CAMPBELL COUNTY

JUDGE/EXECUTIVE:
STEVE PENDERY

COMMISSIONERS:
GEOFF BESECKER
TOM LAMPE
BRIAN PAINTER

COUNTY ADMINISTRATOR:
MATT ELBERFELD

FINACE DIRECTOR/TREASURER:
LAURA LEWIS

COURSE SUPERINTENDENT:
TIM MASON

PUBLIC WORKS DIRECTOR
LUKE MANTLE

UTILITY OWNERSHIP

GAS - DUKE ENERGY

MR. SCOTT PFEFFERMAN
617 TODHUNTER ROAD
MONROE, OHIO 45050

ELECTRIC - DUKE ENERGY

MR. BILL HOFSTETTER
2010 DANA AVENUE, EF 324
CINCINNATI, OHIO 45207

WATER - NORTHERN KENTUCKY WATER DISTRICT

MR. KYLE RYAN
NORTHERN KENTUCKY WATER DISTRICT
P.O. BOX 18640
ERLANGER, KENTUCKY 41018

TELEPHONE - ALTAFIBER

MR. TIM SEESTEDT / UNDERGROUND
MS. JODI WILDEBOER / OVERHEAD
221 E. FOURTH STREET, M.L. 121-900
CINCINNATI, OHIO 45201

CABLE TV - CHARTER COMMUNICATIONS

10920 KENWOOD ROAD
CINCINNATI, OHIO 45252

SANITARY & STORM - SANITATION DISTRICT NO. 1 (SD1)

MR. ZACK ATKERSON
1045 EATON DRIVE
FORT WRIGHT, KENTUCKY 41017

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AJ JOLLY DAM REPAIR

PREPARED FOR

CAMPBELL COUNTY, KY

PREPARED BY

verdantas

K.T.C SPECIFICATIONS

THE LATEST STANDARD SPECIFICATIONS OF THE KENTUCKY TRANSPORTATION CABINET, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS THERETO AND CAMPBELL COUNTY ENGINEERING DEPARTMENT REQUIREMENTS SHALL GOVERN THIS IMPROVEMENT.

SOURCE OF BOUNDARY AND TOPOGRAPHIC INFORMATION

THE BOUNDARY INFORMATION SHOWN ON THESE PLANS IS BASED UPON CAMPBELL COUNTY G.I.S. MAPPING AND DOES NOT REPRESENT AN ACTUAL FIELD BOUNDARY SURVEY BY VERDANTAS, LLC.
THE TOPOGRAPHIC INFORMATION SHOWN ON THESE PLANS IS BASED ON FIELD TOPOGRAPHIC SURVEY BY VERDANTAS, LLC.

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G-101	STAGING AND SITE ACCESS
G-102	EROSION CONTROL PLAN
G-103	EROSION CONTROL NOTES
G-104	ROADWAY RECONSTRUCTION
DEMO	
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D-102	DEMOLITION SECTIONS
D-103	DEMOLITION SECTION AND DETAILS
D-104	RISER DEMOLITION PLAN AND SECTIONS
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S-501	STRUCTURAL STANDARD DETAILS
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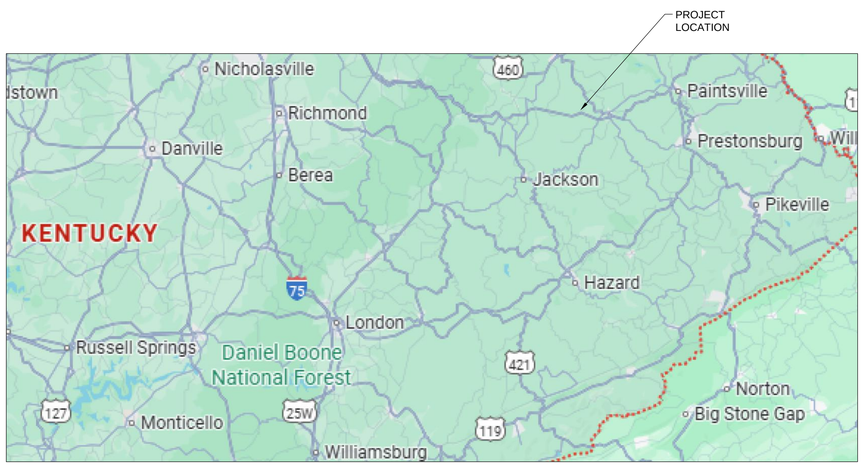
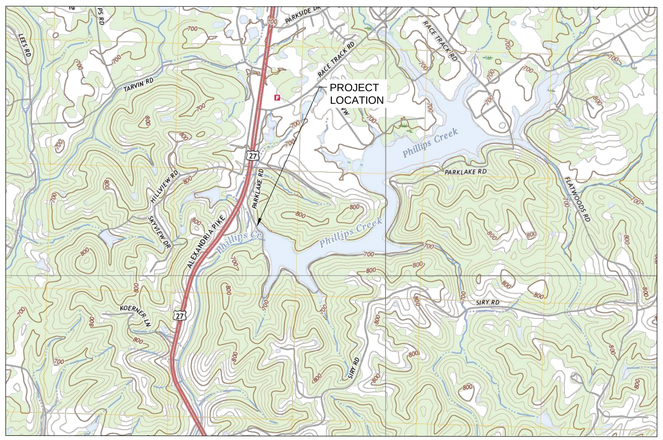


LOCATION MAP
SCALE: N.T.S.



LOCATION MAP
SCALE: 1" = 2000'

VICINITY MAP
SCALE: 1" = 80'

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

COMMONWEALTH OF KENTUCKY ROBERT KEVIN SEITZINGER 33905 LICENSED PROFESSIONAL ENGINEER

ROBERT SEITZINGER, P.E.

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
R. SEITZINGER	A. WALSH	M. GRAESER	242762

No.	REVISION	CHK'D BY	DATE
A	30% DESIGN		09-22-2025
B	60% DESIGN		10-17-2025
C	SUBMITTAL FOR PERMIT (NOT FOR CONSTRUCTION)		12-22-2025
D	KOOW-DDS REVIEW CHANGE (NOT FOR CONSTRUCTION)		02-23-2026
E	ISSUE FOR BID		03-31-2026

AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

COVER SHEET

DATE
MARCH 31, 2026

SCALE
AS NOTED

SHEET
G-001

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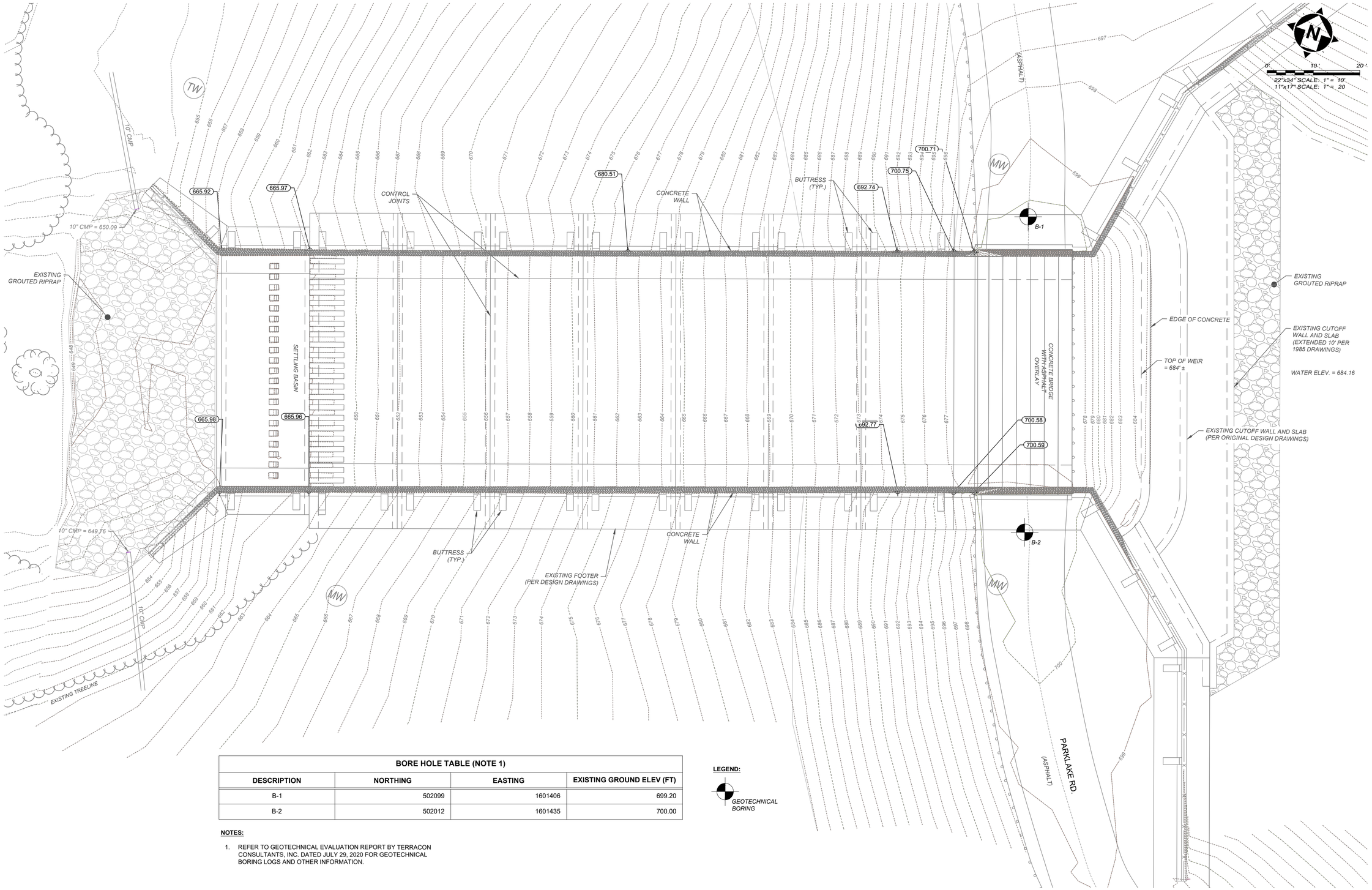


BORE HOLE TABLE (NOTE 1)			
DESCRIPTION	NORTHING	EASTING	EXISTING GROUND ELEV (FT)
B-1	502099	1601406	699.20
B-2	502012	1601435	700.00

LEGEND:

GEOTECHNICAL BORING

NOTES:

1. REFER TO GEOTECHNICAL EVALUATION REPORT BY TERRACON CONSULTANTS, INC. DATED JULY 29, 2020 FOR GEOTECHNICAL BORING LOGS AND OTHER INFORMATION.

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

STATE OF KENTUCKY ROBERT KEVIN SEITZINGER, II 33805 LICENSED PROFESSIONAL ENGINEER

ROBERT SEITZINGER, P.E.

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
R. SEITZINGER	A. WALSH	R. SEITZINGER	242762

No.	REVISION	CHK'D BY DATE
A	30% DESIGN	09-02-2025
B	60% DESIGN	10-17-2025
C	SUBMITTAL FOR PERMIT (NOT FOR CONSTRUCTION)	12-22-2025
D	KDOW-DDS REVIEW CHANGE (NOT FOR CONSTRUCTION)	02-23-2026
E	ISSUE FOR BID	03-31-2026

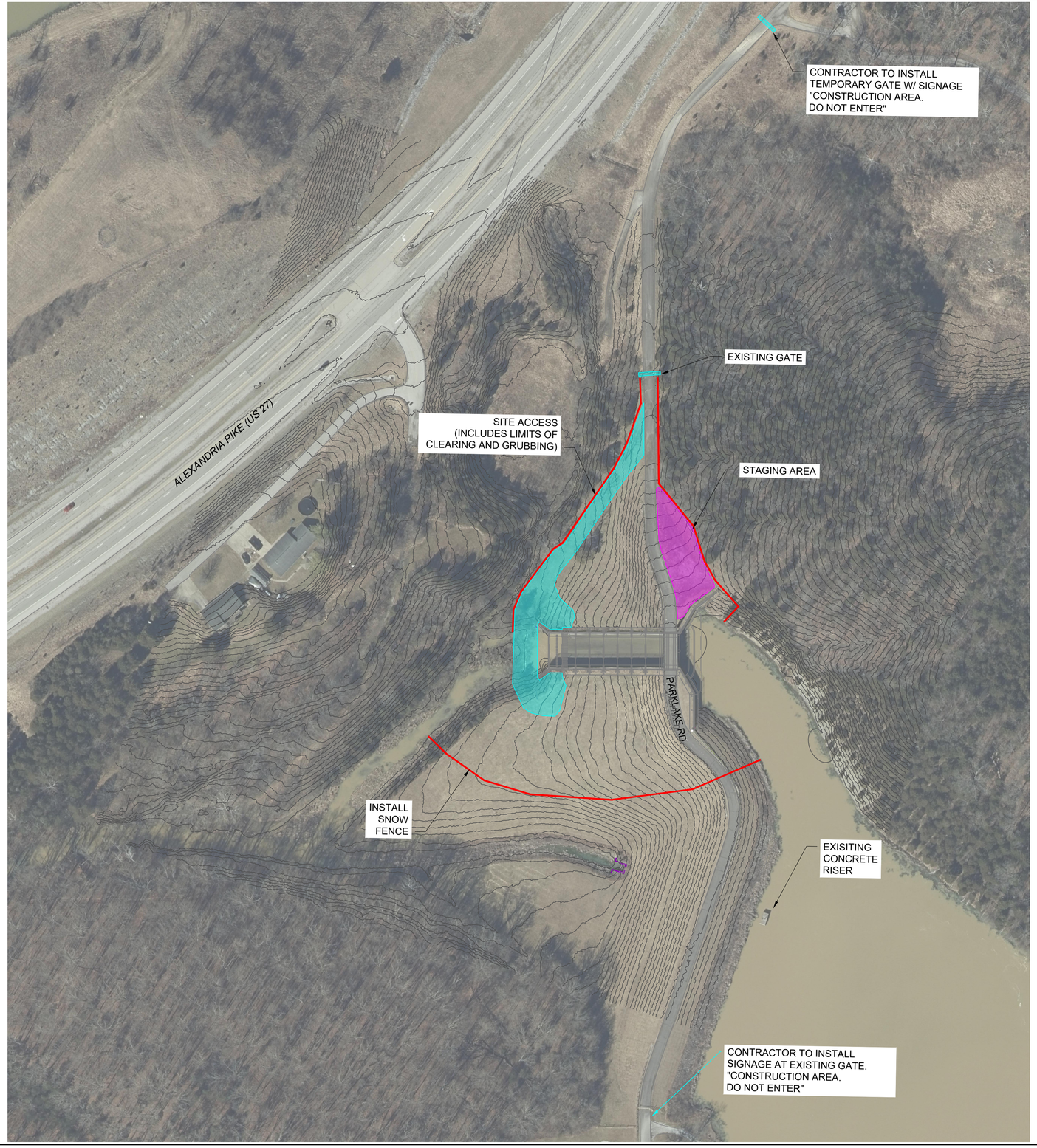
AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

EXISTING CONDITIONS

DATE
MARCH 31, 2026

SCALE
AS NOTED

SHEET
G-100



0' 80' 160'

22"x34" SCALE: 1" = 80'
11"x17" SCALE: 1" =160'

verdantas

4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

COMMONWEALTH OF KENTUCKY ROBERT KEVIN SEITZINGER, II 33805 LICENSED PROFESSIONAL ENGINEER

ROBERT SEITZINGER, P.E.

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DESIGNED BY R. SEITZINGER
DRAWN BY A. WALSH
CHECKED BY R. SEITZINGER
PROJECT NO. 242762

AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

STAGING AND SITE ACCESS

DATE MARCH 31, 2026

SCALE AS NOTED

SHEET G-101

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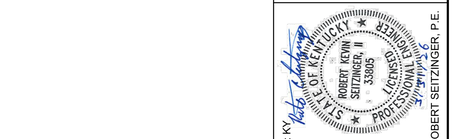
0' 80' 160'

22"x34" SCALE: 1" = 80'
11"x17" SCALE: 1" =160'

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY



ROBERT SEITZINGER, P.E.

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
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AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY
EROSION CONTROL PLAN

DATE
MARCH 31, 2026

SCALE
AS NOTED

SHEET
G-102

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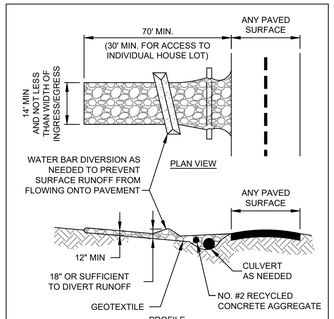
NOTES:

1) SUBSOILING SHALL OCCUR WHEN SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING IS NOT PERMITTED ON SLIP-PRONE AREAS.
2) THE SITE SHALL BE GRADED TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION AND SEEDING.
3) TOPSOIL SHALL BE APPLIED WHERE NEEDED TO ESTABLISH VEGETATION.
4) THE SEEDBED SHALL BE PREPARED BY APPLYING AGRICULTURAL GROUND LIMESTONE OR FERTILIZER AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, APPLY LIME AT 2 TONS/AC. OR FERTILIZER AT 500 LB/AC. OF 10-10-10 OR 12-12-12 ANALYSIS. LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL TO A DEPTH OF 3".
5) APPLY SEED UNIFORMLY ON FIRM, MOIST SEED BED.
6) SEEDING SHOULD BE APPLIED FROM MARCH 1 TO MAY 31 OR AUGUST 1 TO SEPTEMBER 30. IF SEEDING OCCURS OUTSIDE OF THESE DATES, ADDITIONAL MULCH AND IRRIGATION MAY BE REQUIRED TO ENSURE A MINIMUM OF 80% GERMINATION. TILLAGE FOR SEEDBED PREPARATION SHALL OCCUR WHEN THE SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND.
7) SEEDING SHOULD NOT BE APPLIED FROM OCTOBER 1 TO NOVEMBER 20 BECAUSE SEEDS MAY GERMINATE, BUT WILL NOT SURVIVE THE WINTER. USE THE FOLLOWING METHODS FOR DORMANT SEEDING:
   - FROM OCTOBER 1 TO NOVEMBER 20, INCREASE THE SEEDING RATE BY 50%. PREPARE THE SEED BED, ADD LIME AND FERTILIZER, MULCH AND ANCHOR.
   - FROM NOVEMBER 20 TO MARCH 15, ONLY IF SOIL CONDITIONS PERMIT, INCREASE THE SEEDING RATE BY 50%, PREPARE THE SEED BED, ADD LIME AND FERTILIZER, APPLY THE SEED MIXTURE, MULCH AND ANCHOR.
8) APPLY MULCH MATERIAL IMMEDIATELY AFTER SEEDING.
9) PERMANENT SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY OR HOT WEATHER OR ON ADVERSE SITE CONDITIONS AS NEEDED. AVOID EXCESSIVE IRRIGATION AND MONITOR TO PREVENT EROSION AND DAMAGE FROM RUNOFF.
10) PERMANENT SEEDING SHALL NOT BE CONSIDERED ESTABLISHED FOR AT LEAST 1 FULL YEAR FROM THE TIME OF PLANTING. DURING THIS PERIOD, INSPECT FOR SOIL EROSION OR PLANT LOSS AND REPAIR BARE OR SPARSE AREAS, FILL GULLIES, RE-FERTILIZE, RE-SEED OR RE-MULCH AS NEEDED.
11) A MINIMUM OF 70% GROWTH DENSITY, BASED ON A VISUAL INSPECTION, MUST EXIST FOR AN ADEQUATE PERMANENT VEGETATIVE PLANTING.

PERMANENT SEEDING FERTILIZATION AND MOWING CHART				
MIXTURE	FORMULA	LB/ AC.	TIME	MOW
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	10-10-10	500	FALL, YEARLY, OR AS NEEDED	≥3"
TALL FESCUE	10-10-10	500		≥4"
TURF-TYPE FESCUE	10-10-10	500		
CROWN VETCH FESCUE	0-20-20	400	SPRING, AND YEARLY AFTER ESTABLISHED	DO NOT MOW
FLAT PEA FESCUE	0-20-20	400		

PERMANENT SEEDING SPECIES SELECTION		
SEED MIX	SEED RATE LB/AC.	NOTES:
GENERAL USE		
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	20 - 40 10 - 20 20 - 40	FOR CLOSE MOWING AND WATERWAYS WITH ≤2.0 FT./SEC. VELOCITY
TALL FESCUE	40 - 50	
TURF-TYPE FESCUE	90	
STEEP BANKS OR CUT SLOPES		
TALL FESCUE	40 - 50	
CROWN VETCH TALL FESCUE	10 - 20 20 - 30	DO NOT SEED LATER THAN AUGUST
FLAT PEA TALL FESCUE	20 - 25 20 - 30	DO NOT SEED LATER THAN AUGUST
ROAD DITCHES AND SWALES		
TALL FESCUE	40 - 50	
TURF-TYPE FESCUE KENTUCKY BLUEGRASS	90 5	
LAWN		
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	100 - 120 100 - 120	
KENTUCKY BLUEGRASS CREEPING RED FESCUE	100 - 120 100 - 120	FOR SHADED AREAS

PERMANENT SEEDING DETAIL
SCALE: NONE



NOTES:

1. PLACE GEOTEXTILE OVER THE ENTIRE AREA PRIOR TO PLACING STONE MEETING THE MIN. SPECIFICATIONS:
   - A. TENSILE STRENGTH = 200 LBS.
   - B. PUNCTURE STRENGTH = 80 PSI
   - C. TEAR STRENGTH = 50 LBS.
   - D. BURST STRENGTH = 320 PSI
   - E. ELONGATION = 20%
   - F. EQUIVALENT OPENING SIZE ≤ 0.6 MM
   - G. PERMITTIVITY = 0.001 CM/SEC
2. APPLY ADDITIONAL STONE AS CONDITIONS DEMAND AND REPLENISH STONE WHEN THE DEPTH IS LESS THAN 6". REMOVE AND REPLACE IF STONES BECOMES MUD-LADEN.
3. IMMEDIATELY REMOVE MUD DROPPED, WASHED OR TRACKED ONTO ROADS OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS BY SCRAPING OR SWEEPING.
4. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES OR TO PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION SITE SHALL BE RESTRICTED FROM MUDDY AREAS.

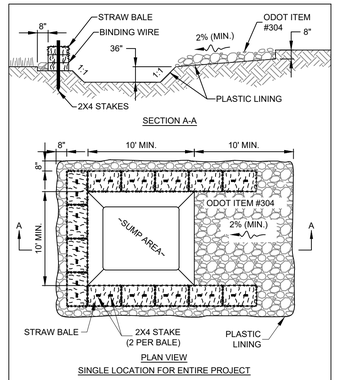
(CE) **CONSTRUCTION ENTRANCE**
SCALE: NONE

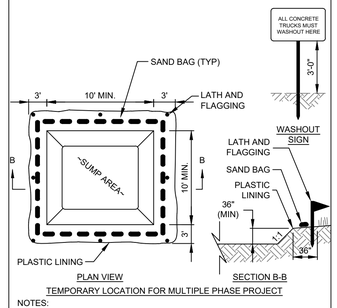
NOTES:

1) THE SEED BED SHALL BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION.
2) SOIL AMENDMENTS MAY BE REQUIRED TO ESTABLISH ADEQUATE VEGETATION. PERFORM SOIL TESTS ON THE SITE TO PREDICT THE NEED FOR LIME AND FERTILIZER.
3) APPLY SEED UNIFORMLY. COVER BROADCASTED SEED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPING INTO PLACE.
4) APPLY MULCHING IMMEDIATELY AFTER SEEDING.
5) SEEDING SHALL BE INSPECTED FOR BARE SPOTS AND WASHOUTS, AND RESEEDED AS NECESSARY.

TEMPORARY SEEDING SPECIES SELECTION			
DATES	SPECIES	LB/1,000 SF	LB/AC.
MARCH 1 TO AUGUST 15	OATS TALL FESCUE PERENNIAL RYEGRASS	3 1 1	128 40 40
	PERENNIAL RYEGRASS TALL FESCUE	2 1	40 40
AUGUST 16 TO NOVEMBER 1	RYE TALL FESCUE PERENNIAL RYEGRASS	3 1 1	112 40 40
	WHEAT TALL FESCUE PERENNIAL RYEGRASS	3 1 1	120 40 40
	PERENNIAL RYEGRASS TALL FESCUE	2 1	40 40
NOVEMBER 1 TO SPRING	ONLY MULCH OR DORMANT SEEDING.		

TEMPORARY SEEDING DETAIL
SCALE: NONE



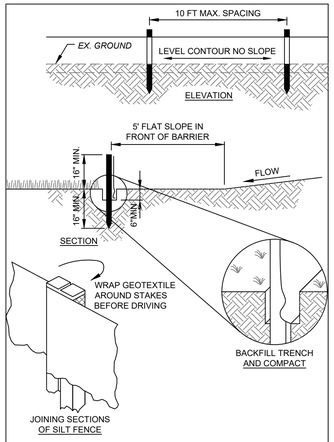


TEMPORARY LOCATION FOR MULTIPLE PHASE PROJECT

NOTES:

1. WASHOUT PIT SHALL BE LOCATED 100' MINIMUM FROM INLETS, STREAMS, WETLANDS AND ANY OTHER SURFACE WATERS.
2. ALL EXCESS CONCRETE AND CONCRETE WASHOUT, INCLUDING FROM HAND MIXERS AND LIGHT EQUIPMENT, SHALL BE DISPOSED OF IN THE CONCRETE WASHOUT AREA. DISPOSAL OF EXCESS CONCRETE OR CONCRETE WASHOUT ON THE GROUND, OR IN STORM DRAINS, DITCHES OR WATER BODIES, IS PROHIBITED.
3. CONCRETE WASHOUT AREA SHALL BE SUFFICIENT SIZE TO CONTAIN CONCRETE WASTE GENERATED. FOR LARGER SITES, MULTIPLE CONCRETE WASHOUT AREAS MAY BE REQUIRED.
4. IF CONCRETE WASHOUT AREA IS LOCATED AWAY FROM A PAVED SURFACE, CONSTRUCT A GRAVEL ACCESS ROUTE EQUAL IN COMPOSITION TO THE CONSTRUCTION ENTRANCE.
5. PLASTIC LINING SHALL BE DOUBLE-LINED, CONTINUOUS 10-ML POLYETHYLENE SHEETING FREE OF HOLES, TEARS OR OTHER DEFECTS, AND INSTALLED ON A SMOOTH, LEVEL SURFACE, FREE OF ROCKS OR DEBRIS.
6. CONCRETE WASHOUT SIGNAGE SHALL BE CLEARLY VISIBLE AND LOCATED WITHIN 30 FEET OF EACH WASHOUT AREA.
7. CONCRETE WASHOUT AREAS SHALL BE COVERED DURING INCLEMENT WEATHER TO PREVENT OVERFLOWS.
8. PREFABRICATED, PORTABLE AND RE-USABLE CONCRETE WASHOUT CONTAINERS ARE ACCEPTABLE, BUT MUST BE SPECIFICALLY DESIGNED FOR CONCRETE WASHOUT USE.
9. CONCRETE WASHOUT AREA SHALL BE INSPECTED DAILY TO CHECK FOR DAMAGE AND TO DETERMINE IF IT NEEDS CLEANED OR REPLACED. ANY DAMAGE TO THE SIDEWALLS OR POLYETHYLENE SHEETING SHALL BE REPAIRED IMMEDIATELY. THE CONCRETE WASHOUT AREA SHALL BE CLEANED OR REPLACED WHEN IT IS 75% FULL. THE POLYETHYLENE SHEETING SHALL BE REPLACED AFTER EACH CLEANING.
10. SAW CUT CONCRETE, RESIDUE FROM SAW CUT, AND GRINDINGS SHALL BE DISPOSED OF IN THE WASHOUT PIT.

(WA) **CONCRETE WASHOUT DETAIL**
SCALE: NONE

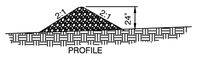


NOTES:

1. PRESERVE VEGETATION FOR 5 FEET, OR AS MUCH AS POSSIBLE, UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE RE-ESTABLISHED WITHIN 7 DAYS FROM SILT FENCE INSTALLATION.
2. SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. PERFORM ONE OF THE FOLLOWING IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW:
   - CHANGE THE LAYOUT OF THE SILT FENCE.
   - REMOVE ACCUMULATED SEDIMENT.
   - INSTALL OTHER PRACTICES.

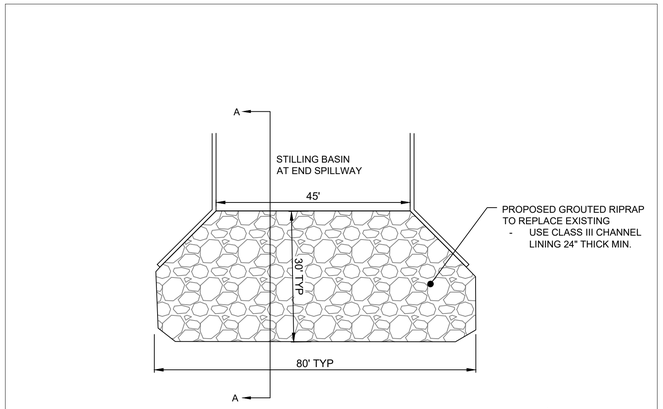
FABRIC PROPERTIES	VALUES	TEST METHOD
GRAB TENSILE STRENGTH	90 LB. MIN	ASTM D-1682
MULLEN BURST STRENGTH	190 PSI MIN	ASTM D-3786
SLURRY FLOW RATE	0.3 GAL./MIN./S.F. MAX.	
EQUIVALENT OPENING SIZE	40-80	US STD. SIEVE CW-02215
ULTRAVIOLET RADIATION STABILITY	90% MIN	ASTM-G-26

(SF) **SF** **SILT FENCE**
SCALE: NONE



(CD) **CHECK DAM**
N.T.S.

INSTALL CHECK DAM DURING CONSTRUCTION AS SHOWN PER SHEET G-102. REMOVE CHECK DAM AND ACCUMULATED SEDIMENT AFTER COMPLETION OF CONSTRUCTION.



GROUTED RIPRAP DETAIL
N.T.S.

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY
ROBERT KEVIN SEITZINGER, P.E. 33805 LICENSED PROFESSIONAL ENGINEER
ROBERT SEITZINGER, P.E.

DESIGNED BY	CHK'D BY
R. SEITZINGER	DATE
DRAWN BY	09-22-2025
A. WALSH	10-17-2025
CHECKED BY	12-23-2025
R. SEITZINGER	02-23-2026
PROJECT NO.	03-31-2026
242762	

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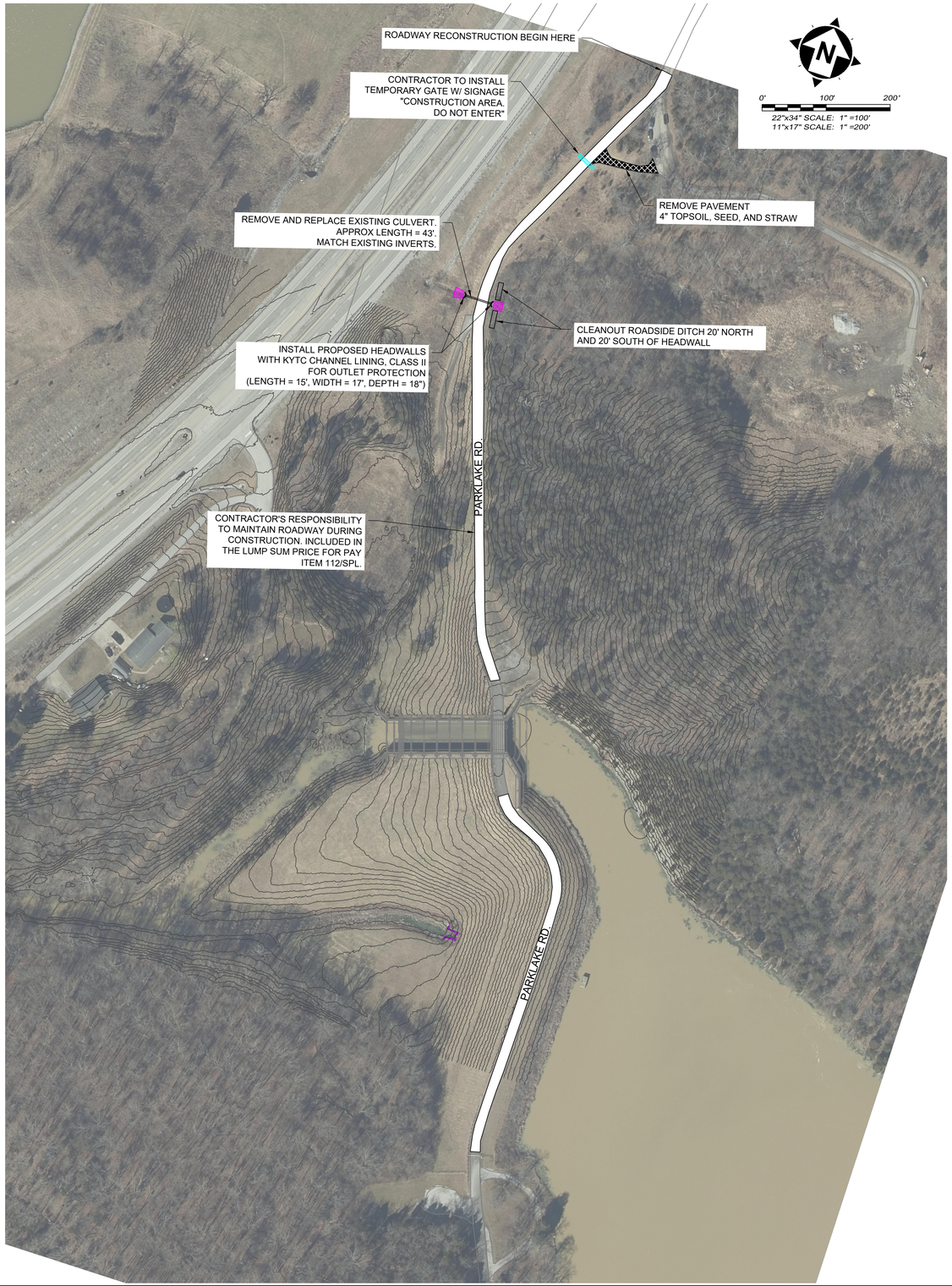
AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

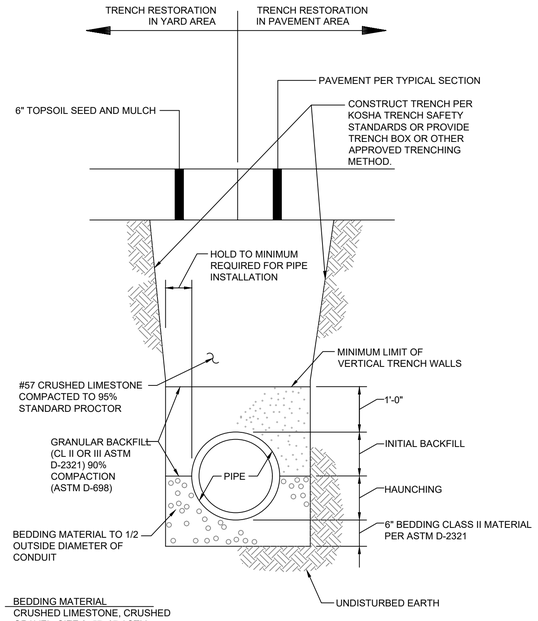
EROSION CONTROL NOTES

DATE
MARCH 31, 2026

SCALE
AS NOTED

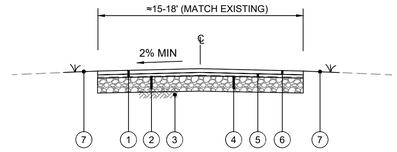
SHEET
G-103





BEDDING MATERIAL
CRUSHED LIMESTONE, CRUSHED GRAVEL, SIZE 8, 57, 67 ASTM D448; OR 1/2 x 150 MESH, HI CAL LIMESTONE AS AVAILABLE FROM DRAVO LIME, BUTLER, KY

TRENCH DETAIL
N.T.S.



1. REMOVE EXISTING ASPHALT PAVEMENT
2. EXCAVATION FOR GRANULAR BASE
3. ITEM 207* - SUBGRADE RESHAPING AND COMPACTION OF EXISTING CLAY SUBGRADE - TRIMMED AND ROLLED SMOOTH FOR DRAINAGE SO THAT THE GEOTEXTILE CAN BE SPREAD SMOOTH, TAUT AND EVEN BEFORE NO. 2 STONE IS PLACED.
4. ITEM 302 - 6" CRUSHED STONE BASE
5. ITEM 402/403 - 1-1/2" ASPHALT PAVEMENT IMTERMEDIATE LEVEL COURSE
6. ITEM 402/403 - 1-1/2" ASPHALT PAVEMENT SURFACE WITH ARAMID FIBER REINFORCEMENT (FORTA-FI OR ACE FIBER)
7. ITEM SPL - 4" TOPSOIL, SEED AND MULCH (KEEP TO A MINIMUM)

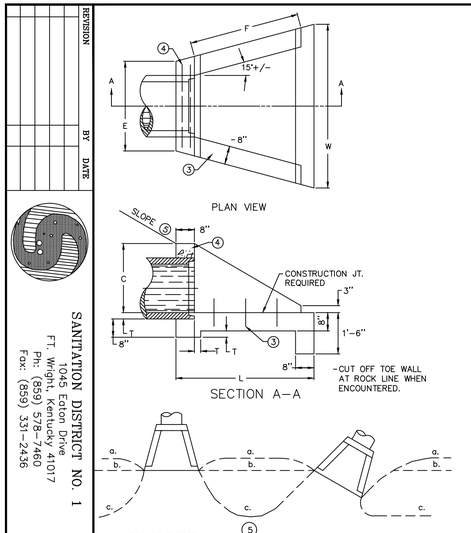
ASPHALT ROADWAY RECONSTRUCTION SECTION N.T.S.

REVISION | BY | DATE

SANITATION DISTRICT NO. 1
1045 Eaton Drive
Ft. Wright, Kentucky 41017
Ph: (859) 578-7460
Fax: (859) 331-2436

STANDARD DRAWING NO: STM-16

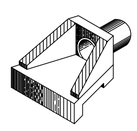
DATE: MAY 2010



PIPE DIA. OR EQUIV. DIA.	SHAPE ⑨	DIMENSIONS C	E	F	L	W	T	CLASS A CONC C. Y.	REINF STEEL LBS.
12"	○	1'-9"	2'-6"	2'-3"	3'-6"	4'-0"	2"	0.58	7
15"	○	2'-0"	2'-9"	2'-9"	4'-0"	4'-9"	2 1/4"	0.75	
	⌓	1'-9"	3'-0"	2'-6"	3'-6"	4'-9"		0.68	
18"	○	2'-3"	3'-0"	3'-6"	4'-6"	5'-3"	2 1/2"	0.93	8
	⌓ ⬭	2'-0"	3'-6"	3'-0"	4'-0"	5'-6"	2 3/4"	0.89	
21"	○	2'-6"	3'-3"	4'-0"	5'-0"	6'-0"		1.14	
	⌓	2'-3"	3'-0"	3'-6"	4'-6"	6'-0"		1.07	9
24"	○	2'-9"	3'-6"	4'-6"	5'-6"	6'-6"	3"	1.35	8
	⌓ ⬭	2'-6"	4'-0"	4'-0"	5'-0"	6'-9"	3 1/4"	1.30	9
27"	○	3'-0"	3'-9"	5'-0"	6'-0"	7'-0"		1.57	
	⬭	2'-9"	4'-6"	4'-3"	5'-3"	7'-3"	3 1/2"	1.51	10

NOTES

1. DIMENSIONS AND QUANTITIES ARE BASED ON CONCRETE PIPE AND WILL VARY INSIGNIFICANTLY FOR ALTERNATE PIPE MATERIALS.
2. REINFORCING STEEL : MINIMUM GRADE 40, BARS EVENLY SPACED.
   ② 6 - NO. 4 x 1'-0" DOWEL BARS.
   ④ 2 - NO. 4 x (E DIMENSION MINUS 4").
3. ⑤ SLOPES SHALL BE WARPED TO FIT HEADWALL WHEN PIPE IS SKEWED AND/OR NORMAL SLOPE VARIES FROM 2:1.
4. VOLUME DISPLACED BY PIPE COMPUTED USING INSIDE DIAMETER OF PIPE.
5. WING ANGLES AND/OR DIMENSIONS MAY BE ALTERED DURING CONSTRUCTION TO ACCOMMODATE FLOW OF WATER.
6. APRON BETWEEN WINGS SHALL BE SLOPED IN DIRECTION OF FLOW EQUAL TO SLOPE OF PIPE. FRONT FACE OF HEADWALL SHALL REMAIN VERTICAL.
7. ⑨ HEADWALLS ARE FOR CIRCULAR, ARCH, AND HORIZONTAL ELLIPTICAL 12"– 27" EQUIVALENT PIPE SIZES. SEE CURRENT KDOT STD. DWG. RDH–016, FOR NON–CIRCULAR PIPE EQUIVALENT SIZES.
8. ENCLOSURE GRATE SHALL BE INSTALLED PER DETAIL STM–19 FOR PIPE SIZES 24 INCHES DIAMETER AND UNDER.


ISOMETRIC VIEW

SLOPED & FLARED HEADWALLS (12"–27" PIPE) (STM–16)
N.T.S.
(REFERENCE KYTC STANDARD DRAWING RDH–020)

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY
ROBERT KEVIN SEITZINGER, II 33805 LICENSED PROFESSIONAL ENGINEER STATE OF KENTUCKY
ROBERT SEITZINGER, P.E.

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
R. SEITZINGER	A. WALSH	R. SEITZINGER	242762

No.	REVISION	CHK'D BY DATE
A	30% DESIGN	09-02-2025
B	60% DESIGN	10-17-2025
C	SUBMITTAL FOR PERMIT (NOT FOR CONSTRUCTION)	12-22-2025
D	KDOW-DDS REVIEW CHANGE (NOT FOR CONSTRUCTION)	02-23-2026
E	ISSUE FOR BID	03-31-2026

AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

ROADWAY RECONSTRUCTION

DATE
MARCH 31, 2026

SCALE
AS NOTED

SHEET
G-104

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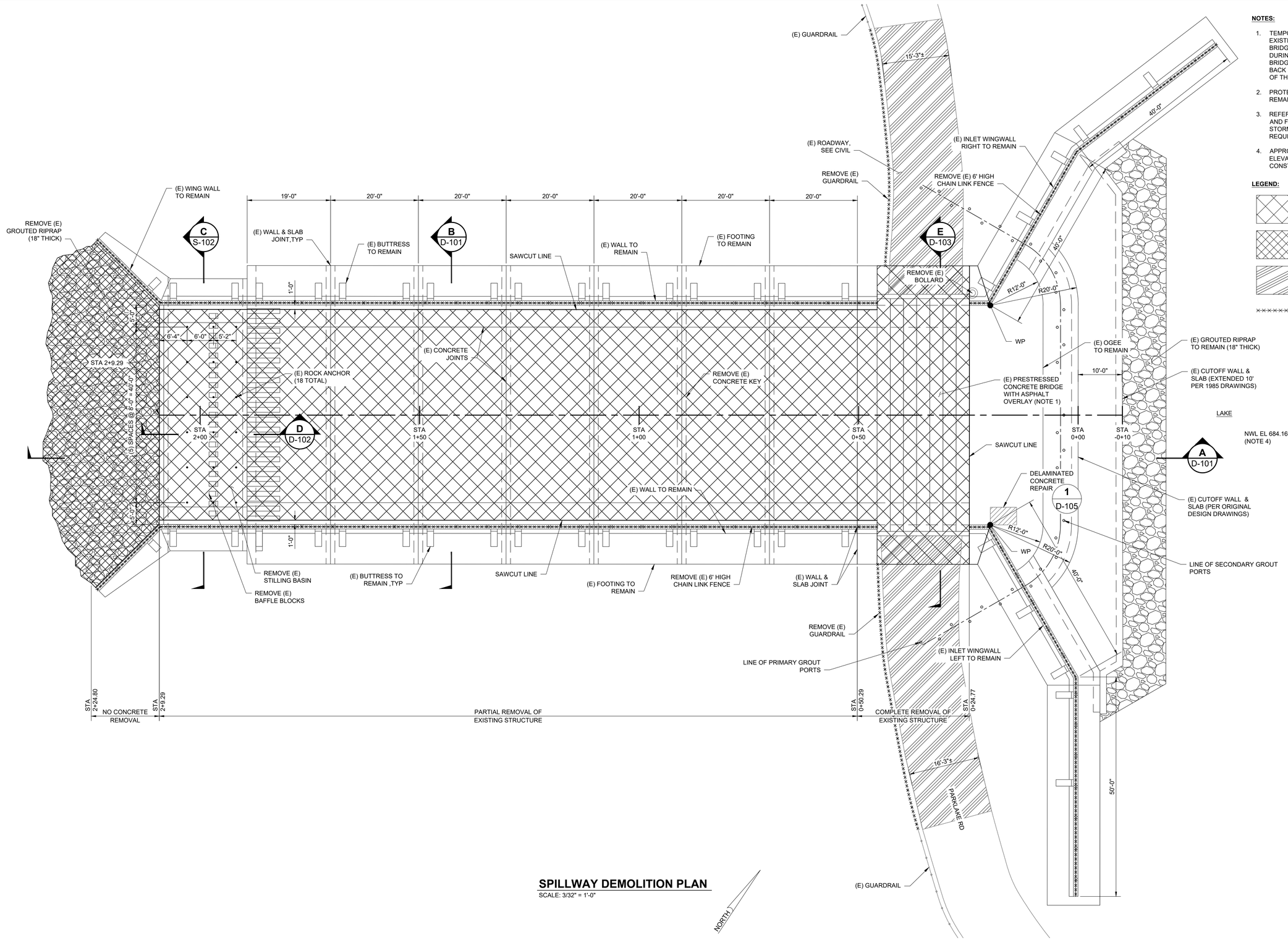

SPILLWAY DEMOLITION PLAN

SCALE: 3/32" = 1'-0"

NOTES:

1. TEMPORARILY MOVE/REMOVE THE EXISTING PRESTRESSED CONCRETE BRIDGE BOX BEAMS AND GUARDRAIL DURING DEMOLITION AND CONSTRUCTION. BRIDGE AND GUARDRAIL SHALL BE PUT BACK IN PLACE BEFORE THE CONCLUSION OF THE PROJECT.
2. PROTECT EXISTING CONCRETE TO REMAIN.
3. REFER TO CIVIL FOR EXCAVATION LIMITS AND FOR EROSION CONTROL AND STORMWATER MANAGEMENT REQUIREMENTS.
4. APPROXIMATE LAKE DRAWDOWN ELEVATION 674.1 FT DURING CONSTRUCTION.

LEGEND:

- CONCRETE DEMOLITION
- GROUTED RIPRAP REMOVAL
- ROADWAY DEMOLITION
- FENCE & GUARDRAIL REMOVAL

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

AMY MENGERT, P.E.

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
A. MENGERT	C. HAGLER	M. GRAESER	242762

No.	REVISION	CHK'D BY DATE
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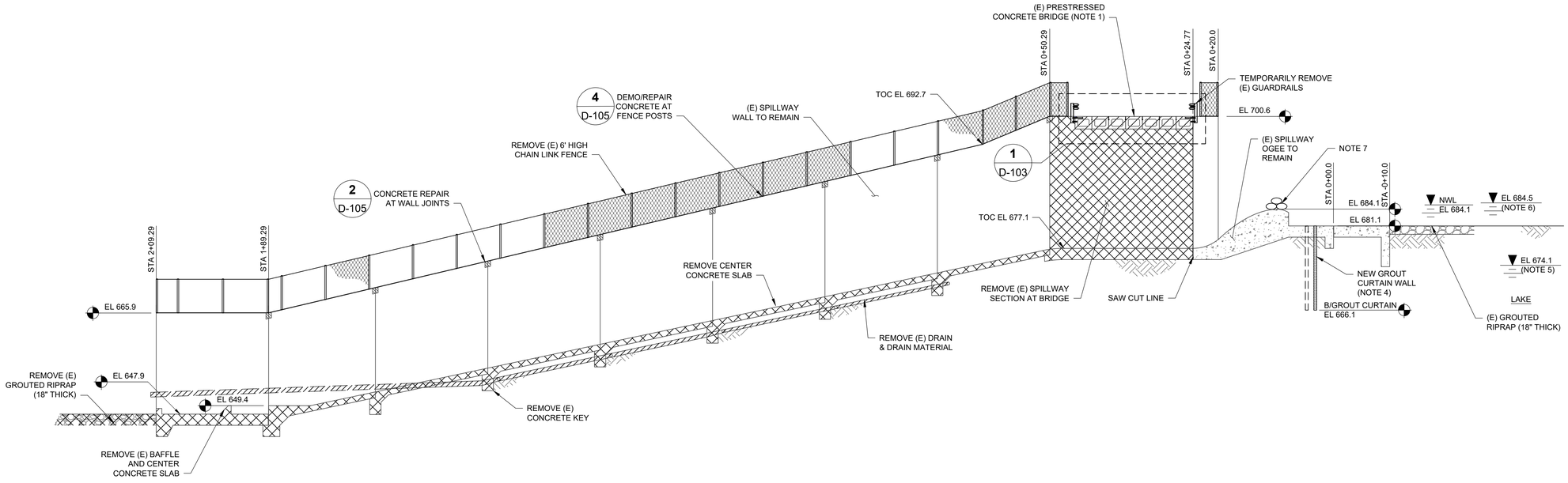
AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

SPILLWAY DEMOLITION PLAN

DATE
MARCH 31, 2026

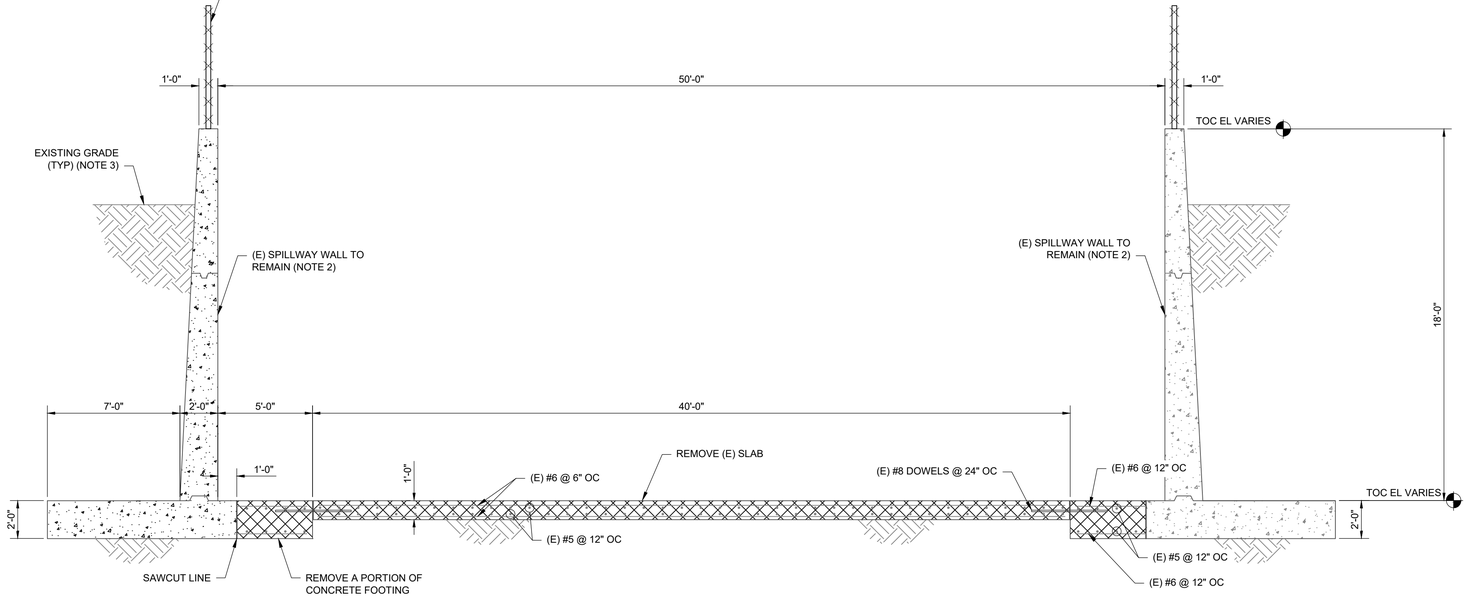
SCALE
AS NOTED

SHEET
D-100



A D-100 DEMOLITION SECTION

SCALE: 3/32" = 1'-0"



B D-100 SPILLWAY DEMOLITION SECTION (STA 0+50.29 TO 1+89.29)

SCALE: 1/4" = 1'-0"

NOTES:

1. TEMPORARILY MOVE/REMOVE THE EXISTING PRESTRESSED CONCRETE BRIDGE BOX BEAMS AND GUARDRAIL DURING DEMOLITION AND CONSTRUCTION. BRIDGE AND GUARDRAIL SHALL BE PUT BACK IN PLACE BEFORE THE CONCLUSION OF THE PROJECT.
2. PROTECT EXISTING CONCRETE TO REMAIN.
3. REFER TO CIVIL FOR EXCAVATION LIMITS AND FOR EROSION CONTROL AND STORMWATER MANAGEMENT REQUIREMENTS.
4. CONTRACTOR TO DESIGN AND SUBMIT THE GROUT CURTAIN SYSTEM FOR REVIEW.
5. APPROXIMATE LAKE DRAWDOWN ELEVATION 674.1 FT DURING CONSTRUCTION.
6. APPROXIMATE FLOOD ELEVATION 684.5 FT DURING CONSTRUCTION.
7. SANDBAGS MAY BE REQUIRED TO PROVIDE ADEQUATE FREEBOARD DURING A FLOOD CONDITION DURING CONSTRUCTION.

LEGEND:

- CONCRETE DEMOLITION
- TEMPORARILY MOVE/REMOVE BRIDGE
- GROUTED RIPRAP REMOVAL
- DRAIN REMOVAL

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

AMY MENGERT, P.E.

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AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

DEMOLITION SECTIONS

DATE
MARCH 31, 2026

SCALE
AS NOTED

SHEET
D-101

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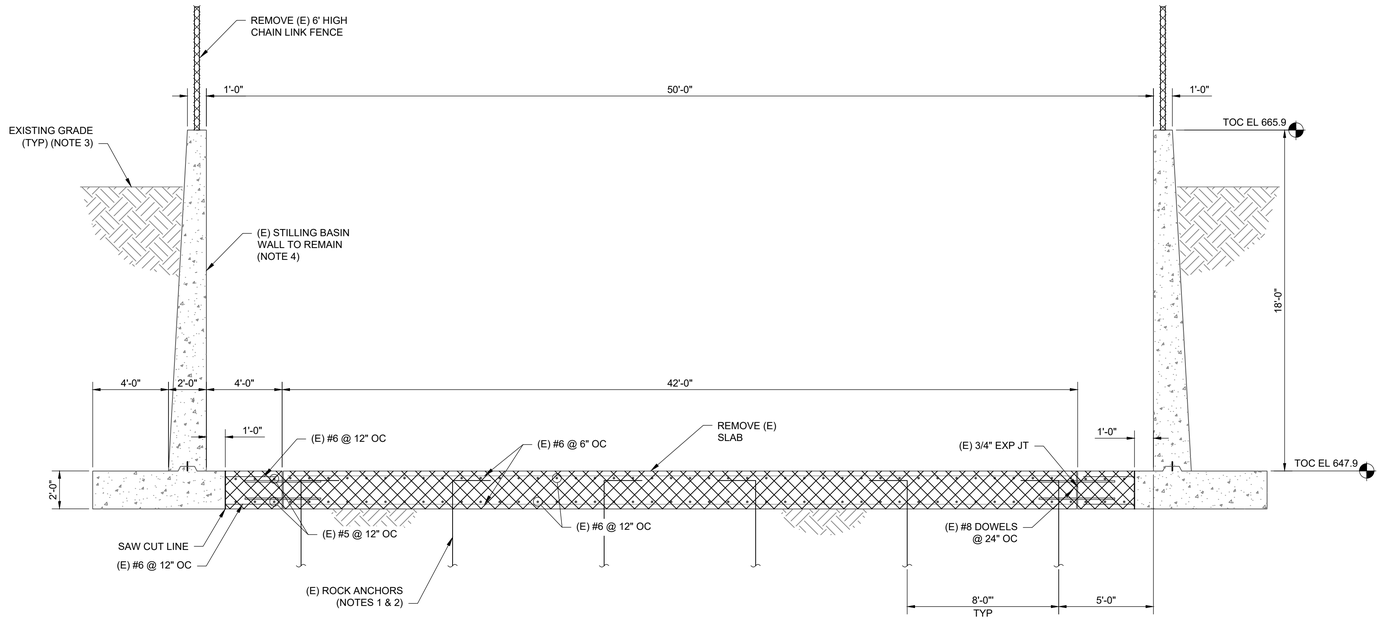
NOTES:

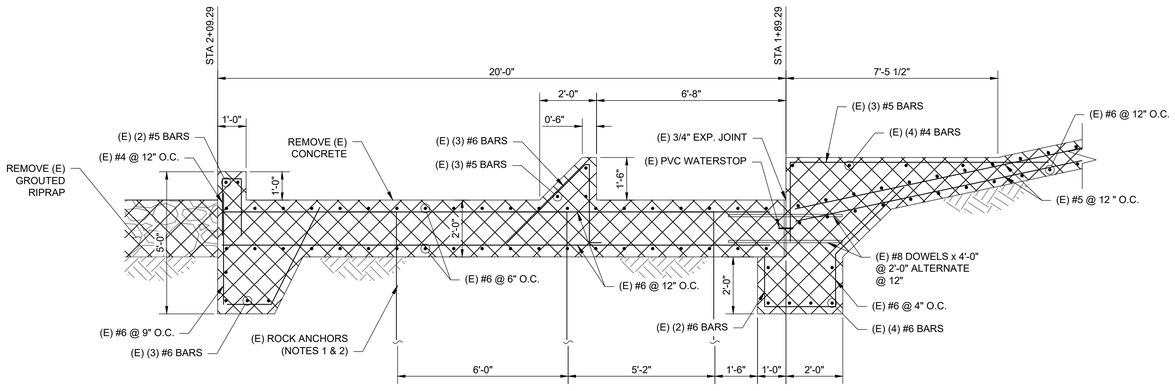
1. PERFORM LOCAL CONCRETE DEMOLITION AT ROCK ANCHOR LOCATIONS SO ANCHORS CAN BE CUT PRIOR TO STILLING BASIN CONCRETE DEMOLITION.
2. CUT THE ROCK ANCHORS AT THE BOTTOM OF THE SLAB.
3. REFER TO CIVIL FOR EXCAVATION LIMITS AND FOR EROSION CONTROL AND STORMWATER MANAGEMENT REQUIREMENTS.
4. PROTECT EXISTING CONCRETE TO REMAIN.

LEGEND:

CONCRETE DEMOLITION



C D-100 **STILLING BASIN DEMOLITION SECTION (STA 1+89.29 TO 2+09.29)**
SCALE: 1/4" = 1'-0"



D D-100 **STILLING BASIN DEMOLITION SECTION**
SCALE: 3/8" = 1'-0"

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

COMMONWEALTH OF KENTUCKY * LICENSED PROFESSIONAL ENGINEER * AMY MENGERT 24922

AMY MENGERT, P.E.

DESIGNED BY	CHK'D BY DATE
A. MENGERT	
DRAWN BY	
C. HAGLER	
CHECKED BY	
M. GRAESER	
PROJECT NO.	
242762	

No.	REVISION	CHK'D BY DATE
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AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

DEMOLITION SECTIONS

DATE
MARCH 31, 2026

SCALE
AS NOTED

SHEET
D-102

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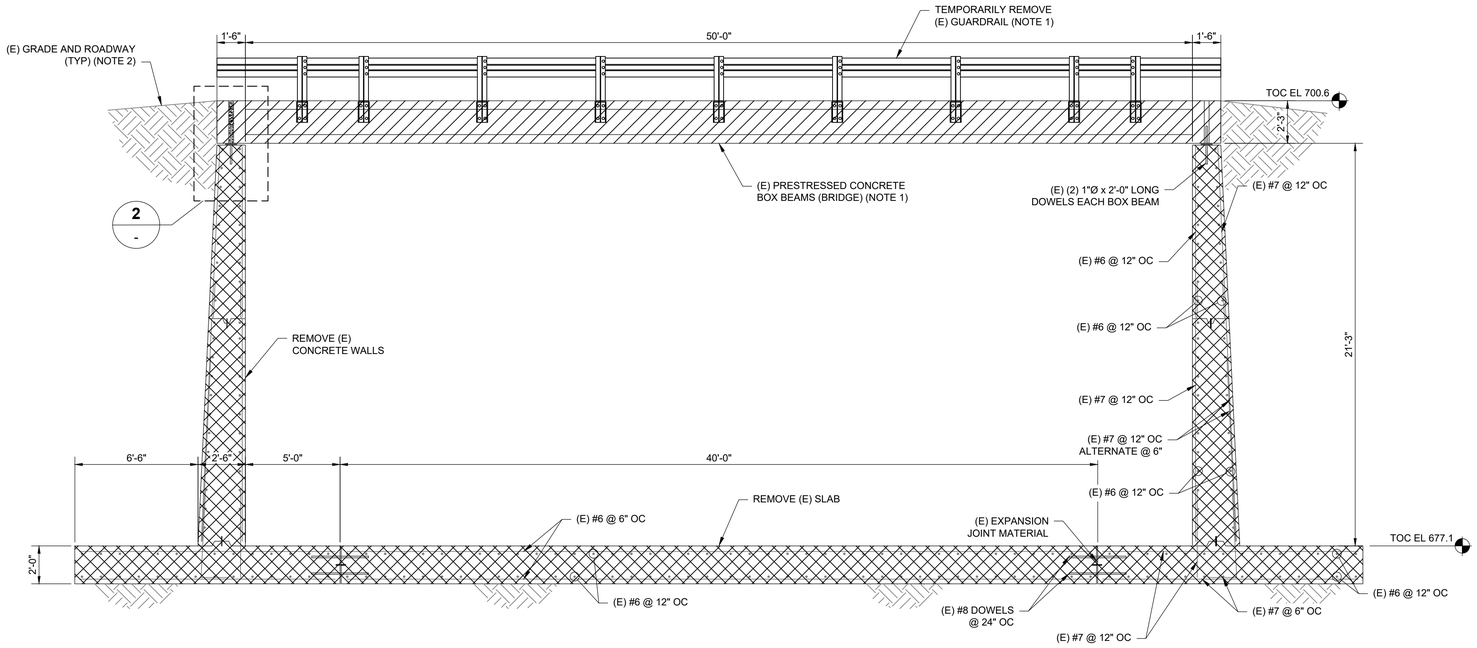


E / D-100 BRIDGE DEMOLITION SECTION (STA 0+24.77 TO 0+50.29)
SCALE: 1/4" = 1'-0"

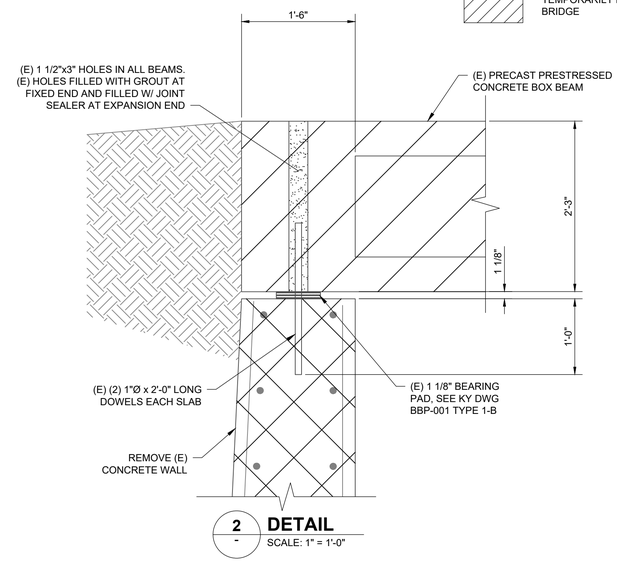
NOTES:

1. TEMPORARILY MOVE/REMOVE THE EXISTING PRESTRESSED CONCRETE BRIDGE BOX BEAMS AND GUARDRAIL DURING DEMOLITION AND CONSTRUCTION. BRIDGE AND GUARDRAIL SHALL BE PUT BACK IN PLACE BEFORE THE CONCLUSION OF THE PROJECT.
2. REFER TO CIVIL FOR EXCAVATION LIMITS AND FOR EROSION CONTROL AND STORMWATER MANAGEMENT REQUIREMENTS.

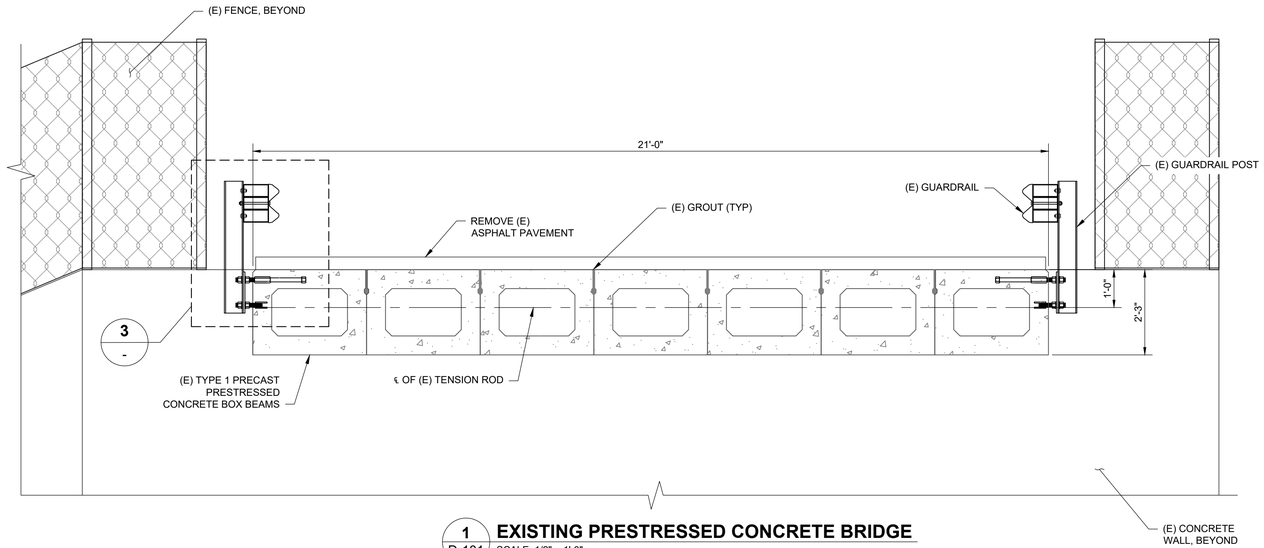
LEGEND:

CONCRETE DEMOLITION

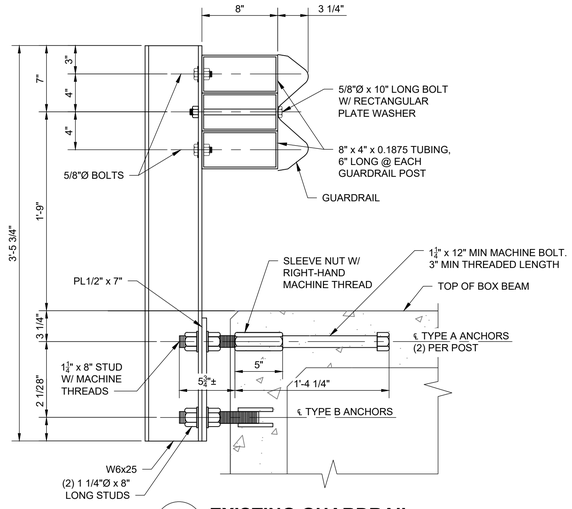
TEMPORARILY MOVE/REMOVE BRIDGE



2 / - DETAIL
SCALE: 1" = 1'-0"



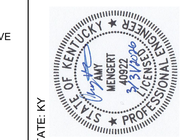
1 / D-101 EXISTING PRESTRESSED CONCRETE BRIDGE
SCALE: 1/2" = 1'-0"



3 / - EXISTING GUARDRAIL
SCALE: 1 1/2" = 1'-0"

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY



AMY MENGERT, P.E.

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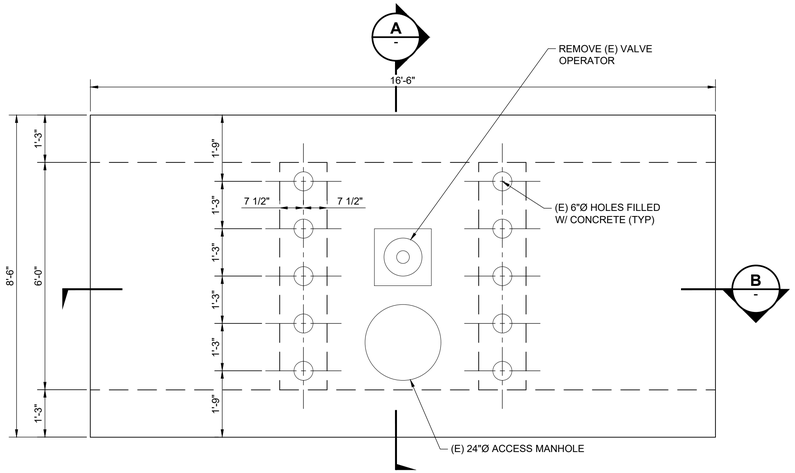
AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY
DEMOLITION SECTION AND DETAILS

DATE
MARCH 31, 2026

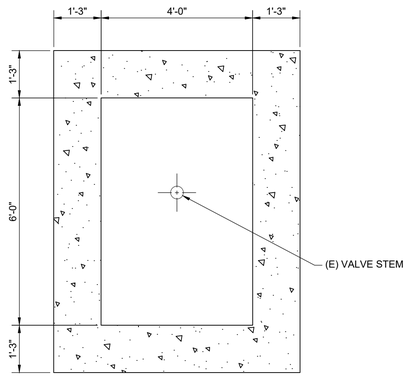
SCALE
AS NOTED

SHEET
D-103



RISER PLAN AT EL 689.64

SCALE: 1/2" = 1'-0"



RISER PLAN BELOW EL 679.14

SCALE: 1/2" = 1'-0"

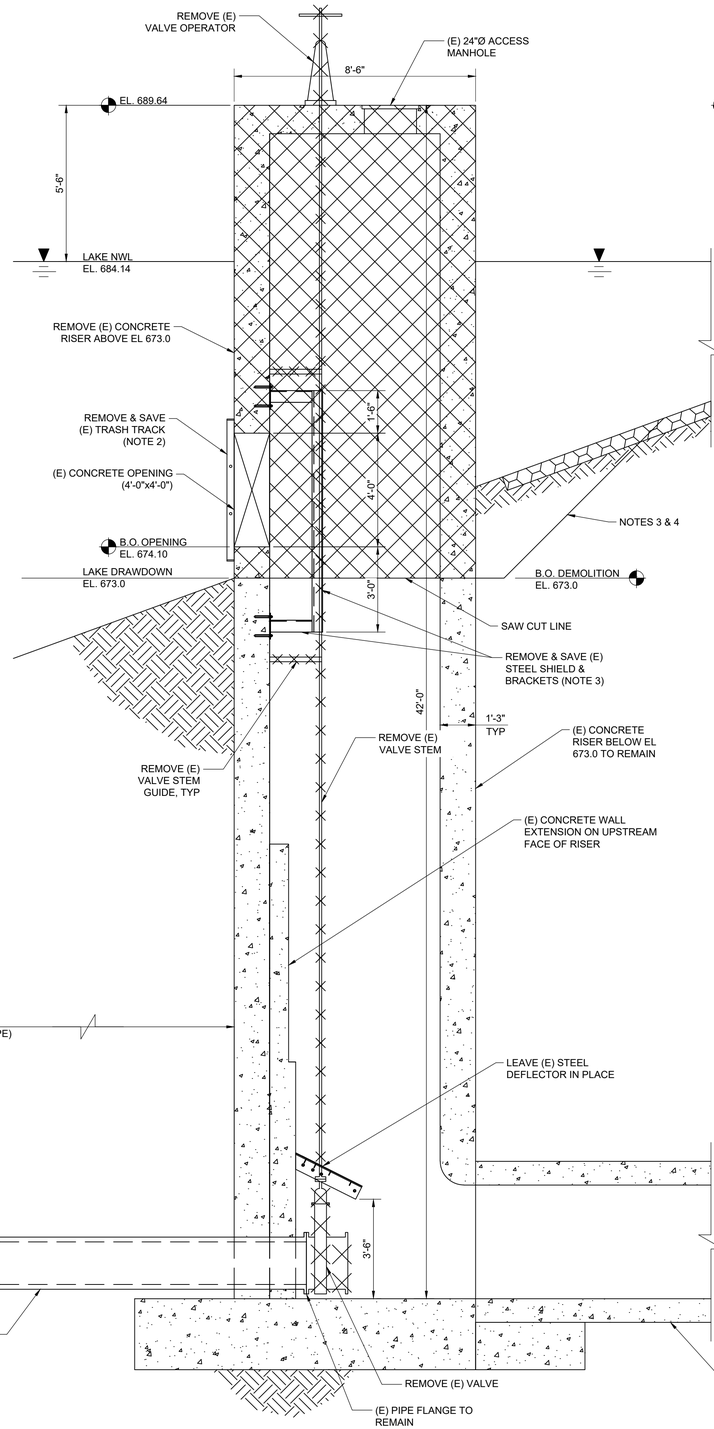
NOTES:

1. PROTECT EXISTING CONCRETE TO REMAIN.
2. EXCAVATION AS REQUIRED FOR CONCRETE DEMOLITION.
3. COORDINATE ALL SAVE/SALVAGE ITEMS WITH CAMPBELL COUNTY.
4. CLAY BACKFILL SHALL MEET THE FOLLOWING INDEX AND MATERIAL SPECIFICATIONS:
   - A. MINIMUM DRY UNIT WEIGHT OF 100 PCF
   - B. LIQUID LIMIT MAX OF 45% AND A PI<20
   - C. NO PARTICLES BIGGER THAN 6" IN MAXIMUM DIMENSION, REMOVE LIMSETONE FLOATERS
   - D. SAMPLES OF EACH SOURCE OR VISUALLY DISTINCT CLAYEY FILL MATERIAL NEED TO BE COLLECTED AND SUBJECT TO THE FOLLOWING TESTS
   - E. ATTERBERG LIMITS (ASTM D4318)
   - F. STANDARD PROCTOR LMITS (ASTM D698)

LEGEND:

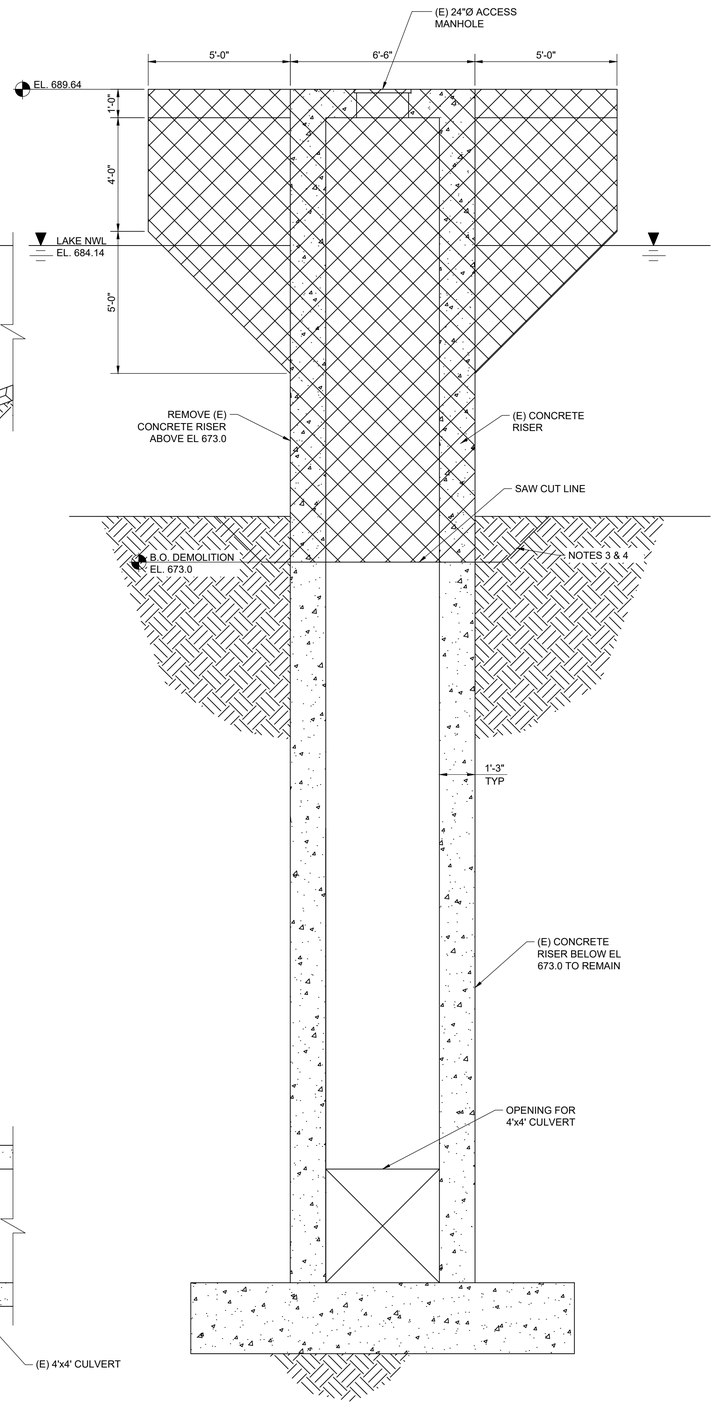
CONCRETE DEMOLITION

GATE AND VALVE REMOVAL



A CONCETE RISER SECTION

SCALE: 3/8" = 1'-0"



B CONCETE RISER SECTION

SCALE: 3/8" = 1'-0"

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

AMY MENGERT, P.E.

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
A. MENGERT	C. HAGLER	M. GRAESER	242762

No.	REVISION	CHK'D BY DATE
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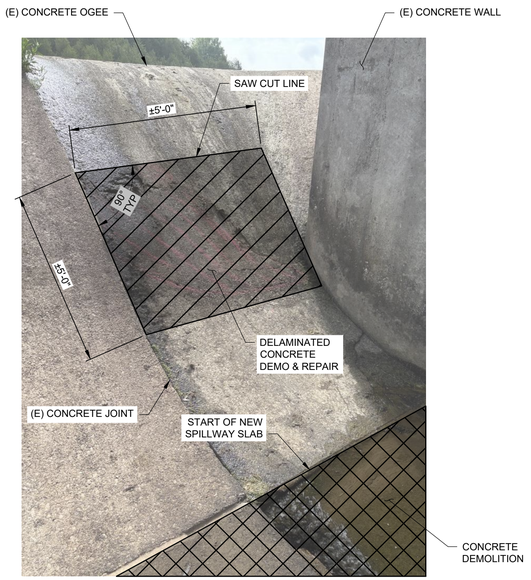
AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY
RISER DEMOLITION PLAN AND SECTIONS

DATE
MARCH 31, 2026

SCALE
AS NOTED

SHEET
D-104



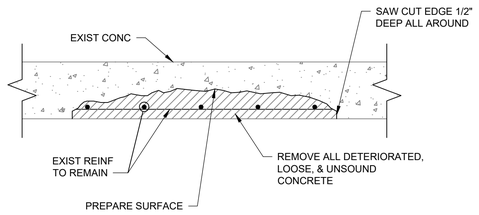
1 / D-100 / S-100 **CONCRETE DAMAGE AREA**
SCALE: NTS

LEGEND:

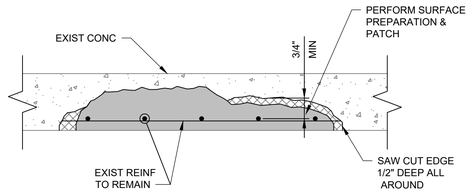
REMOVE ALL DETERIORATED, LOOSE AND UNSOUND CONCRETE

REMOVE SOUND CONCRETE TO PROVIDE ¾" MIN CLEARANCE BEHIND REBAR AND TO PROVIDE A SQUARE REPAIR.

FORMED FLOWABLE REPAIR CONCRETE



DEMO



REPAIR FOR REINFORCMENT W/ LESS THAN 15% DEGRADATION OF THICKNESS

DEMO NOTES:

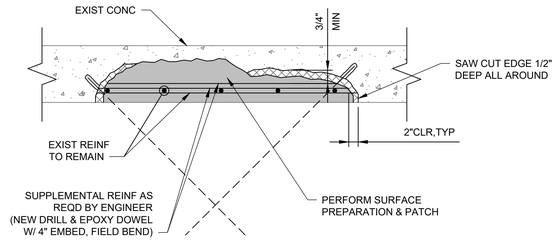
1. REMOVE ALL UNSOUND OR DELAMINATED CONCRETE.
2. REMOVE CONCRETE TO PROVIDE ¾" MIN CLEARANCE BEHIND EXPOSED AND CORRODED REINFORCING STEEL.
3. REMOVE ALL OXIDATION AND SCALE FROM THE EXPOSED REINFORCING STEEL.
4. CONTRACTOR TO IDENTIFY PROPOSED LIMITS OF DEMOLITION FOR CONCRETE REPAIR FOR REVIEW BY ENGINEER PRIOR TO SAWCUTING.
5. SAW CUT THE PERIMETER OF THE AREA TO BE REPAIRED TO A DEPTH OF ½" TO PREVENT FEATHERED EDGES. SAWCUT PERIMETER SHALL USE 90° CORNERS, EXCEPT PROVIDE 45° ANGLES WHEN NECESSARY TO AVOID RE-ENTRANT CORNERS.
6. DO NOT CUT OR DAMAGE EXISTING REINFORCEMENT.

SURFACE PREPARATION NOTES:

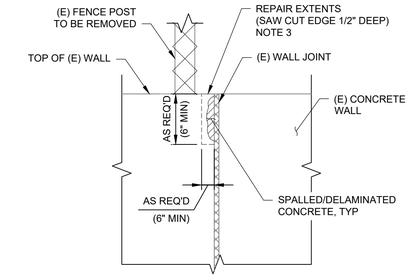
1. AFTER CONCRETE REMOVAL AND BEFORE PLACEMENT, MECHANICALLY ABRADE THE CONCRETE SURFACE TO REMOVE ALL BOND-INHIBITING MATERIALS TO PROVIDE ADDITIONAL BOND.
2. PRIOR TO CONCRETE PLACEMENT, POWER WASH EXPOSED CONCRETE SURFACE TO ACHIEVE A SOUND CLEAN AND OPEN PORE SURFACE.

CONCRETE REPAIR NOTES:

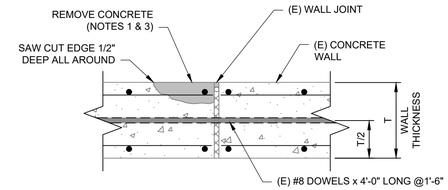
1. REPAIR WITH FORMED FLOWABLE REPAIR CONCRETE.
2. NOTIFY ENGINEER IF REINFORCEMENT WITH > 15% DEGREDATION OF THICKNESS IS ENCOUNTERED. PROVIDE SUPPLEMENTAL REINFORCEMENT AS REQUIRED BY ENGINEER.
3. AFTER CONCRETE REPAIR IS COMPLETED, ENGINEER WILL SOUND THE CONCRETE REPAIR AREA. REMOVE AND REPLACE DELAMINATED AND UNSOUND CONCRETE REPAIRS AT CONTRACTOR'S EXPENSE.



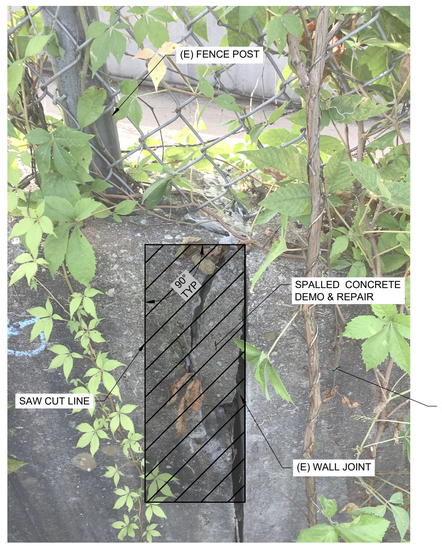
REPAIR FOR REINFORCMENT W/ GREATER THAN 15% DEGRADATION OF THICKNESS



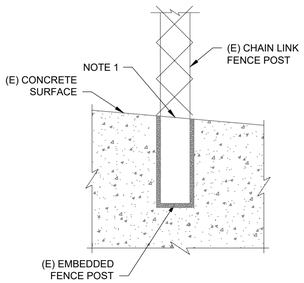
DEMO PLAN/ELEVATION



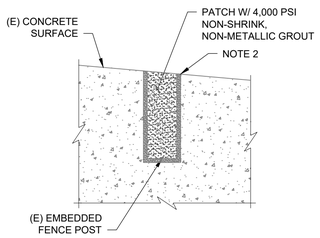
DEMO SECTION



2 / D-101 **CONCRETE DAMAGE AREA**
SCALE: NTS



DEMO

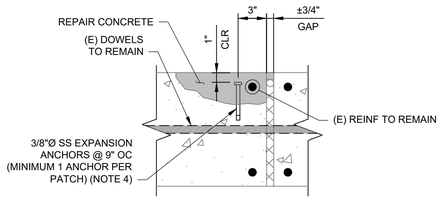


REPAIR

NOTES:

1. CUT OFF THE BASE OF THE FENCE POST AT TOP OF WALL.
2. COAT TOP OF POST WITH EPOXY PAINT TO PREVENT CORROSION.

4 / D-101 **PARTIAL DEMO/REPAIR FOR EMBEDDED FENCE POST**
SCALE: NTS



REPAIR DETAIL

5 / - **REPAIR ATSPALLED CONCRETE**
SCALE: NTS

NOTES:

1. SEE DETAIL 3 ON THIS SHEET FOR CONCRETE REMOVAL, SURFACE PREPARATION AND CONCRETE REPAIR.
2. SEE DETAIL 5 ON SHEET S-501 FOR EXPANSION JOINT REPLACEMENT DETAIL.
3. EXTEND REPAIR TO SQUARE LIMITS. MINIMUM CONCRETE REPAIR PATCH, 6"x6".
4. PROVIDE 3" EMBEDMENT INTO SOUND CONCRETE.

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY
AMY MENGERT, P.E.

DESIGNED BY	A. MENGERT
DRAWN BY	C. HAGLER
CHECKED BY	M. GRAESER
PROJECT NO.	242762

No.	REVISION	CHK'D BY DATE
A	30% DESIGN	09-22-2025
B	60% DESIGN	10-17-2025
C	SUBMITTAL FOR PERMIT (NOT FOR CONSTRUCTION)	12-22-2025
D	KDOW-DDS REVIEW CHANGE (NOT FOR CONSTRUCTION)	02-23-2026
E	ISSUE FOR BID	03-31-2026

AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

CONCRETE DEMOLITION AND REPAIR DETAILS

DATE
MARCH 31, 2026

SCALE
AS NOTED

SHEET
D-105

GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THESE PLANS AND SPECIFICATIONS, THE LATEST EDITION OF THE CAMPBELL COUNTY SUBDIVISION REGULATIONS AND THE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. EXPANSION MATERIAL SHALL BE FLEXIBLE FOAM MATERIAL, SUCH AS CERAMAR BY W.R. MEADOWS OR APPROVED EQUAL, INSTALLED IN AREAS OF CONCRETE WALK, DRIVES OR CURB/GUTTER ONLY AT THE FOLLOWING:
   A. AT ALL FIXED OBJECTS (I.E. UTILITY COVERS, VALVES, MANHOLES, ETC.)
   B. AT ALL RIGID STRUCTURES (I.E. DRIVES, CURBS, STEPS, ETC.) PAYMENT FOR THIS ITEM AND ZIP STRIPS INCLUDED IN THE PERTINENT CONCRETE PAVEMENT UNIT PRICE.
3. DOWNSPOUT AND UNDERDRAIN CONSTRUCTION SHALL MEET THESE AND THE LATEST SPECIFICATION OF THE CAMPBELL COUNTY SUBDIVISION REGULATIONS, SD-1 REGULATIONS AND STANDARD DRAWINGS, AND DETAILS SHOWN ON THIS PLAN. BEDDING, BACKFILLING, JOINTS, EXCAVATION AND INSTALLATION SHALL BE INCLUDED IN THE COST PER FOOT OF PIPE. STORM SEWER, DOWNSPOUT AND UNDERDRAIN PIPE MATERIAL SHALL HAVE A MANNING'S "N" VALUE OF 0.013 OR LESS (UNLESS OTHERWISE SHOWN) AND BE RIGID / SMOOTH INTERIOR WALLED PVC SDR-35 PIPE, RIBBED PVC PIPE, A-2000 PVC PIPE, UNLESS OTHERWISE SHOWN. CLEANOUT CAPS WITHIN THE CONCRETE WEIR SHALL BE A SLOTTED BRASS PLUG FLUSH WITH THE FINISHED CONCRETE.
4. ALL DISTURBED AREAS ARE TO BE RESTORED (SEEDED AND MULCHED) BY THE CONTRACTOR AND SHALL PROCEED WITH JOB PROGRESSION. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REMOVING ANY EXCESS MATERIALS AT THE SITE AND MAINTAINING ALL SEEDED AND MULCHED AREAS UNTIL PROJECT COMPLETION AND FINAL INSPECTION PER KDOT SPEC. 212. A RESIDENTIAL YARD SHALL BE RESTORED WITHIN TWENTY-ONE (21) DAYS AFTER CONSTRUCTION.
5. ALL APPLICABLE RECOMMENDATIONS IN KENTUCKY'S BEST MANAGEMENT PRACTICES MANUAL SHALL BE FOLLOWED BY THE CONTRACTOR, INCLUDING SEEDING OF DISTURBED GROUND.
6. RIGHT-OF-WAY AND PROPERTY LINES SHOWN ARE PLOTTED FROM CAMPBELL COUNTY G.I.S. MAPPING AND ARE APPROXIMATE AND NOT THE RESULT OF A FIELD BOUNDARY SURVEY.
7. ALL OSHA, STATE AND LOCAL SAFETY REGULATIONS SHALL BE FOLLOWED DURING CONSTRUCTION.
8. NO CONSTRUCTION SHALL COMMENCE UNTIL ALL COUNTY PERMITS HAVE BEEN ISSUED AS REQUIRED.
9. ADDITIONAL BMP'S AND EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY. ALL COST FOR ABOVE SHALL BE INCLUDED IN LUMP SUM BID FOR EROSION CONTROL AND WATER POLLUTION CONTROL.

MAINTENANCE OF TRAFFIC

1. ALL MAINTENANCE OF TRAFFIC PROCEDURES SHALL MEET THE REQUIREMENT OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND SECTION 112 OF KYTC STANDARD SPECIFICATIONS.
2. THE CONTRACTOR SHALL MAINTAIN A SERVICEABLE PAVEMENT SURFACE TO FACILITATE ACCESS TO THE SITE BY CONSTRUCTION, INSPECTION, AND OWNER PERSONNEL.
3. THE CONTRACTOR SHALL PROVIDE SUFFICIENT SIGNAGE, WARNING LIGHTS, BARRICADES, OR OTHER NECESSARY DEVICES TO LIMIT ACCESS TO THE SITE BY THE GENERAL PUBLIC.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SUBMIT TO THE ENGINEER AND THE OWNER A TRAFFIC CONTROL PLAN FOR THIS PROJECT.

UTILITY NOTES

1. THIS PLAN SHOWS THE APPROXIMATE LOCATION OF UNDERGROUND UTILITIES (GAS, WATER, STORM SEWER, SANITARY SEWER, TELEPHONE, ELECTRIC, ETC.). THE PREPARER DOES NOT GUARANTEE THEIR ACCURACY OR CORRECTNESS. THE INFORMATION PROVIDED SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE UTILITY AS WELL AS THE SERVICE LATERALS AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL PRACTICE CARE DURING THE GRADING AND TRENCH EXCAVATION AND SHALL BE RESPONSIBLE FOR REPLACING ANY SERVICES THAT ARE DAMAGED DURING CONSTRUCTION AT THEIR EXPENSE.
2. PRIOR TO ANY EXCAVATION OVER AN EXISTING UTILITY LINE OR SERVICE, CONTRACTOR SHALL HAND EXCAVATE TO EXPOSE THE UTILITY AND DETERMINE LOCATION AND DEPTH. NOTIFY ENGINEER IMMEDIATELY OF ANY CONFLICTS.
3. TOPS OF EXISTING AND PROPOSED CASTING ELEVATIONS ARE SUBJECT TO FINAL ADJUSTMENTS AS APPROVED BY THE ENGINEER AND REQUIREMENTS OF UTILITY OWNER. THIS WORK WILL BE INCIDENTAL TO THE CONTRACT.
4. FORTY-EIGHT (48) HOURS BEFORE EXCAVATION IS TO COMMENCE, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES: THE KENTUCKY UTILITY PROTECTION SERVICE AND ALL OTHER UTILITIES THAT MAY HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NON-MEMBERS OF KENTUCKY UNDERGROUND PROTECTION.

STORM & SANITARY NOTES

1. ALL STORM AND SANITARY ITEMS SHALL BE IN ACCORDANCE WITH THE LATEST SPECIFICATIONS AND DETAILS FROM SD1. CONCRETE AND METAL PIPE MATERIALS SHALL NOT BE USED UNLESS OTHERWISE SPECIFIED ON THESE PLANS.
2. CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STORM AND SANITARY SEWER FLOW THROUGHOUT THE PROJECT, FOR THE DURATION OF CONSTRUCTION. ALL COST FOR THE ABOVE SHALL BE INCIDENTAL TO THE CONTRACT.
3. IF REQUIRED, CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND SCHEDULING STORM AND SANITARY SEWER INSPECTIONS AS SET OUT IN THE PRECONSTRUCTION MEETING.
4. CONNECTIONS INTO EXISTING OR PROPOSED STORM OR SANITARY SEWER STRUCTURES OR PIPES SHALL BE COMPLETED BY A CERTIFIED TAPPER BY SD1.

WATER NOTES

1. ALL WORK RELATING TO WATER MAINS OR WATER SERVICE LINES SHALL BE COMPLETED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE NORTHERN KENTUCKY WATER DISTRICT (NKWD).
2. CONTRACTOR MAY NOT USE WATER FROM FIRE HYDRANTS WITHOUT PRIOR PERMISSION FROM NKWD

GAS NOTES

1. ALL WORK RELATING TO GAS MAINS OR GAS SERVICE LINES SHALL BE COMPLETED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE DUKE ENERGY

ELECTRIC NOTES

1. ALL WORK RELATING TO ELECTRIC LINES SHALL BE COMPLETED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE DUKE ENERGY

GRADING & EROSION CONTROL NOTES & LEGEND

1. ALL DISTURBED AREAS ARE TO BE RESTORED (SEEDED AND MULCHED) BY THE CONTRACTOR AND SHALL PROCEED WITH JOB PROGRESSION. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REMOVING ANY EXCESS MATERIALS AT THE SITE AND MAINTAINING ALL SEEDED AND MULCHED AREAS UNTIL PROJECT COMPLETION AND FINAL INSPECTION PER KYTC SPEC. 212. ALL DISTURBED AREAS SHALL BE RESTORED WITHIN TWENTY-ONE (21) DAYS AFTER CONSTRUCTION.
2. ALL APPLICABLE RECOMMENDATIONS IN KENTUCKY'S BEST MANAGEMENT PRACTICES MANUAL SHALL BE FOLLOWED BY THE CONTRACTOR, INCLUDING SEEDING OF DISTURBED GROUND.
3. ADDITIONAL BMP'S AND EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY. ALL COST FOR ABOVE SHALL BE INCLUDED IN LUMP SUM BID FOR EROSION CONTROL AND WATER POLLUTION CONTROL.
4. ALL EXCAVATION IS CONSIDERED UNCLASSIFIED AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS, METHODS AND MATERIALS OF CONSTRUCTION. THE DESIGN ENGINEER SHALL NOT BE RESPONSIBLE FOR THE SUITABILITY OF MATERIAL UNDERLYING THE PROJECT SITE. THE CONTRACTOR SHALL PERFORM ANY INVESTIGATIONS OR TESTING NECESSARY TO ADEQUATELY DETERMINE OR ESTIMATE TO THEIR SATISFACTION ANY EXISTING SITE CONDITION WHICH COULD AFFECT HIS BID OR THE PERFORMANCE OF THE PROPOSED IMPROVEMENTS. THIS COULD INCLUDE, BUT NOT BE LIMITED TO, UNSUITABLE OR UNSTABLE SOIL/SUBSURFACE CONDITIONS, ROCK, WATER (PERCHED OR FREE), OBSTRUCTIONS ETC.
5. THE CONTRACTOR SHALL REMOVE ALL SURPLUS DEMOLISHED AND WASTE MATERIALS, INCLUDING TREES, STUMPS, TRASH AND DEBRIS, FROM THE PROJECT LIMITS AND DISPOSE OF OFF-SITE. IN NO INSTANCE SHALL MATERIAL BE BURIED ON-SITE.
6. THE CONTRACTOR SHALL REMOVE FROM THE SITE ALL MATERIAL DEEMED UNSUITABLE FOR EMBANKMENT BY THE OWNER'S REPRESENTATIVE AND BE DISPOSED OF OFF-SITE.
7. TOPSOIL SHALL BE STRIPPED AND SOCKPILED FROM ALL AREAS TO BE GRADED, TO WHATEVER DEPTH ENCOUNTERED, AND IN A MANNER TO PREVENT INTERMINGLING WITH UNDERLYING SUBSOIL. SOILD SHALL NOT BE STOCKPILED NEAR THE EDGE OF EXCAVATIONS OR WITHIN DRIP LINES OF TREES TO REMAIN.
8. EXCESS SOIL GENERATED FROM TRENCH EXCAVATIONS SHALL BE INCORPORATED IN THE UNIT PRICE BID FOR EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION. ANY EXCESS SOIL UNABLE TO BE PLACED ON-SITE OR DEEMED UNSUITABLE FOR EMBANKMENT BY THE ENGINEER SHALL BE DISPOSED OF OFF-SITE.
9. NO SLAG, RIVER GRAVEL, RECYCLED PORTLAND CEMENT CONCRETE, RECLAIMED ASPHALT CONCRETE PAVEMENT OR RECLAIMED BITUMINOUS AGGREGATE BASE SHALL BE USED AS FILL.
10. EXPOSED PAVEMENT SUBGRADE AREAS SHALL BE MAINTAINED IN CONDITIONS TO PREVENT PONDING OF WATER AFTER RAINS.
11. THE CONTRACTOR SHALL PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS AND OTHER FACILITIES TO REMAIN FROM DAMAGE CAUSED BY EARTHWORK OPERATIONS.
12. MAINTENANCE OF ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR(S)
13. CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION OF REPAIR AND/OR REPLACEMENT OF BMP'S

IP — INLET PROTECTION (SEE DETAIL)

SYMBOL LEGEND

- EXISTING STORM SEWER
- EXISTING FENCE
- EXISTING CONTOURS (MAJOR) — 650
- EXISTING CONTOURS (MINOR) — 648
- EXISTING RIGHT OF WAY — Ex. R/W
- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- EXISTING GUARDRAIL
- EXISTING TREE LINE
- PROPOSED STORM SEWER
- PROPOSED UNDERDRAIN — UD
- PROPOSED UNDERDRAIN / DOWNSPOUT COLLECTOR COMBO — UD/DSC
- PROPOSED FENCE
- PROPOSED CONTOURS (MAJOR) — 650
- PROPOSED CONTOURS (MINOR) — 648
- PROPOSED RIGHT OF WAY
- PROPOSED PROPERTY LINE
- PROPOSED EASEMENT
- PROPOSED GUARDRAIL
- PROPOSED TREE LINE / CLEARING LIMITS
- PROPOSED DISTURBED LIMITS

EXISTING FLAGPOLE	PROPOSED FLAGPOLE
EXISTING MAILBOX (MB)	PROPOSED MAILBOX (MB)
EXISTING SIGN	PROPOSED SIGN
EXISTING CABLE PEDESTAL (CP)	PROPOSED CABLE PEDESTAL (CP)
EXISTING ELECTRIC PEDESTAL (EP)	PROPOSED ELECTRIC PEDESTAL (EP)
EXISTING PULL BOX (PB)	PROPOSED PULL BOX (PB)
EXISTING GROUND LIGHT	PROPOSED GROUND LIGHT
EXISTING LIGHT POLE	PROPOSED LIGHT POLE
EXISTING ELECTRIC METER (EM)	PROPOSED ELECTRIC METER (EM)
EXISTING ELECTRIC MANHOLE (E)	PRPOSED ELECTRIC MANHOLE (E)
EXISTING GAS METER (GM)	PROPOSED GAS METER (GM)
EXISTING GAS VALVE (GV)	PROPOSED GAS VALVE (GV)
EXISTING GAS BOX (GF)	PROPOSED GAS BOX (GF)
EXISTING UTILITY POLE	PROPOSED UTILITY POLE
EXISTING GUY WIRE / ANCHOR	PROPOSED GUY WIRE / ANCHOR
EXISTING SANITARY MANHOLE (S)	PROPOSED SANITARY MANHOLE (S)
EXISTING SANITARY CLEANOUT (SCO)	PROPOSED SANITARY CLEANOUT (SCO)
EXISTING STORM MANHOLE (D)	PROPOSED STORM MANHOLE (D)
EXISTING SINGLE / DOUBLE CURB INLET	PROPOSED SINGLE / DOUBLE CURB INLET
EXISTING CATCH BASIN	PROPOSED CATCH BASIN
EXISTING STORM CLEANOUT (DCO)	PROPOSED STORM CLEANOUT (DCO)
EXISTING TELEPHONE MANHOLE (T)	PROPOSED TELEPHONE MANHOLE (T)
EXISTING TELEPHONE PEDESTAL (TP)	PROPOSED TELEPHONE PEDESTAL (TP)
EXISTING FIRE HYDRANT	PROPOSED FIRE HYDRANT
EXISTING WATER METER (WM)	PROPOSED WATER METER (WM)
EXISTING WATER VALVE (WV)	PROPOSED WATER VALVE (WV)
EXISTING BUSHES / TREES	REMOVE EXISTING BUSH / TREE
	PROPOSED SLOPE DIRECTION
EXISTING SURVEY BENCHMARK	
TEST BORING LOCATION (TB)	

HATCH LEGEND

- 8" PROPOSED ASPHALT PAVEMENT REPLACEMENT WITH GRANULAR BASE - SEE DETAIL SHEET (C-100)
- 6" CONCRETE SPILLWAYSLAB REPLACEMENT - SEE DETAIL SHEET (S-3XX)
- GROUTED RIPRAP REPLACEMENT - SEE DETAIL SHEET (C-101)

SITE ACCESS INFORMATION

LOCATION/ACCESS: ENTRANCE AT AJ JOLLY GOLF COURSE (TERRY JOLLY WAY) AND THEN AN IMMEDIATE RIGHT. LOCKED GATE BEFORE DAM.

AJ JOLLY GOLF COURSE
11541 ALEXANDRIA PIKE
ALEXANDRIA KY, 410011

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

ROBERT SEITZINGER, P.E.

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
R. SEITZINGER	A. WALSH	R. SEITZINGER	242762

No.	REVISION	CHK'D BY DATE
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E	ISSUE FOR BID	03-31-2026

AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

CIVIL GENERAL NOTES

DATE
MARCH 31, 2026

SCALE
AS NOTED

SHEET
C-001

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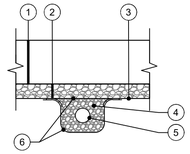
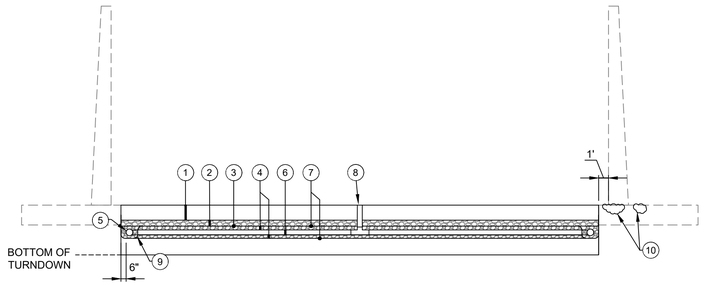


1. 18" CONCRETE SLAB. SEE STRUCTURAL DETAILS.
2. ITEM 302 - CRUSHED STONE BASE (6")
3. ITEM 214 - WOVEN TEXTILE, MIRAFI©600X OR EQUIVALENT, ALL OVERLAPS TO BE 18" MIN.
4. ITEM 302 - CLEAN NO. 57 CRUSHED STONE (LESS THAN 3% FINES)
5. 8" OR 6" RIGID PVC PERFORATED LONGITUDINAL UNDERDRAIN @ 1% MIN GRADE
6. ITEM 304 - MIRAFI©140N OR EQUIVALENT NON WOVEN DRAINAGE GEOTEXTILE. (WRAPPED ALL 4 SIDES AROUND U.D. TRENCH).

NOTE: ALL COST FOR CONSTRUCTING THE UNDERDRAIN PER DETAIL SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR ITEM 704 - 8" UNDERDRAIN AND ITEM 704 - 6" UNDERDRAIN

UNDERDRAIN TRENCH DETAIL

N.T.S.



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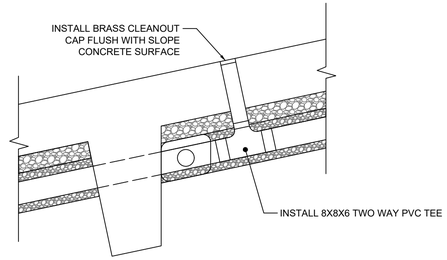
3. ITEM 214 - WOVEN TEXTILE, MIRAFI©600X OR EQUIVALENT, ALL OVERLAPS TO BE 18" MIN.
4. ITEM 302 - CLEAN NO. 57 CRUSHED STONE (LESS THAN 3% FINES)
5. 8" RIGID SCH 40 PERFORATED PVC LONGITUDINAL UNDERDRAIN @ 1% MIN GRADE
6. 6" RIGID SCH 40 PERFORATED PVC TRANSVERSE UNDERDRAIN @ 1% MIN GRADE.
7. ITEM 304 - MIRAFI©140N OR EQUIVALENT NON WOVEN DRAINAGE GEOTEXTILE (WRAPPED ALL 4 SIDES AROUND U.D. TRENCH).
8. BILATERAL OR TWIN CLEANOUT WITH SLOTTED BRASS PLUG FLUSH WITH THE FINISHED CONCRETE.
9. 6" CONNECTION TO 8"
10. FILL VOIDS WITH HIGH DENSITY POLYURETHANE FOAM. SEE SPECIFICATIONS.

NOTE: ALL COST FOR CONSTRUCTING THE UNDERDRAIN PER DETAIL SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR ITEM 704 - 8" UNDERDRAIN AND ITEM 704 - 6" UNDERDRAIN

TRANSVERSE UNDERDRAIN DETAIL - AT TURNDOWN

N.T.S.

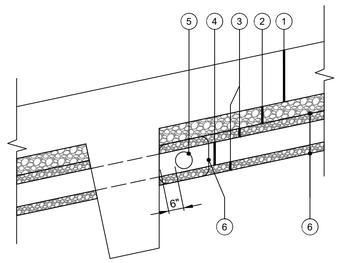
EXAMPLE IMAGE - BRASS CLEANOUT CAP



NOTE: ALL COST FOR CONSTRUCTING THE UNDERDRAIN PER DETAIL SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR ITEM 704 - 6" UNDERDRAIN AND ITEM 704 - 8" UNDERDRAIN

LONGITUDINAL UNDERDRAIN CLEANOUT (PROFILE VIEW OF LONGITUDINAL)

N.T.S.

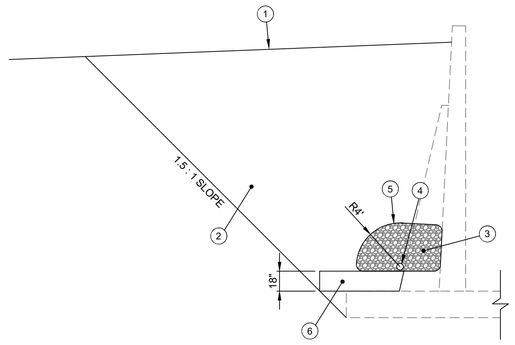


1. 18" CONCRETE SLAB. SEE STRUCTURAL DETAILS.
2. ITEM 302 - 6"CRUSHED STONE BASE
3. ITEM 302 - CLEAN NO. 57 CRUSHED STONE (LESS THAN 3% FINES). 3" ABOVE AND BELOW UD.
4. 8" RIGID SCH 40 PERFORATED PVC LONGITUDINAL UNDERDRAIN @ 1% MIN GRADE
5. 6" RIGID SCH 40 PVC PERFORATED TRANSVERSE UNDERDRAIN @ 1% MIN GRADE.
6. ITEM 304 - MIRAFI©140N OR EQUIVALENT NON WOVEN DRAINAGE GEOTEXTILE

NOTE: ALL COST FOR CONSTRUCTING THE UNDERDRAIN PER DETAIL SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR ITEM 704 - 6" UNDERDRAIN AND ITEM 704 - 8" UNDERDRAIN

LONGITUDINAL UNDERDRAIN DETAIL

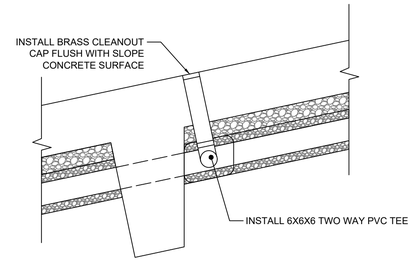
N.T.S.



1. ITEM 212 - 6" TOPSOIL
2. ITEM 212 - EXCAVATE DIRT AT 1.5:1 SLOPE FROM BOTTOM OF EXISTING FOOTER. REFILL AFTER U.D. INSTALLATION.
3. CLEAN NO. 57 CRUSHED STONE (LESS THAN 3% FINES). PLACED AND COMPACTED IN 4' RADIUS AROUND UNDERDRAIN.
4. ITEM 705 - 8" RIGID SCH 40 PERFORATED PVC PIPE UNDERDRAIN (PERFORATIONS DOWN - 1% MIN. SLOPE)
5. MIRAFI®140N OR EQUIVALENT NON WOVEN DRAINAGE GEOTEXTILE - CONSTRUCT AROUND BOTTOM AND SIDES OF TRENCH, ALSO LAPPED OVER TOP OF STONE BACKFILL.
6. ITEM SPL - PROPOSED CONCRETE COUNTERWEIGHT (SEE STRUCTURAL PLANS AND DETAILS)

EXTERIOR UNDERDRAIN DETAIL

N.T.S.



NOTE: ALL COST FOR CONSTRUCTING THE UNDERDRAIN PER DETAIL SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR ITEM 704 - 6" UNDERDRAIN AND ITEM 704 - 8" UNDERDRAIN

TRANSVERSE UNDERDRAIN CLEANOUT (SECTION VIEW OF TRANSVERSE)

N.T.S.

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

ROBERT SEITZINGER, P.E.

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
R. SEITZINGER	A. WALSH	R. SEITZINGER	242762

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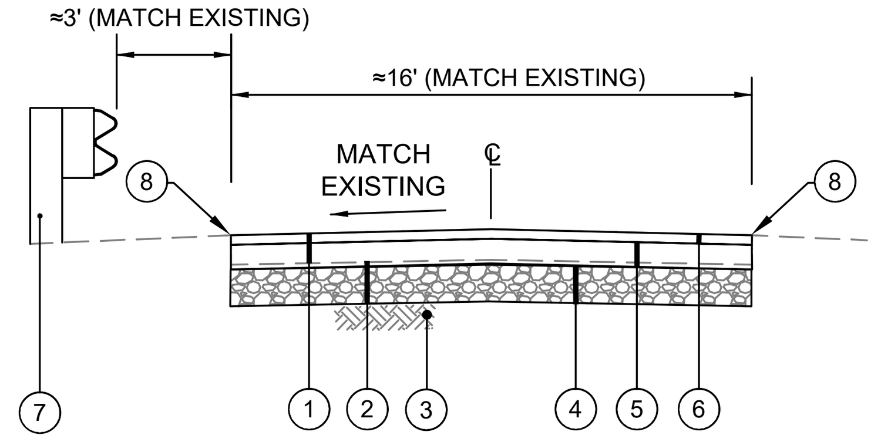
AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

UNDERDRAIN DETAILS

DATE
MARCH 31, 2026

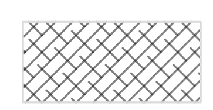
SCALE
AS NOTED

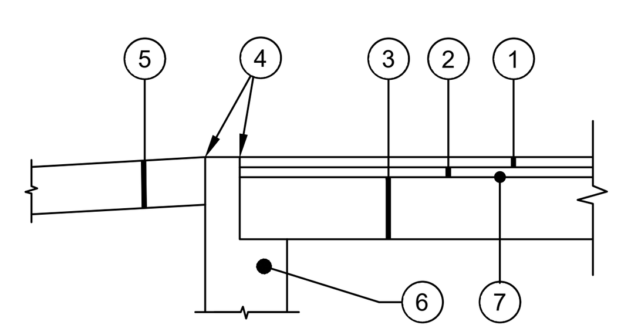
SHEET
C-100



1. REMOVE EXISTING ASPHALT PAVEMENT
2. EXCAVATION FOR GRANULAR BASE
3. ITEM 207* - SUBGRADE RESHAPING AND COMPACTION OF EXISTING CLAY SUBGRADE - TRIMMED AND ROLLED SMOOTH FOR DRAINAGE SO THAT THE GEOTEXTILE CAN BE SPREAD SMOOTH, TAUT AND EVEN BEFORE NO. 2 STONE IS PLACED.
4. ITEM 302 - 7" DENSE GRADED AGGREGATE (DGA) - FOR ASPHALT SUBBASE
5. ITEM 402/403 - 6" ASPHALT PAVEMENT BASE COURSE
6. ITEM 402/403 - 1-1/2" ASPHALT PAVEMENT SURFACE WITH ARAMID FIBER REINFORCEMENT (FORTA-FI OR ACE FIBER)
7. ITEM SPL - REMOVE EXISTING GUARDRAIL AND REPLACE WITH NEW GUARDRAIL.
8. SEAL JOINT WHERE EXISTING MEETS PROPOSED WITH HOT POURED JOINT SEALANT (INCIDENTAL TO ITEM 402/403)

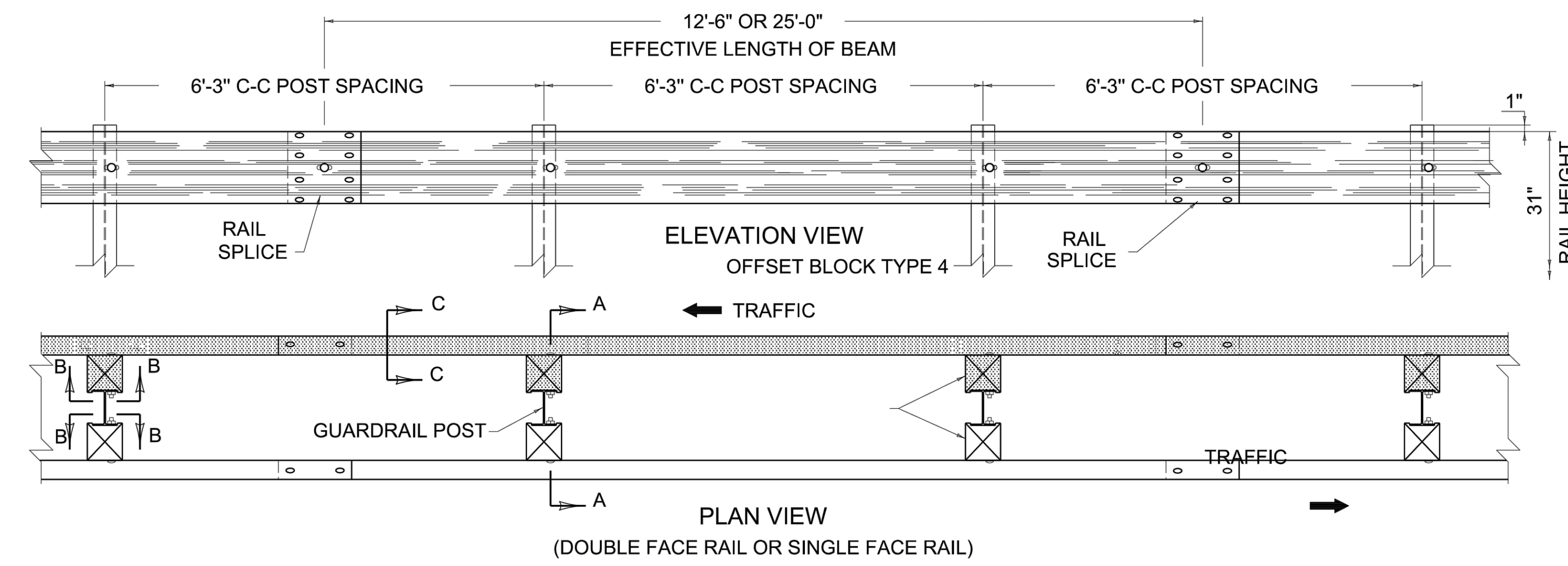
ASPHALT ROADWAY RECONSTRUCTION SECTION N.T.S.

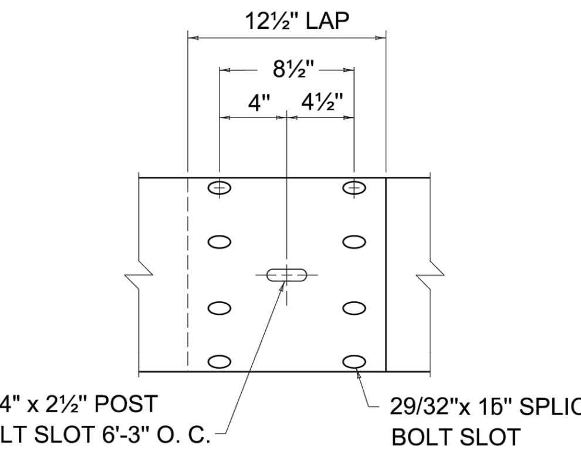




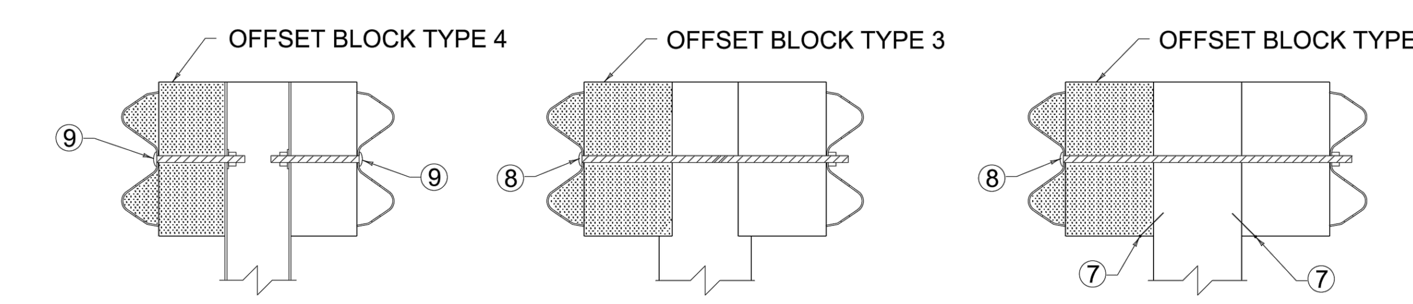
1. ITEM 402/403 - 1.5" ASPHALT SURFACE COURSE
2. ITEM 402/403 - 1.5" ASPHALT LEVELING COURSE
3. BOX BEAM BRIDGE DECK (REMOVED AND RESET)
4. SEAL JOINT WITH HOT POURED JOINT SEALANT (INCIDENTAL TO ITEM 402/403)
5. PROPOSED ASPHALT ROADWAY - SEE ASPHALT ROADWAY SECTION DETAIL
6. ABUTMENT WALL - SEE STRUCTURAL
7. WATERPROOFING - ROYSTON 10A EASY PAVE BY CHASE (OR APPROVED EQUAL)

ASPHALT OVERLAY ON BRIDGE DECK N.T.S.





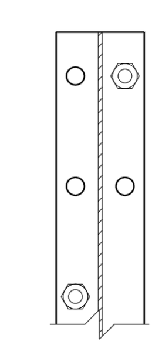
RAIL SPLICE ⑤



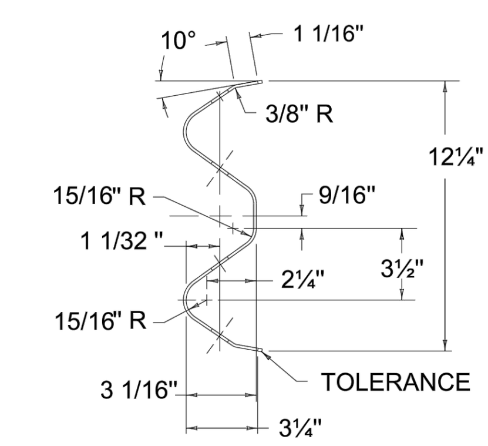
SECTION A-A
DOUBLE FACE RAIL WITH STEEL POST (W6x9) (TIMBER OR APPROVED COMPOSITE OFFSET BLOCK)

SECTION A-A
DOUBLE FACE RAIL WITH ROUND TIMBER POST

SECTION A-A
DOUBLE FACE RAIL WITH TIMBER POST



SECTION B-B



SECTION C-C
(RAIL CORRUGATED SHEET STEEL BEAM)

~ NOTES ~

BID ITEM AND UNIT TO BID
GUARDRAIL-STEEL W BEAM-S FACE LF
OR
GUARDRAIL-STEEL W BEAM-D FACE LF

1. DIMENSIONAL TOLERANCES NOT SHOWN OR IMPLIED ARE INTENDED TO BE THOSE CONSISTENT WITH THE PROPER FUNCTIONING OF THE PART, INCLUDING ITS APPEARANCE AND ACCEPTED MANUFACTURING PRACTICES.
2. THE RAIL ELEMENT SHALL COMPLY WITH AASHTO M-180 -CLASS A, TYPE II.
3. ALL LAPS SHALL BE PLACED IN THE DIRECTION OF TRAFFIC FLOW.

④ TOLERANCE + 1¼", -¼"
⑤ 8-5/8"x 1," LONG BUTTON HEAD BOLTS AND HEX HEAD RECESS NUTS REQUIRED FOR EACH RAIL SPLICE.
⑥ LENGTH EQUALS POST AND BLOCK WIDTH PLUS 2" FOR BOLT OR 2½" FOR THREADED ROD.
⑦ GALVANIZED STEEL 10d COMMON COATED NAIL (DRIVE NAIL AT THE TOP OR BOTTOM CENTER OF BLOCK AND POST AFTER BOLT IS INSTALLED).
⑧ 5/8"x ⑥ STEEL THREADED ROD AND TWO (2) HEX HEAD NUTS OR 5/8"x⑥ BUTTON OR HEX HEAD BOLT AND HEX HEAD NUT.
⑨ 5/8"x8" BUTTON HEAD BOLT, HEX HEAD RECESS NUT AND ONE b" ROUND WASHER (TYP.). BOLT SHALL HAVE A MINIMUM THREAD LENGTH OF 2".

REQUIRED FOR DOUBLE RAIL

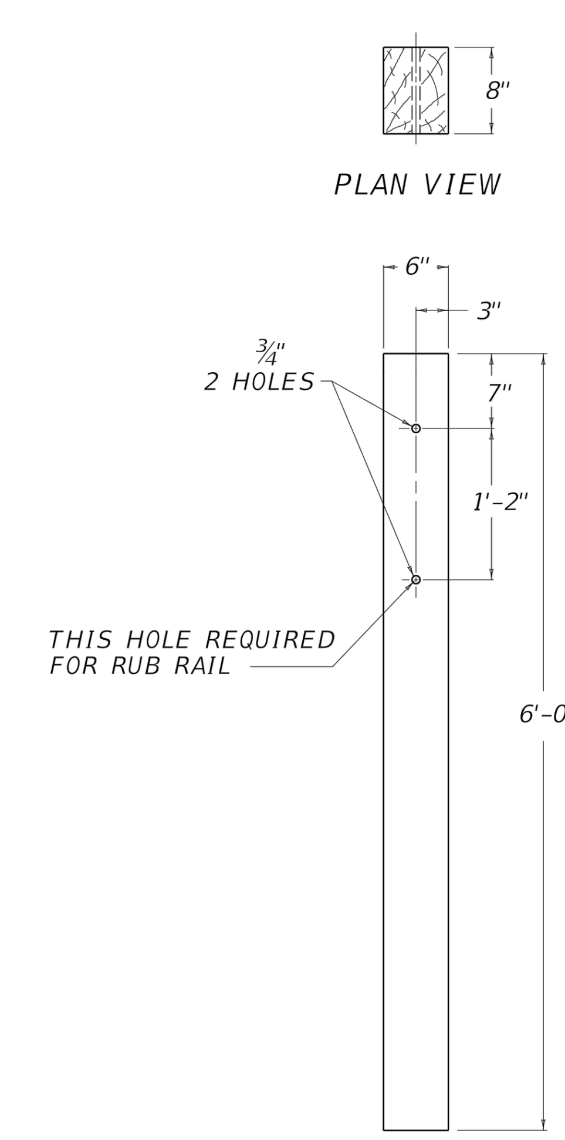
10. BOTH 12'-6" AND 25' LENGTHS OF "W" BEAM GUARDRAIL SECTIONS WILL BE PERMITTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

REVISION DATE: 02/26/2020
REVISION NUMBER: 0

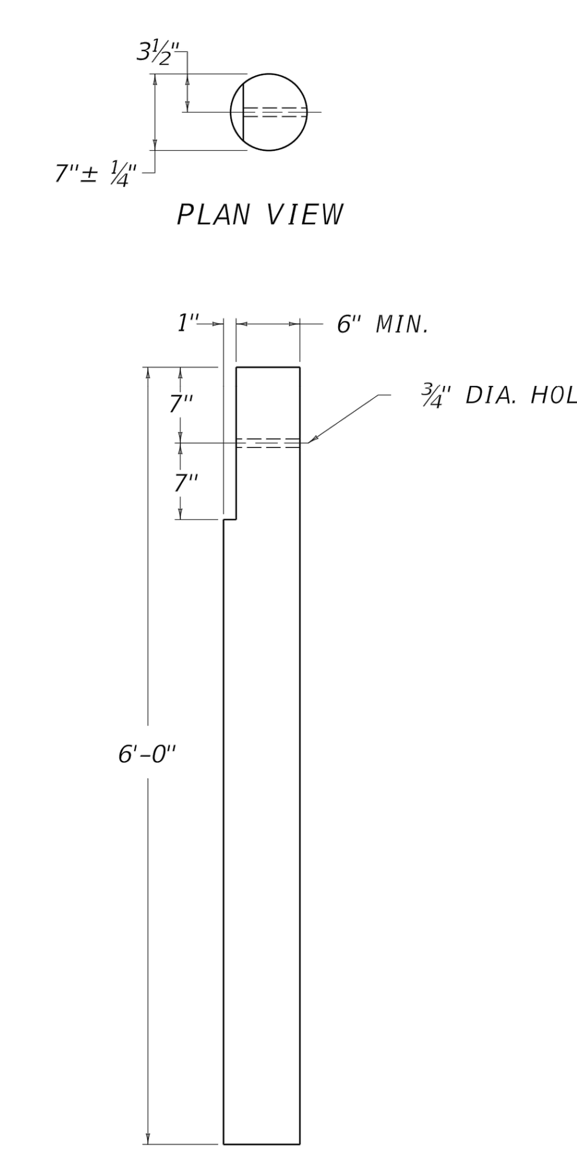
BARRIERS

COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS	GUARDRAIL	STEEL BEAM ("W" BEAM)	STANDARD DRAWING NUMBER RBR-001-13

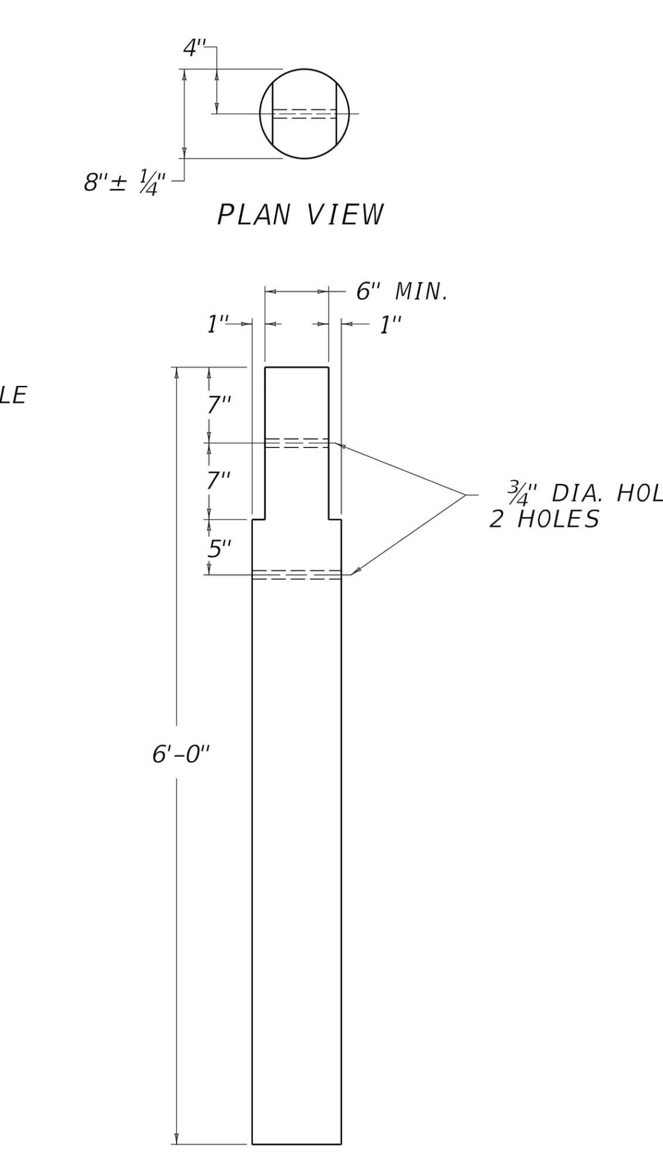
OpenRoads Designer v23.00.01.11 USER: matthew.sipes FILE NAME: C:\KYTC_STANDARDS\ORGANIZATION-CIVIL\KYTC_STANDARDS_OCI_KYTC\DGNLIB\SHEET SEED\KYTC STANDARDS BORDER SEED.DGNLIB



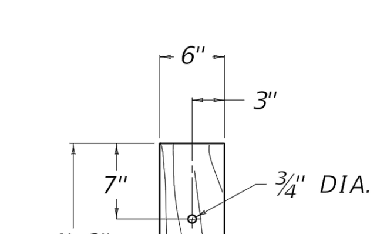
FRONT ELEVATION
6"x8" TIMBER POST



7" ROUND TIMBER POST
(SINGLE FACE RAIL)



8" ROUND TIMBER POST
(DOUBLE FACE RAIL)



FRONT ELEVATION
OFFSET BLOCK TYPE 3
(6" X 8" TIMBER)
(FOR USE WITH RECTANGULAR AND ROUND POSTS)

REVISION DATE: 12/01/2015
REVISION NUMBER: 0

BARRIERS

COMMONWEALTH OF KENTUCKY DEPARTMENT OF HIGHWAYS	GUARDRAIL	TIMBER POSTS	STANDARD DRAWING NUMBER RBR-016-05

OpenRoads Designer v23.00.01.11 USER: matthew.sipes FILE NAME: C:\KYTC_STANDARDS\ORGANIZATION-CIVIL\KYTC_STANDARDS_OCI_KYTC\DGNLIB\SHEET SEED\KYTC STANDARDS BORDER SEED.DGNLIB

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY
ROBERT KEVIN SEITZINGER, II 33605 LICENSED PROFESSIONAL ENGINEER
ROBERT SEITZINGER, P.E.

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
R. SEITZINGER	A. WALSH	R. SEITZINGER	242762

No.	REVISION	DATE	CHK'D BY
A	30% DESIGN	09-22-2025	
B	60% DESIGN	10-17-2025	
C	SUBMITTAL FOR PERMIT (NOT FOR CONSTRUCTION)	12-22-2025	
D	KDOW-DDS REVIEW CHANGE (NOT FOR CONSTRUCTION)	02-23-2026	
E	ISSUE FOR BID	03-31-2026	

AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY
ROADWAY DETAILS

DATE: MARCH 31, 2026
SCALE: AS NOTED
SHEET: C-101

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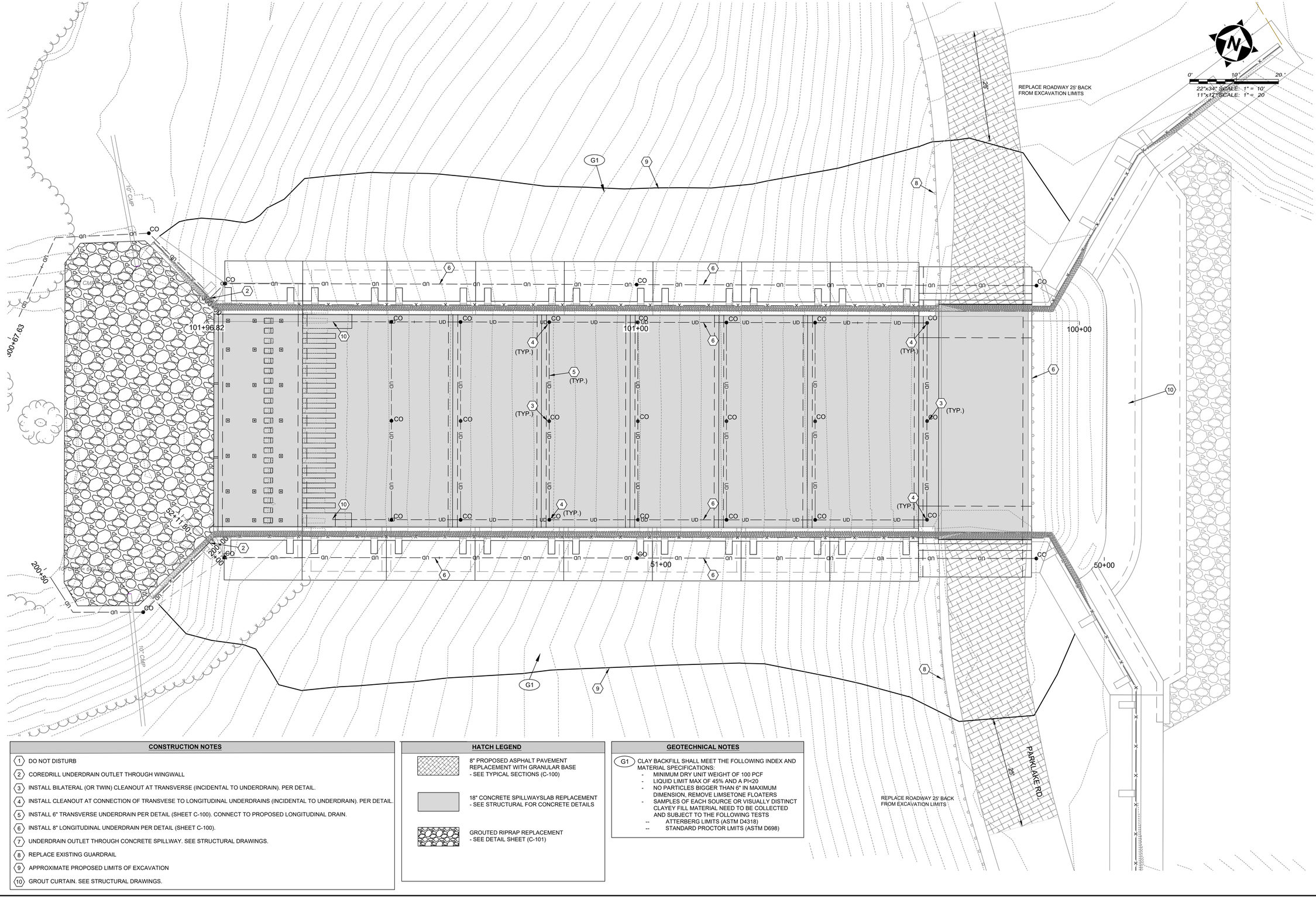

CONSTRUCTION NOTES

1. DO NOT DISTURB
2. COREDRILL UNDERDRAIN OUTLET THROUGH WINGWALL
3. INSTALL BILATERAL (OR TWIN) CLEANOUT AT TRANSVERSE (INCIDENTAL TO UNDERDRAIN). PER DETAIL.
4. INSTALL CLEANOUT AT CONNECTION OF TRANSVESE TO LONGITUDINAL UNDERDRAINS (INCIDENTAL TO UNDERDRAIN). PER DETAIL.
5. INSTALL 6" TRANSVERSE UNDERDRAIN PER DETAIL (SHEET C-100). CONNECT TO PROPOSED LONGITUDINAL DRAIN.
6. INSTALL 8" LONGITUDINAL UNDERDRAIN PER DETAIL (SHEET C-100).
7. UNDERDRAIN OUTLET THROUGH CONCRETE SPILLWAY. SEE STRUCTURAL DRAWINGS.
8. REPLACE EXISTING GUARDRAIL
9. APPROXIMATE PROPOSED LIMITS OF EXCAVATION
10. GROUT CURTAIN. SEE STRUCTURAL DRAWINGS.

HATCH LEGEND

- 8" PROPOSED ASPHALT PAVEMENT REPLACEMENT WITH GRANULAR BASE
  - SEE TYPICAL SECTIONS (C-100)
- 18" CONCRETE SPILLWAYSLAB REPLACEMENT
  - SEE STRUCTURAL FOR CONCRETE DETAILS
- GROUTED RIPRAP REPLACEMENT
  - SEE DETAIL SHEET (C-101)

GEOTECHNICAL NOTES

G1 CLAY BACKFILL SHALL MEET THE FOLLOWING INDEX AND MATERIAL SPECIFICATIONS:
- MINIMUM DRY UNIT WEIGHT OF 100 PCF
- LIQUID LIMIT MAX OF 45% AND A PI<20
- NO PARTICLES BIGGER THAN 6" IN MAXIMUM DIMENSION. REMOVE LIMSETONE FLOATERS
- SAMPLES OF EACH SOURCE OR VISUALLY DISTINCT CLAYEY FILL MATERIAL NEED TO BE COLLECTED AND SUBJECT TO THE FOLLOWING TESTS
  - -- ATTERBERG LIMITS (ASTM D4318)
  - -- STANDARD PROCTOR LMITS (ASTM D698)

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

ROBERT SEITZINGER, P.E.

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DESIGNED BY R. SEITZINGER
DRAWN BY A. WALSH
CHECKED BY R. SEITZINGER
PROJECT NO. 242762

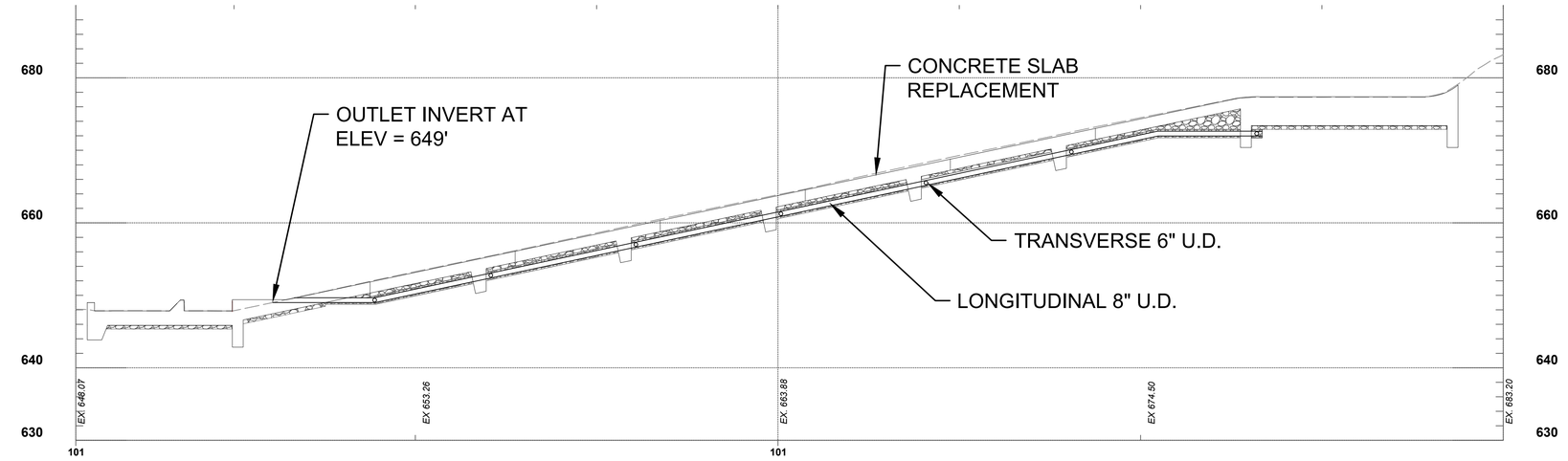
AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

PROPOSED PLAN

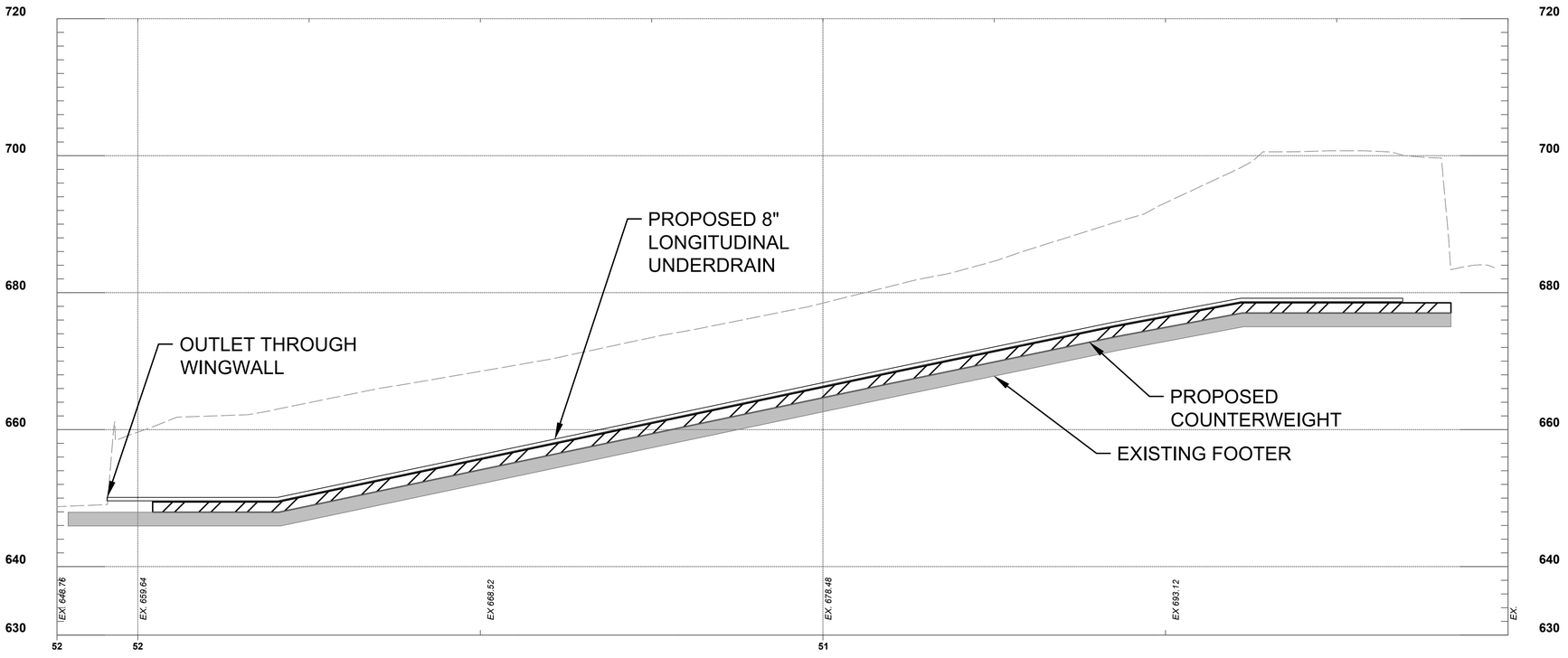
DATE
MARCH 31, 2026

SCALE
AS NOTED

SHEET
C-400



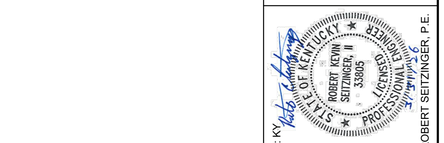
ALIGNMENT - UD INTERIOR (1)



ALIGNMENT - UD EXTERIOR (1)

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY



ROBERT SEITZINGER, P.E.

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
R. SEITZINGER	A. WALSH	R. SEITZINGER	242762

No.	REVISION	CHK'D BY DATE
A	30% DESIGN	09-02-2025
B	60% DESIGN	10-17-2025
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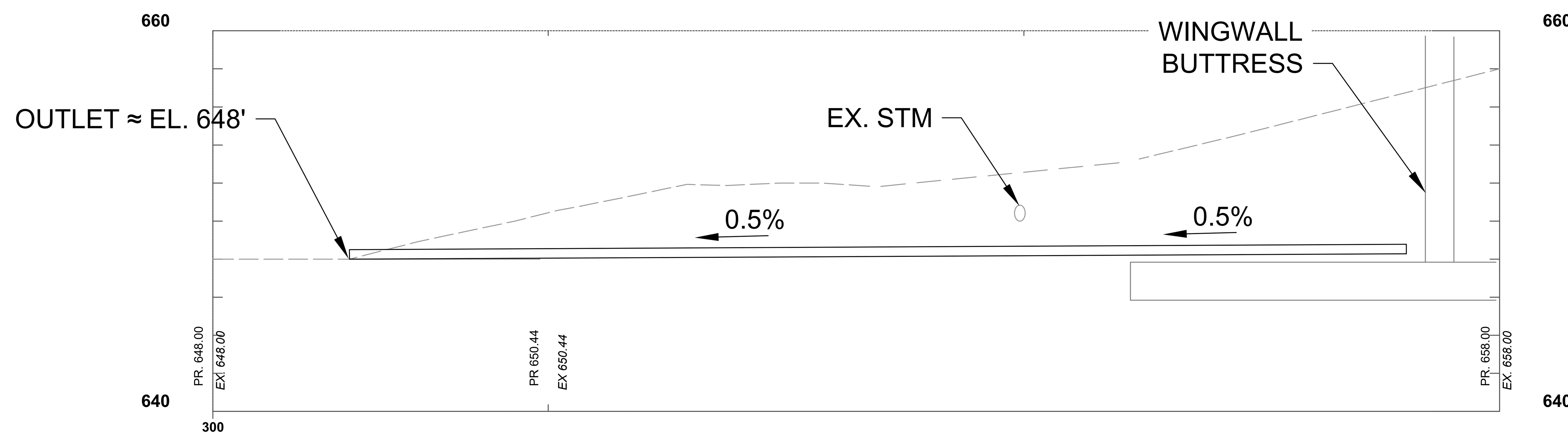
AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

UNDERDRAIN PROFILES 1

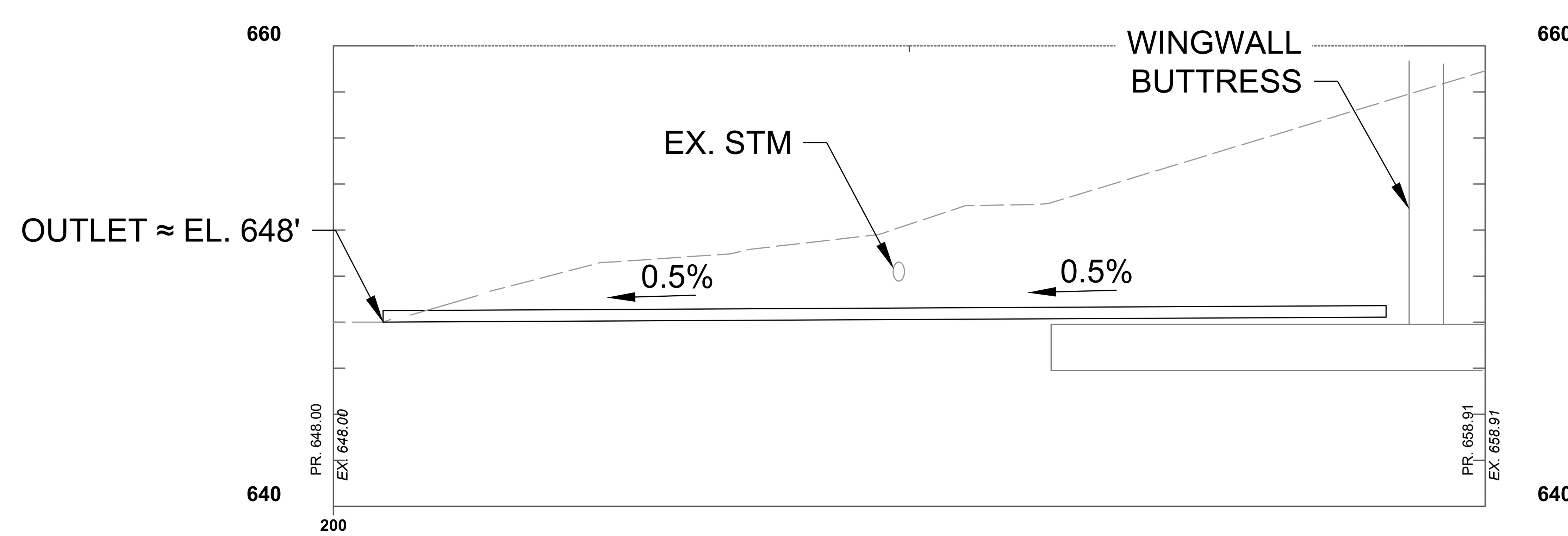
DATE
MARCH 31, 2026

SCALE
AS NOTED

SHEET
C-401



ALIGNMENT - UD @ NORTH WINGWALL



ALIGNMENT - UD @ SOUTH WINGWALL

verdantas

4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY
STATE OF KENTUCKY ROBERT KEVIN SEITZINGER, II 33805 LICENSED PROFESSIONAL ENGINEER
ROBERT SEITZINGER, P.E.

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
R. SEITZINGER	A. WALSH	R. SEITZINGER	242762

No.	REVISION	CHK'D BY / DATE
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AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

UNDERDRAIN PROFILES 2

DATE
MARCH 31, 2026

SCALE
AS NOTED

SHEET
C-402

GENERAL NOTES:

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR CONFLICTS FOUND IN THE CONTRACT DOCUMENTS AND/OR FIELD CONDITIONS.
2. ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE OTHER PROJECT DRAWINGS AND SPECIFICATIONS.
3. REFER TO CIVIL, DRAWINGS FOR PIPE SLEEVES OR OTHER ITEMS TO BE EMBEDDED IN OR THAT PASS THROUGH THE STRUCTURE. IN GENERAL, EMBEDMENT AND PENETRATIONS LESS THAN 12 INCHES IN DIAMETER ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS.
4. STANDARD DETAILS SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
5. PLANS ON THESE DRAWINGS ARE TREATED AS HORIZONTAL SECTIONS (I.E. "PLANS AT ELEVATION 100.00' SHOW ITEMS BELOW 100.00")
6. DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS.
7. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO CONSTRUCTION. NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR CONFLICTS FOUND IN THE CONTRACT DOCUMENTS AND/OR FIELD CONDITIONS.
8. SHOP DRAWINGS SHALL BE FURNISHED FOR REVIEW BEFORE ANY FABRICATION AND ERECTION IS STARTED. POORLY EXECUTED SHOP DRAWINGS SHALL BE REJECTED AND RESUBMITTED.

CONCRETE NOTES:

1. SPECIFIED MINIMUM COMPRESSIVE STRENGTH OF CLASS A STRUCTURAL CONCRETE SHALL BE 4500 PSI AT 28 DAYS UNLESS OTHERWISE NOTED. REFER TO THE SPECIFICATIONS.
2. SPECIFIED MINIMUM COMPRESSIVE STRENGTH OF CLASS B LEAN CONCRETE FILL SHALL BE 3000 PSI AT 28 DAYS UNLESS OTHERWISE NOTED. REFER TO THE SPECIFICATIONS.
3. CONCRETE WORK SHALL CONFORM TO ACI 301 AND ACI 318.
4. REINFORCEMENT STEEL SHALL BE DEFORMED BARS CONFORMING IN QUALITY TO THE REQUIREMENTS OF ASTM A615 OR A706, "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT.
5. ALL DETAILING, FABRICATION AND PLACING OF REINFORCING BARS, UNLESS OTHERWISE INDICATED, SHALL BE IN ACCORDANCE WITH ACI-315, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", LATEST EDITION.
6. REINFORCING BARS AND ACCESSORIES SHALL NOT BE IN CONTACT WITH PIPE, PIPE FLANGE OR METAL PARTS EMBEDDED IN CONCRETE A MINIMUM OF 2 INCHES CLEARANCE SHALL BE PROVIDED AT ALL TIMES.
7. UNLESS OTHERWISE SHOWN ON THE DRAWINGS CONCRETE COVER FOR REINFORCING BARS SHALL BE:
   - 4" FOR CONCRETE SLABS EXPOSED TO HYDRAULIC FLOW.
   - 3" FOR ALL OTHER LOCATIONS.
8. CHAMFER EDGES OF PERMANENTLY EXPOSED CONCRETE SURFACES WITH A 45 DEGREE BEVEL AS SHOWN IN THE STANDARD DETAILS.
9. ALL REINFORCEMENT BENDS, LAPS AND SPLICES UNLESS OTHERWISE NOTED, SHALL SATISFY THE MINIMUM REQUIREMENTS SHOWN IN THE STANDARD DETAILS.
10. DIMENSIONS ARE TO THE CENTERLINES OF THE BARS UNLESS SHOWN OTHERWISE.
11. BARS SHOWN WITH BENDS NOT DIMENSIONED SHALL BE ASSUMED TO END WITH A STANDARD HOOK AS SHOWN IN THE STANDARD DETAILS.
12. THE FIRST AND LAST BARS IN THE STRUCTURAL MEMBERS ARE TO START AND END AT A MAXIMUM OF ONE HALF THE ADJACENT BAR SPACING.
13. REINFORCEMENT PARALLEL TO ANCHOR BOLTS OR OTHER EMBEDDED MATERIALS SHALL BE PLACED TO MAINTAIN A CLEAR DISTANCE OF AT LEAST 1-1/3 TIMES THE MAXIMUM AGGREGATE SIZE.
14. CONTRACTOR SHALL NOT BACKFILL AGAINST STRUCTURAL CONCRETE UNTIL CONCRETE HAS REACHED ITS DESIGN STRENGTH UNLESS OTHERWISE APPROVED IN WRITING BY THE ENGINEER. SEE SPECIFICATIONS.
15. PLACE BACKFILL EQUALLY ON ALL SIDES OF STRUCTURES. SEE SPECIFICATIONS.
16. LOCATE CONSTRUCTION JOINTS WHERE SHOWN OR NOTED ON DRAWINGS. CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL THE LOCATION OF PROPOSED CONSTRUCTION JOINTS.
17. MINIMUM TIME BETWEEN ADJACENT POURS SHALL BE 7 DAYS.

STRUCTURAL STEEL NOTES:

1. MATERIALS SHALL CONFORM TO THE STANDARDS LISTED:

• STEEL PIPE	ASTM A53, GRADE B
• STEEL PLATE	ASTM A36
• STEEL BOLTS	ASTM A307, GRADE A
• STEEL ANCHOR BOLTS	ASTM F1554, GR 36

2. ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS AND SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS OF THE AWS AND AISC. INSPECT ALL WELDING IN ACCORDANCE WITH THE SPECIFICATIONS.
3. ALL STEEL MEMBERS AND HARDWARE SHALL BE GALVANIZED.

EXCAVATION AND ROCK TRIMMING:

1. PROVIDE ADEQUATE SURVEY CONTROL TO AVOID UNAUTHORIZED OVEREXCAVATION.
2. REMOVE THE ORGANIC AND LOOSE/WEATHERED MATERIAL DOWN TO ACCEPTABLE FOUNDATION MATERIAL.
3. EXCAVATE TO LINES, GRADES, AND DIMENSIONS SHOWN AND AS NECESSARY TO ACCOMPLISH WORK.
4. TRIM TO NEAT LINES WHERE CONCRETE IS TO BE PLACED AGAINST FOUNDATION MATERIAL.
5. FOUNDATION SURFACES TO BE IN CONTACT WITH NEW CONCRETE SHALL BE REVIEWED BY THE ENGINEER PRIOR TO CONCRETE PLACEMENT.

ROCK SURFACE PREPARATION:

1. WHEN ROCK IS ENCOUNTERED, ROCK SHALL BE PREPARED BY A COMBINATION OF ROCK TRIMMING AND CONCRETE FILL TO A SMOOTHNESS AND UNIFORMITY SUITABLE FOR CONCRETE PLACEMENT. REFER TO ROCK SURFACE PREPARATION STANDARD DETAIL.
2. ROCK SURFACES AGAINST WHICH CONCRETE IS TO BE PLACED SHALL BE CLEAN, FREE OF LOOSE MATERIAL, AND FREE FROM STANDING OR RUNNING WATER.
3. ROCK SURFACES SHALL BE CLEAN AND SATURATED SURFACE DRY (SSD) DURING CONCRETE PLACEMENT.
4. ROCK SURFACES TO BE IN CONTACT WITH NEW CONCRETE SHALL BE REVIEWED BY THE ENGINEER PRIOR TO CONCRETE PLACEMENT.

GENERAL DESIGN CRITERIA:

1. THE FOLLOWING DESIGN CODES, DESIGN CRITERIA, AND STRUCTURE LOADS WERE USED TO COMPLETE STRUCTURAL DESIGN.
   - 2021 INTERNATIONAL BUILDING CODE
   - 2016 ASCE 7 - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
   - ACI 318-19, BUILDING CODE REQUIREMENT FOR STRUCTURAL CONCRETE
   - USACE EM-1110-2-2104, STRENGTH DESIGN FOR REINFORCED CONCRETE-HYDRAULIC STRUCTURES
   - USACE EM-1110-2-2100, STABILITY ANALYSIS OF CONCRETE STRUCTURES

GEOTECHNICAL DESIGN CRITERIA:

REFERENCE GEOTECHNICAL REPORT BY UES DATED MAY 2, 2025, REGARDING GEOTECHNICAL DATA AND SOIL PARAMETERS . THE FOLLOWING GEOTECHNICAL DESIGN PARAMETERS WERE USED TO COMPLETE THE DESIGN OF THE STRUCTURES AND ITEMS FOR WHICH THE ENGINEER OF RECORD WAS RESPONSIVE FOR COMPLETION OF THE DESIGN.

1. CONCRETE WALLS:
   - APPROVED STRUCTURAL FILL (MOIST) — AT-REST EQUIVALENT FLUID PRESSURE = 70 PCF
   - APPROVED STRUCTURAL FILL (SATURATED) — AT-REST EQUIVALENT FLUID PRESSURE = 98 PCF
2. FOUNDATIONS:
   - MAXIMUM NET ALLOWABLE BEARING PRESSURE = 3,000 PSF
   - FOUNDATION MODULUS = 75 PCI
   - ULTIMATE COEFFICIENT OF FRICTION FOR FOUNDATION, μ = 0.35

REFERENCE DOCUMENTS:

1. DAM REPAIRS CAMPBELL COUNTY LAKE DAM - MARCH 15, 1982 DRAWINGS BY MAYES, SUDDERTH, & ETHEREDGE, INC.
2. SPILLWAY REPAIRS CAMPBELL COUNTY LAKE DAM - AUGUST 16, 1985 DRAWINGS BY MAYES, SUDDERTH, & ETHEREDGE, INC.
3. ANNUAL INSPECTION AND EXERCISING OF CONTROL VALVE AT AJ JOLLY PARK DAM REPORT - AUGUST 11, 2025 BY ENVIROSCIENCE.

INSPECTION TESTING AND QUALITY ASSURANCE NOTES:

1. SPECIAL INSPECTIONS AND TESTING IN ACCORDANCE WITH CHAPTER 17 OF THE IBC ARE REQUIRED AS PART OF THIS PROJECT. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE COMPLIANCE WITH THESE OVERSIGHT AND QUALITY ASSURANCE REQUIREMENTS.
2. THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE WILL BE PROVIDING SPECIAL INSPECTIONS IN ACCORDANCE WITH CHAPTER 17 OF THE IBC. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING ADEQUATE TIME AND ACCESS FOR COMPLETION OF SPECIAL INSPECTIONS PRIOR TO COVERING THE WORK TO BE INSPECTED.
3. AS A MINIMUM, SPECIAL INSPECTIONS ARE TO BE COMPLETED FOR THE FOLLOWING AREAS OF CONSTRUCTION.

CONSTRUCTION TYPE	APPLICABLE CODE TABLE(S)
SOILS / FOUNDATIONS	IBC 1705.6
CONCRETE	IBC 1705.3

WORK PLANS:

CONTRACTOR TO SUBMIT THE FOLLOWING WORK PLANS FOR REVIEW:

1. DEMOLITION PLAN.
2. GROUT CURTAIN WALL INSTALLATION PLAN.
3. CONCRETE PLACEMENT PLAN WITH JOINT LOCATIONS.
4. DETAILED PLAN AND STEPS FOR PRESTRESSED CONCRETE BOX BEAMS (BRIDGE) REMOVAL AND INSTALLATION.
5. CONSTRUCTION SEQUENCE FOR EXCAVATION, DEMOLITION, NEW CONCRETE, AND BACKFILL.
6. ROCK ANCHOR INSTALLATION PLAN.
7. CONCRETE REPAIR PLAN.

GENERAL CONSTRUCTION SEQUENCE:

CONTRACTOR SHALL SUBMIT PROPOSED CONSTRUCTION SEQUENCE. CONSTRUCTION SEQUENCE PROVIDED BELOW IS ONLY A GENERAL GUIDELINE FOR THE PROJECT.

GENERAL
1. REMOVE DOWNSTREAM GROUTED RIPRAP.
2. PERFORM CONCRETE DEMOLITION.
3. COMPLETE THE BRIDGE AND SPILLWAY MODIFICATIONS.
4. INSTALL DOWNSTREAM GROUTED RIPRAP.

SPILLWAY SECTION AT BRIDGE
1. REMOVE GUARDRAIL FROM BRIDGE AND STORE.
2. REMOVE PRESTRESSED CONCRETE BOX BEAMS (BRIDGE) AND STORE.
3. EXCAVATE BEHIND THE WALLS.
4. DEMO THE EXISTING WALLS AND SLAB.
5. INSTALL NEW WALLS AND SLAB.
6. INSTALL EXISTING PRESTRESSED CONCRETE BOX BEAMS (BRIDGE.)
7. BACKFILL BEHIND WALLS (AFTER CONCRETE HAS REACHED DESIGN STRENGTH.)
8. ATTACH EXISTING GUARDRAIL.

TYPICAL SPILLWAY SECTION
1. EXCAVATE BEHIND WALLS.
2. SAW CUT THE FOOTING TOE AND DEMO THE INTERIOR SLAB OF THE SPILLWAY.
3. INSTALL ADDITIONAL CONCRETE ON FOOTING.
4. INSTALL NEW INTERIOR SLAB OF SPILLWAY.
5. BACKFILL BEHIND WALLS (AFTER CONCRETE HAS REACHED DESIGN STRENGTH.)
6. REMOVE EXISTING FENCE.
7. REPAIR TOP OF WALLS AND INSTALL NEW FENCE.

SPILLWAY BASIN
1. EXCAVATE BEHIND WALLS.
2. PERFORM LOCAL CONCRETE DEMOLITION AT EXISTING ROCK ANCHORS.
3. CUT EXISTING ROCK ANCHORS.
4. SAW CUT THE FOOTING TOE AND DEMO THE INTERIOR SLAB OF THE STILLING BASIN.
5. INSTALL ADDITIONAL CONCRETE ON FOOTING.
6. INSTALL NEW ROCK ANCHORS.
7. INSTALL NEW STILLING BASIN SLAB AND BAFFLES
8. BACKFILL BEHIND WALLS (AFTER CONCRETE HAS REACHED DESIGN STRENGTH).
9. REMOVE EXISTING FENCE.
10. REPAIR TOP OF WALLS AND INSTALL NEW FENCE.

DEFERRED SUBMITTAL ITEMS:

1. THE FOLLOWING PORTIONS OF THE PROJECT ARE DEFERRED SUBMITTAL ITEMS AND HAVE NOT BEEN DESIGNED BY THE ENGINEER OF RECORD:

   FENCING
   GROUT CURTAIN

2. DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE ENGINEER OF RECORD HAS REVIEWED THE SUBMITTAL DOCUMENTS AND INDICATED AS A MINIMUM THAT THEY HAVE BEEN REVIEWED AND FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE STRUCTURE.
3. DEFERRED SUBMITTAL ITEMS SHALL BE PREPARED AND STAMPED BY A LICENSED CIVIL OR STRUCTURAL PROFESSIONAL ENGINEER UNLESS OTHERWISE NOTED ELSEWHERE IN THESE DOCUMENTS.

ABBREVIATIONS:

'	FEET
"	INCHES
%	PERCENT
&	AND
(E)	EXISTING
@	AT
+/-	PLUS OR MINUS
°	DEGREES
ø	DIAMETER
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ACI	AMERICAN CONCRETE INSTITUTE
ADD'L	ADDITIONAL
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS
AWS	AMERICAN WELDING SOCIETY
B/	BOTTOM OF
BTWN	BETWEEN
C/L, CL, ℄	CENTERLINE
CJ	CONSTRUCTION JOINT
CLR	CLEAR
CONC	CONCRETE
CONSTR	CONSTRUCTION
CTR	CENTER
db	REBAR DIAMETER
DEMO	DEMOLISH
DIA	DIAMETER
DOT	DEPARTMENT OF TRANSPORTATION
DWGS	DRAWINGS
DWL	DOWEL
EA	EACH
EF	EACH FACE
EL	ELEVATION
EQ	EQUAL
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
f'c	COMPRESSIVE STRENGTH OF CONCRETE
FT	FEET
FTG	FOOTING
fy	YIELD STRENGTH
GALV	GALVANIZED
HORIZ	HORIZONTAL
IBC	INTERNATIONAL BUILDING CODE
ID	INNER DIAMETER
JT	JOINT
K	KIP
KSI	KIPS PER SQUARE INCH
LBS	POUNDS FORCE
Ld	DEVELOPMENT LENGTH
ldh	DEVELOPMENT LENGTH IN HOOK
LOC	LOCATIONS
LRFD	LOAD AND RESISTANCE FACTOR DESIGN
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
NPS	NOMINAL PIPE SIZE
NTS	NOT TO SCALE
NWL	NORMAL WATER LEVEL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPNG	OPENING
PCF	POUNDS PER CUBIC FOOT
PCI	POUNDS PER CUBIC INCH
PREP	PREPARATION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
R	RADIUS
REINF	REINFORCING
REQ'D	REQUIRED
SCH	SCHEDULE
SPA	SPACING
SSD	SATURATED SURFACE DRY
STA	STATION
STD	STANDARD
T	FOOTING THICKNESS
T&B	TOP AND BOTTOM
TOC	TOP OF CONCRETE
THRU	THROUGH
TYP	TYPICAL
UD	UNDERDRAIN
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
U/S	UPSTREAM
USACE	UNITED STATES ARMY CORPS OF ENGINEERS
VERT	VERTICAL
W/	WITH
WP	WORK POINT

LEGEND:

BACKFILL/SUBGRADE

GROUTED RIPRAP

CONCRETE

UD — UNDERDRAIN

X — X — CHAIN LINK FENCE

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
A. MENGERT	C. HAGLER	M. GRAESER	242762

No.	REVISION	CHK'D BY DATE
A	30% DESIGN	09-22-2025
B	60% DESIGN	10-17-2025
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E	ISSUE FOR BID	03-31-2026

AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

STRUCTURAL GENERAL NOTES

DATE
MARCH 31, 2026

SCALE
AS NOTED

SHEET
S-001

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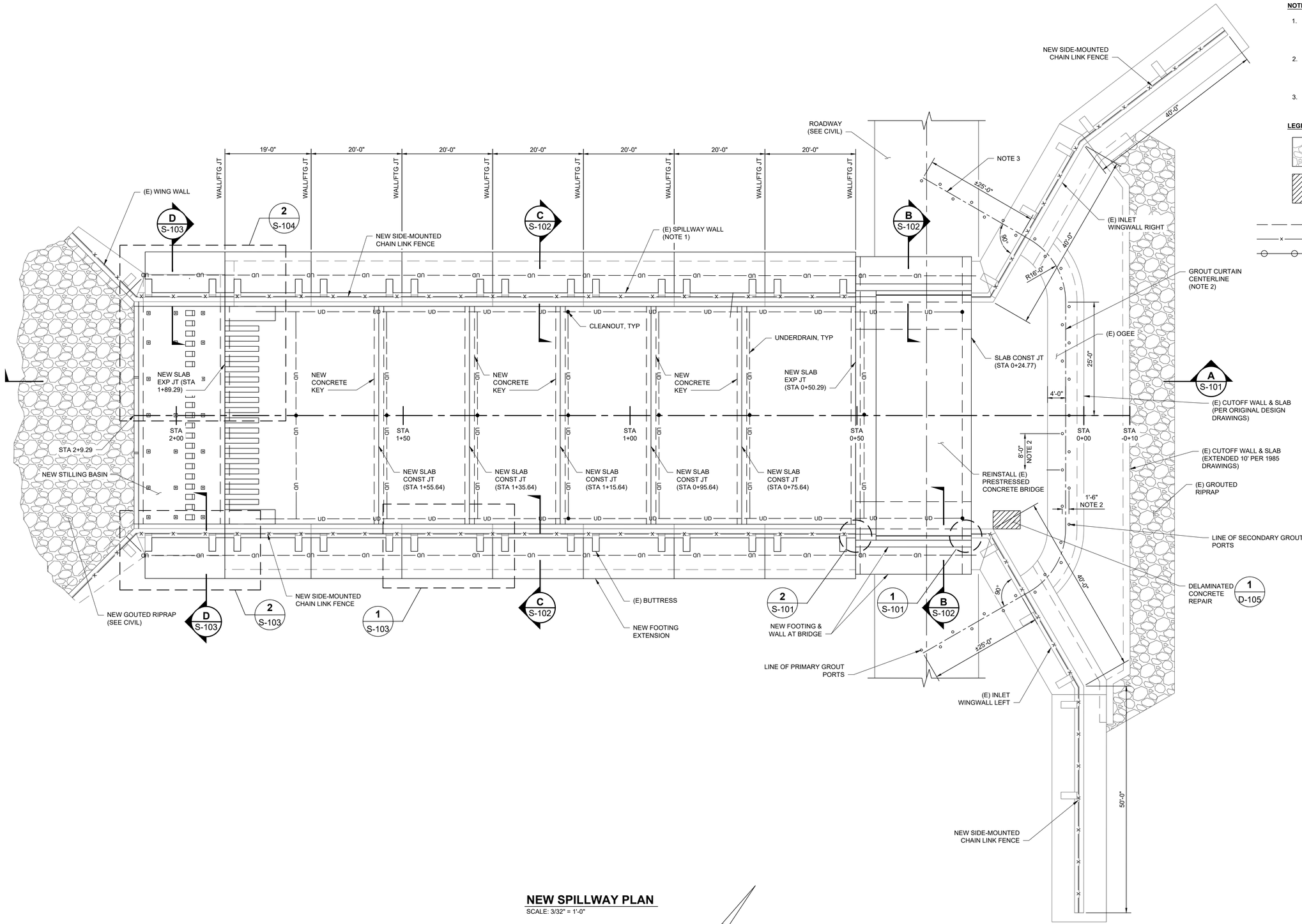

NEW SPILLWAY PLAN

SCALE: 3/32" = 1'-0"

NORTH

NOTES:

1. ENGINEER SHALL INSPECT BACKFILL SIDE OF EXISTING SPILLWAY WALLS AND FOOTINGS AFTER EXCAVATION AND PRIOR TO NEW CONSTRUCTION.
2. CONTRACTOR TO DESIGN AND SUBMIT THE GROUT CURTAIN SYSTEM FOR REVIEW. GROUT PORT SPACING IS APPROXIMATE.
3. TOP OF GROUT CURTAIN BEHIND WINGWALLS SHALL BE ELEVATION 684.1'

LEGEND:

- GROUTED RIPRAP (SEE CIVIL)
- CONCRETE REPAIR
- UD — UNDERDRAIN (SEE CIVIL)
- CHAIN LINK FENCE
- GROUT CURTAIN LINE

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

AMY MENGERT, P.E.

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AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

NEW SPILLWAY PLAN

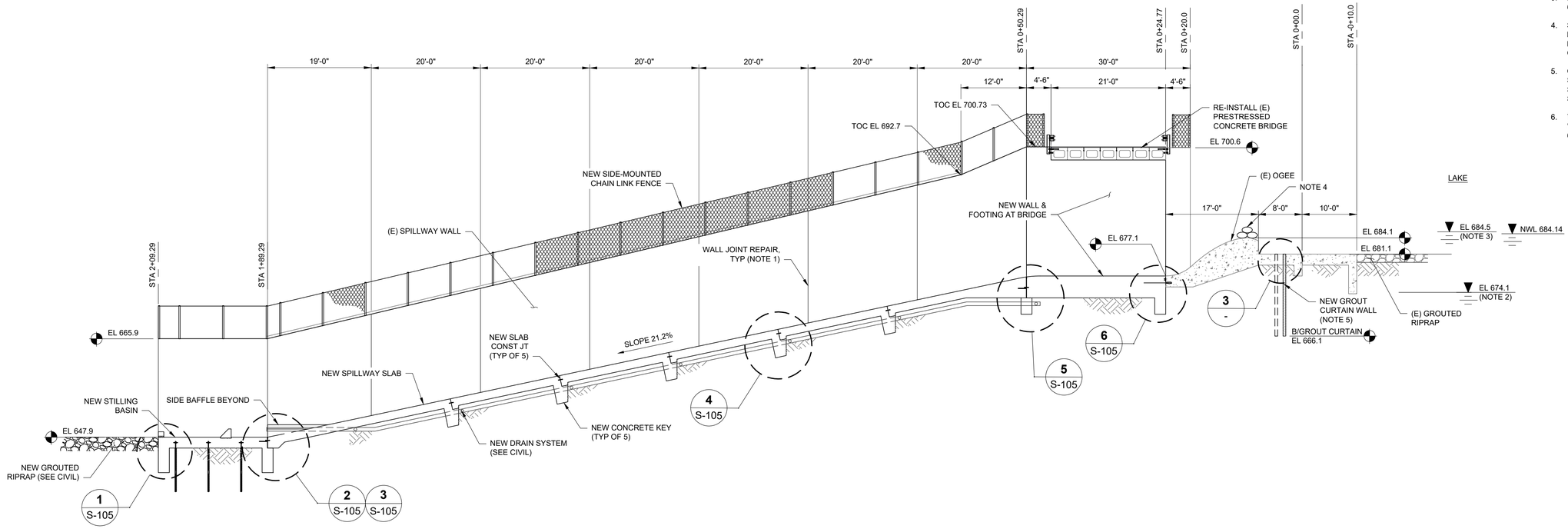
DATE
MARCH 31, 2026

SCALE
AS NOTED

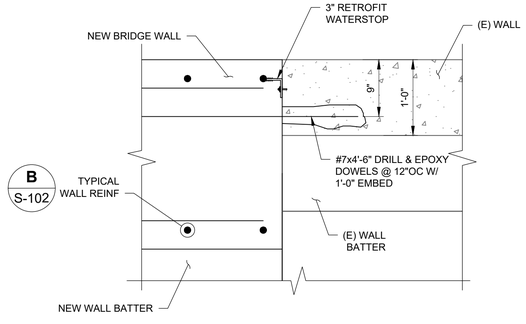
SHEET
S-100

NOTES:

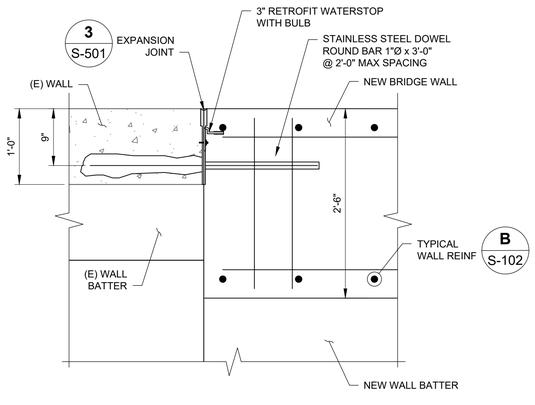
1. REPLACE EXISTING WALL JOINT BACKING ROD AND SEALANT.
2. APPROXIMATE LAKE DRAWDOWN ELEVATION 674.1 FT DURING CONSTRUCTION.
3. APPROXIMATE FLOOD ELEVATION 684.5FT DURING CONSTRUCTION.
4. SANDBAGS MAYBE REQUIRED TO PROVIDE ADEQUATE FREEBOARD DURING A FLOOD CONDITION DURING CONSTRUCTION.
5. CONTRACTOR TO DESIGN AND SUBMIT THE GROUT CURTAIN SYSTEM FOR REVIEW. GROUT PORT SPACING IS APPROXIMATE.
6. TOP OF GROUT CURTAIN BEHIND WINGWALLS SHALL BE ELEVATION 684.1'.



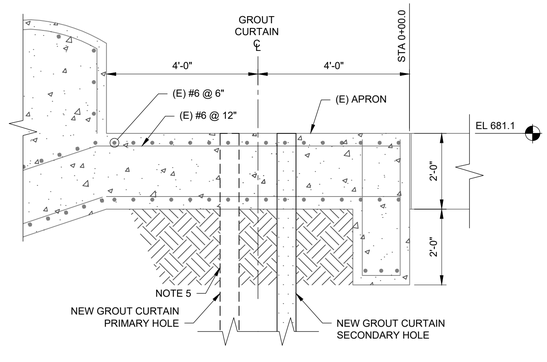
A NEW SPILLWAY PROFILE
S-100 SCALE: 3/32" = 1'-0"



1 WALL CONNECTION DETAIL
S-100 SCALE: 1" = 1'-0"



2 WALL CONNECTION DETAIL
S-100 SCALE: 1" = 1'-0"



3 GROUT CURTAIN DETAIL
- SCALE: 1/2" = 1'-0"

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY
AMY MENGERT, P.E.

DESIGNED BY	A. MENGERT
DRAWN BY	C. HAGLER
CHECKED BY	M. GRAESER
PROJECT NO.	242762

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AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

NEW SPILLWAY PROFILE

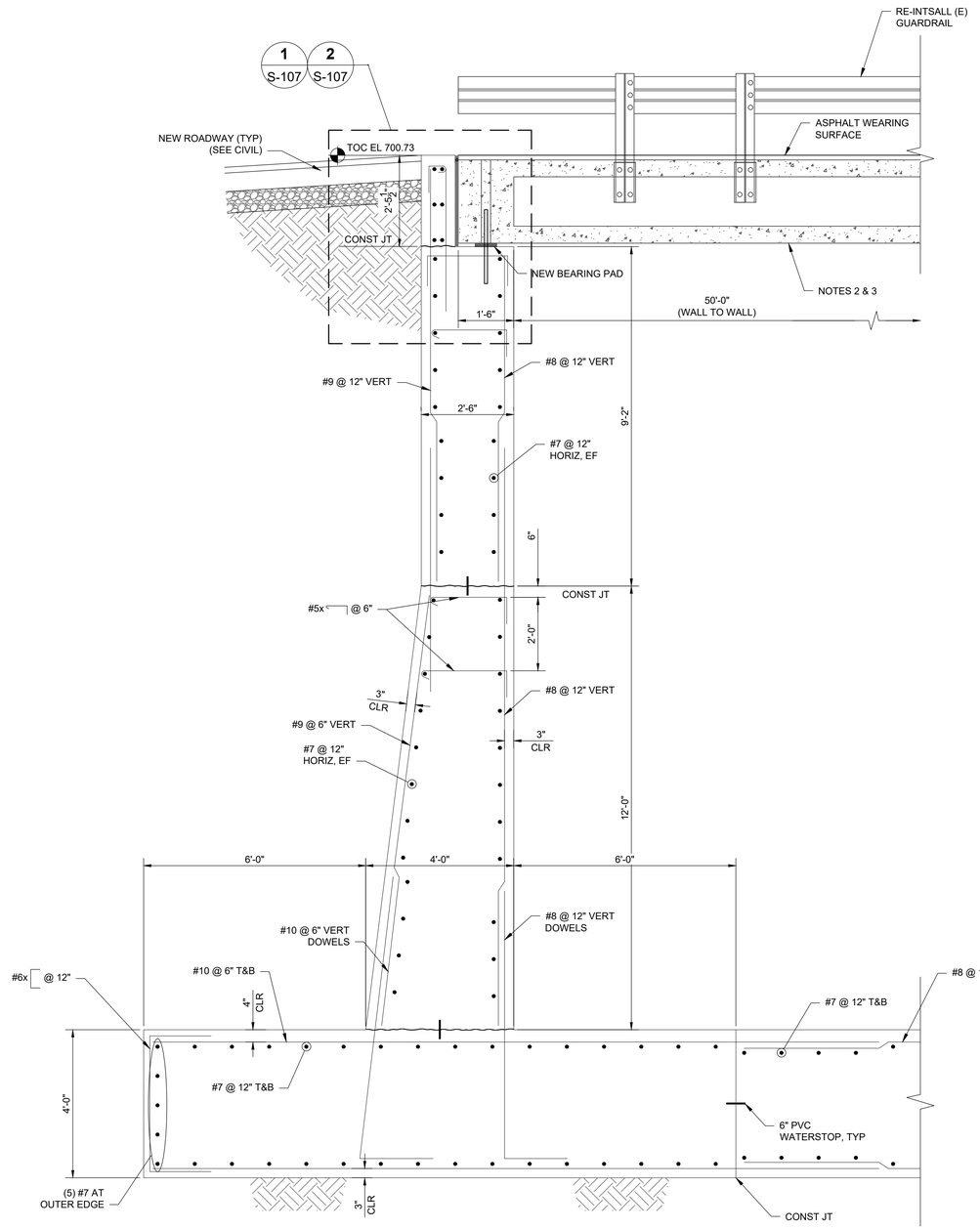
DATE
MARCH 31, 2026

SCALE
AS NOTED

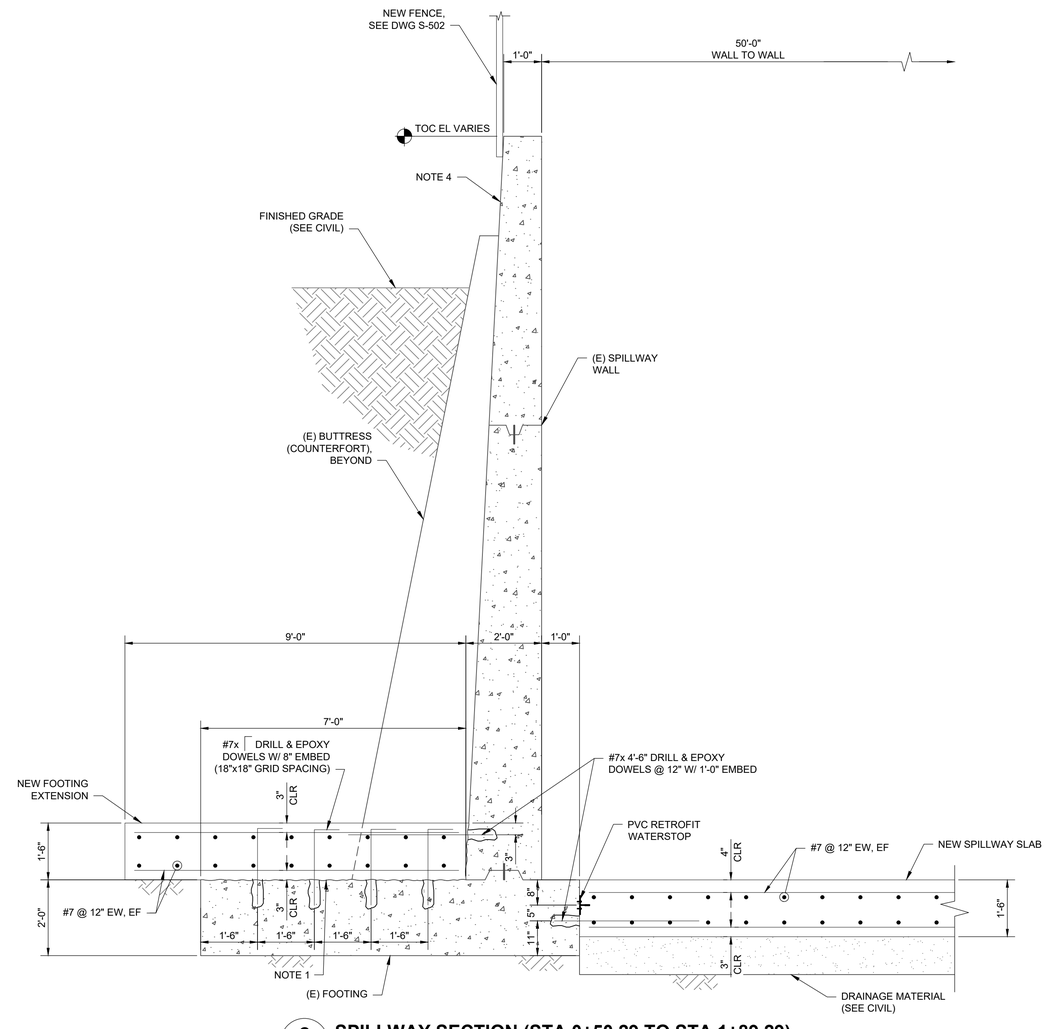
SHEET
S-101

NOTES:

1. ROUGHEN CONCRETE SURFACE TO 1/4" AMPLITUDE.
2. REINSTALL EXISTING PRESTRESSED CONCRETE BOX BEAM.
3. BRIDGE WAS NOT DESIGNED BY VERDANTAS, ONLY REMOVED AND REINSTALLED.
4. ENGINEER SHALL INSPECT BACKFILL SIDE OF EXISTING SPILLWAY WALLS AND FOOTINGS AFTER EXCAVATION AND PRIOR TO NEW CONSTRUCTION.



B S-100 **BRIDGE SECTION (STA 0+24.77 TO STA 0+50.29)**
SCALE: 1/2" = 1'-0"



C S-100 **SPILLWAY SECTION (STA 0+50.29 TO STA 1+89.29)**
SCALE: 1/2" = 1'-0"

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

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AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

NEW SPILLWAY SECTIONS

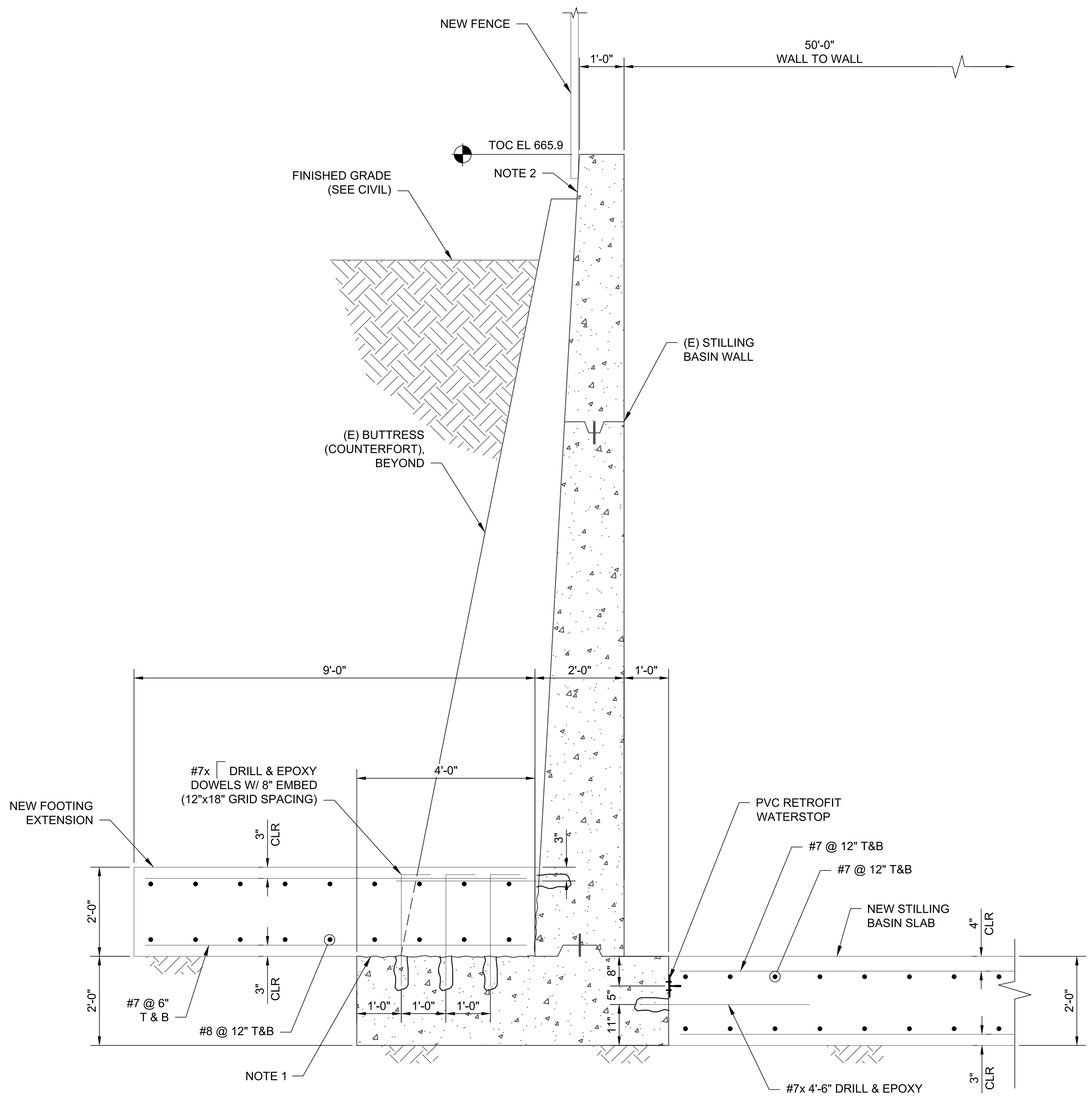
DATE
MARCH 31, 2026

SCALE
AS NOTED

SHEET
S-102

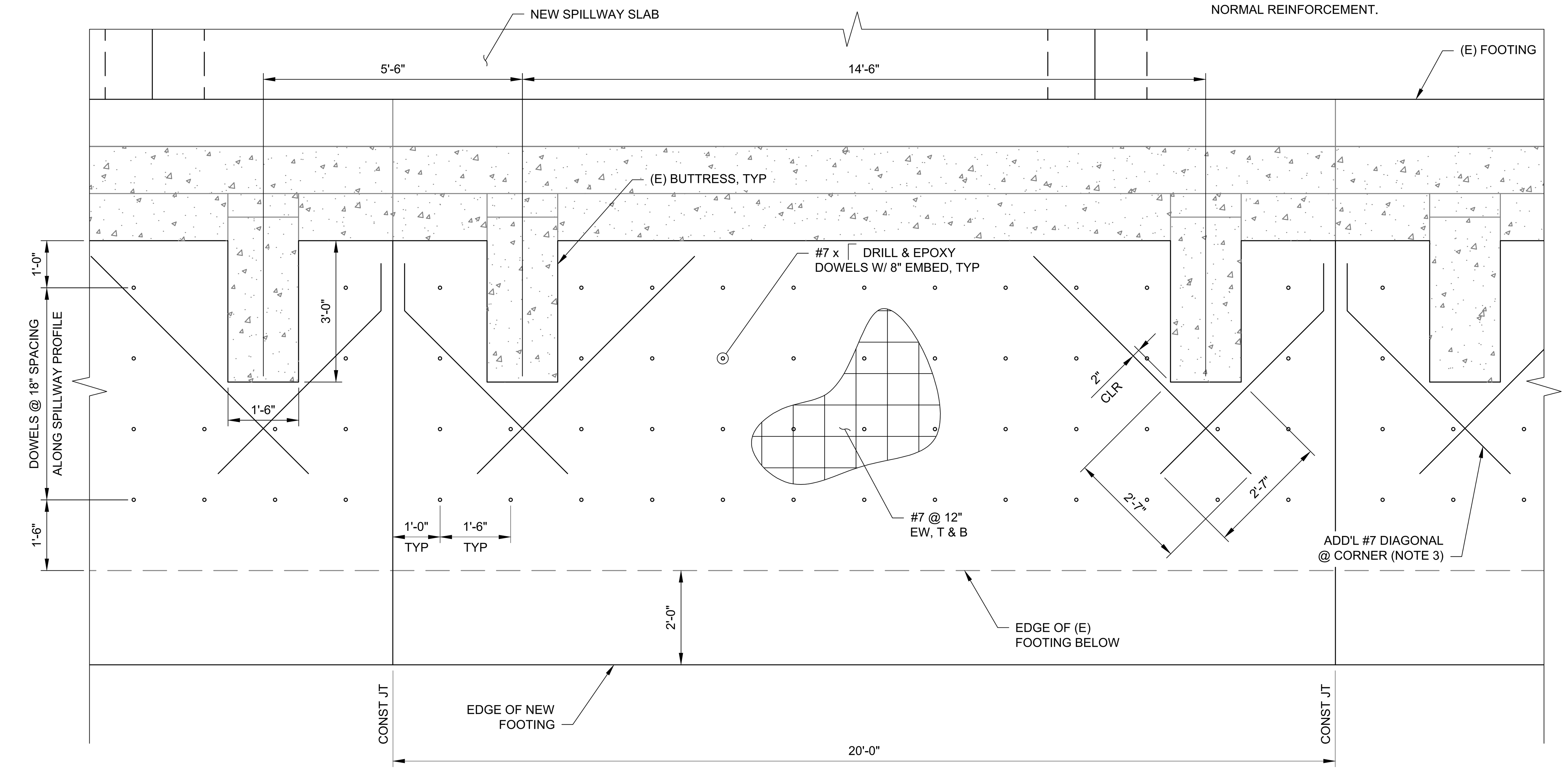
NOTES:

1. ROUGHEN EXISTING CONCRETE SURFACE TO 1/4" AMPLITUDE.
2. ENGINEER SHALL INSPECT BACKFILL SIDE OF EXISTING SPILLWAY WALLS AND FOOTINGS AFTER EXCAVATION AND PRIOR TO NEW CONSTRUCTION.
3. PLACE DIAGONAL BARS INSIDE TOP AND BOTTOM LAYERS OF NORMAL REINFORCEMENT.



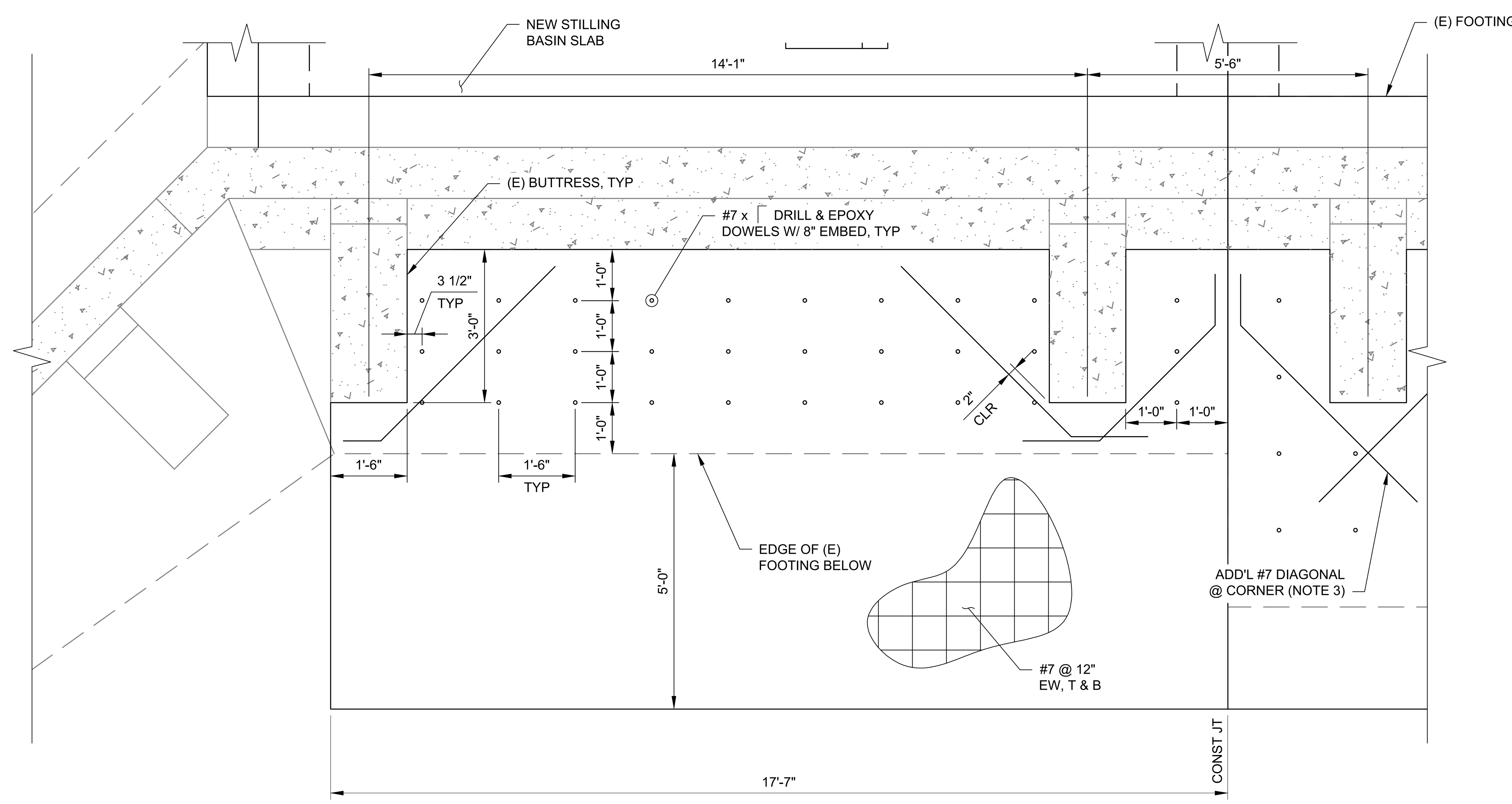
D STILLING BASIN SECTION (STA 1+89.29 TO STA 2+9.29)

S-100 SCALE: 1/2" = 1'-0"



1 SPILLWAY FOOTING EXTENSION PLAN (STA 0+59.29 TO STA 1+89.29)

S-100 SCALE: 1/2" = 1'-0"



2 STILLING BASIN FOOTING EXTENSION PLAN (STA 1+89.29 TO STA 2+9.29)

S-100 SCALE: 1/2" = 1'-0"

verdantas
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SUITE 200
BLUE ASH, OH 45242

STATE: KY

AMY MENGERT, P.E.

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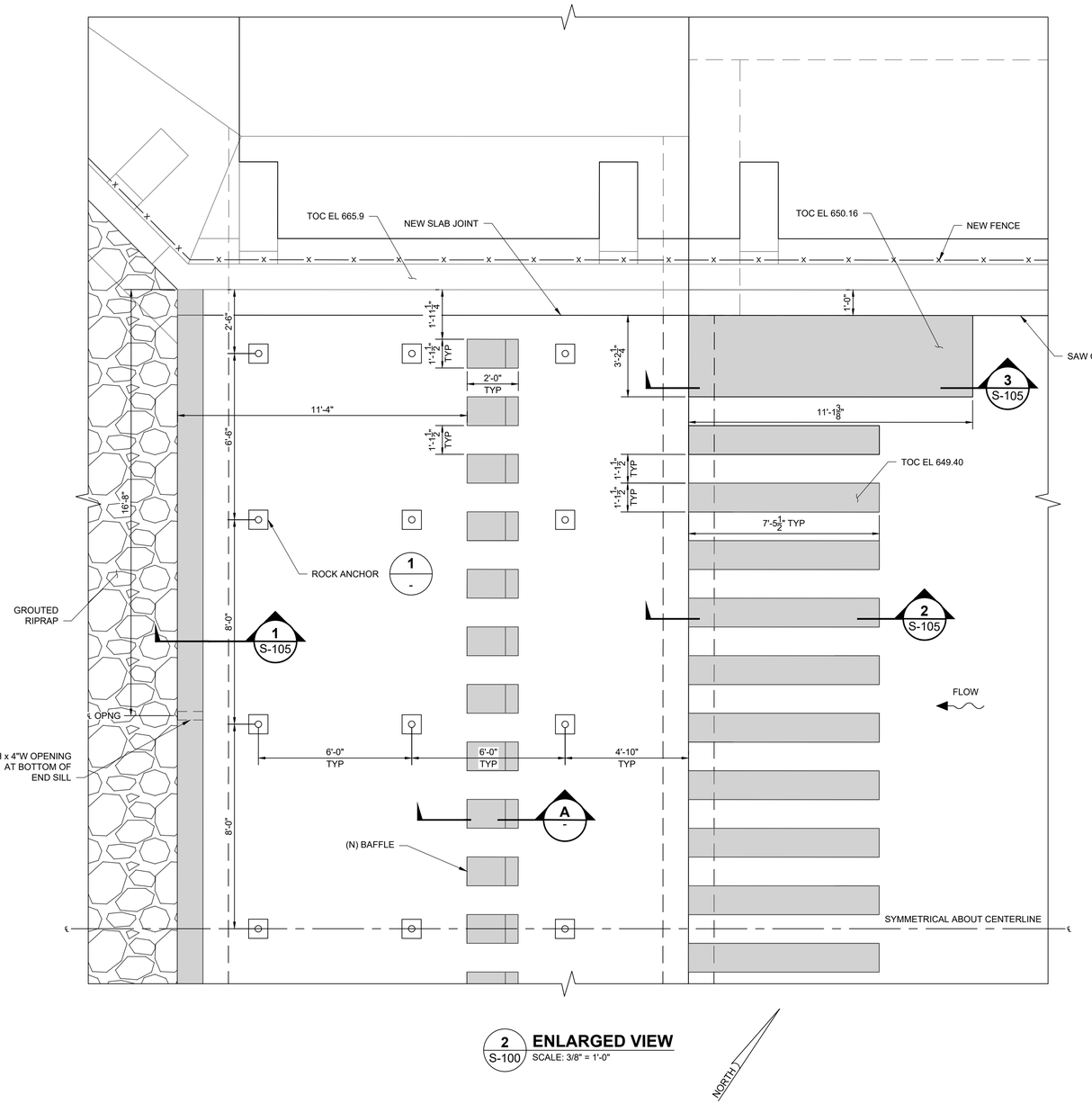
AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

NEW SPILLWAY SECTION AND DETAIL

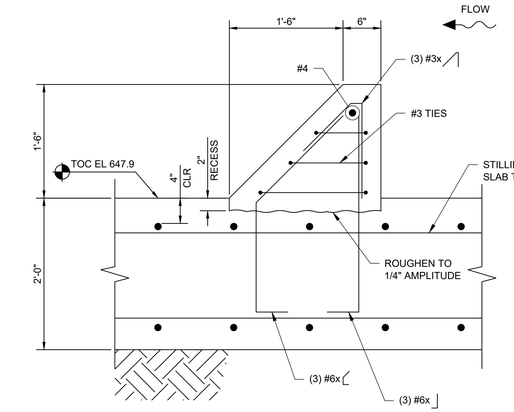
DATE MARCH 31, 2026

SCALE AS NOTED

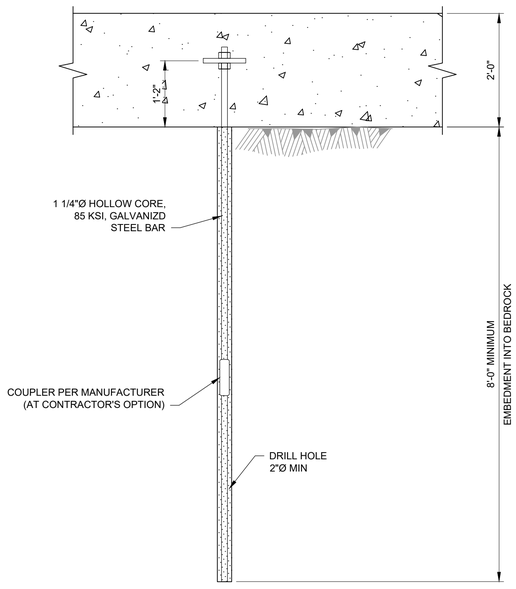
SHEET S-103



2 S-100 ENLARGED VIEW
SCALE: 3/8" = 1'-0"



A - BAFFLE
SCALE: 1" = 1'-0"



1 - ROCK ANCHOR DETAIL (24 TOTAL)
SCALE: 3/4"=1'-0"

ROCK ANCHORS (HOLLOW CORE ANCHORS):

1. SUBMIT A ROCK ANCHOR INSTALLATION PLAN FOR REVIEW. PLAN SHALL INCLUDE DRILLING AND GROUTING PROCEDURES.
2. DRILL HOLES FOR DOWELS USING DRILLING EQUIPMENT SUITABLE FOR THE INTENDED PURPOSE. DIAMETER AND DEPTH OF HOLES SHALL BE AS SHOWN ON THE DRAWINGS.
3. GROUT:
   A. GROUT FOR GROUTING ANCHORS SHALL CONSIST OF A HOMOGENOUS, STABLE MIXTURE OF PORTLAND CEMENT AND WATER WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS. SUBMIT THE PROPOSED MIX DESIGN FOR REVIEW.
   B. THE WATER CONTENT SHALL BE THE MINIMUM NECESSARY FOR PROPER PLACEMENT BUT THE WATER-CEMENT RATIO SHALL NOT EXCEED 0.45 BY WEIGHT. DO NOT USE ACCELERATORS.
   C. THE INDEPENDENT TESTING AGENCY WILL PERFORM COMPRESSION TESTS PER ASTM C109. A SET OF THREE SPECIMENS WILL BE MADE FOR TESTING AT ONE, SEVEN AND 28 DAYS.
4. ROCK ANCHORS SHALL BE B7X1-032N DOMESTIC HOLLOW INJECT BAR WITH GALVANIZED COATING BY WILLIAMS FORM ENGINEERING OR APPROVED EQUIVALENT.
5. THE INDEPENDENT TESTING AGENCY WILL PERFORM PULL TESTS ON THREE ROCK ANCHORS IN ACCORDANCE WITH ASTM E488/E488M. PULL TEST LOADING SHALL BE 20,000 LBS PER ANCHOR. CONSIDER ANCHORS TO HAVE FAILED IF DISPLACEMENT EXCEEDS 0.1 INCH OR IF ANY FAILURE MODES OCCUR.

LEGEND:

BAFFLES AND END SILL

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY
COMMONWEALTH OF KENTUCKY * LICENSED PROFESSIONAL ENGINEER * AMY MENGERT 24922 3/31/26
AMY MENGERT, P.E.

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
A. MENGERT	C. HAGLER	M. GRAESER	242762

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AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

STILLING BASIN PLAN, SECTION AND DETAIL

DATE
MARCH 31, 2026

SCALE
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S-104

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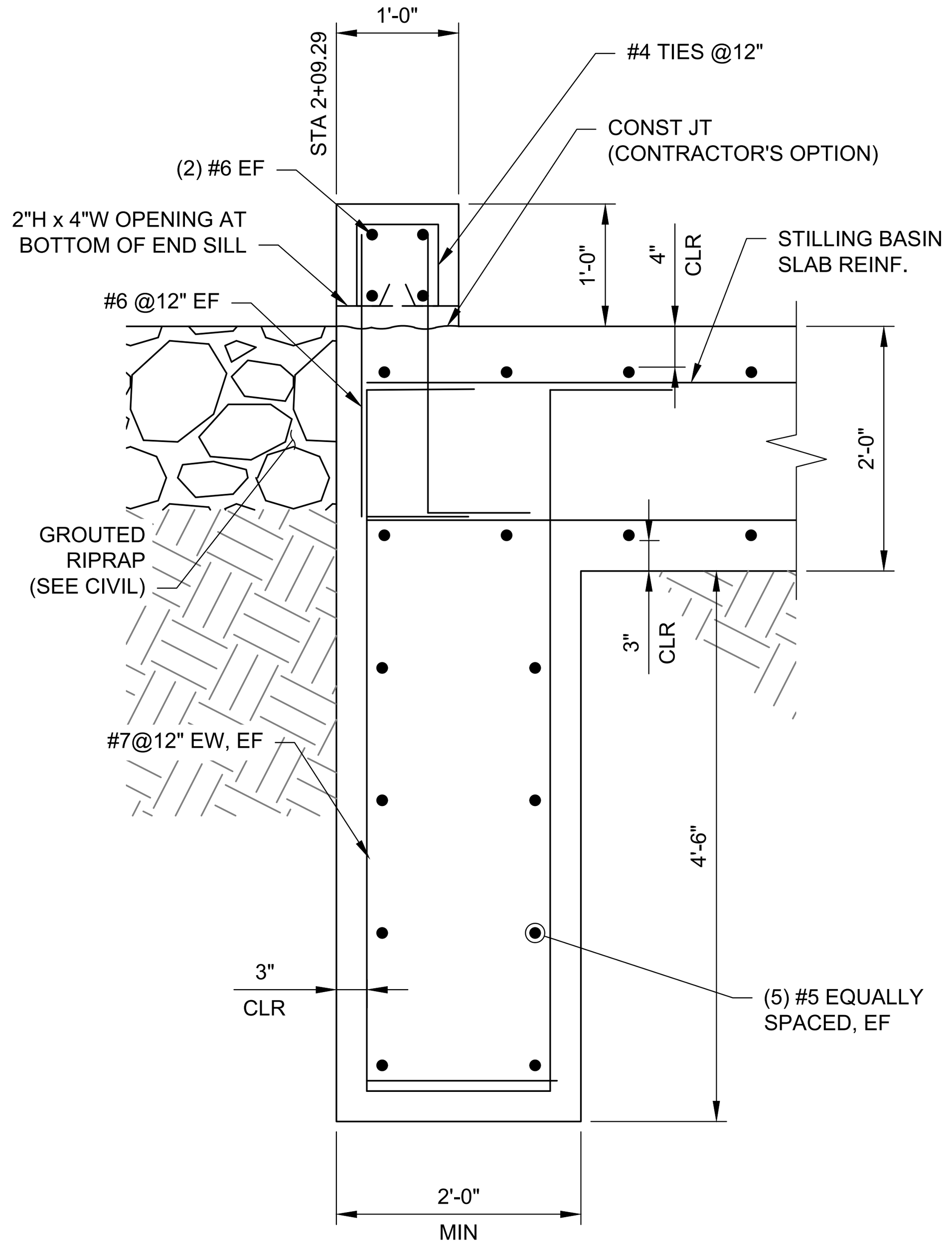
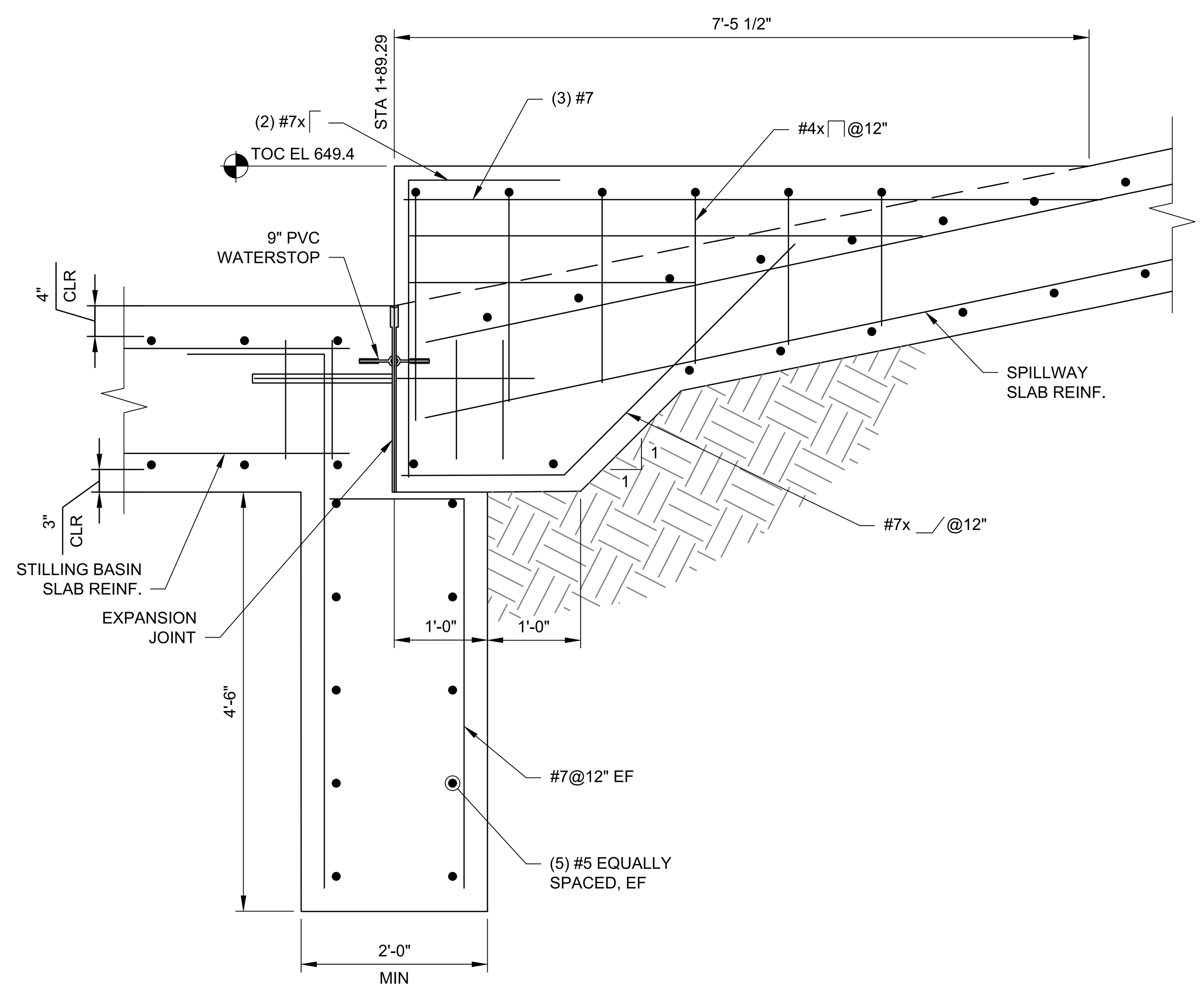
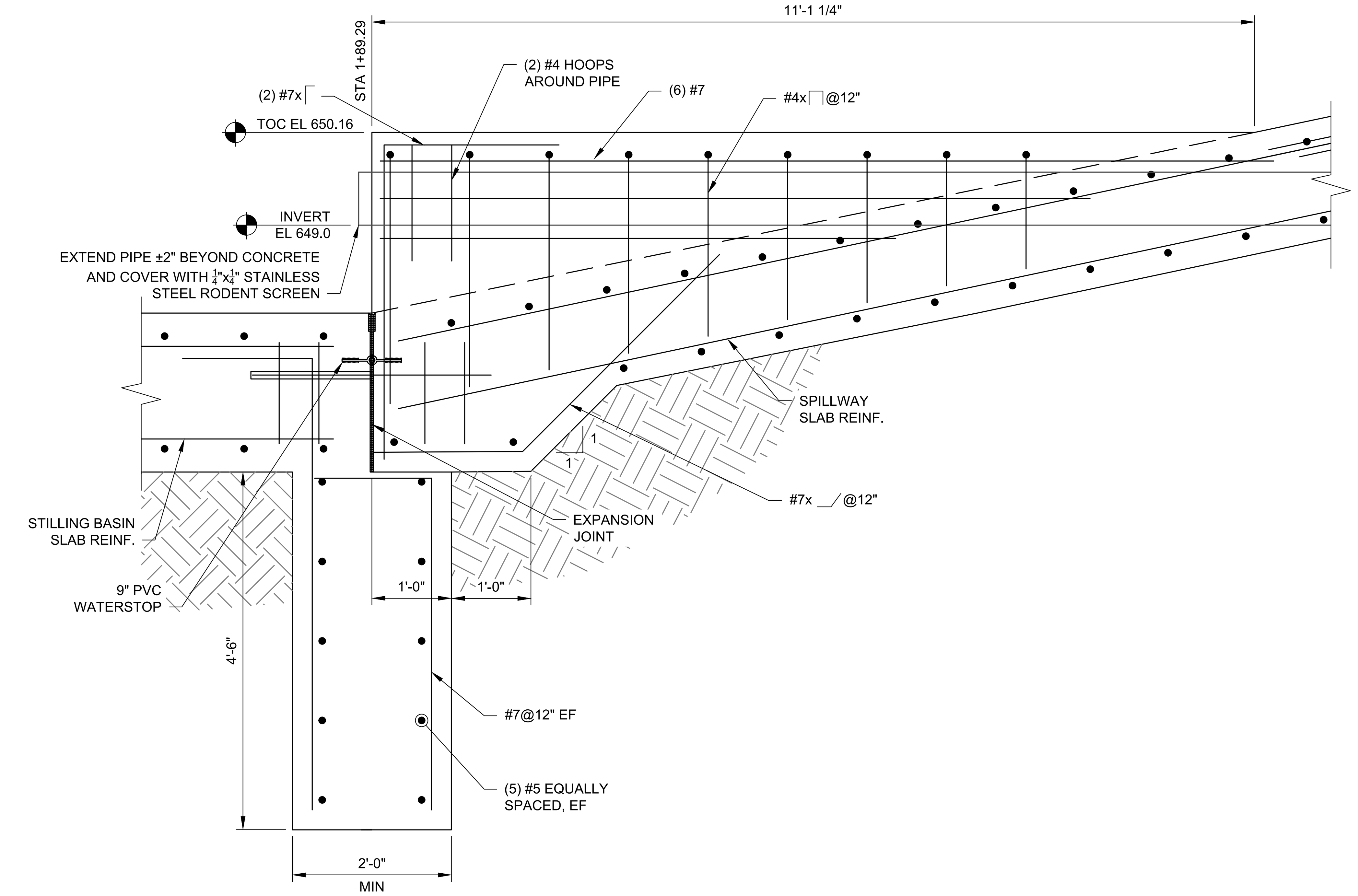


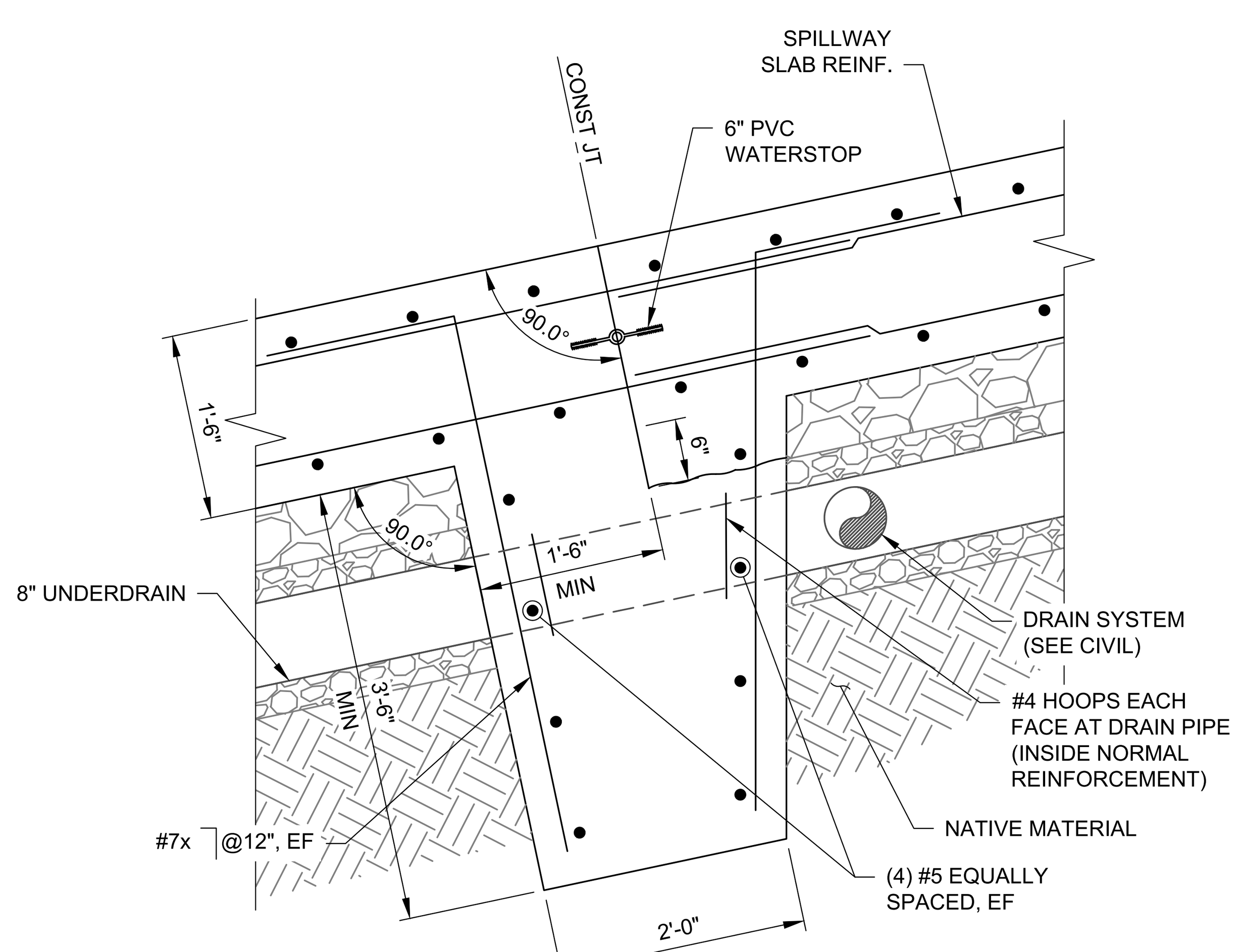
1 DOWNSTREAM CUTOFF DETAIL
S-101 SCALE: 3/4" = 1'-0"
S-104



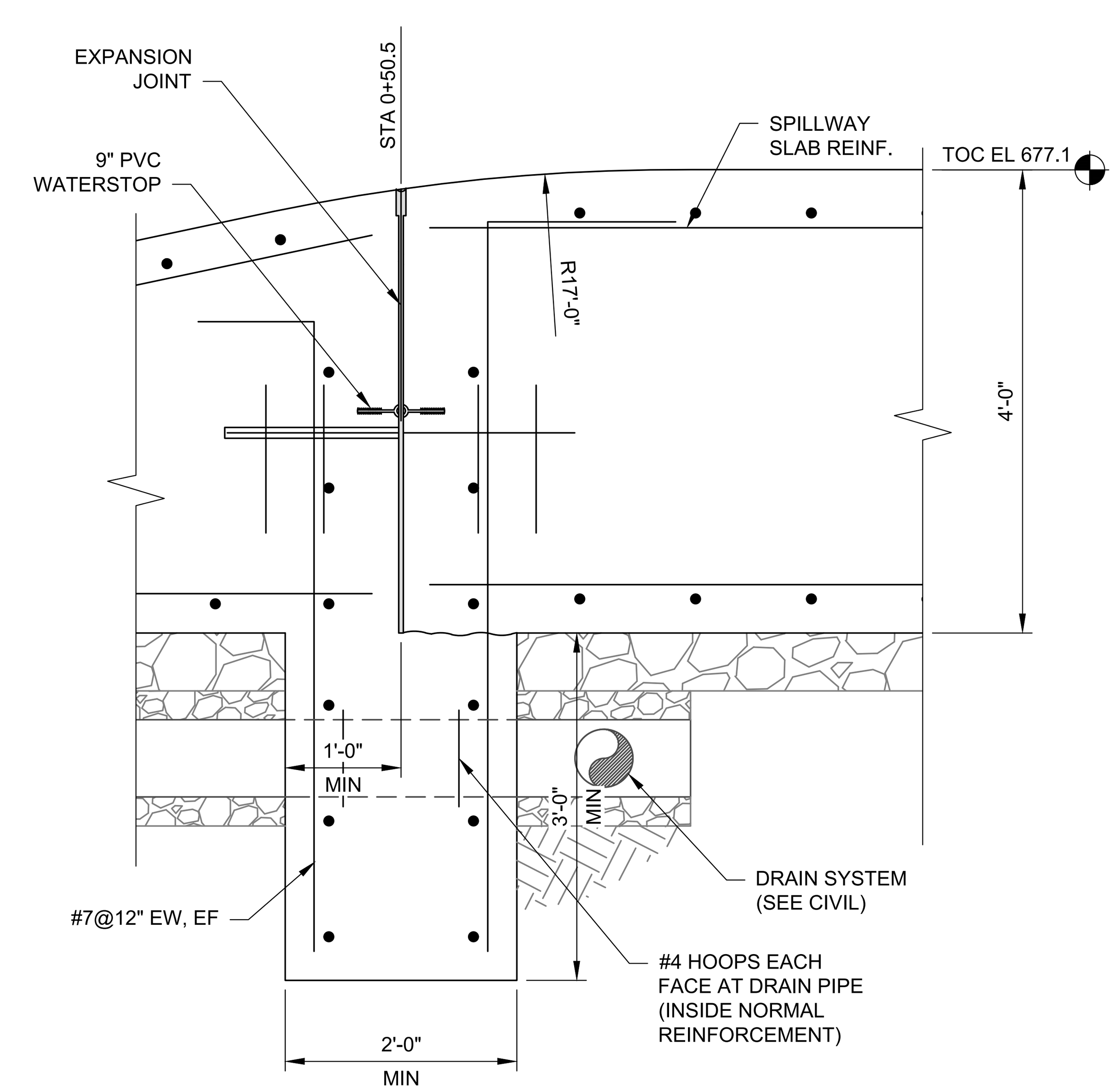
2 CHUTE BLOCK DETAIL
S-101 SCALE: 3/4" = 1'-0"
S-104



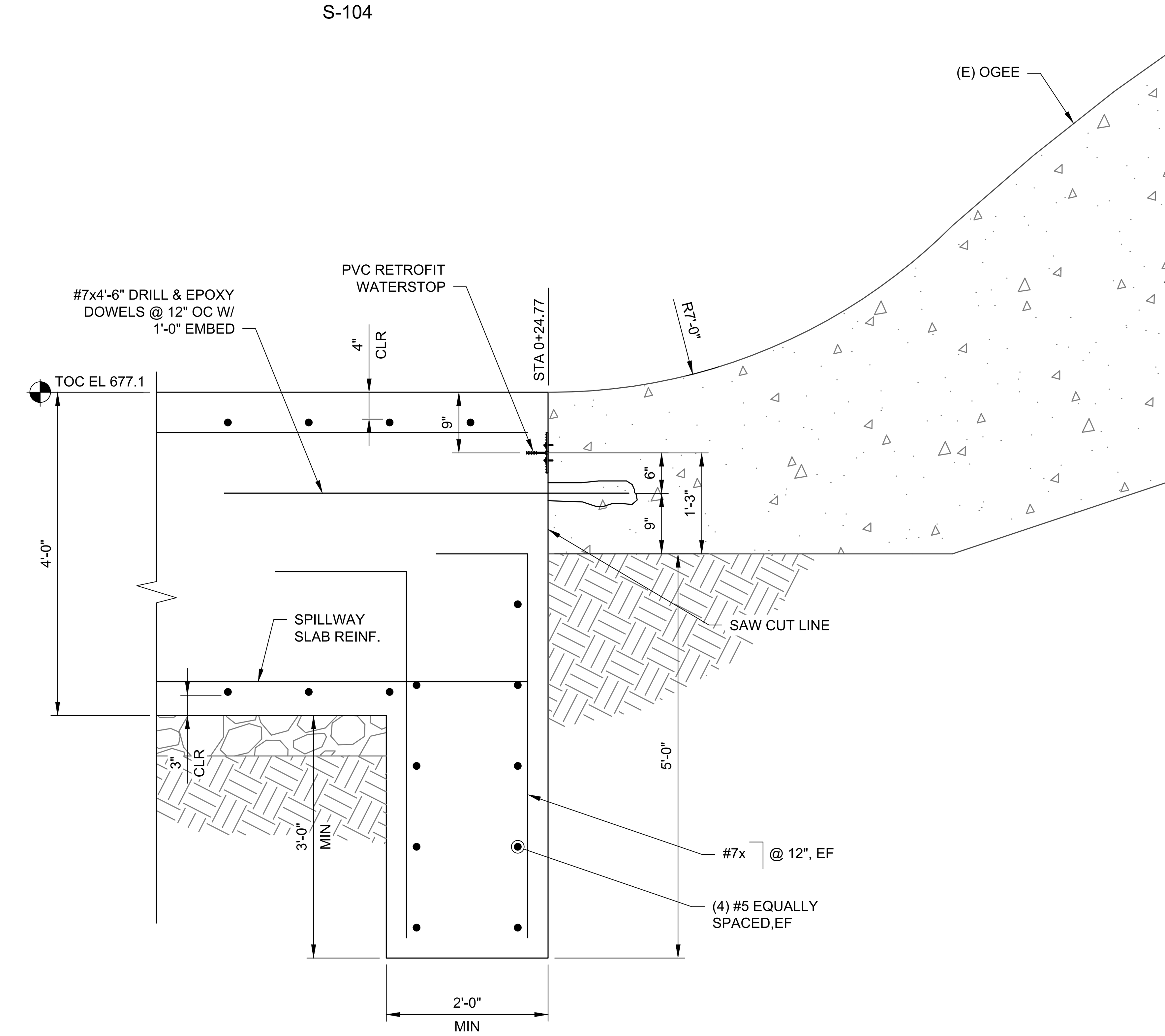
3 CHUTE END BLOCK DETAIL AT DRAIN
S-101 SCALE: 3/4" = 1'-0"
S-104



4 CONCRETE KEY DETAIL
S-101 SCALE: 3/4" = 1'-0"



5 NEW SPILLWAY JOINT DETAIL
S-101 SCALE: 3/4" = 1'-0"



6 UPSTREAM TRANSITION DETAIL
S-101 SCALE: 3/4" = 1'-0"

verdantas
4420 COOPER ROAD
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BLUE ASH, OH 45242

STATE: KY
AMY MENGERT, P.E.

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AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY
NEW SPILLWAY DETAILS

DATE
MARCH 31, 2026
SCALE
AS NOTED
SHEET
S-105

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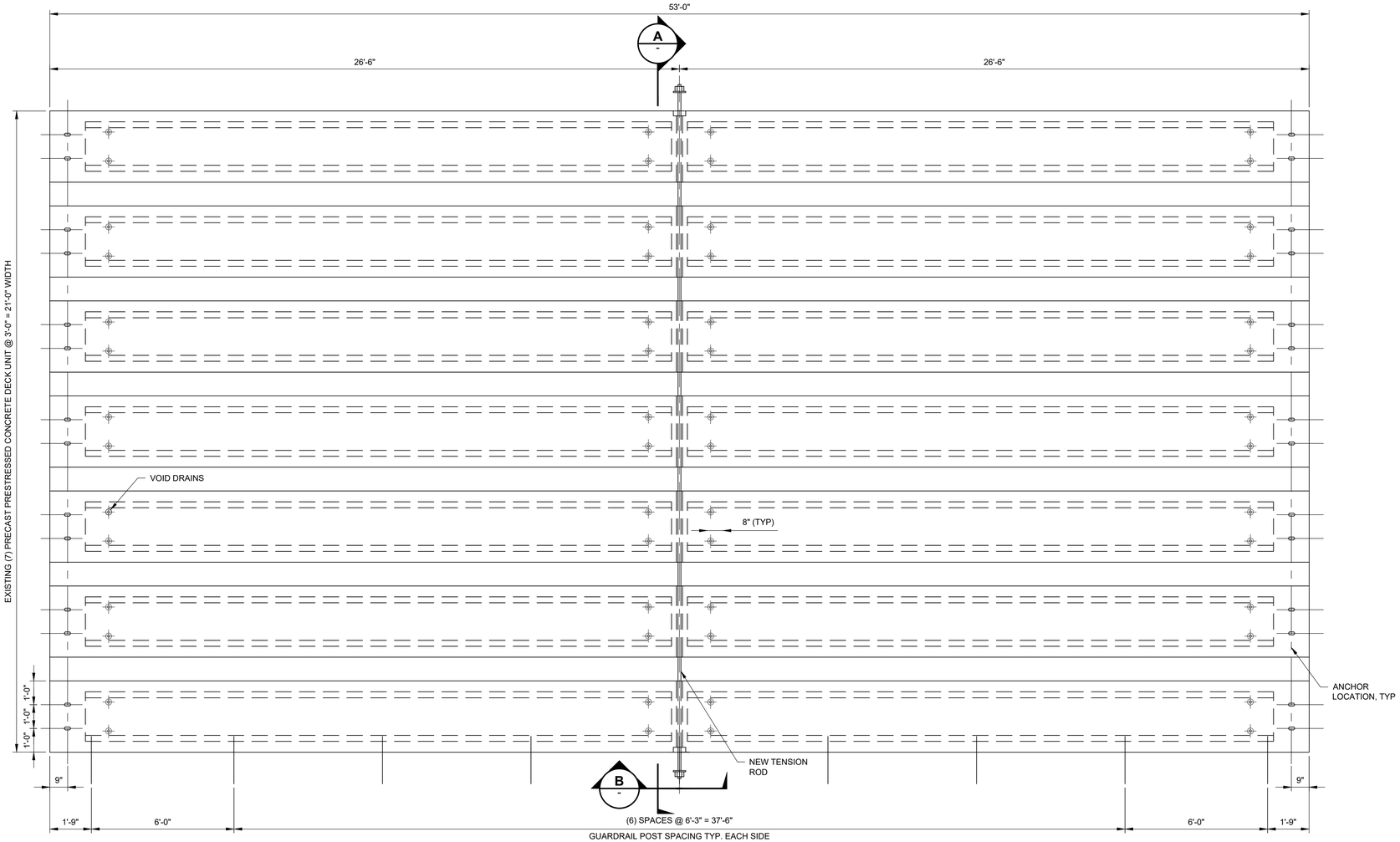
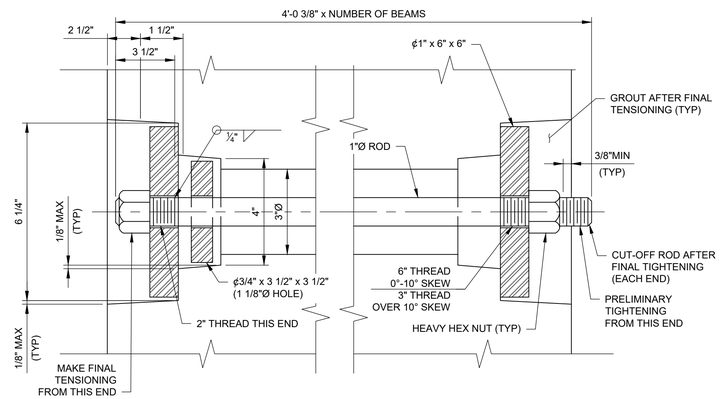


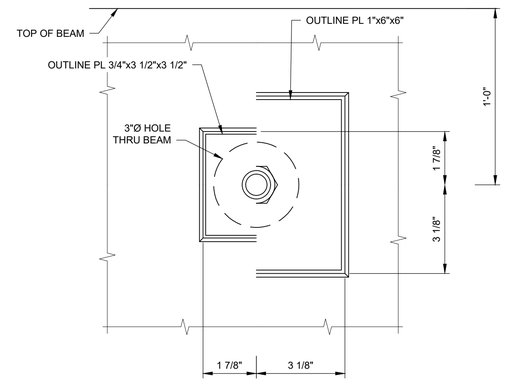
BRIDGE DECK PLAN

SCALE: 3/8" = 1'-0"



A LATERAL TENSIONING ROD (KYDOT DRAWING BDP-004-04)

SCALE: N.T.S.



B SECTION (KYDOT DRAWING BDP-004-04)

SCALE: N.T.S.

NOTES:

1. BRIDGE WAS NOT DESIGNED BY VERDANTAS, ONLY REMOVED AND REINSTALLED.
2. CONTRACTOR TO SUPPLY NEW TENSION ROD AND ACCESSORIES.
3. LATERAL TENSIONING RODS: AFTER THE DECK UNITS ARE IN PLACE, APPLY A PRELIMINARY TENSION TO THE LATERAL TENSIONING RODS. PERFORM FINAL TENSIONING THAT YIELDS 20,000 PSI AS DEVELOPED BY A TORQUE OF 200 FT/LB. PROVIDE LATERAL TENSIONING RODS AND PLATES CONFORMING TO ASTM A36 WITH HEAVY HEX NUTS CONFORMING TO ASTM A307. ALL TENSION RODS, PLATES AND NUTS TO BE GALVANIZED IN ACCORDANCE WITH ASTM A123 OR A153 AS APPLICABLE.
4. NORTH SIDE WILL BE THE FIXED END OF THE BRIDGE.

verdantas
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SUITE 200
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STATE: KY

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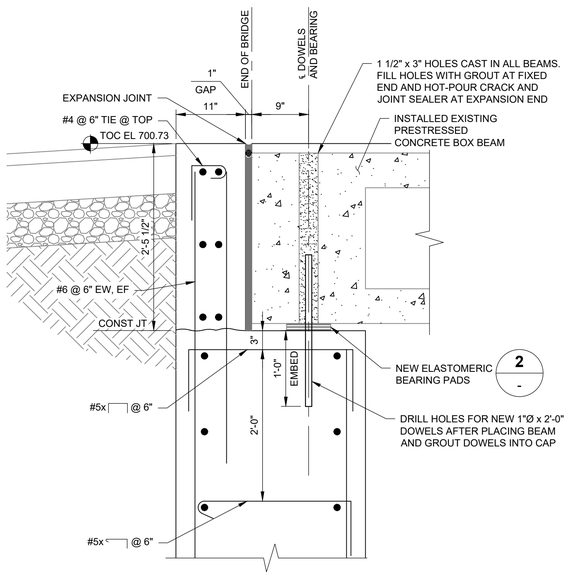
AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY
BOX BEAM (BRIDGE)
TENSION ROD DETAILS

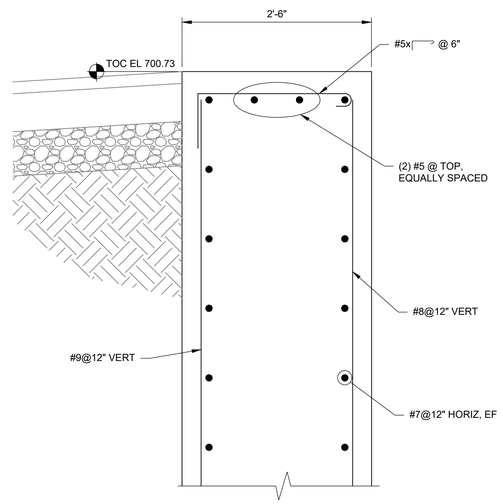
DATE
MARCH 31, 2026

SCALE
AS NOTED

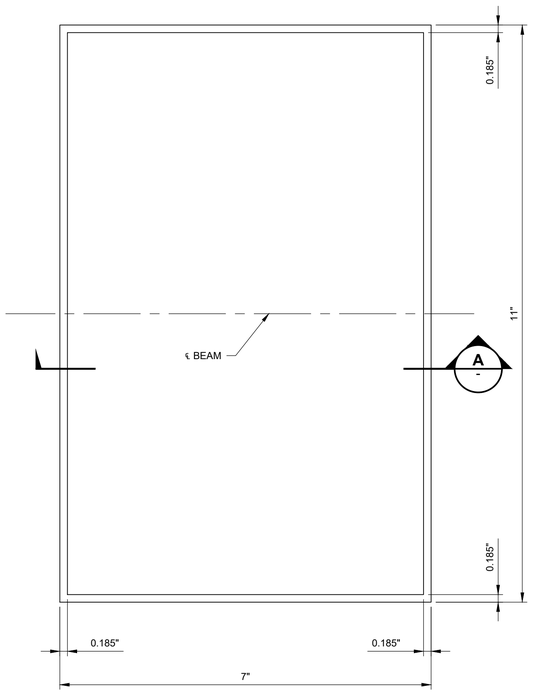
SHEET
S-106



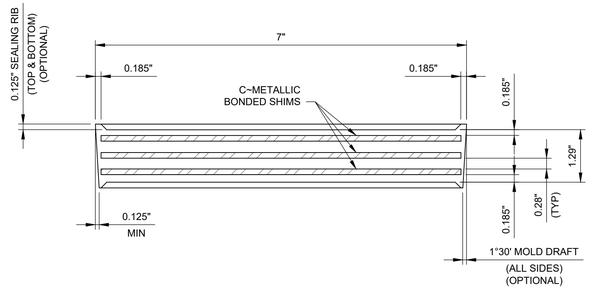
1 S-102 DETAIL AT BRIDGE
SCALE: 1" = 1'-0"



2 S-102 DETAIL NEXT TO BRIDGE
SCALE: 1" = 1'-0"



2 - BEARING PAD - PLAN VIEW (KYDOT DRAWING BBP-003-02)
SCALE: N.T.S.



A - BEARING PAD - SECTION (KYDOT DRAWING BBP-003-02)
SCALE: N.T.S.

DIMENSIONS FOR BOX-BEAM BEARING PADS					
PAD	A	B	C	D	MAXIMUM MOVEMENT (ONE DIRECTION)
B1	11"	7"	3~0.12"x10.630"x6.630"	1.290"	0.500"

NOTES:

1. SPECIFICATIONS: FABRICATE THE ELASTOMETRIC BEARING PADS TO THE DESIGN AND DIMENSIONS AS SHOWN ON THESE DRAWINGS AND TO AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, SECTION 18.
2. ENSURE BEARINGS ARE LOW TEMPERATURE GRADE 3 WITH DUROMETER HARDNESS OF 50 AND SUBJECTED TO THE LOAD TESTING REQUIREMENTS CORRESPONDING TO DESIGN METHOD A.
3. NORTH SIDE WILL BE THE FIXED END OF THE BRIDGE.

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

AMY MENGERT, P.E.

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
A. MENGERT	C. HAGLER	M. GRAESER	242762

No.	REVISION	CHK'D BY DATE
A	30% DESIGN	09-22-2025
B	60% DESIGN	10-17-2025
C	SUBMITTAL FOR PERMIT (NOT FOR CONSTRUCTION)	12-22-2025
D	KDOW-DDS REVIEW CHANGE (NOT FOR CONSTRUCTION)	02-23-2026
E	ISSUE FOR BID	03-31-2026

AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

BOX BEAM (BRIDGE) BEARING DETAILS

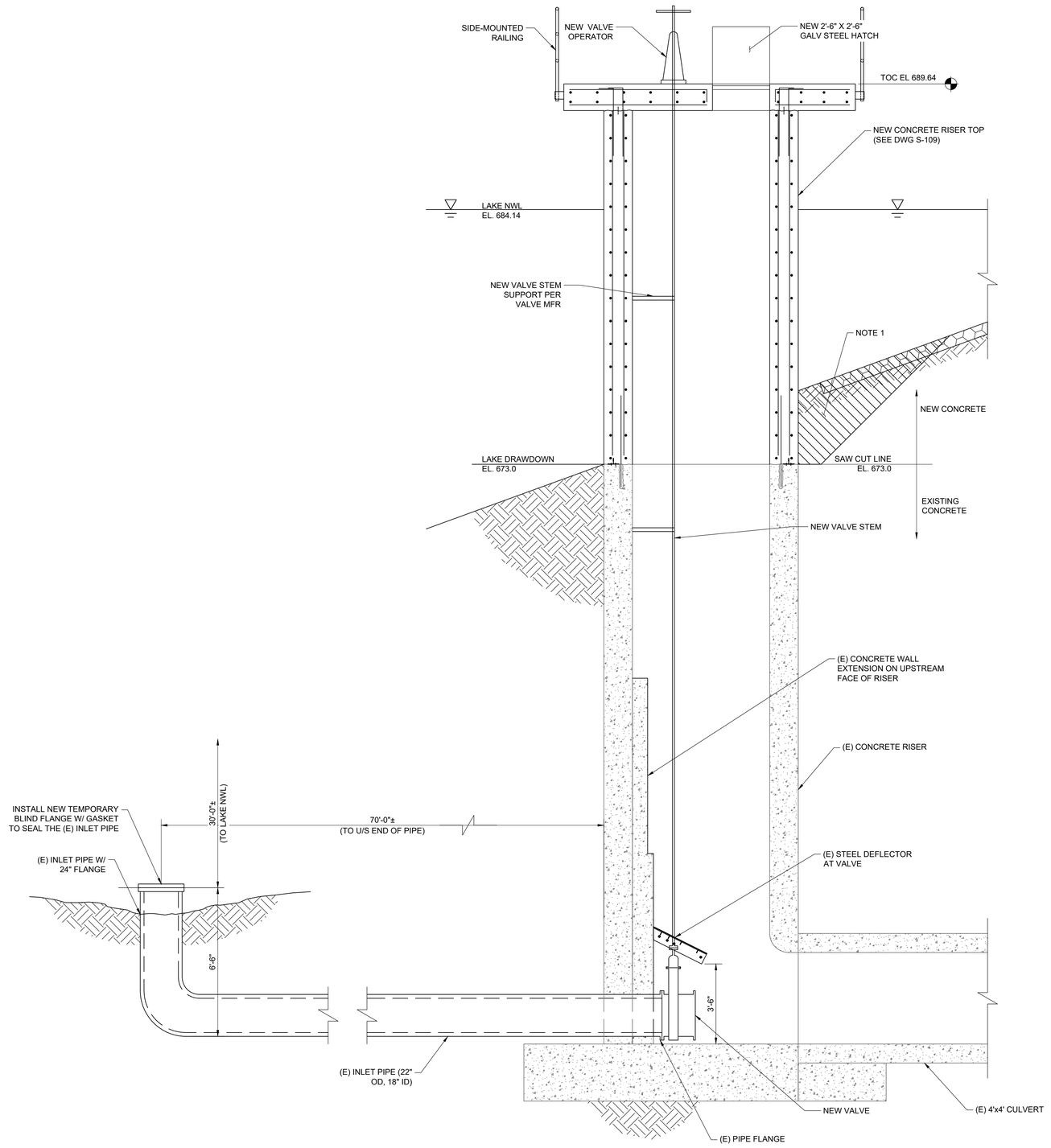
DATE
MARCH 31, 2026

SCALE
AS NOTED

SHEET
S-107

NOTE:

1. EXCAVATE & BACKFILL AROUND RISER, MATCH EXISTING CONDITIONS. THE COST SHALL BE INCIDENTAL TO THE RISER.



A - CONCETE RISER SECTION
SCALE: 3/8" = 1'-0"

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

AMY MENGERT, P.E.

DESIGNED BY	CHK'D BY
A. MENGERT	DATE
DRAWN BY	09-22-2025
C. HAGLER	10-17-2025
CHECKED BY	12-23-2025
M. GRAESER	02-23-2026
PROJECT NO.	03-31-2026
242762	

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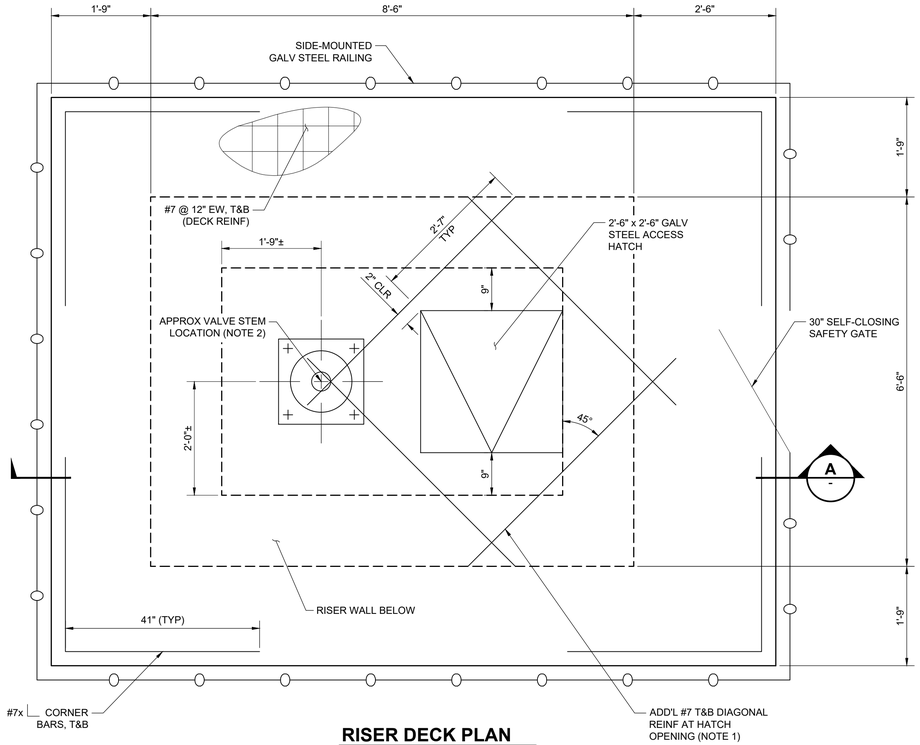
AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

RISER MODIFICATIONS

DATE
MARCH 31, 2026

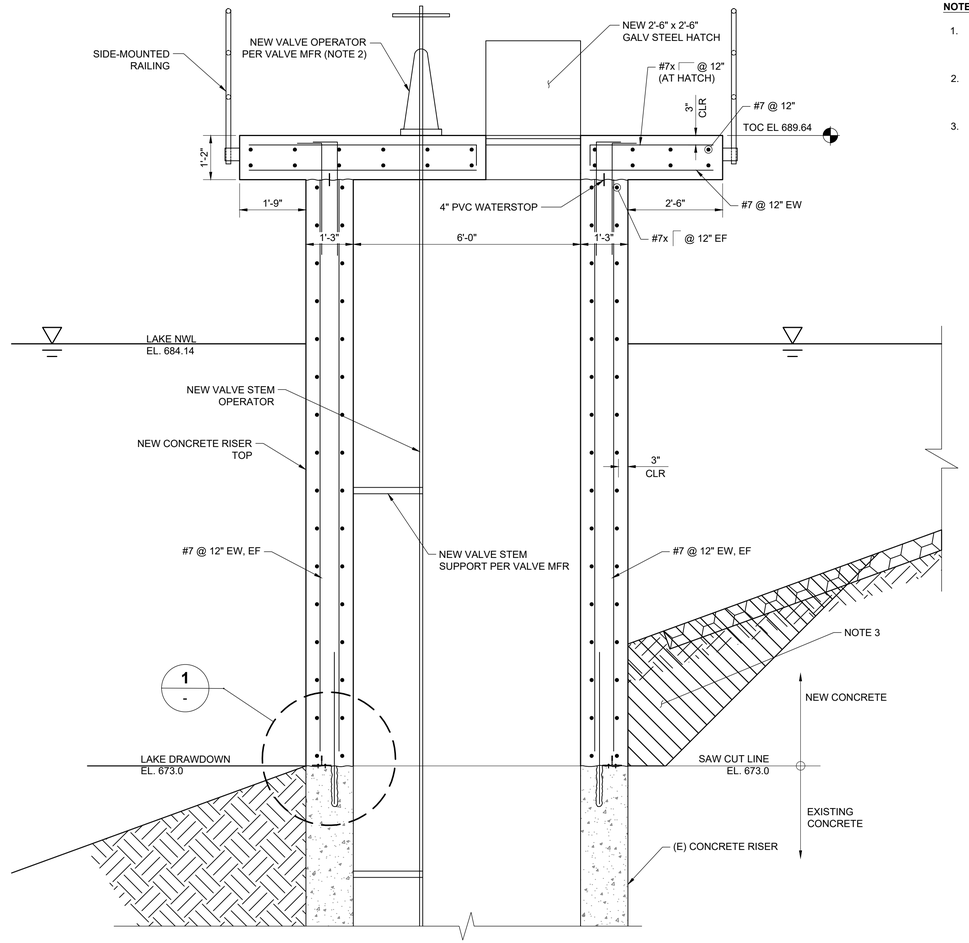
SCALE
AS NOTED

SHEET
S-108



RISER DECK PLAN

SCALE: 3/4" = 1'-0"

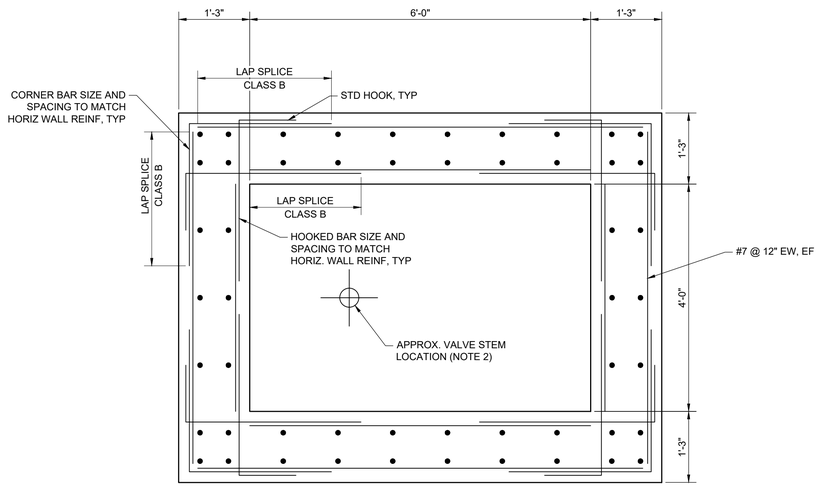


A - CONCETE RISER SECTION

SCALE: 1/2" = 1'-0"

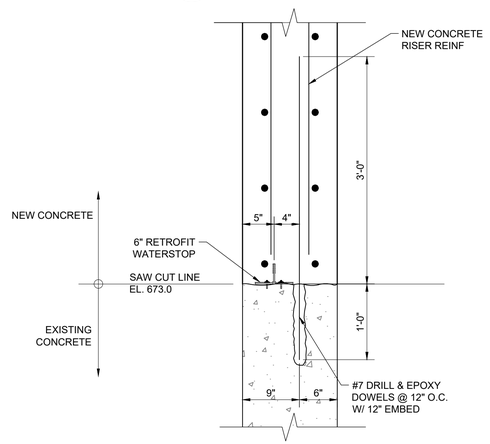
NOTES:

1. PLACE DIAGONAL BARS INSIDE TOP AND BOTTOM LAYERS OF NORMAL REINFORCEMENT.
2. COORDINATE VALVE STEM LOCATION AND OPERATOR ANCHORAGE PRIOR TO NEW RISER DECK CONSTRUCTION.
3. BACKFILL EXCAVATION TO MATCH EXISTING CONDITIONS PER GEOTECH SPECIFICATIONS.



LOWER RISER PLAN

SCALE: 3/4" = 1'-0"



1 - CONNECTION DETAIL

SCALE: 1" = 1'-0"

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

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AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

RISER MODIFICATIONS

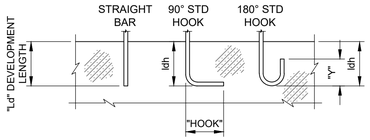
DATE
MARCH 31, 2026

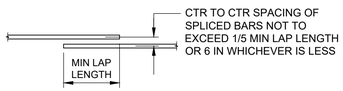
SCALE
AS NOTED

SHEET
S-109

NOTES:

1. "TOP" BARS SHALL BE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE.
2. ALL LAP SPLICES SHALL BE CLASS B UNLESS NOTED OTHERWISE.
3. SPLICES ARE TO BE MADE SO THAT THE GIVEN DISTANCES TO FACE OF CONCRETE WILL BE MAINTAINED.



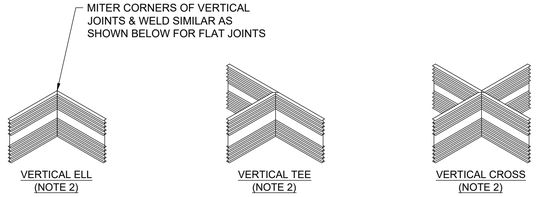


f'c = 4500 psi		fy = 60,000 psi		bar spacing = 6" min				
BAR SIZE	DIAMETER (d_b) (INCHES)	DEVELOPMENT LENGTH (l_d) (INCHES)		CLASS B LAP SPLICE (INCHES)		90° STD HOOK (INCHES)		180° STD HOOK "Y"
		"TOP" BARS	OTHER	"TOP" BARS	OTHER	HOOK	l_{dh}	
		REINFORCING BARS IN TENSION						
#3	0.375	12	12	16	16	6	6	4
#4	0.5	14	12	19	16	8	6	5
#5	0.625	18	14	24	19	10	8	5
#6	0.75	21	17	28	23	12	10	6
#7	0.875	31	24	41	32	14	12	7
#8	1.0	35	27	46	36	16	15	8
#9	1.128	44	34	58	45	20	18	11
#10	1.270	54	42	71	55	22	21	12
#11	1.41	65	50	85	65	24	25	13

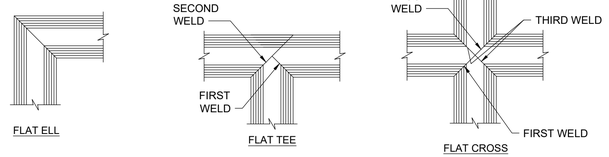
1 STANDARD HOOK AND REINF LAP SPLICE
SCALE: NTS

NOTES:

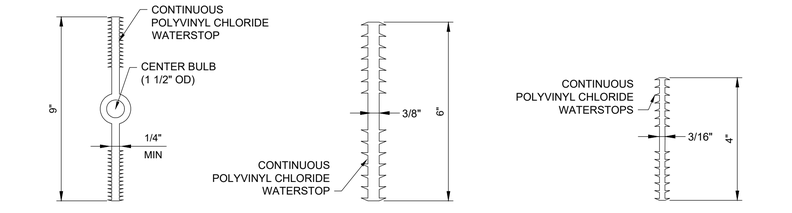
1. ALL WELDS SHALL BE PER WATERSTOP MANUFACTURER'S RECOMMENDATIONS.
2. THE INDICATED 3-D WATERSTOP JOINTS SHALL BE PRE-FABRICATED BY WATERSTOP MANUFACTURER.
3. WATERSTOPS ARE TO BE MADE CONTINUOUS BY SPLICING AND CONNECTING TO OTHER WATERSTOPS AS SHOWN ON THE DRAWINGS.



WATERSTOP 3-D JOINTS



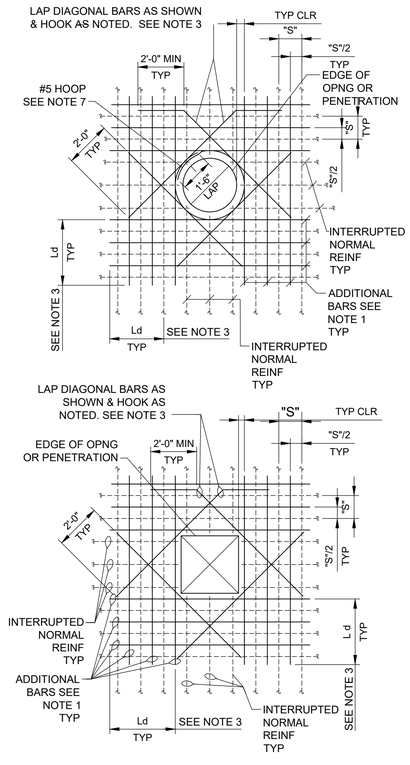
WATERSTOP SPLICE DETAILS



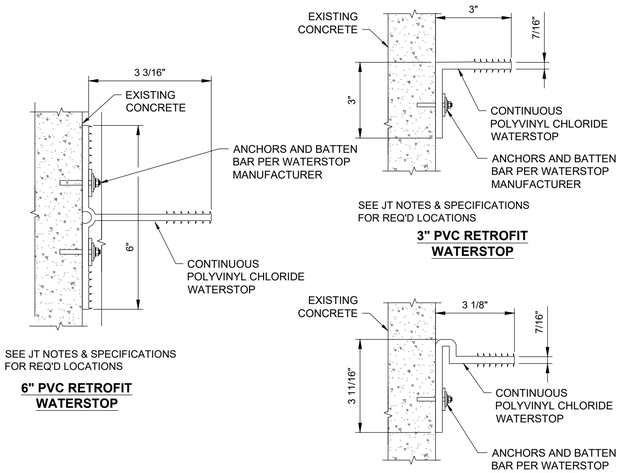
3 PVC WATERSTOPS
SCALE: NTS

NOTES:

1. NUMBER OF ADD'L REINF BARS AT EA SIDE OF OPNG SHALL EQUAL HALF THE NUMBER OF INTERRUPTED BARS IN EACH LAYER OF REINF, 2 MIN.
2. SIZE OF ADD'L REINF BARS TO EQUAL SIZE OF INTERRUPTED REINF BARS.
3. PROVIDE STD HOOKS FOR BARS IF LAP LENGTH EXTENSION CANNOT BE OBTAINED AT JOINTS OR OTHER OBSTRUCTIONS. PLACE ADDITIONAL BARS IN SAME PLANES AS INTERRUPTED REINF.
4. SIZE OF DIAGONAL BARS SHALL BE THE SIZE OF THE LARGEST NORMAL REINF BAR CUT, UON. LOCATE DIAGONALS IN EACH LAYER OF REINF.
5. PLACE DIAGONAL BARS INSIDE NORMAL REINF.
6. ALL REINF TO CLEAR OPNG OR FLANGE COLLARS BY 2".
7. PROVIDE ADD'L HOOP @ EACH LAYER OF REINF.



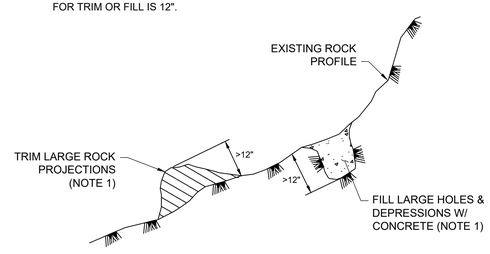
2 ADDITIONAL REINF BAR DETAILS
SCALE: NTS



4 RETROFIT PVC WATERSTOPS
SCALE: NTS

NOTES:

1. THE CONTRACTOR SHALL WORK WITH THE ENGINEER TO IDENTIFY LOCATIONS FOR ROCK TRIMMING AND CONCRETE FILL.
2. MINIMUM LENGTH OF SECTION FOR TRIM OR FILL IS 12".



5 ROCK SURFACE PREPARATION DETAIL
SCALE: NTS

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

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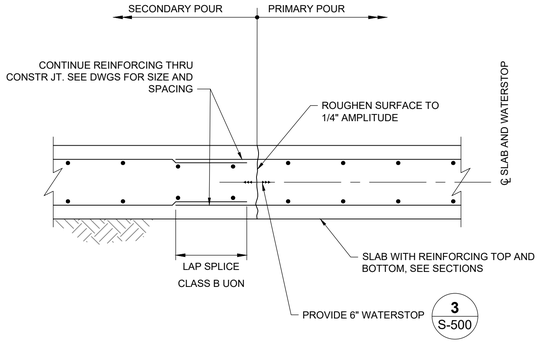
AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY
STRUCTURAL STANDARD DETAILS

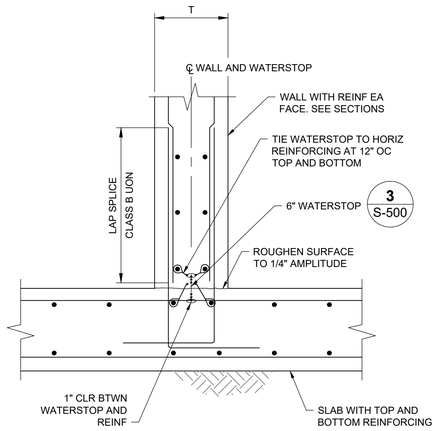
DATE
MARCH 31, 2026

SCALE
AS NOTED

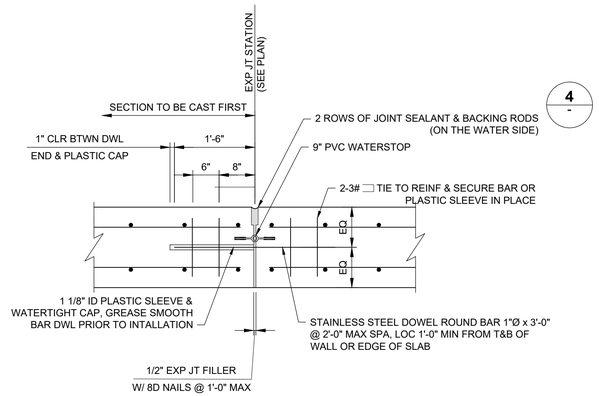
SHEET
S-500



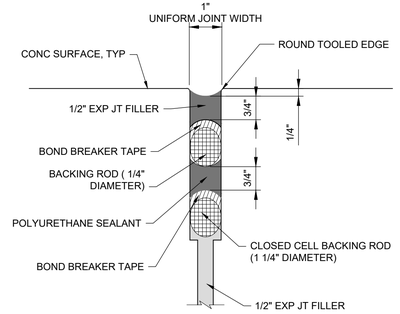
1 - CONSTRUCTION JOINT (CJ)
SCALE: NTS



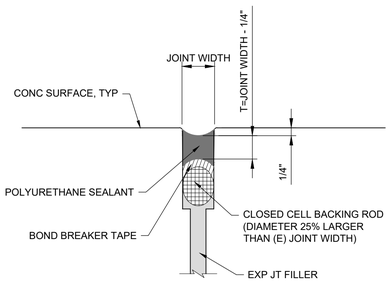
2 - CONSTRUCTION JOINT-WALL TO SLAB
SCALE: NTS



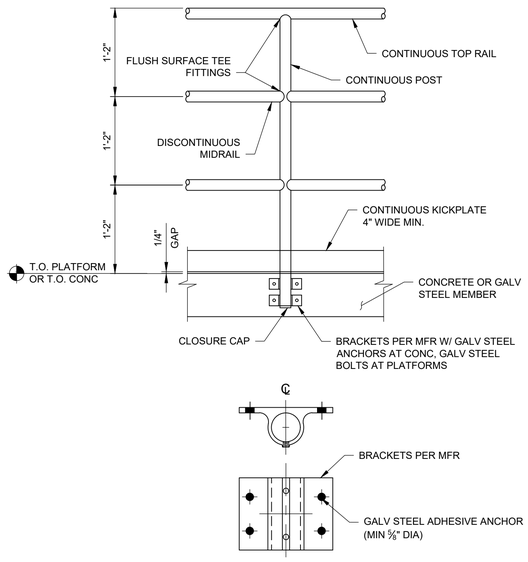
3 - TYPICAL EXPANSION JOINT DETAIL
SCALE: NTS



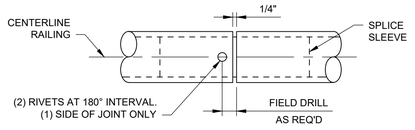
4 - SLAB SEALANT (DOUBLE)
SCALE: NTS



5 - WALL JOINT SEALANT
SCALE: NTS



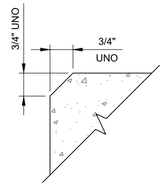
6 - GALVANIZED STEEL SIDE-MOUNTED RAILING DETAILS
SCALE: NTS



RAIL SPLICE DETAIL

RAILING NOTES:

1. ALL KICKPLATES, AND ACCESSORIES SHALL BE GALVANIZED STEEL, PER SPECIFICATIONS.
2. ALL RAILING SHALL BE GALVANIZED STEEL PER SPECIFICATIONS.
3. ALL RAILS AND POSTS MUST BE SIZED AND SPACED TO SATISFY ALL APPLICABLE CODES AND STANDARDS. MAX POST SPACING = 4'-0".
4. MAXIMUM RAIL SPLICE LENGTH = 24'-0".



7 - CHAMFER DETAIL
SCALE: NTS

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

COMMONWEALTH OF KENTUCKY ★ AMY MENGERT 24922 LICENSED PROFESSIONAL ENGINEER ★ STATE OF KENTUCKY

AMY MENGERT, P.E.

DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT NO.
A. MENGERT	C. HAGLER	M. GRAESER	242762

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AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

STRUCTURAL STANDARD DETAILS

DATE
MARCH 31, 2026

SCALE
AS NOTED

SHEET
S-501

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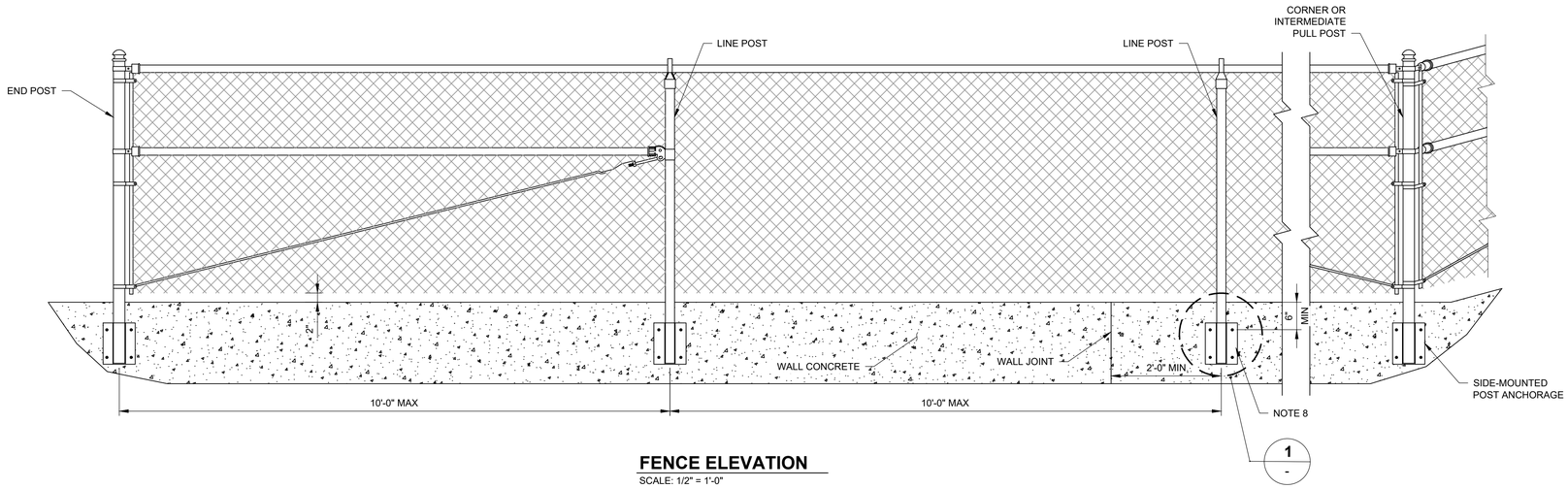
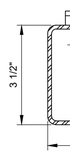


FENCE ELEVATION

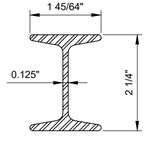
SCALE: 1/2" = 1'-0"

NOTES:

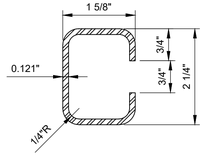
1. TENSION WIRE COMPLYING WITH ASTM A824 SHALL BE SUBSTITUTED FOR THE TOP RAIL WHEN THE FENCE IS TO BE INSTALLED IN THE PATH OF AN ERRANT VEHICLE.
2. 6' HIGH FENCE SHALL HAVE 6' FABRIC HEIGHT.
3. ALL FENCE FITTINGS SHALL COMPLY WITH ASTM F626.
4. POST CAPS AND SOCKET TYPE BRACE END CONNECTIONS SHALL BE GALVANIZED PRESSED STEEL, CAST IRON OR OTHER TYPE AS APPROVED BY THE ENGINEER. THEY SHALL BE DESIGNED IN A MANNER TO EXCLUDE MOISTURE FROM INSIDE POSTS AND RAILS.
5. NPS = NOMINAL PIPE SIZE - ASTM F1083 AND F1043 (HEAVY INDUSTRIAL FENCE) SHALL GOVERN.
6. INDISCRIMINATE MIXING OF POSTS WILL NOT BE PERMITTED.
7. PROVIDE FENCING EXPANSION JOINTS AT CONCRETE EXPANSION JOINT LOCATIONS.
8. PROVIDE SPACER BETWEEN FENCE POSTS AND CONCRETE WALL ON TOP BRACKETS TO PROVIDE VERTICAL FENCE POSTS AT BATTERED WALLS.



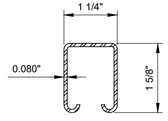
ROLL FORMED
TERMINAL POST
& CORNER POST



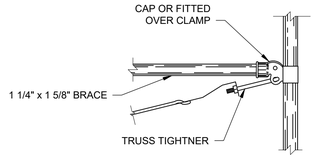
HOT ROLLED
LINE POST
H-COLUMN



LINE POST
HEAVY "C"
ROL FORMED

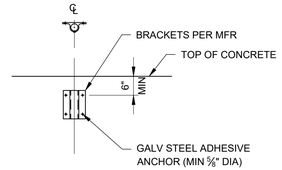


HOT ROLLED
TOP & BRACE
RAIL



BRACE AND TRUSS
CONNECTOR

POST & MATERIALS TABLE (FROM KYDOT DRAWING RFC-001-08)	
TUBULAR	ROLL FORMED
2 1/2" NPS END POST	3 1/2"x3 1/2" END POST
2" NPS LINE POST	2 1/4" H-COL. LINE POST OR 2 1/4" C-COL. LINE POST
3/8"Ø TRUSS ROD AND TIGHTENER	3/8"Ø TRUSS ROD AND TIGHTENER
APPROVED CAPS	NOT REQUIRED
FLAT TENSION BAR	NOT REQUIRED
BRACE BAND AND TENSION BAND	NOT REQUIRED
1 1/4" NPS BRACE	1 1/4"x1 5/8" TOP RAIL BRACE
1 1/4" NPS TOP RAIL (SEE NOTE 1)	1 1/4"x1 5/8" TOP RAIL BRACE



1 - **SIDE MOUNTED POST ANCHORAGE AT CONCRETE**

SCALE: NTS

verdantas
4420 COOPER ROAD
SUITE 200
BLUE ASH, OH 45242

STATE: KY

COMMONWEALTH OF KENTUCKY ★ LICENSED PROFESSIONAL ENGINEER
AMY MENGERT 24922 03/31/2026

AMY MENGERT, P.E.

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B	60% DESIGN	10-17-2025
C	SUBMITTAL FOR PERMIT (NOT FOR CONSTRUCTION)	12-22-2025
D	KDOW-DDS REVIEW CHANGE (NOT FOR CONSTRUCTION)	02-23-2026
E	ISSUE FOR BID	03-31-2026

AJ JOLLY DAM REPAIR
CAMPBELL COUNTY, KY

FENCE STANDARD DETAILS

DATE
MARCH 31, 2026

SCALE
AS NOTED

SHEET
S-502

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