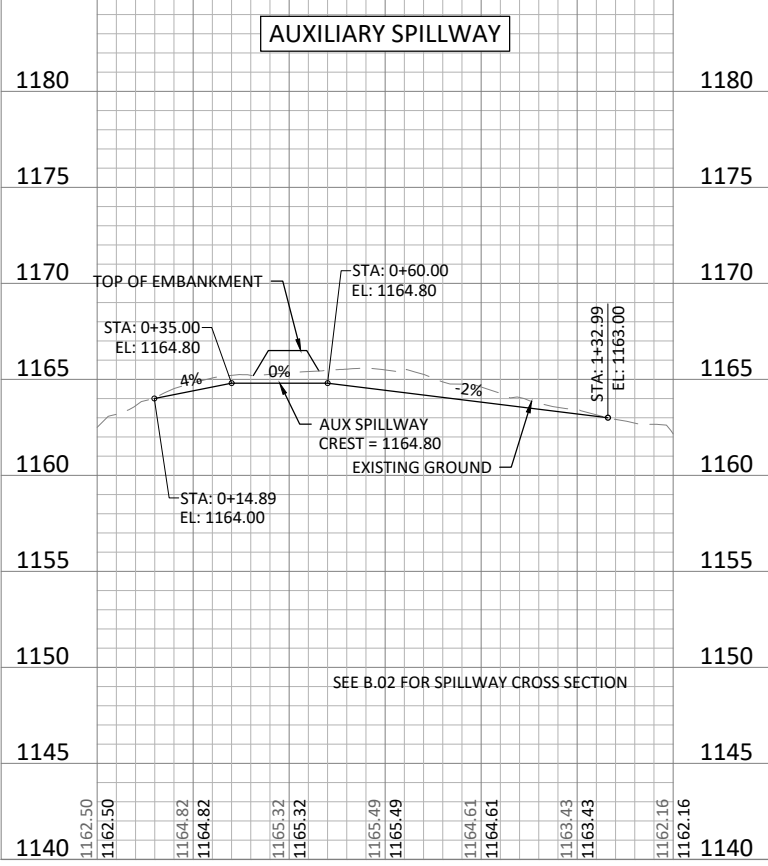
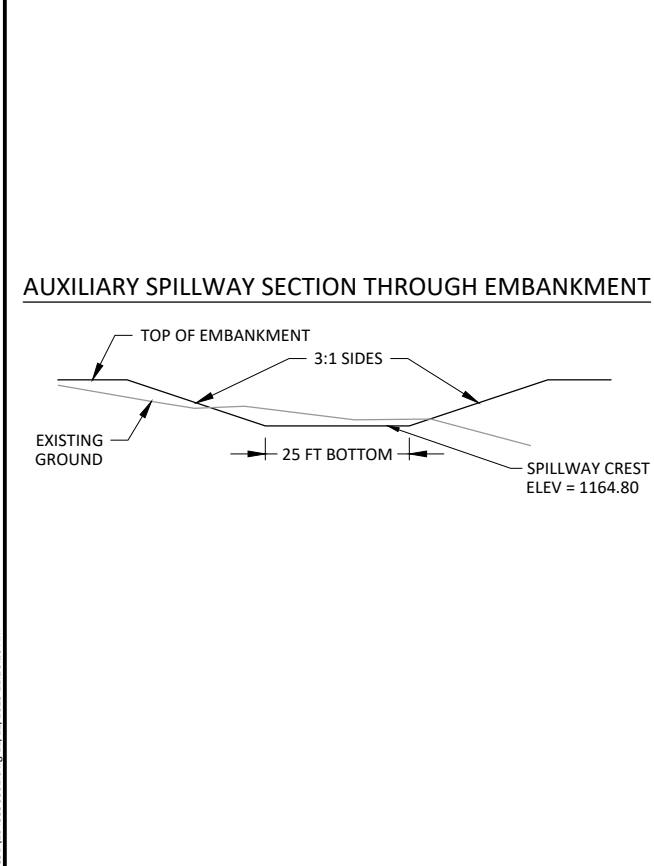
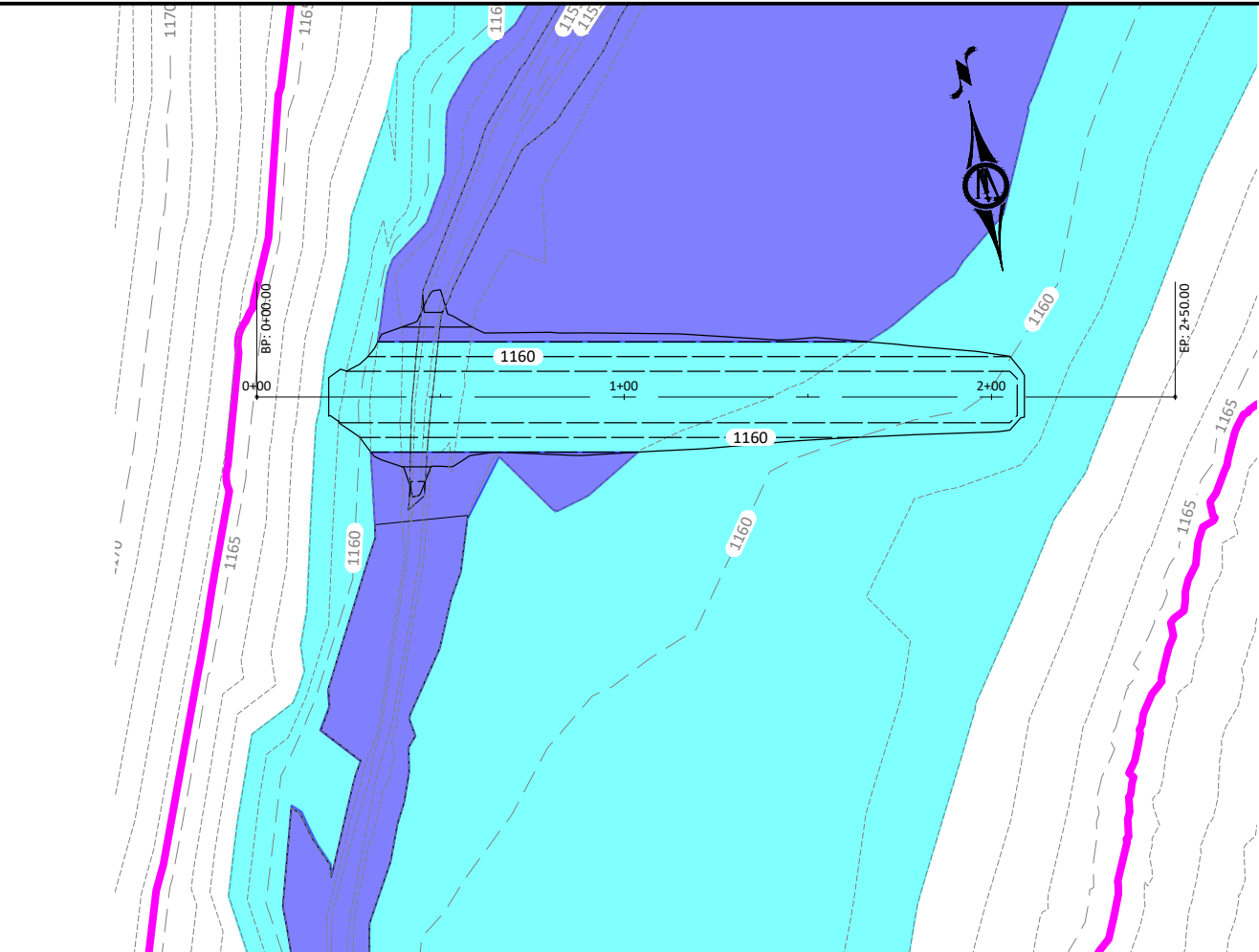
LEGEND

NORMAL POOL (1162.00)

DEEP WATER AREA (<1159.00)

100-YEAR HWL

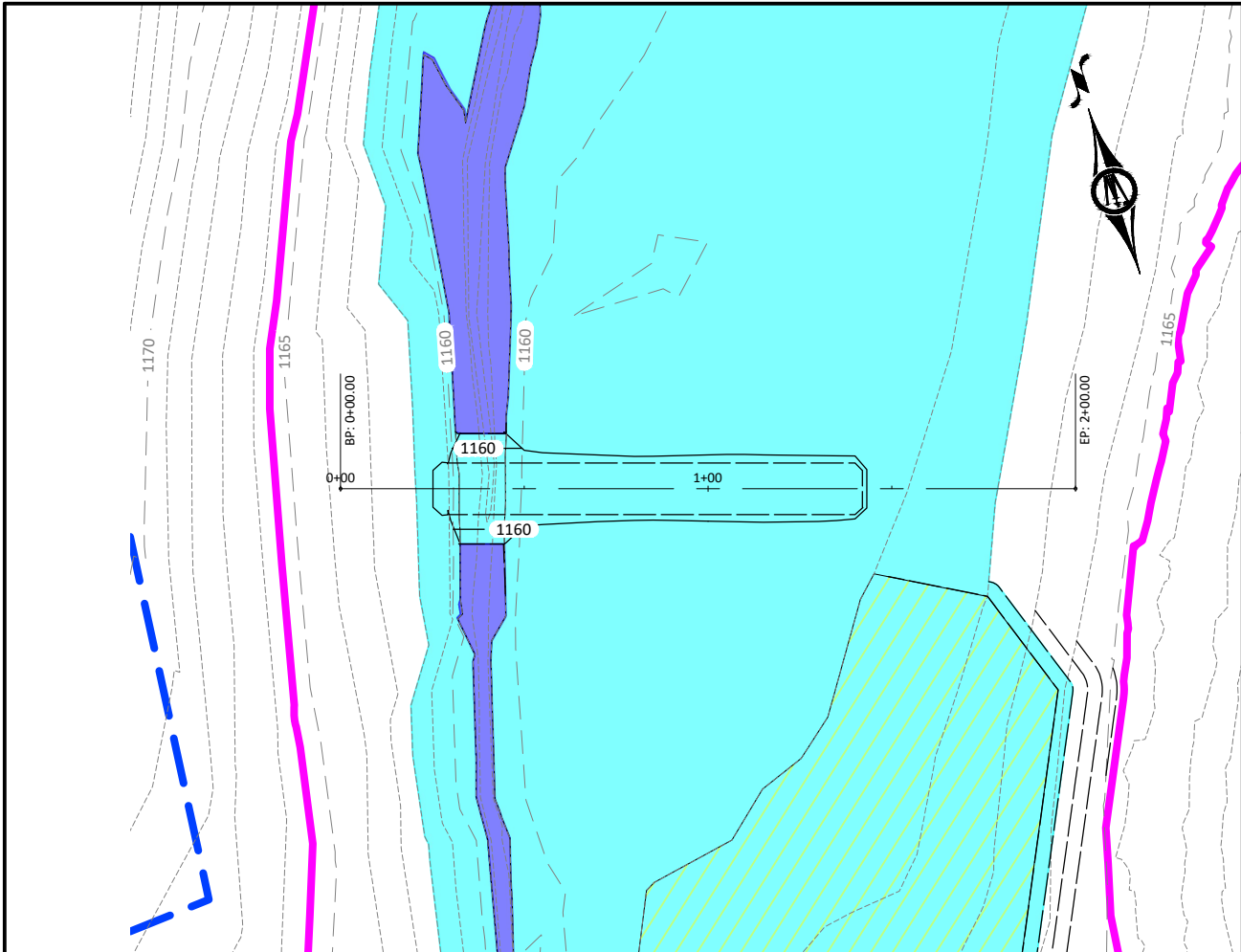
PROPOSED EASEMENT BOUNDARY



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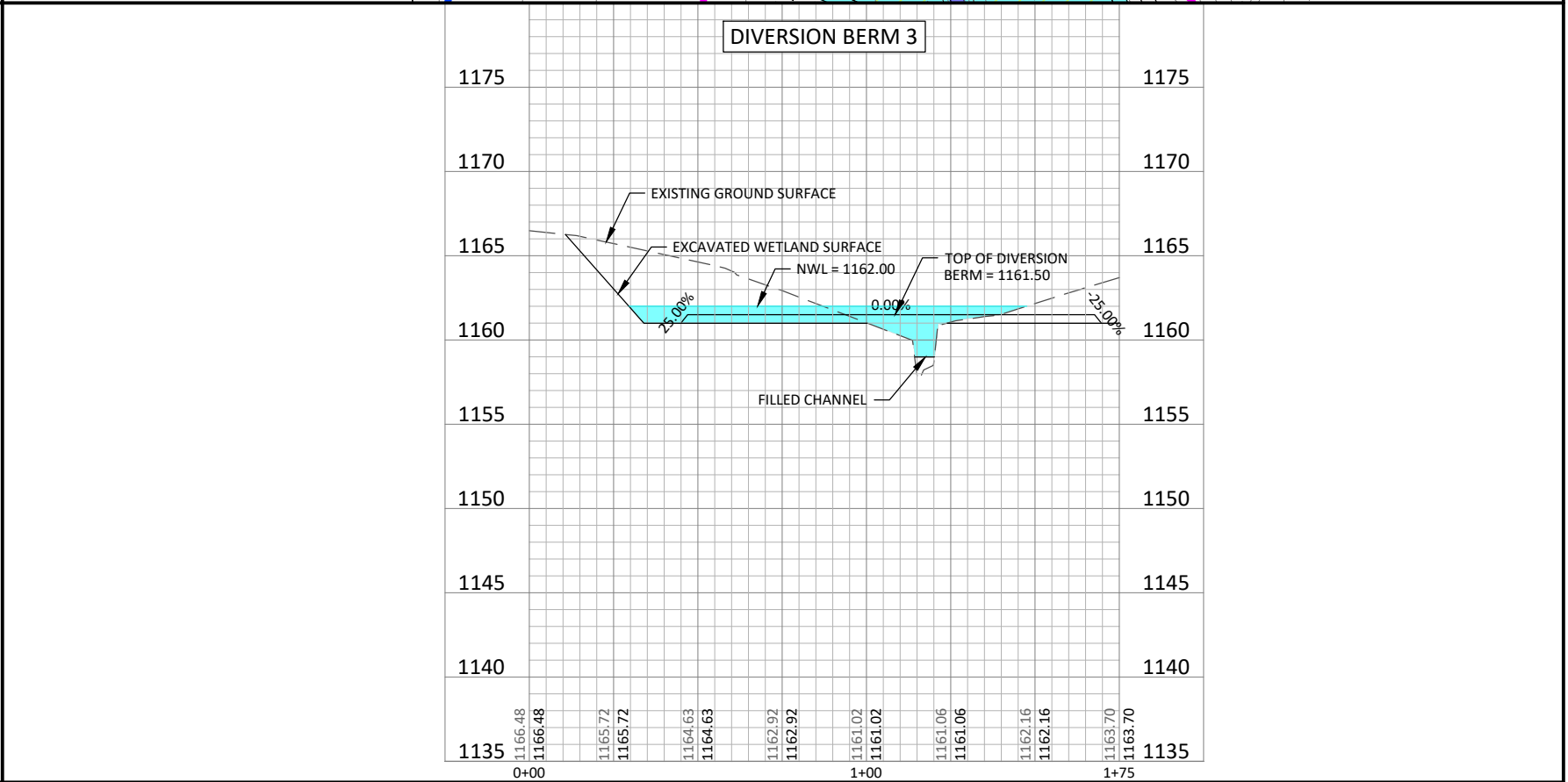
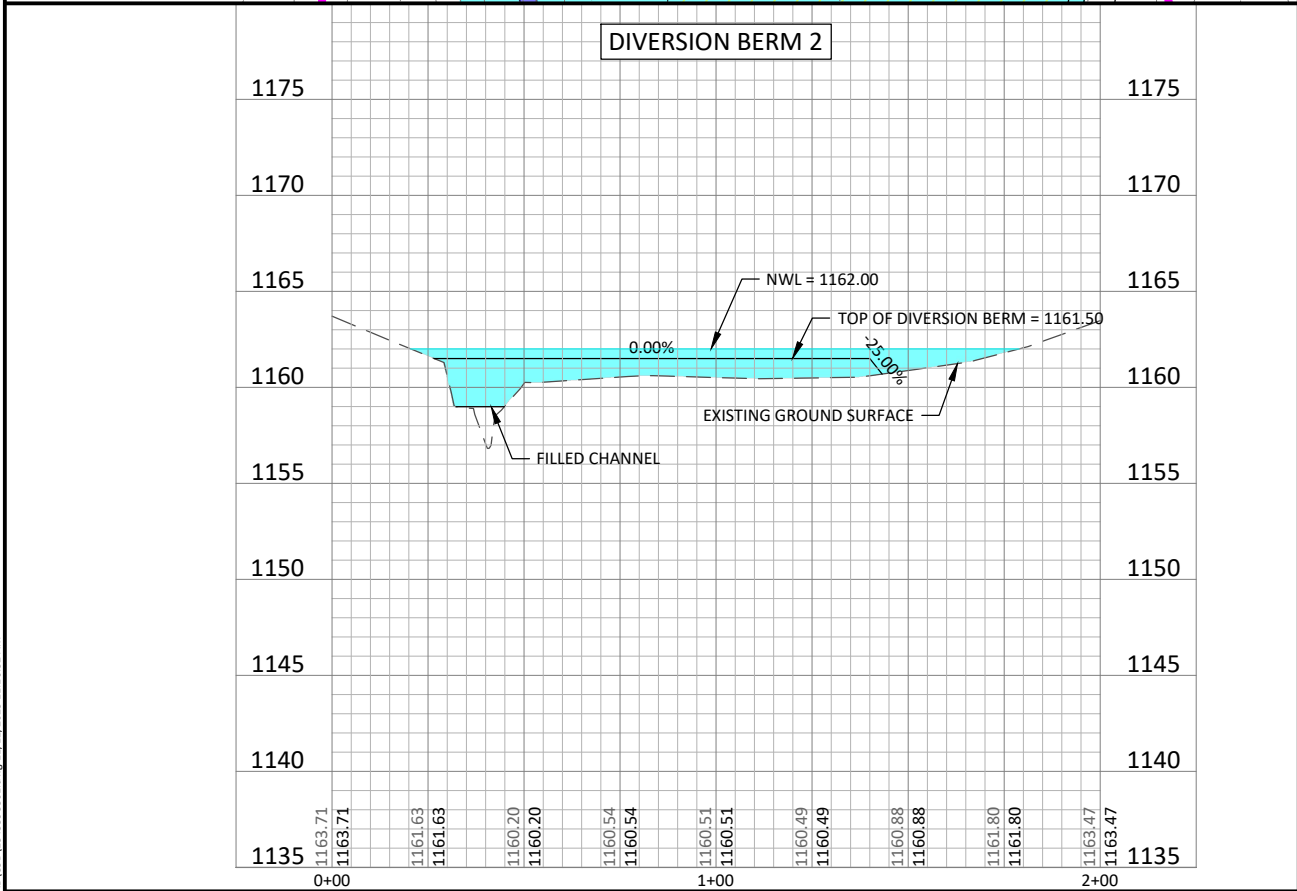
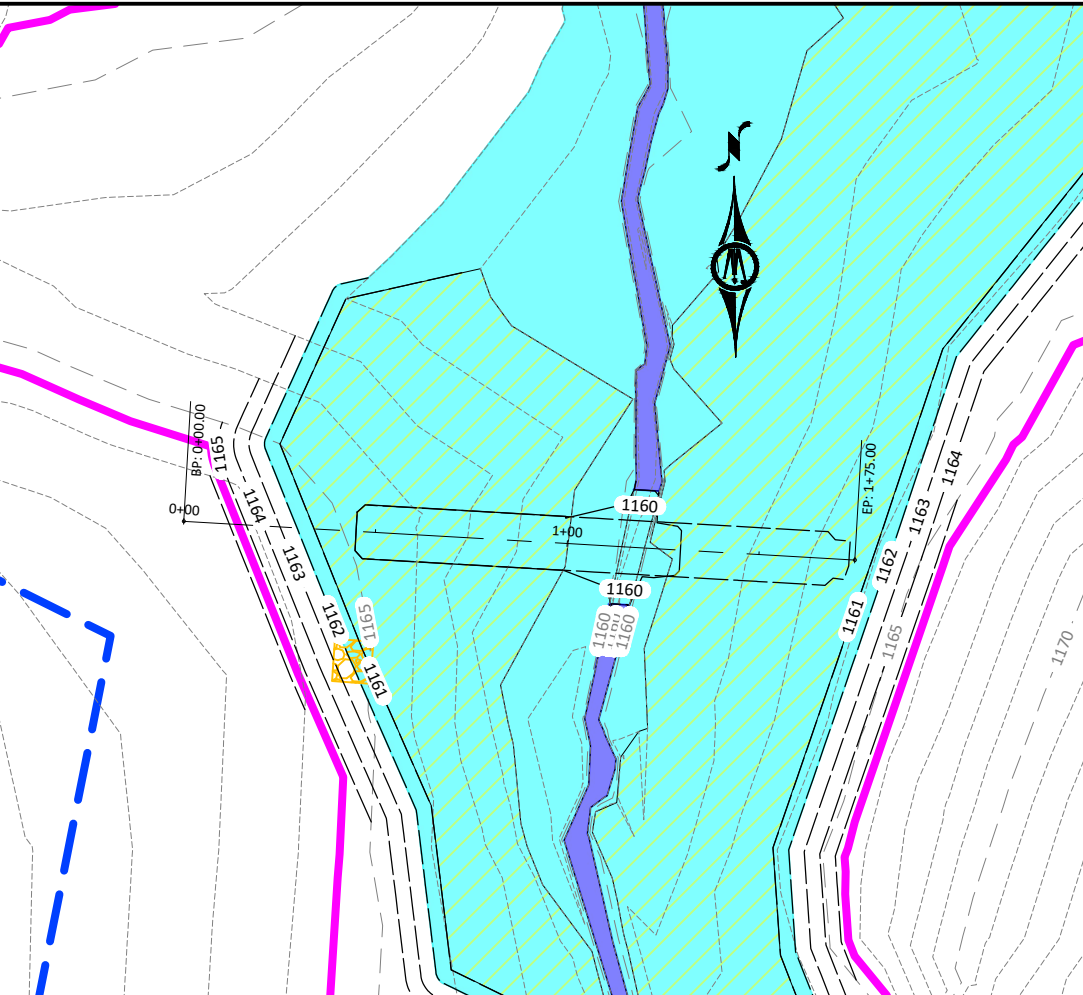
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PLAN & PROFILE - AUX SPILLWAY & DIVERSION BERM 1

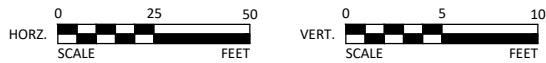


LEGEND

- NORMAL POOL (1162.00)
- DEEP WATER AREA (<1159.00)
- 100-YEAR HWL
- PROPOSED EASEMENT BOUNDARY



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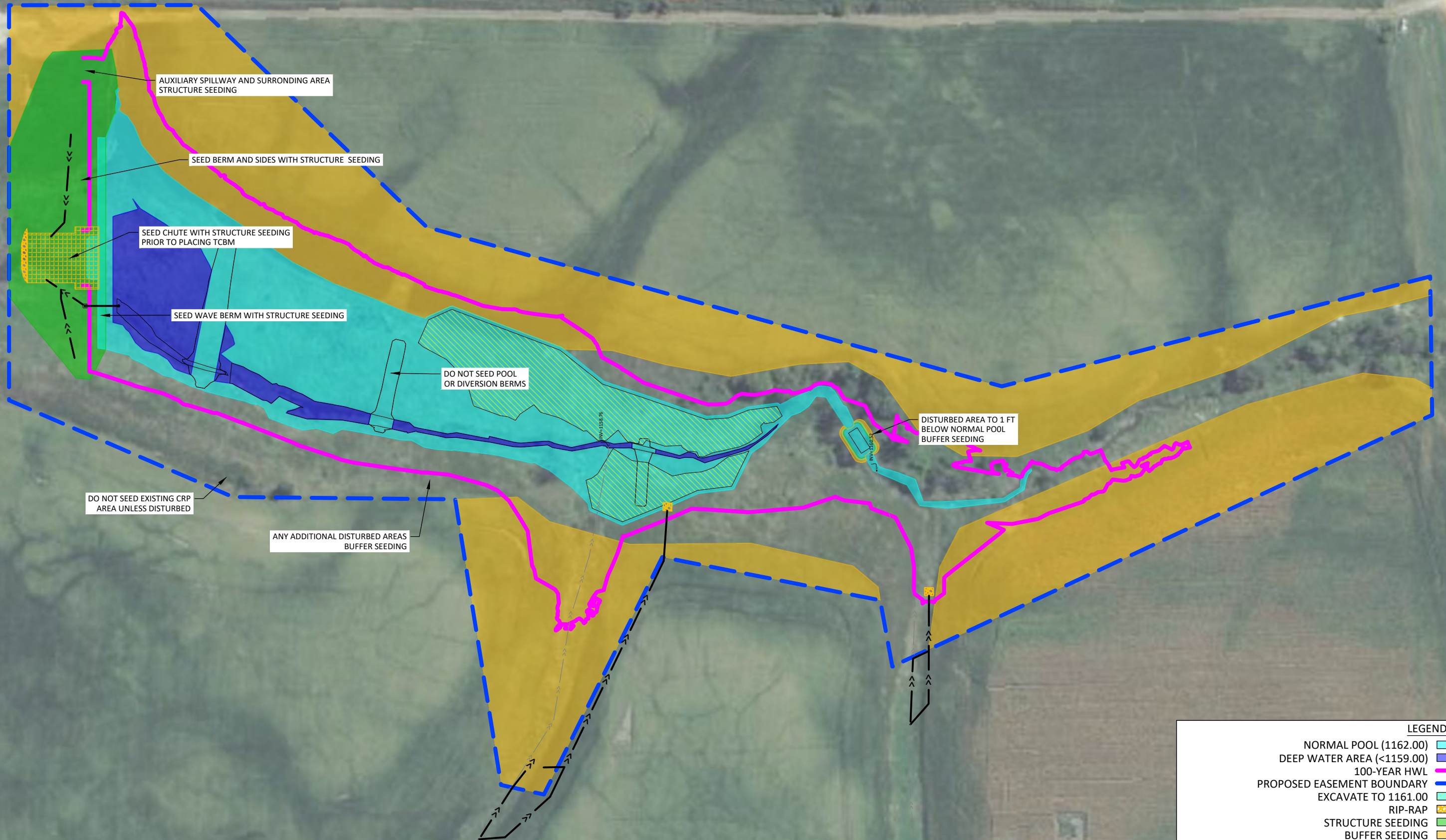
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PLAN & PROFILE - DIVERSION BERM 2 & 3

SHEET

D.05



DO NOT SEED EXISTING CRP
AREA UNLESS DISTURBED

ANY ADDITIONAL DISTURBED AREAS
BUFFER SEEDING

DO NOT SEED POOL
OR DIVERSION BERMS

DISTURBED AREA TO 1 FT
BELOW NORMAL POOL
BUFFER SEEDING

AUXILIARY SPILLWAY AND SURROUNDING AREA
STRUCTURE SEEDING

SEED BERM AND SIDES WITH STRUCTURE SEEDING

SEED CHUTE WITH STRUCTURE SEEDING
PRIOR TO PLACING TCBM

SEED WAVE BERM WITH STRUCTURE SEEDING

LEGEND

- NORMAL POOL (1162.00)
- DEEP WATER AREA (<1159.00)
- 100-YEAR HWL
- PROPOSED EASEMENT BOUNDARY
- EXCAVATE TO 1161.00
- RIP-RAP
- STRUCTURE SEEDING
- BUFFER SEEDING

0 60 120
HORIZ. SCALE FEET



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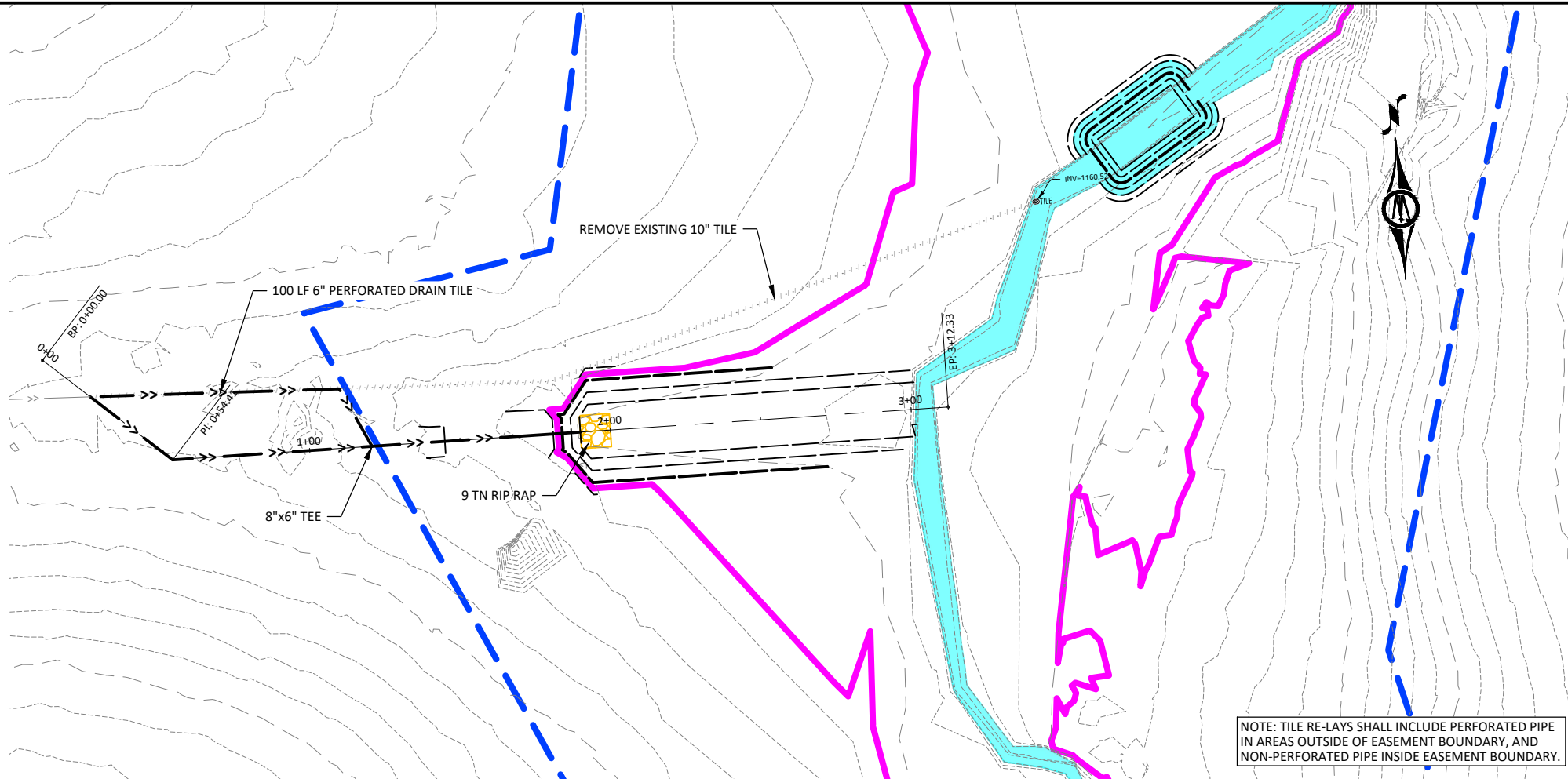
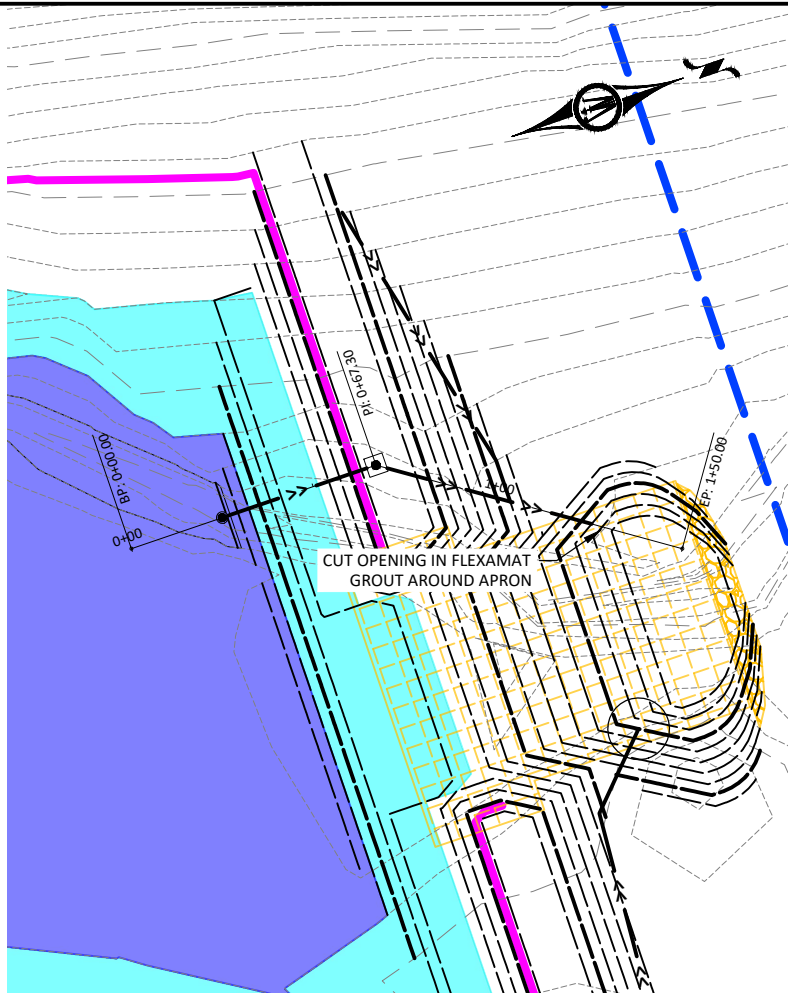
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SEEDING PLAN

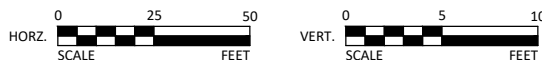
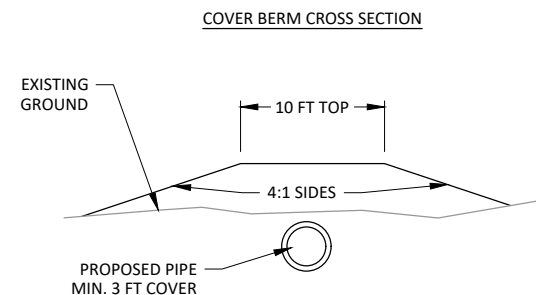
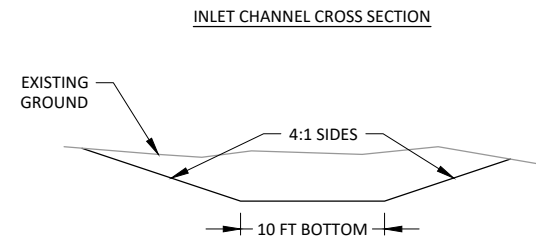
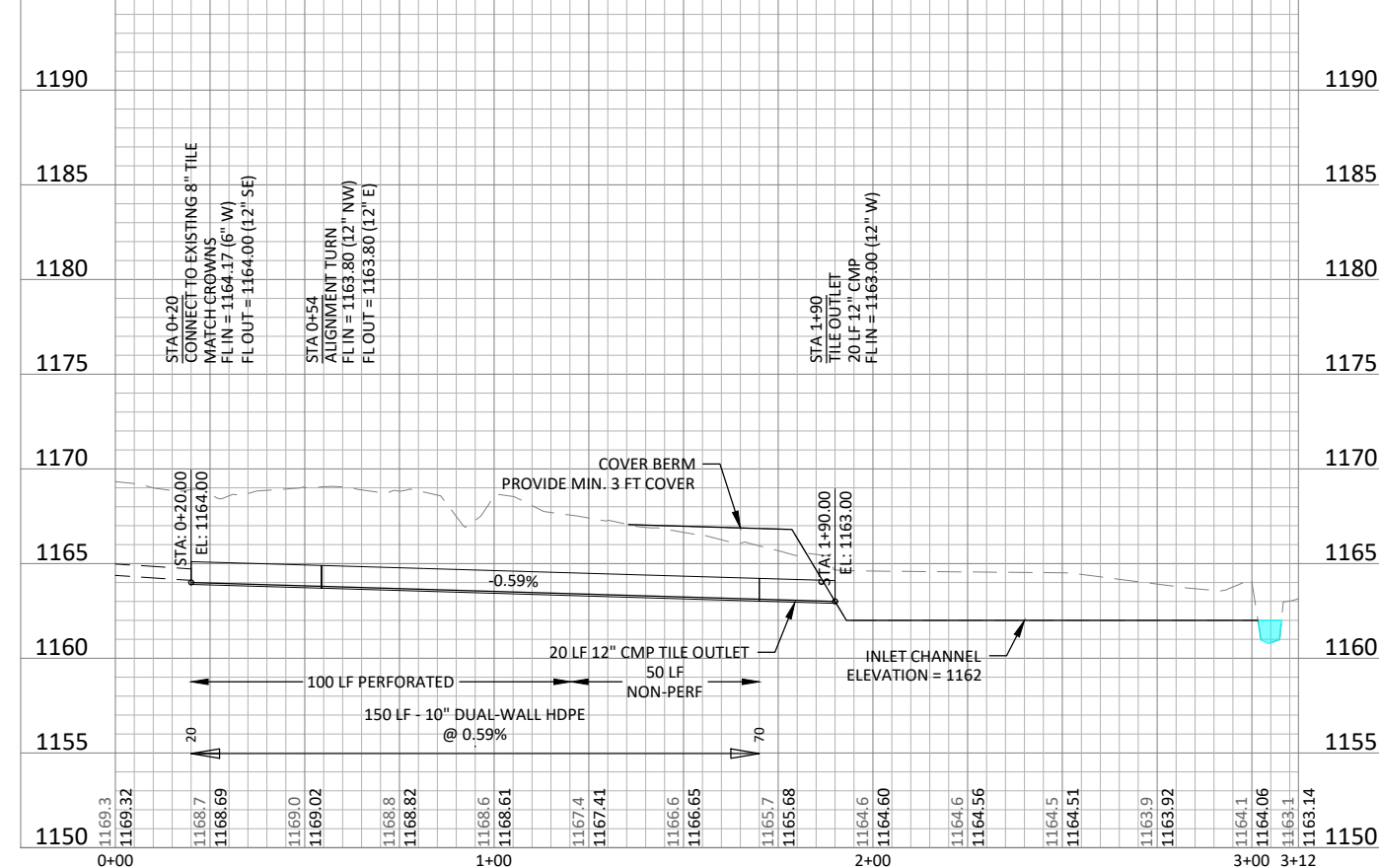
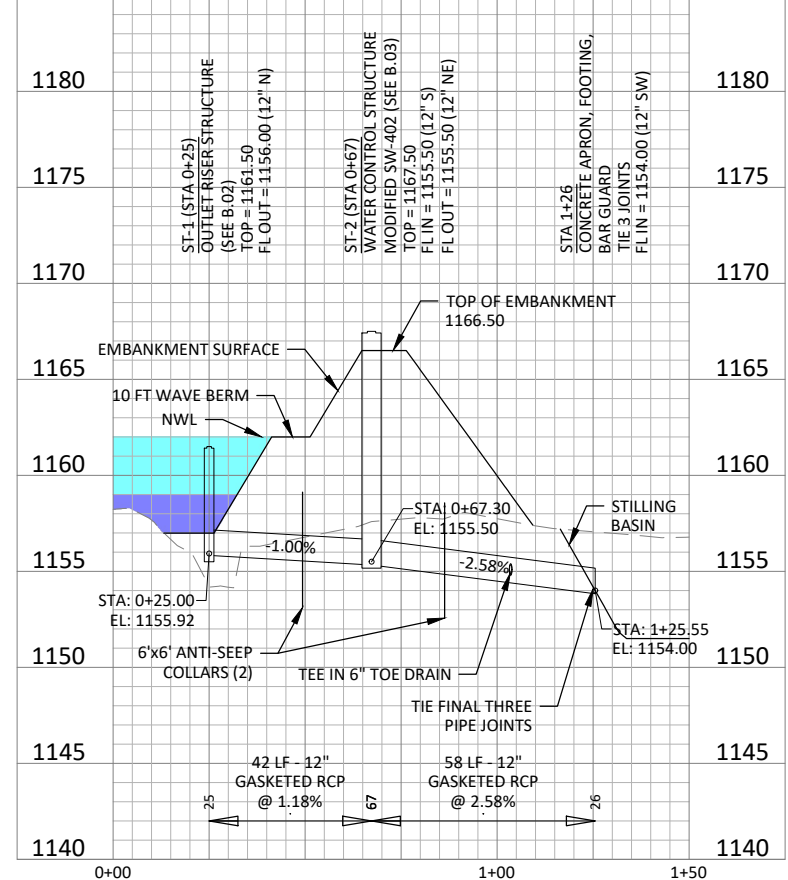
SHEET

K.01

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NOTE: TILE RE-LAYS SHALL INCLUDE PERFORATED PIPE
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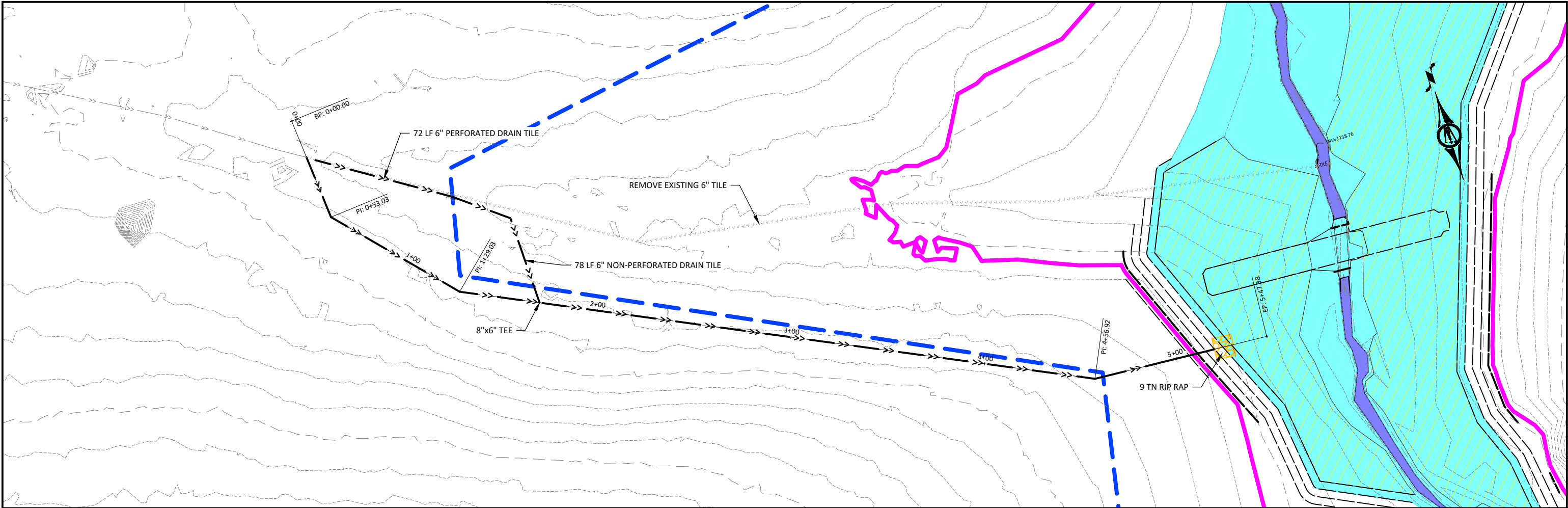
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DRAWDOWN PIPE AND SOUTH RE-LAY

SHEET

M.01



NOTE: TILE RE-LAYS SHALL INCLUDE PERFORATED PIPE IN AREAS OUTSIDE OF EASEMENT BOUNDARY, AND NON-PERFORATED PIPE INSIDE EASEMENT BOUNDARY.



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IDALS PROJ. NO. WINN981024D
NORTH TILE RE-LAY

SHEET

M.02