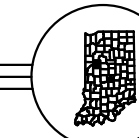


QUAIL CROSSING GOLF COURSE DAM REHABILITATION

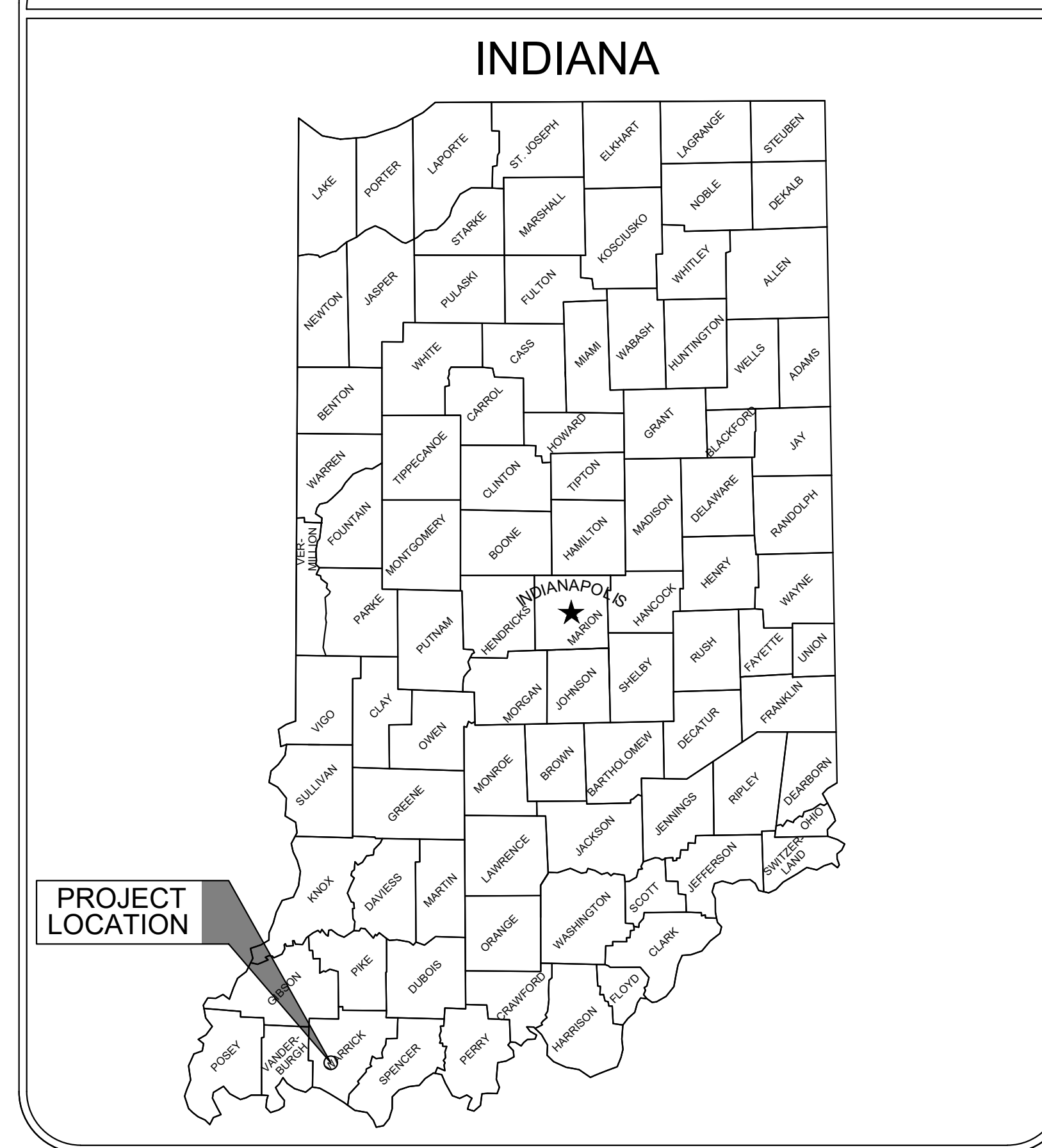


WARRICK COUNTY, INDIANA

VICINITY MAP



LOCATION MAP



SHEET INDEX

SHEET No.	SHEET TITLE	TITLE
1	TS1	TITLE SHEET
2	GN1	PROJECT INFORMATION SHEET
3	SB	SOIL BORING SHEET
4	EX1	EXISTING CONDITIONS AND DEMOLITION PLAN
5	SP1	SITE PLAN
6	PP1	DAM PLAN AND PROFILE
7	PS1	PRINCIPAL SPILLWAY PLAN AND PROFILE
8	PS2	PRINCIPAL SPILLWAY DETAILS
9	PS3	PRINCIPAL SPILLWAY FILTER DIAPHRAGM DETAILS
10	AS1	AUXILIARY SPILLWAY PLAN AND PROFILE
11-12	XS1-XS2	CROSS SECTIONS
13-15	MD1-MD3	MISCELLANEOUS DETAILS
16	EC1	EROSION CONTROL PLAN
17	EC2	EROSION CONTROL PLAN DETAILS

PREPARED FOR:



CITY OF BOONVILLE
 c/o Clint W. Roos, P.E.
 802 W. Broadway St.
 Loogootee, IN 47553
 Phone: (812) 295-2800

Email: croos@midwesterneng.com

PREPARED BY:



CHRISTOPHER B. BURKE ENGINEERING, LLC
 111 Monument Circle, Suite 3500
 Indianapolis, Indiana 46204
 Phone: (317) 266-8000

FAX: (317) 632-3306



**SAFETY IS IN YOUR HANDS.
 EVERY DIG. EVERY TIME.**

INDIANA STATE LAW (IC8-1-26) REQUIRES THAT ANYONE ENGAGED IN EXCAVATION USING MECHANIZED EQUIPMENT MUST CALL AT LEAST TWO (2) FULL WORKING DAYS PRIOR TO THE START OF THEIR PROJECT. INDIANA 811 OFFERS A ONE-POINT CONTACT TO REACH MEMBER UTILITIES TO NOTIFY THEM OF YOUR PROPOSED EXCAVATION. VISIT INDIANA811.ORG

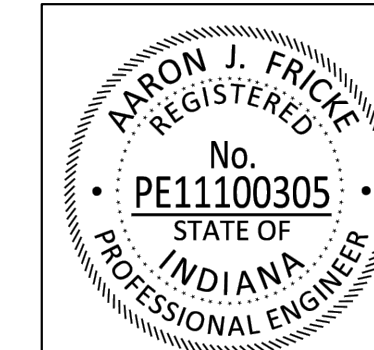
PUBLIC WORKS PROJECT INFORMATION

PUBLIC WORKS PROJECT NO. DEL2515208025/E008-360

ABANDONED COAL MINE RESTORATION SITE 2365

ISSUED FOR BID

CERTIFIED:



Aaron J. Fricke 07/03/2025
 ENGINEER DATE

AARON J. FRICKE
 INDIANA REGISTRATION No. PE11100305
 EXPIRATION DATE: JULY 31, 2026

**QUAIL CROSSING GOLF COURSE
 DAM REHABILITATION
 WARRICK COUNTY, INDIANA**

CLIENT Christopher B. Burke Engineering, Ltd. BORING # B-1
 PROJECT NAME Quail Crossing Dam Evaluation JOB # 170GC01064
 PROJECT LOCATION Quail Crossing Drive and S.R. 261
 Boonville, Indiana

DRILLING and SAMPLING INFORMATION TEST DATA
 Date Started 11/29/23 Hammer Wt. 140 lbs.
 Date Completed 11/29/23 Hammer Drop 30 in.
 Drill Foreman M. Ladish Spoon Sampler OD 2.0 in.
 Inspector D. Homm Rock Core Dia. -- in.
 Boring Method HSA Shelby Tube OD 3.0 in.

Soil Classification	Stratum	Elevation	Depth	Sample No.	Sample Type	Moisture Content, %	Standard Penetration Test, Blows per 6 in. Increments	Remarks
2 in. Topsoil	397.8	0.2	1	SS	Ground surface elevation estimated from topographic mapping provided by Burke	26.0		
Brown and gray, moist, silty clay with trace sand and coal (FILL)	394.5	3.5	2	SS		22.6		
Gray, moist, stiff to soft, SILTY CLAY (CL) with trace sand	390.0	8.0	3	ST	Sample No. 3: Unconfined compressive strength = 0.4 tsf Dry density = 102.7 pcf Atterberg Limits: LL=28 PL=18 PI=10	22.6		
Brown and gray, moist, soft, SILTY CLAY (CL) with trace sand	385.0	13.0	4	SS		0-1-3	20.3	
Brown, moist, soft, SILTY CLAY (CL) with trace sand	380.0	18.0	5	SS		0-1-3	26.3	
Brown, moist, stiff, SILTY CLAY (CL) with little sand	377.0	21.0	6	SS		2-2-3	25.2	
Gray and brown, very severely weathered, SHALE	375.0	23.0	7	SS		2-2-3	21.3	
Gray, very severely to severely weathered, SHALE	370.5	27.5	8	SS		3-4-8	20.2	
Bottom of Test Boring at 27.5 ft.			9	SS		16-24-7	14.8	
			10	SS		8-500.3	9.0	
			11	SS		16-27-40		

Sample Type: SS - Driven Split Spoon, ST - Pressed Shelby Tube, CA - Continuous Flight Auger, RC - Rock Core, CU - Cuttings, CT - Continuous Tube
 Depth to Groundwater: 11.0 ft. Noted on Drilling Tools, At Completion, After, Cave Depth
 Boring Method: HSA - Hollow Stem Augers, CFA - Continuous Flight Augers, CA - Casing Advancer, MD - Mud Drilling, HA - Hand Auger

CLIENT Christopher B. Burke Engineering, Ltd. BORING # B-3
 PROJECT NAME Quail Crossing Dam Evaluation JOB # 170GC01064
 PROJECT LOCATION Quail Crossing Drive and S.R. 261
 Boonville, Indiana

DRILLING and SAMPLING INFORMATION TEST DATA
 Date Started 11/30/23 Hammer Wt. 140 lbs.
 Date Completed 11/30/23 Hammer Drop 30 in.
 Drill Foreman M. Ladish Spoon Sampler OD 2.0 in.
 Inspector D. Homm Rock Core Dia. -- in.
 Boring Method HSA Shelby Tube OD 3.0 in.

Soil Classification	Stratum	Elevation	Depth	Sample No.	Sample Type	Moisture Content, %	Standard Penetration Test, Blows per 6 in. Increments	Remarks
4 in. Topsoil	397.7	0.3	1	SS	Ground surface elevation estimated from topographic mapping provided by Burke	22.7		
Gray and brown, moist, silty clay with trace sand and coal fragments (FILL)	394.5	3.5	2	SS		25.6		
Gray and black, moist, silty clay with trace coal and shale fragments (FILL)	390.0	8.0	3	SS		2-2-3	26.5	
Brown and black, moist, silty clay with some coal (FILL)	387.0	11.0	4	SS		0-1-2	25.4	
Gray, moist, very soft, SILTY CLAY (CL) with trace sand	385.0	13.0	5	SS		1-1-2	27.2	
Brown and gray, moist, very soft to soft, SILTY CLAY (CL) with trace sand	380.0	18.0	6	SS		2-2-2	24.1	
Brown, moist, stiff, SILTY CLAY (CL) with trace sand	377.0	21.0	7	SS		2-2-9	22.9	
Gray and brown, very severely weathered, SHALE	375.0	23.0	8	SS		2-4-9	28.4	
Gray, very severely to severely weathered, SHALE	372.5	25.5	9	SS		10-14-28	25.1	
Bottom of Test Boring at 27.9 ft.	370.1	27.9	10	SS		31-40-500.4	17.2	

Sample Type: SS - Driven Split Spoon, ST - Pressed Shelby Tube, CA - Continuous Flight Auger, RC - Rock Core, CU - Cuttings, CT - Continuous Tube
 Depth to Groundwater: 15.5 ft. Noted on Drilling Tools, At Completion, After, Cave Depth
 Boring Method: HSA - Hollow Stem Augers, CFA - Continuous Flight Augers, CA - Casing Advancer, MD - Mud Drilling, HA - Hand Auger

CLIENT Christopher B. Burke Engineering, Ltd. BORING # B-2
 PROJECT NAME Quail Crossing Dam Evaluation JOB # 170GC01064
 PROJECT LOCATION Quail Crossing Drive and S.R. 261
 Boonville, Indiana

DRILLING and SAMPLING INFORMATION TEST DATA
 Date Started 11/30/23 Hammer Wt. 140 lbs.
 Date Completed 11/30/23 Hammer Drop 30 in.
 Drill Foreman M. Ladish Spoon Sampler OD 2.0 in.
 Inspector D. Homm Rock Core Dia. -- in.
 Boring Method HSA Shelby Tube OD 3.0 in.

Soil Classification	Stratum	Elevation	Depth	Sample No.	Sample Type	Moisture Content, %	Standard Penetration Test, Blows per 6 in. Increments	Remarks
3 in. Topsoil	397.7	0.3	1	SS	Ground surface elevation estimated from topographic mapping provided by Burke	26.8		
Brown, very moist, silty clay with some sand, trace coal, and shale fragments (FILL)	394.5	3.5	2	ST		29.3		
Gray, moist, silty clay with trace sand and coal fragments (FILL)	387.0	11.0	3	SS	Sample No. 2: Dry density = 93.7 pcf Atterberg Limits: LL=33 PL=22 PI=11	24.3		
Gray and brown, moist, medium stiff, SILTY CLAY (CL) with trace sand	380.0	18.0	4	SS		0-1-2	23.7	
Gray, moist, medium stiff, SILTY CLAY (CL)	385.0	13.0	5	SS		1-3-3	23.7	
Brown, moist, soft to medium stiff, SILTY CLAY (CL)	382.0	16.0	6	SS	Sample No. 6: Atterberg Limits: LL=33 PL=21 PI=12	3-3-4	24.9	
Brown and gray, moist, medium stiff, SILTY CLAY (CL)	377.0	21.0	7	SS		1-2-3	21.5	
Brown and gray, moist, medium stiff, SILTY CLAY (CL) with trace sand and weathered shale fragments	372.5	25.5	8	SS		3-2-4	24.0	
Bottom of Test Boring at 25.6 ft.	372.4	25.6	9	SS		1-2-7	17.1	
			10	SS		20-21-24	22.8	

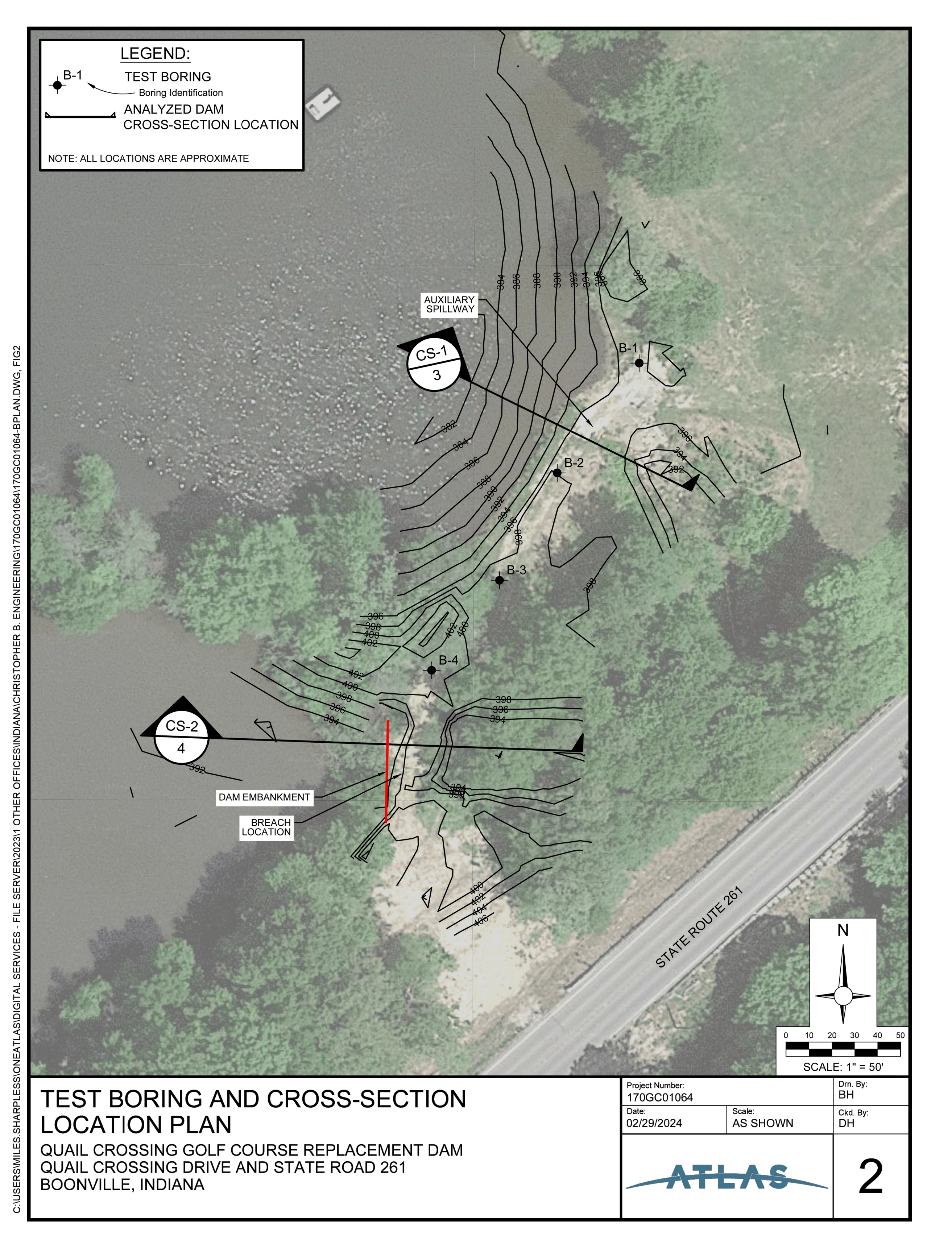
Sample Type: SS - Driven Split Spoon, ST - Pressed Shelby Tube, CA - Continuous Flight Auger, RC - Rock Core, CU - Cuttings, CT - Continuous Tube
 Depth to Groundwater: 18.0 ft. Noted on Drilling Tools, At Completion, After, Cave Depth
 Boring Method: HSA - Hollow Stem Augers, CFA - Continuous Flight Augers, CA - Casing Advancer, MD - Mud Drilling, HA - Hand Auger

CLIENT Christopher B. Burke Engineering, Ltd. BORING # B-4
 PROJECT NAME Quail Crossing Dam Evaluation JOB # 170GC01064
 PROJECT LOCATION Quail Crossing Drive and S.R. 261
 Boonville, Indiana

DRILLING and SAMPLING INFORMATION TEST DATA
 Date Started 12/1/23 Hammer Wt. 140 lbs.
 Date Completed 12/1/23 Hammer Drop 30 in.
 Drill Foreman M. Ladish Spoon Sampler OD 2.0 in.
 Inspector D. Homm Rock Core Dia. -- in.
 Boring Method HSA Shelby Tube OD 3.0 in.

Soil Classification	Stratum	Elevation	Depth	Sample No.	Sample Type	Moisture Content, %	Standard Penetration Test, Blows per 6 in. Increments	Remarks
5 in. Topsoil	399.6	0.4	1	SS	Ground surface elevation estimated from topographic mapping provided by Burke	17.2		
Light brown and gray, moist, silty clay with trace sand (FILL)	394.0	6.0	2	SS	Sample No. 2: Dry density = 93.7 pcf Atterberg Limits: LL=45 PL=21 PI=24	5-4-5	19.7	
Gray and light brown, moist, silty clay with trace shale fragments (FILL)	391.5	8.5	3	SS		2-3-3	24.0	
Gray, moist, silty clay with some sand and trace shale (FILL)	389.0	11.0	4	SS		2-2-3	25.1	
Gray, moist, very soft, SILTY CLAY (CL) with trace sand	387.0	13.0	5	SS		0-1-1	21.8	
Gray and brown, moist, soft, SILTY CLAY (CL) with trace sand	382.0	18.0	6	SS		3-2-2	32.7	
Gray, moist, very soft, SILTY CLAY (CL) with trace roots and sand	377.0	23.0	7	SS	Sample No. 8: Atterberg Limits: LL=29 PL=17 PI=12 Organic Content = 2.1%	1-2-1	27.2	
Gray and brown, moist, very soft, SANDY CLAY (CL)	374.0	26.0	8	SS		1-1-2	18.9	
Brown and gray, very severely weathered, SHALE	372.5	27.5	9	ST		13-21-36	25.8	
Gray, very severely weathered, SHALE	370.6	29.4	10	SS		41-500.4	14.7	
Bottom of Test Boring at 29.4 ft.			11	SS				

Sample Type: SS - Driven Split Spoon, ST - Pressed Shelby Tube, CA - Continuous Flight Auger, RC - Rock Core, CU - Cuttings, CT - Continuous Tube
 Depth to Groundwater: 17.5 ft. Noted on Drilling Tools, At Completion, After, Cave Depth
 Boring Method: HSA - Hollow Stem Augers, CFA - Continuous Flight Augers, CA - Casing Advancer, MD - Mud Drilling, HA - Hand Auger

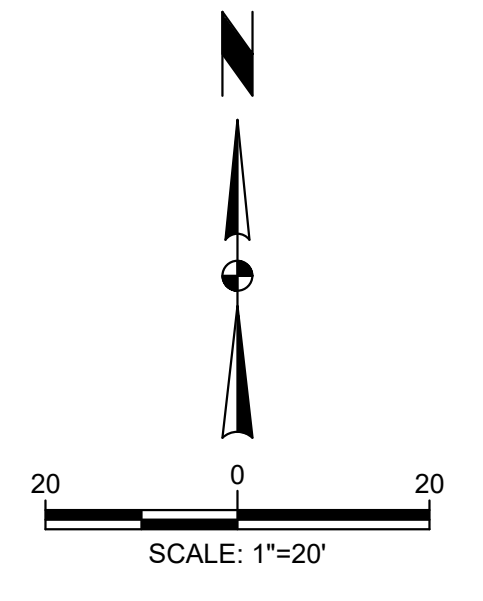




LEGEND

- EXISTING CONTOURS
- STORM SEWER
- WATER FLOW LINE
- TOP OF BANK
- TOE OF SLOPE
- POST
- BENCHMARK
- REBAR
- CLEARING AND GRUBBING LIMITS
- WETLAND
- CONCRETE SPILLWAY REMOVAL
- ACCESS ROAD
- STONE STAGING AREA
- CONSTRUCTION LIMITS
- UNNAMED TRIBUTARY (UNT)

- NOTES:**
1. TOPOGRAPHIC AND PLANIMETRIC INFORMATION IS SHOWN PER A SURVEY PERFORMED BY SJCA INC. COMPLETED IN 2020.
 2. AERIAL PHOTOGRAPHY (2023) IS SHOWN FOR REFERENCE ONLY.
 3. WETLANDS AND UNNAMED TRIBUTARIES WERE DELINEATED BY BURKE ON SEPTEMBER 1, 2020.
 4. WITHIN CLEARING AND GRUBBING LIMITS, REMOVE TREES, BRUSH, TOPSOIL, GRAVEL, DETRITUS, AND OTHER EXTRANEOUS MATERIALS. REMOVE A MINIMUM OF 6 INCHES OF SURFACE MATERIAL. ROOTBALLS OF TREES AND BRUSH MUST BE REMOVED. REMOVE ALL CLEARED AND GRUBBED MATERIAL OFFSITE.
 5. ADJUST ACCESS ROAD ALIGNMENT ON OWNER'S PROPERTY AS REQUIRED, WITH APPROVAL OF OWNER AND ENGINEER, TO MINIMIZE CONFLICTS AND CLEARING.
 6. LOCATION AND EXTENTS OF STONE STAGING AREA MAY BE ADJUSTED ON OWNER'S PROPERTY WITH APPROVAL OF OWNER AND ENGINEER. USE ACCESS ROAD SECTION FOR STONE STAGING AREA. REMOVE STONE STAGING AREA FOLLOWING CONSTRUCTION.

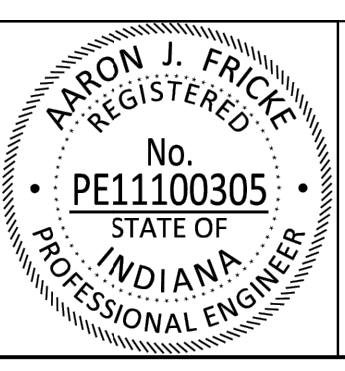


July 3, 2025
 R:\2020\20-0296\0000\CAD\20-0296_EX1.dwg

CB BURKE
CHRISTOPHER B. BURKE ENGINEERING, LLC
 111 Monument Circle, Suite 3500
 Indianapolis, Indiana 46204
 (317) 266-8000 FAX: (317) 632-3306

PROJECT:
QUAIL CROSSING GOLF COURSE DAM REHABILITATION
 WARRICK COUNTY, INDIANA

NO.	DATE	NATURE OF REVISION	AJF	CHKD.	SCALE:	REFER TO SHEET
1	7/03/25	ISSUED FOR BID	AJF			
					DATE:	7/3/2025



TITLE:
EXISTING CONDITIONS AND DEMOLITION PLAN

PROJECT NO.
20-0296.00000
 SHEET 4 OF 17
 DRAWING NO.
EX1

Aaron J. Fricke 07/03/2025



LEGEND

---400--- ---396---	EXISTING CONTOURS	---400--- ---396---	PROPOSED CONTOURS
—ST—	STORM SEWER	[Pattern]	70T ARTICULATED CONCRETE BLOCK MATS (OR APPROVED EQUAL)
—000—	WATER FLOW LINE	[Pattern]	40T ARTICULATED CONCRETE BLOCK MATS (OR APPROVED EQUAL)
—▽—	TOP OF BANK	[Pattern]	RIPRAP
—△—	TOE OF SLOPE	[Pattern]	ACCESS ROAD
⊙	POST	[Pattern]	STONE STAGING AREA
⊗	BENCHMARK	[Pattern]	WETLAND
△	REBAR	—>—	UNNAMED TRIBUTARY
		---	CONSTRUCTION LIMITS
		—○—	SUBSURFACE DRAIN PIPE WITH CLEANOUT

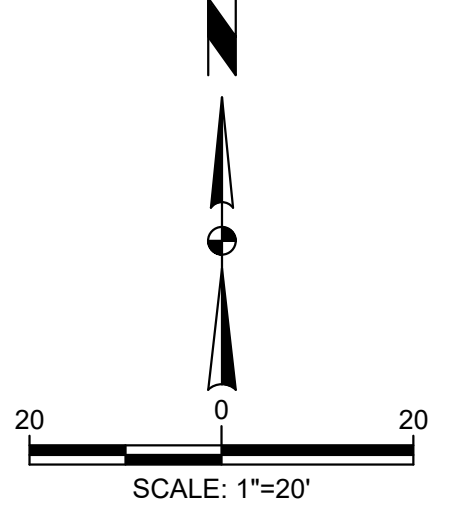
- ### GENERAL NOTES:
- TOPOGRAPHIC AND PLANIMETRIC INFORMATION IS SHOWN PER A SURVEY PERFORMED BY S.J.A. INC. COMPLETED IN 2020.
 - AERIAL PHOTOGRAPHY (2023) IS SHOWN FOR REFERENCE ONLY.
 - WETLANDS AND UNNAMED TRIBUTARIES WERE DELINEATED BY BURKE ON SEPTEMBER 1, 2020.
 - ADJUST ACCESS ROAD ALIGNMENT ON OWNER'S PROPERTY AS REQUIRED, WITH APPROVAL OF OWNER AND ENGINEER, TO MINIMIZE CONFLICTS AND CLEARING.
 - LOCATION AND EXTENTS OF STONE STAGING AREA MAY BE ADJUSTED ON OWNER'S PROPERTY WITH APPROVAL OF OWNER AND ENGINEER. USE ACCESS ROAD SECTION FOR STONE STAGING AREA. REMOVE STONE STAGING AREA FOLLOWING CONSTRUCTION.

- ### EARTHWORK NOTES:
- OVEREXCAVATION AND REMOVAL OF UNSUITABLE SOILS IS REQUIRED. SEE SHEET PP1 FOR A PROFILE ALONG THE PROJECT BASELINE ALIGNMENT AND SHEETS XS1 AND XS2 FOR CROSS-SECTIONS. REMOVAL OF ADDITIONAL MATERIALS MAY BE REQUIRED BASED ON CONDITIONS ENCOUNTERED. THE EXPOSED FOUNDATION SOIL SHALL BE THOROUGHLY INSPECTED BY ENGINEER AND PROOF ROLLED WITH SUITABLE EQUIPMENT TO CHECK FOR ZONES OF SOFT MATERIAL PRIOR TO PLACEMENT OF EMBANKMENT FILL.
 - ALL NEW EMBANKMENT FILL MATERIAL PLACED AGAINST EXISTING ABUTMENTS OR SLOPES SHALL BE BENCHED TO PROMOTE A GOOD BOND BETWEEN NEW AND EXISTING SOILS. REFER TO DETAIL 4/MD1 FOR BENCHING DETAILS.
 - REFER TO THE INDIANA DEPARTMENT OF NATURAL RESOURCES ABANDONED MINE LANDS PROGRAM STANDARD SPECIFICATIONS AND PROJECT-SPECIFIC SPECIAL PROVISIONS FOR BORROW MATERIAL REQUIREMENTS AND ADDITIONAL EARTHWORK REQUIREMENTS.
 - CONTOURS AS SHOWN ON THE DRAWINGS REFLECT PROPOSED GRADE TYING INTO THE EXISTING GRADE AND DO NOT REFLECT THE REQUIRED OVEREXCAVATION AND REMOVAL OF UNSUITABLE SOILS. REFER TO SHEETS PP1, XS1, AND XS2 FOR EXPECTED EXTENTS OF EARTHWORK. THE DESIGN INTENT IS TO PROVIDE SMOOTH SLOPES WITH POSITIVE DRAINAGE.

- ### ARTICULATED CONCRETE BLOCK NOTES:
- ARTICULATED CONCRETE BLOCK MATS SHALL BE ARMORFLEX 70T, 40T, OR APPROVED EQUAL BASED ON LOCATION INDICATED ON THE DRAWINGS.
 - ENGINEER SHALL VISUALLY INSPECT SUBGRADE PRIOR TO PLACEMENT OF FILTER SAND AND AGAIN PRIOR TO PLACEMENT OF GEOTEXTILE FABRIC. SUBGRADE SHALL BE PREPARED SUCH THAT A UNIFORM SLOPE IS CREATED WHEN ARTICULATED CONCRETE BLOCK MATS ARE INSTALLED.
 - ENGINEER SHALL VISUALLY INSPECT AGGREGATE AND GEOGRID INSTALLATION PRIOR TO PLACING ARTICULATED CONCRETE BLOCK MATS.
 - BACKFILL ARTICULATED CONCRETE BLOCK MATS WITH INDOT NO. 8 COARSE AGGREGATE.
 - VERIFY SUBSURFACE DRAIN PIPE INVERT ELEVATIONS WITH ENGINEER PRIOR TO INSTALLATION.
 - RAT GUARD SHALL BE 6" STAINLESS STEEL BY AGRIDRAIN CORPORATION OR APPROVED EQUAL.

SPECIAL NOTE:

THE SOUTH (RIGHT) ABUTMENT WAS NOT ACCESSIBLE DURING THE GEOTECHNICAL INVESTIGATION. ADDITIONAL INVESTIGATION BY ENGINEER IS REQUIRED IN THIS AREA PRIOR TO PLACING EMBANKMENT FILL WHICH MAY INCLUDE, BUT IS NOT LIMITED TO, ADDITIONAL SOIL BORINGS AND/OR VISUAL OBSERVATION. CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER WHEN THE SOUTH (RIGHT) ABUTMENT IS ACCESSIBLE TO COMMENCE THE INVESTIGATION.

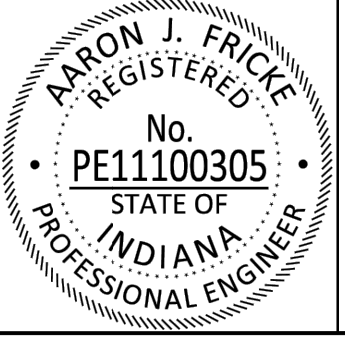


July 1, 2025
 R:\2020\20-0296\00000\CAD\20-0296_SP1.dwg

CHRISTOPHER B. BURKE ENGINEERING, LLC
 111 Monument Circle, Suite 3500
 Indianapolis, Indiana 46204
 (317) 266-8000 FAX: (317) 632-3306

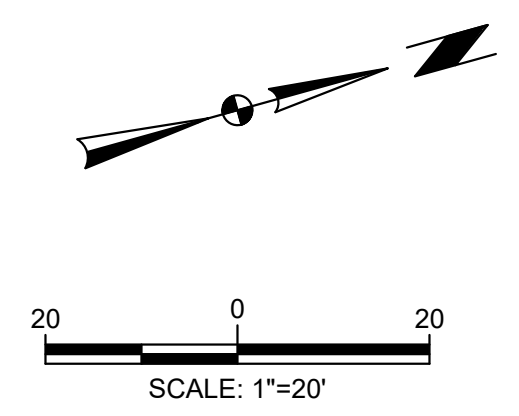
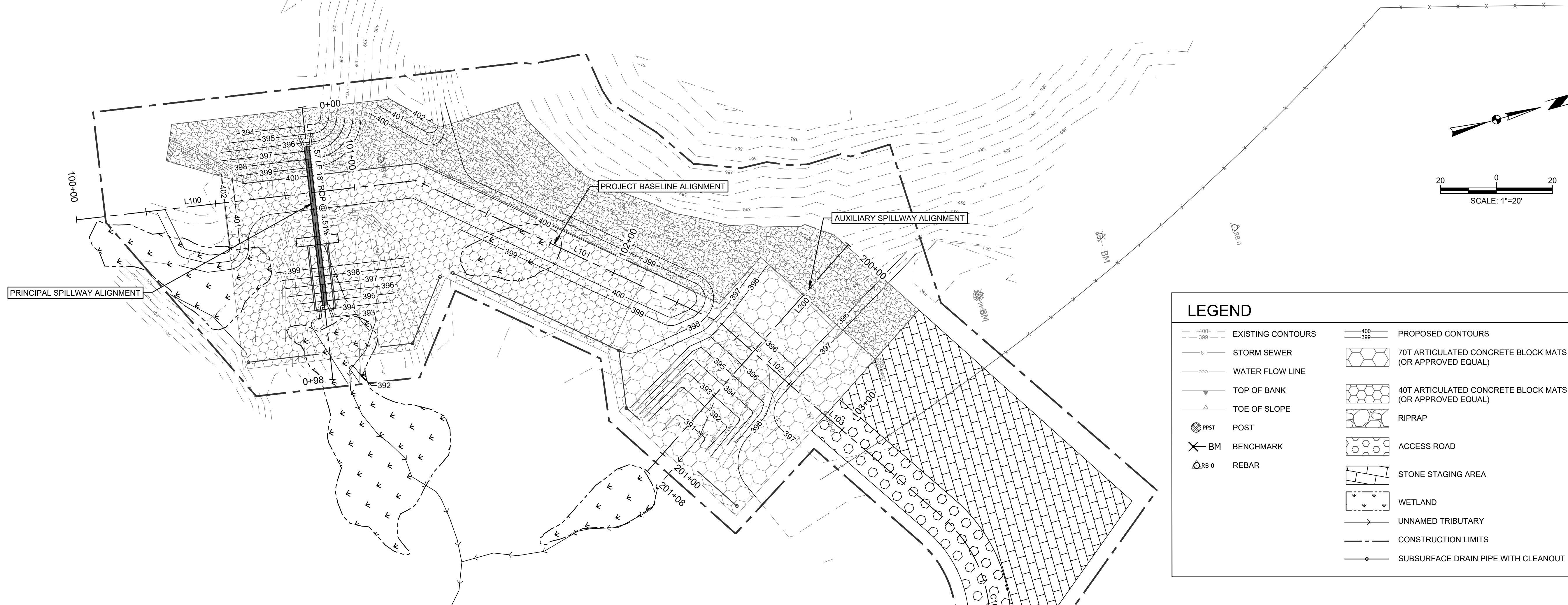
PROJECT:
QUAIL CROSSING GOLF COURSE DAM REHABILITATION
 WARRICK COUNTY, INDIANA

1	7/03/25	ISSUED FOR BID	AJF	CHKD.	JDF
NO.	DATE	NATURE OF REVISION	AJF	SCALE:	REFER TO SHEET
FILE NAME	20-0296_SP1.dwg		CHKD.	DATE:	7/3/2025

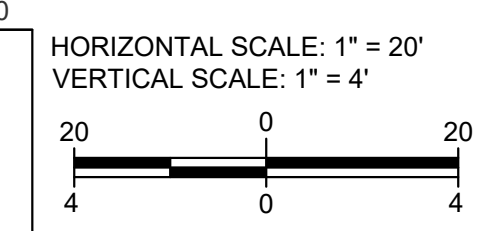
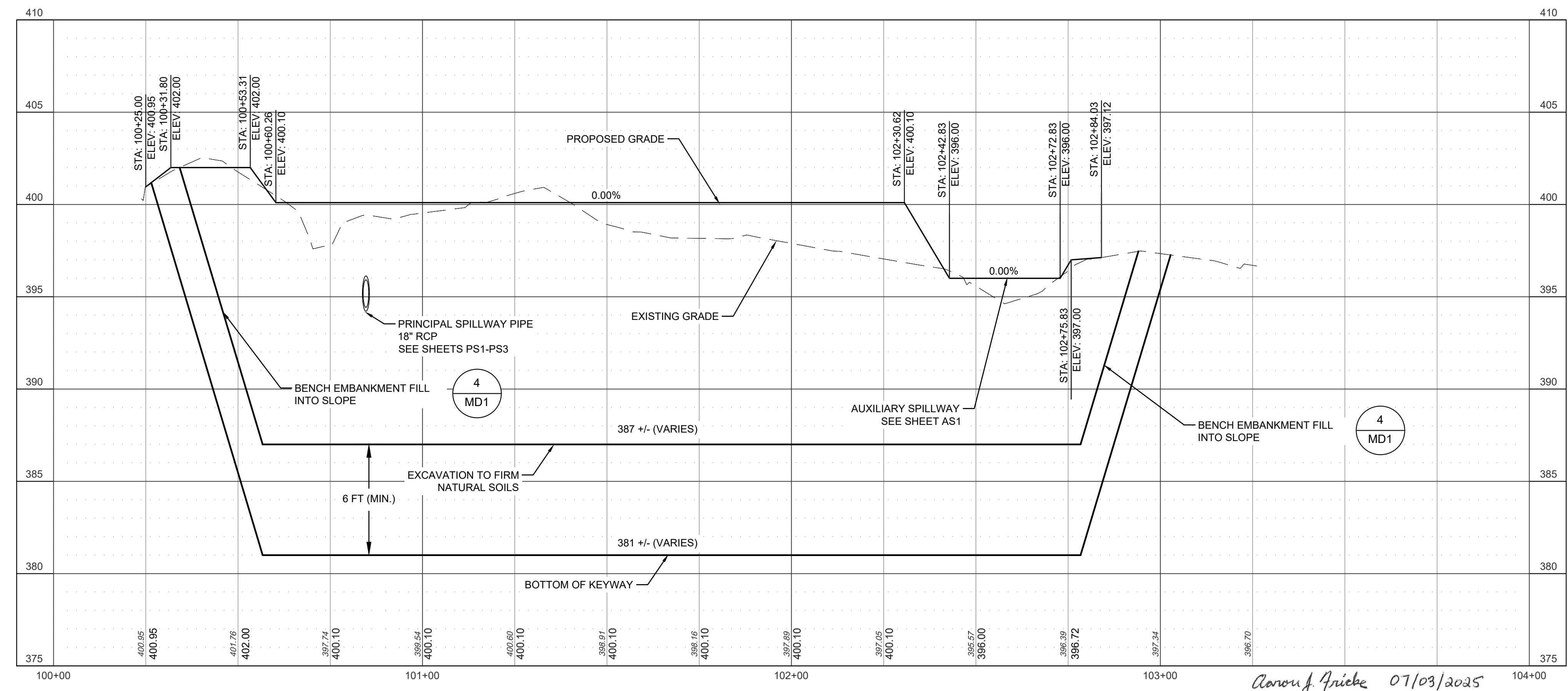


TITLE: **SITE PLAN**

PROJECT NO. 20-0296.00000
 SHEET 5 OF 17
 DRAWING NO. **SP1**



LEGEND			
	EXISTING CONTOURS		PROPOSED CONTOURS
	STORM SEWER		70T ARTICULATED CONCRETE BLOCK MATS (OR APPROVED EQUAL)
	WATER FLOW LINE		40T ARTICULATED CONCRETE BLOCK MATS (OR APPROVED EQUAL)
	TOP OF BANK		RIPRAP
	TOE OF SLOPE		ACCESS ROAD
	POST		STONE STAGING AREA
	BENCHMARK		WETLAND
	REBAR		UNNAMED TRIBUTARY
			CONSTRUCTION LIMITS
			SUBSURFACE DRAIN PIPE WITH CLEANOUT



July 3, 2025
 R:\2020\20-0296\00000\CAD\20-0296_PP2.dwg

CHRISTOPHER B. BURKE ENGINEERING, LLC
 111 Monument Circle, Suite 3500
 Indianapolis, Indiana 46204
 (317) 266-8000 FAX: (317) 632-3306

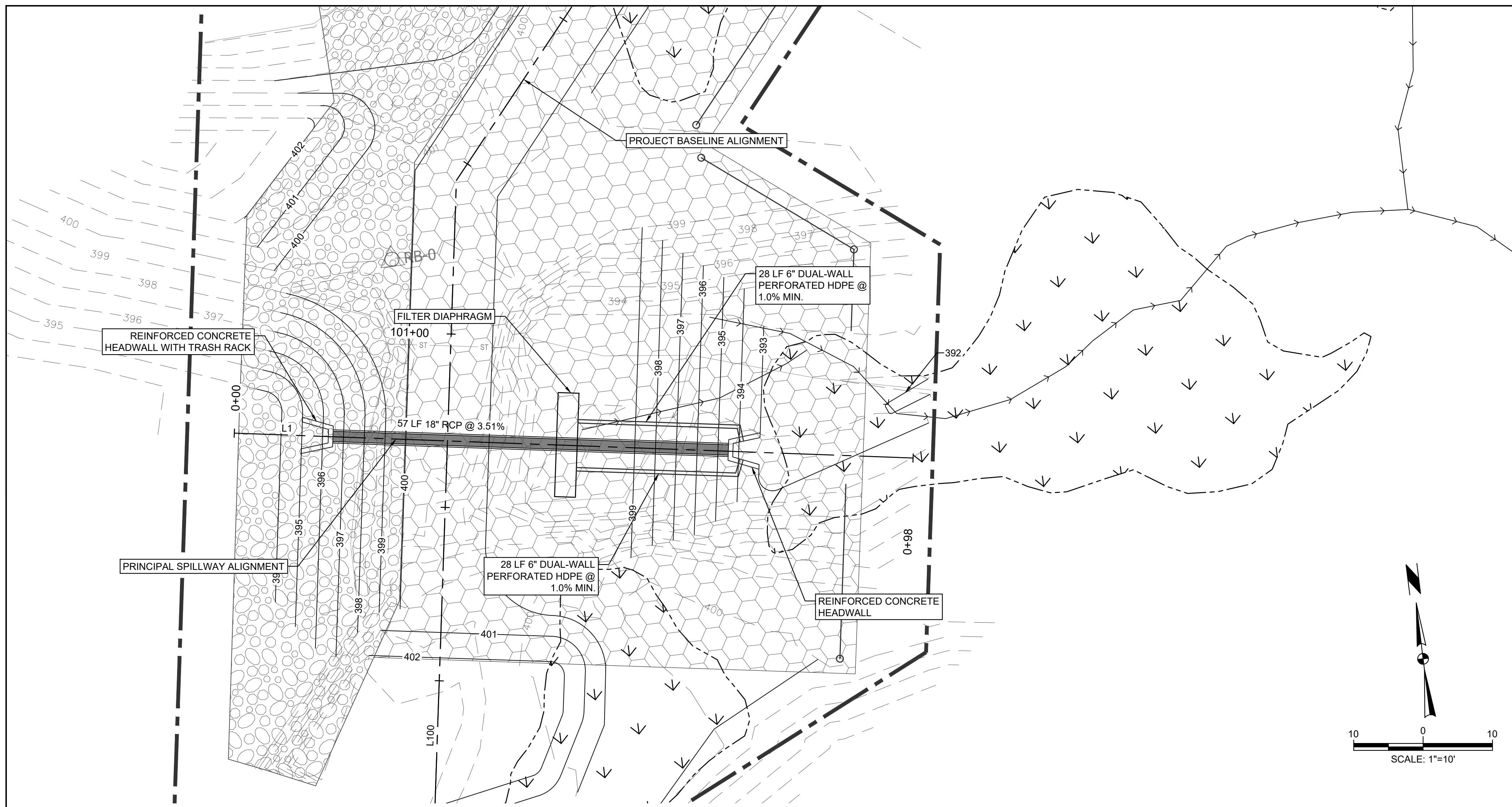
PROJECT:
QUAIL CROSSING GOLF COURSE DAM REHABILITATION
 WARRICK COUNTY, INDIANA

NO.	DATE	NATURE OF REVISION	AJF CHKD.
1	7/03/25	ISSUED FOR BID	AJF
		NATURE OF REVISION	
		FILE NAME	20-0296_PP2.dwg

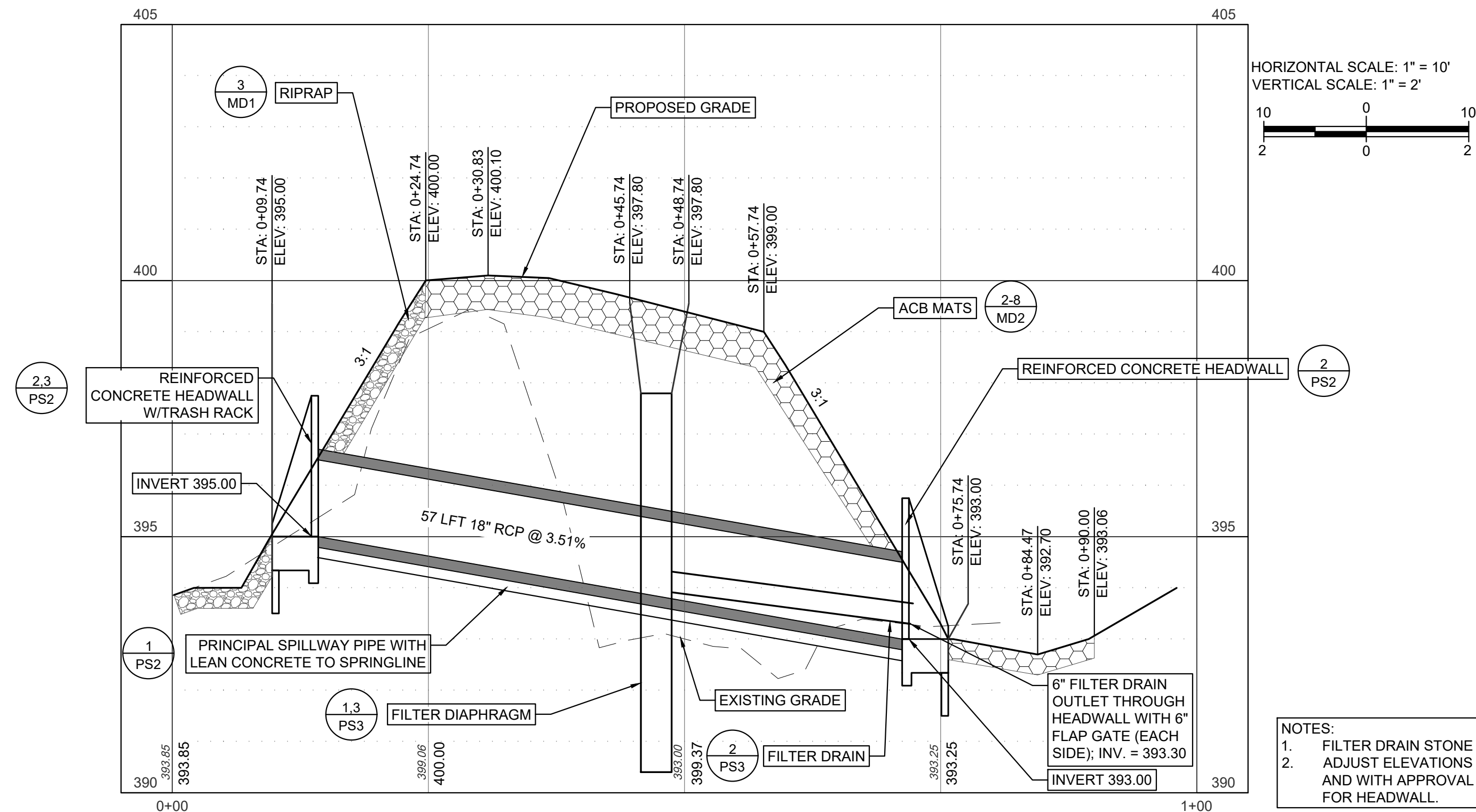
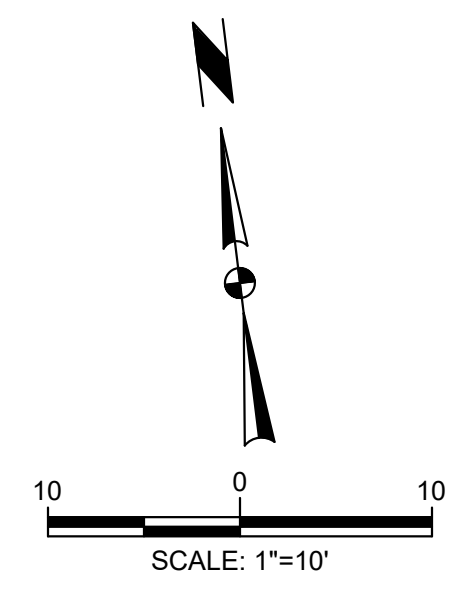
Aaron J. Fricke 07/03/2025

TITLE:
DAM PLAN AND PROFILE

PROJECT NO.
 20-0296.00000
 SHEET 6 OF 17
 DRAWING NO.
PP1



LEGEND			
	EXISTING CONTOURS		PROPOSED CONTOURS
	STORM SEWER		70T ARTICULATED CONCRETE BLOCK MATS (OR APPROVED EQUAL)
	WATER FLOW LINE		40T ARTICULATED CONCRETE BLOCK MATS (OR APPROVED EQUAL)
	TOP OF BANK		RIPRAP
	TOE OF SLOPE		ACCESS ROAD
	POST		STONE STAGING AREA
	BENCHMARK		WETLAND
	REBAR		UNNAMED TRIBUTARY
			CONSTRUCTION LIMITS
			SUBSURFACE DRAIN PIPE WITH CLEANOUT



HORIZONTAL SCALE: 1" = 10'
 VERTICAL SCALE: 1" = 2'

NOTES:
 1. FILTER DRAIN STONE AND SAND NOT SHOWN FOR CLARITY.
 2. ADJUST ELEVATIONS DOWNSTREAM OF HEADWALL ACCORDINGLY AND WITH APPROVAL OF ENGINEER BASED ON APPROVED SHOP DRAWINGS FOR HEADWALL.

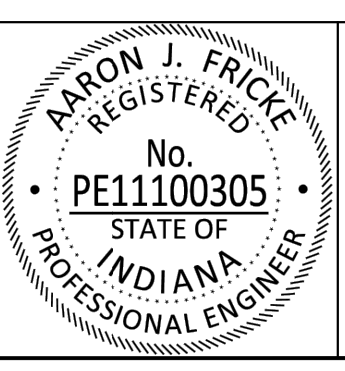
Arnon J. Fricke 07/03/2025

R:\2020\20-0296\00000\CAD\20-0296_P51.dwg
 7/3/2025
 11:20:20 AM

CB BURKE
CHRISTOPHER B. BURKE ENGINEERING, LLC
 111 Monument Circle, Suite 3500
 Indianapolis, Indiana 46204
 (317) 266-8000 FAX: (317) 632-3306

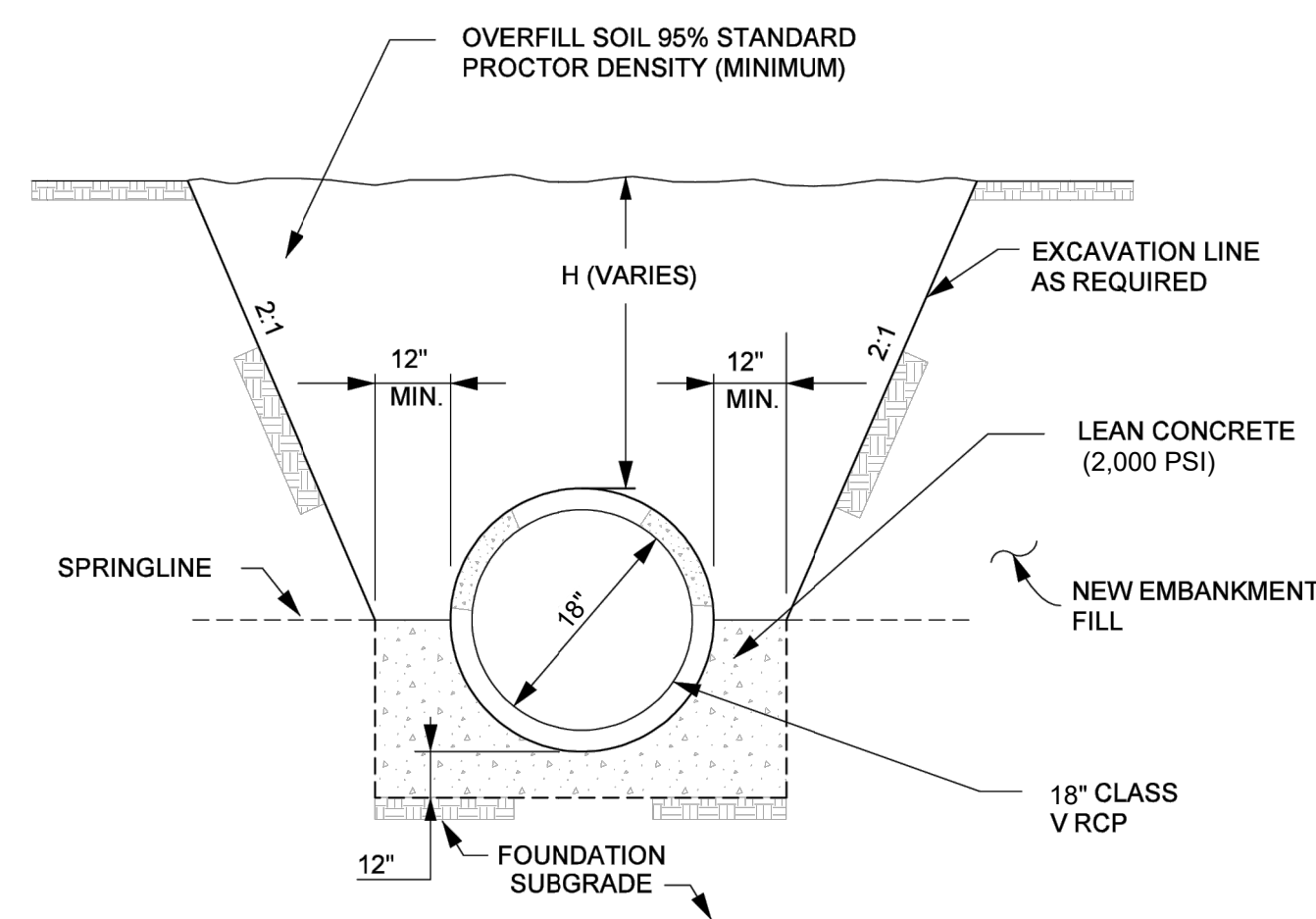
PROJECT:
QUAIL CROSSING GOLF COURSE DAM REHABILITATION
 WARRICK COUNTY, INDIANA

NO.	DATE	NATURE OF REVISION	AJF
1	7/03/25	ISSUED FOR BID	
			CHKD.
			DATE:



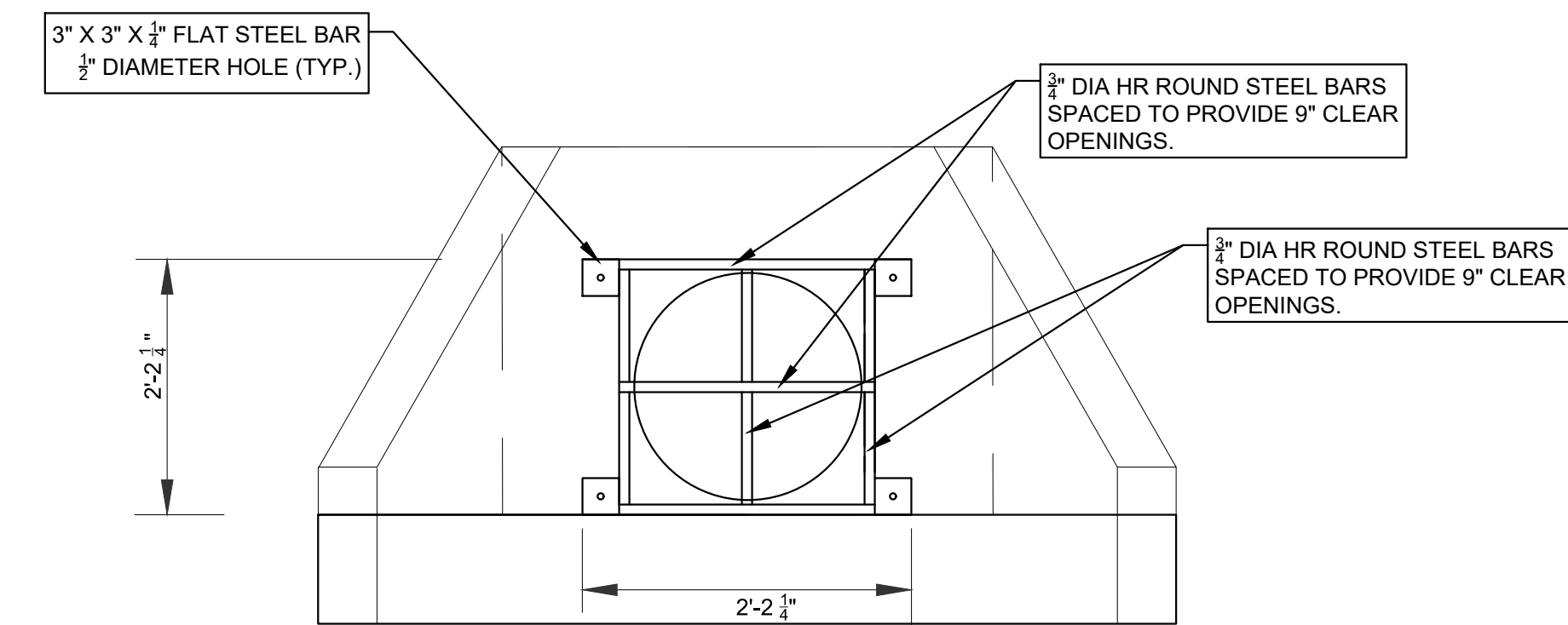
TITLE:
PRINCIPAL SPILLWAY PLAN AND PROFILE

PROJECT NO.
 20-0296.00000
 SHEET 7 OF 17
 DRAWING NO.
PS1



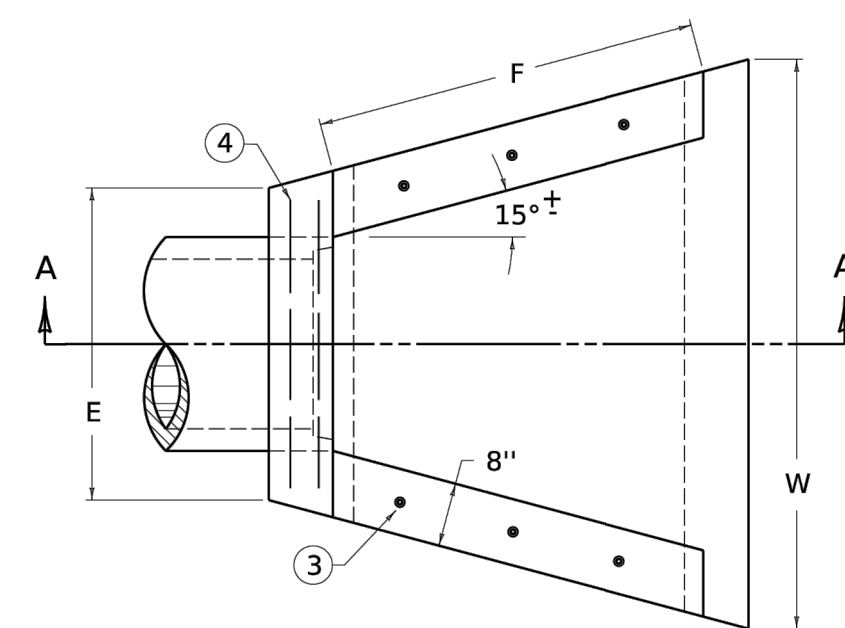
NOTE:
CONSTRUCT DAM EMBANKMENT ABOVE THE TOP OF PIPE ELEVATION AND EXCAVATE TRENCH THROUGH COMPACTED FILL TO REQUIRED ELEVATIONS FOR PIPE INSTALLATION. THE PARTIALLY COMPLETED DAM EMBANKMENT SHALL BE CONSTRUCTED TO AN ELEVATION SO THAT THE BACKFILL OVER THE PIPE WILL BE SUFFICIENT TO PROTECT IT FROM EQUIPMENT LOADS WHEN EMBANKMENT CONSTRUCTION RESUMES.

1 TRENCH INSTALLATION DETAIL
NOT TO SCALE

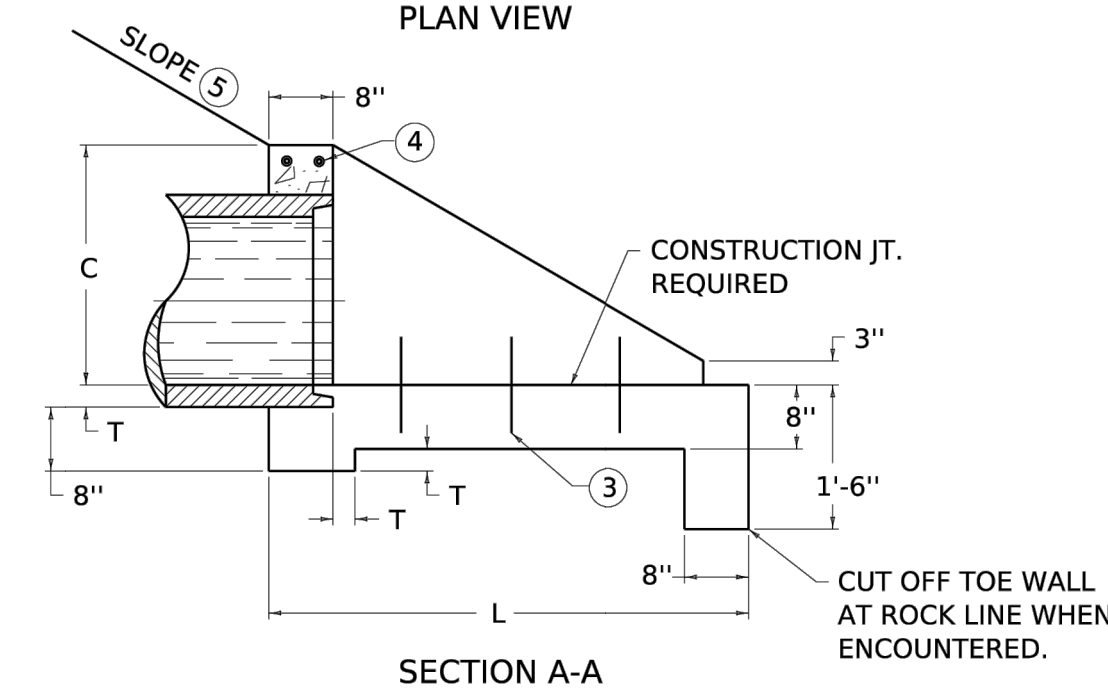


NOTES:
1. TRASH RACK BARS SHALL BE GALVANIZED STEEL.
2. TRASH RACK SHALL BE BOLTED WITH 3/8\"/>

3 TRASH RACK DETAIL
NOT TO SCALE



PLAN VIEW

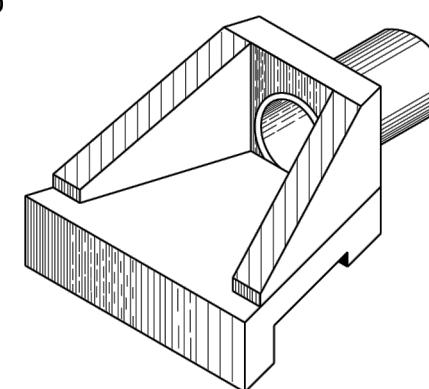


SECTION A-A

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

NOTES

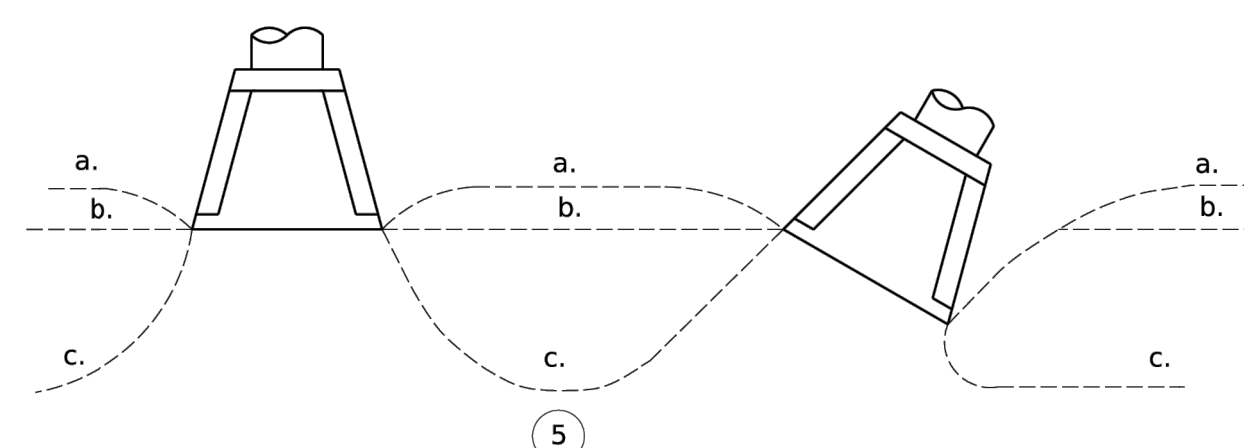
- DIMENSIONS AND QUANTITIES ARE BASED ON CONCRETE PIPE AND WILL VARY INSIGNIFICANTLY FOR CORRUGATED METAL PIPE.
- REINFORCING STEEL : MINIMUM GRADE 40, BARS EVENLY SPACED.
- 6 - NO. 4 x 1'-0" DOWEL BARS.
- 2 - NO. 4 x (E DIMENSION MINUS 4").
- SLOPES SHALL BE WARPED TO FIT HEADWALL WHEN PIPE IS SKEWED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



ISOMETRIC VIEW

MODIFICATION NOTE:

HEADWALL DIMENSIONS SHALL BE MODIFIED AS REQUIRED TO ACCOMMODATE TRASH RACK, FILTER DRAIN PIPE OUTLETS, AND FLAP GATES. IN ADDITION, ALTERNATIVE REINFORCED CONCRETE HEADWALL CONFIGURATIONS MAY BE SUBMITTED TO ENGINEER FOR APPROVAL.



TOE OF SLOPES:
a. STEEPER THAN 2:1
b. 2:1
c. FLATTER THAN 2:1

2 HEADWALL DETAIL
SOURCE: KENTUCKY DEPARTMENT OF HIGHWAYS
NOT TO SCALE

Arnon J. Fricke 07/03/2025

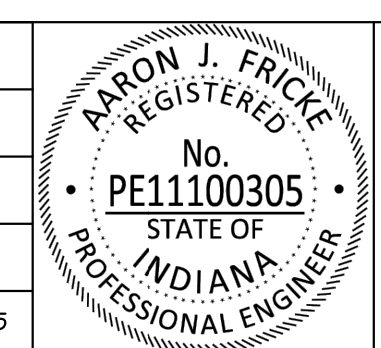
July 1, 2025
R:\2020\20-0296\0000\CAD\20-0296_P51.dwg

CB BURKE
CHRISTOPHER B. BURKE ENGINEERING, LLC
111 Monument Circle, Suite 3500
Indianapolis, Indiana 46204
(317) 266-8000 FAX: (317) 632-3306

PROJECT:
QUAIL CROSSING GOLF COURSE DAM REHABILITATION
WARRICK COUNTY, INDIANA

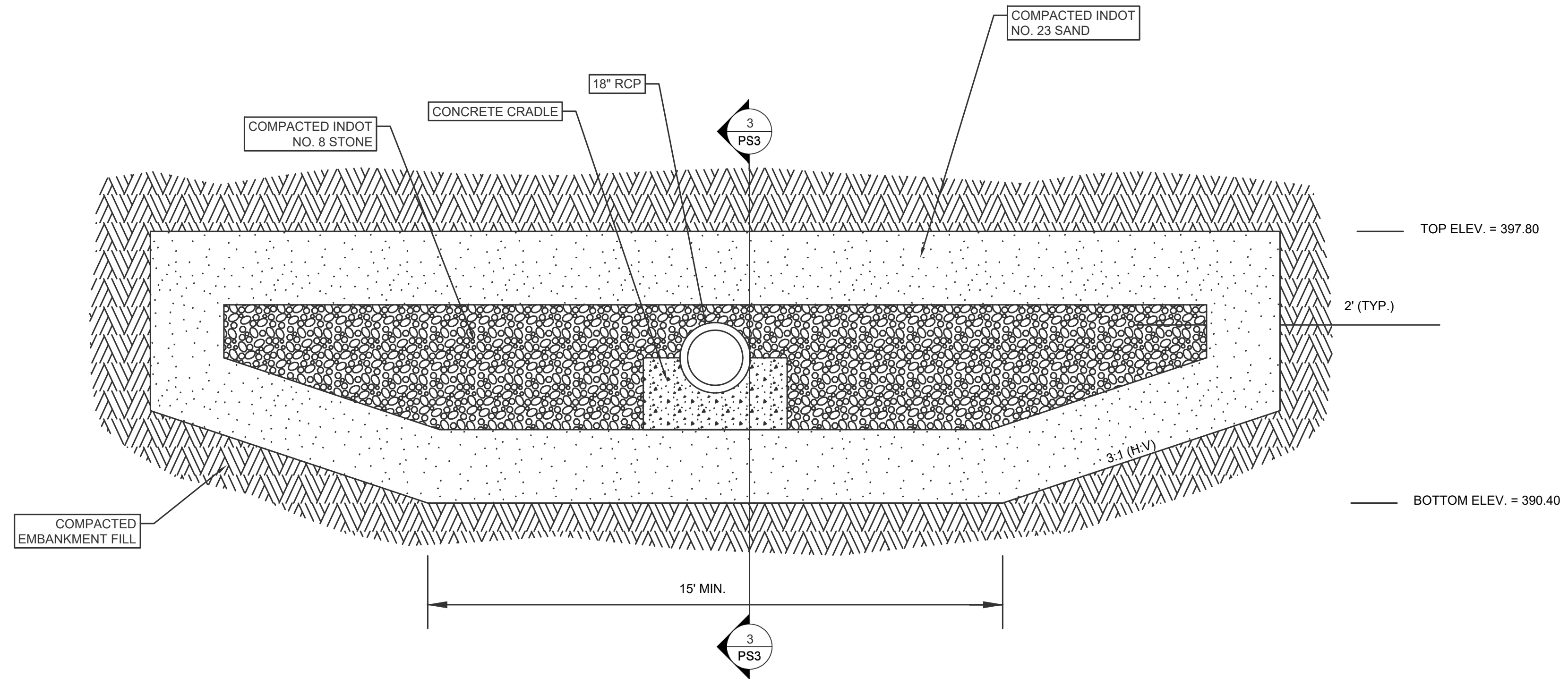
NO.	DATE	NATURE OF REVISION	AJF	CHKD.
1	7/03/25	ISSUED FOR BID	AJF	
FILE NAME	20-0296_P51.dwg			

DSGN. AJF
DWN. MVR
CHKD. JDF
SCALE: REFER TO SHEET
DATE: 7/3/2025

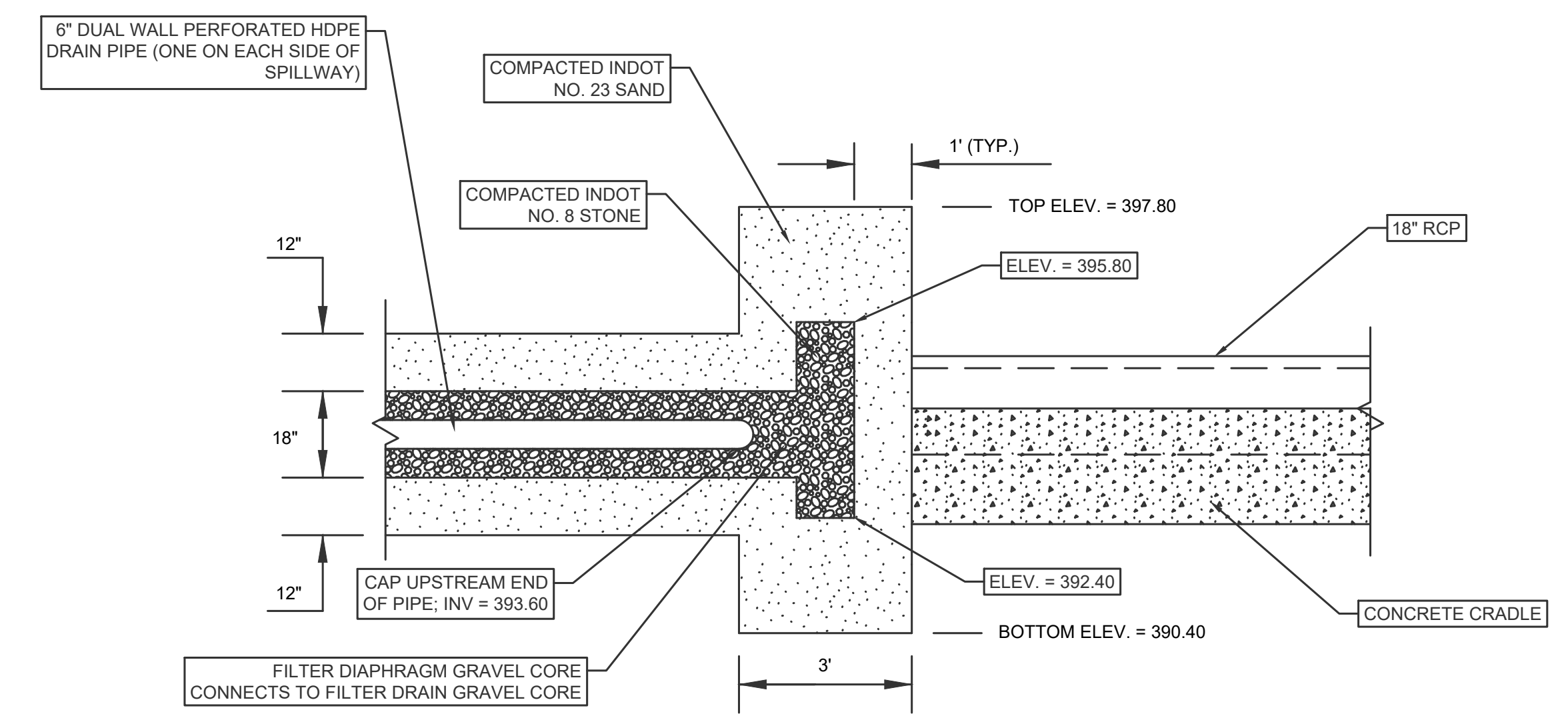


TITLE:
PRINCIPAL SPILLWAY DETAILS

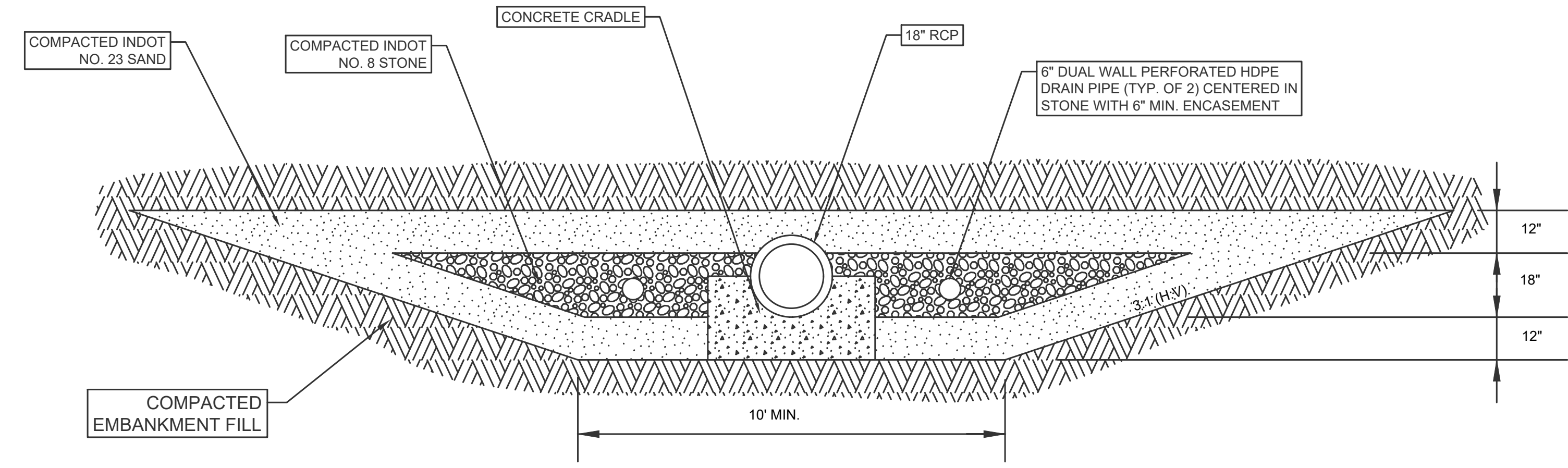
PROJECT NO. 20-0296.00000
SHEET 8 OF 17
DRAWING NO. **PS2**



1 FILTER DIAPHRAGM SECTION DETAIL
NOT TO SCALE



3 FILTER DIAPHRAGM SECTION DETAIL
NOT TO SCALE



2 FILTER DRAIN SECTION DETAIL
NOT TO SCALE

FILTER DIAPHRAGM AND DRAIN INSTALLATION NOTES:

1. EMPLOY HAULING, STORAGE, AND PLACEMENT TECHNIQUES TO AVOID SEGREGATION OF MATERIALS. USE RADIAL OR TENT-SHAPED STOCKPILES AND LIMIT HEIGHT TO AVOID LARGER PARTICLES ROLLING DOWN THE SIDE OF THE PILE. PROVIDE A PAD BETWEEN STOCKPILES AND THE GROUND SURFACE TO MINIMIZE CONTAMINATION. COVER MATERIALS DURING TRANSPORT AS REQUIRED TO AVOID CONTAMINATION BY DUST. SPREADING MATERIALS BY BLADING SHALL BE KEPT TO A MINIMUM TO AVOID SEGREGATION AND CONTAMINATION. WET MATERIALS AS REQUIRED AND WITH APPROVAL OF ENGINEER PRIOR TO HANDLING TO HELP MINIMIZE SEGREGATION.
2. PLACE FILTER MATERIALS IN 8-INCH LOOSE LIFTS. USE VIBRATORY ROLLERS OR VIBRATORY PLATE COMPACTORS TO ACHIEVE COMPACTION OF FILTER MATERIALS.
3. MAXIMUM DRY DENSITY OF COMPACTED SAND SHALL BE 95% OF THE DRY DENSITY DETERMINED BY COMPACTING A SINGLE SPECIMEN OF SAND (ONE POINT TEST) USING ENERGY AND METHODS OUTLINED IN ASTM D698, METHOD A. THE SAND SHALL BE THOROUGHLY AIR DRIED PRIOR TO COMPACTION.
4. TEST DENSITY OF FILTER SAND BY ASTM D2922 OR ASTM D1556. DETERMINE WATER CONTENT BY ASTM D2216, ASTM D4643, OR ASTM D4944.
5. DO NOT OVERCOMPACT FILTER MATERIALS TO AVOID PARTICLE BREAKAGE, INCREASED FINES CONTENT, AND OVERLY BRITTLE ZONES. APPLY THE MINIMUM REQUIRED COMPACTION EFFORT TO ACHIEVE THE DESIRED DENSITY.
6. DO NOT LEAVE AREAS BETWEEN THE FILTER/DRAIN AND ADJACENT MATERIALS UNCOMPACTED. OVERLAP VIBRATORY COMPACTION ONTO ADJACENT MATERIAL BY 1 FOOT. PERFORM DENSITY TESTING AT OR NEAR THE BOUNDARY TO VERIFY ADEQUATE COMPACTION.
7. AVOID CONTAMINATION OF THE FILTER AND DRAIN. FILTER MATERIALS SHALL BE MAINTAINED A MINIMUM OF 1 FOOT ABOVE ADJACENT MATERIALS. SLOPE ADJACENT MATERIALS SLIGHTLY TO DRAIN AWAY FROM FILTER AND DRAIN MATERIALS TO AVOID RUNOFF CARRYING FINE-GRAINED MATERIALS INTO THE FILTER. DO NOT TRACK HAULING EQUIPMENT ON THE FILTER AND DRAIN.

Arnon J. Fricke 07/03/2025

July 1, 2025
 R:\2020\20-0296\00000\CAD\20-0296_P51.dwg

CB BURKE
CHRISTOPHER B. BURKE ENGINEERING, LLC
 111 Monument Circle, Suite 3500
 Indianapolis, Indiana 46204
 (317) 266-8000 FAX: (317) 632-3306

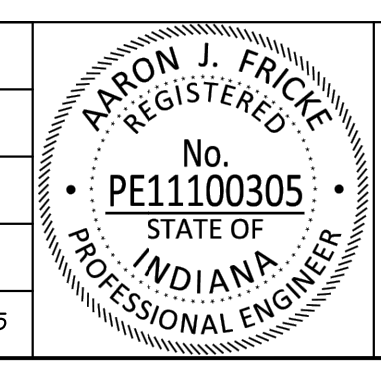
PROJECT:
QUAIL CROSSING GOLF COURSE DAM REHABILITATION
 WARRICK COUNTY, INDIANA

NO.	DATE	NATURE OF REVISION	CHKD.
1	7/03/25	ISSUED FOR BID	AJF
			CHKD.
			FILE NAME
			20-0296_P51.dwg

DSGN. AJF
 DWN. MVR
 CHKD. JDF
 SCALE: REFER TO SHEET
 DATE: 7/3/2025

TITLE:
PRINCIPAL SPILLWAY FILTER DIAPHRAGM DETAILS

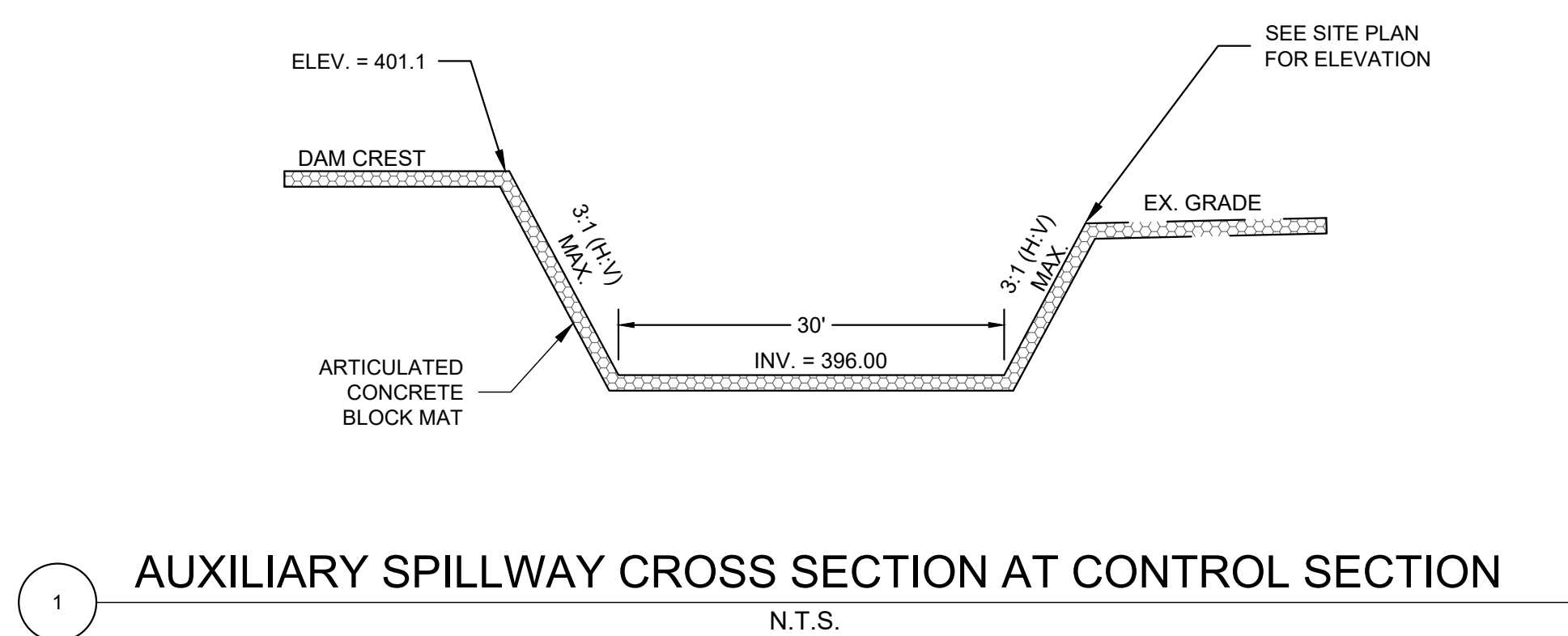
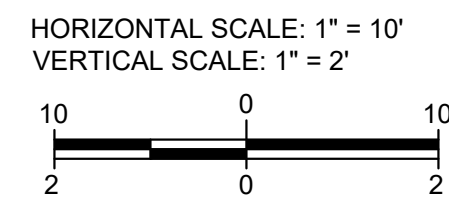
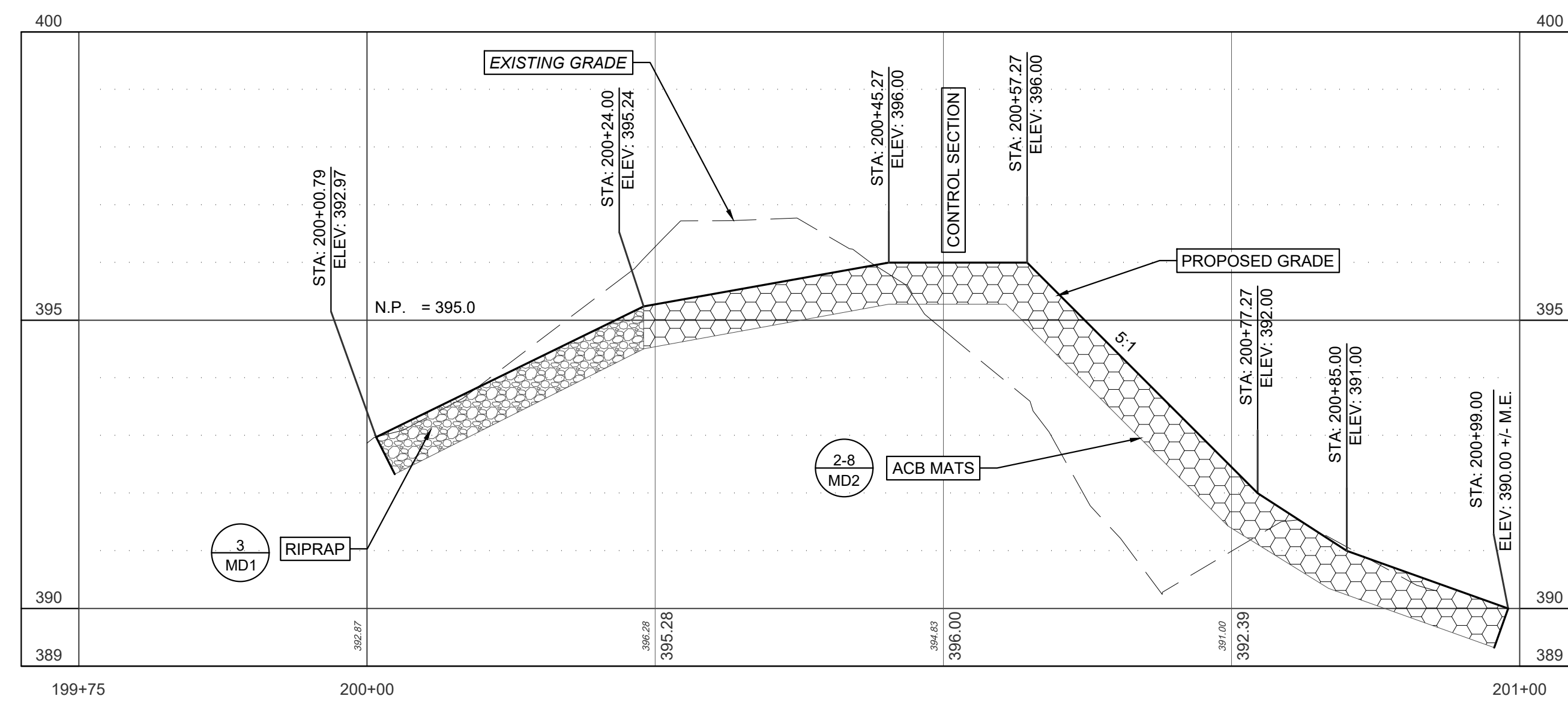
PROJECT NO. 20-0296.00000
 SHEET 9 OF 17
 DRAWING NO. **PS3**





LEGEND	
	EXISTING CONTOURS
	PROPOSED CONTOURS
	STORM SEWER
	WATER FLOW LINE
	TOP OF BANK
	TOE OF SLOPE
	POST
	BENCHMARK
	REBAR
	70T ARTICULATED CONCRETE BLOCK MATS
	40T ARTICULATED CONCRETE BLOCK MATS
	RIPRAP
	ACCESS ROAD
	STONE STAGING AREA
	WETLAND
	UNNAMED TRIBUTARY
	CONSTRUCTION LIMITS
	SUBSURFACE DRAIN PIPE WITH CLEANOUT

NOTE: SIDE SLOPE OF AUXILIARY SPILLWAY DOWNSTREAM OF CONTROL SECTION SHALL NOT EXCEED 2:1 (H:V)



1 AUXILIARY SPILLWAY CROSS SECTION AT CONTROL SECTION
N.T.S.

Arnon J. Fricke 07/03/2025

July 3, 2025
 R:\2020\20-0296\00000\CAD\20-0296_AS1.dwg

CB BURKE
CHRISTOPHER B. BURKE ENGINEERING, LLC
 111 Monument Circle, Suite 3500
 Indianapolis, Indiana 46204
 (317) 266-8000 FAX: (317) 632-3306

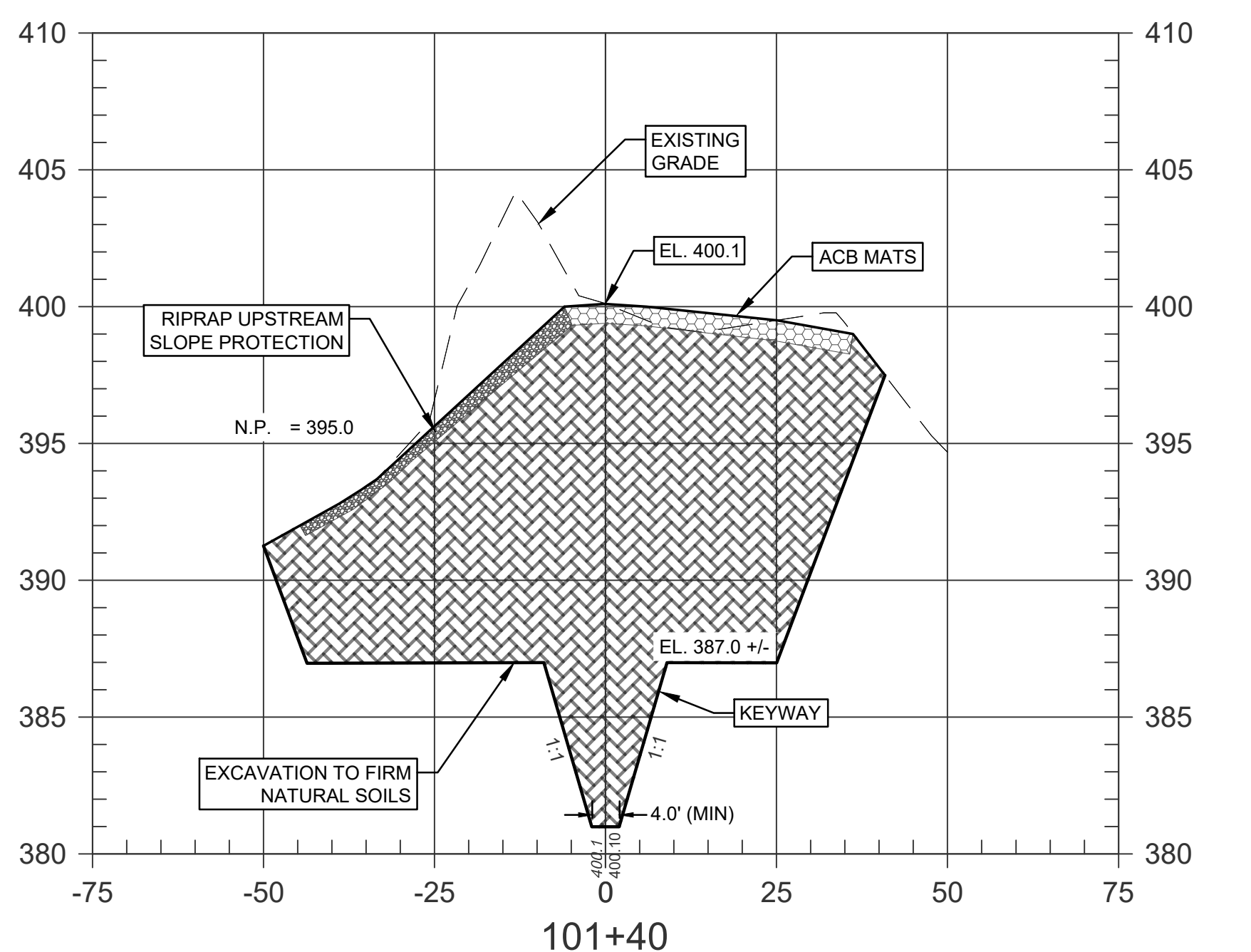
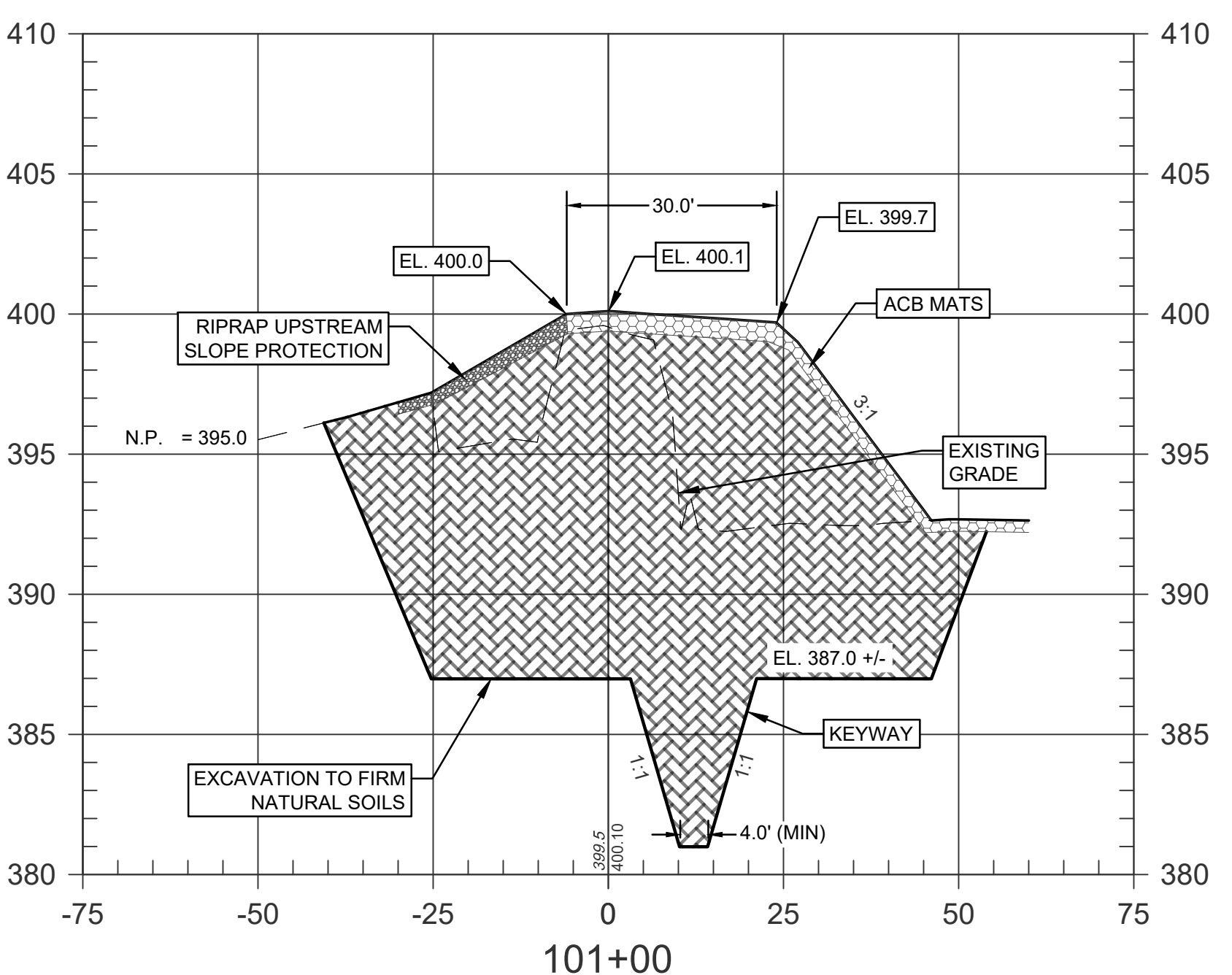
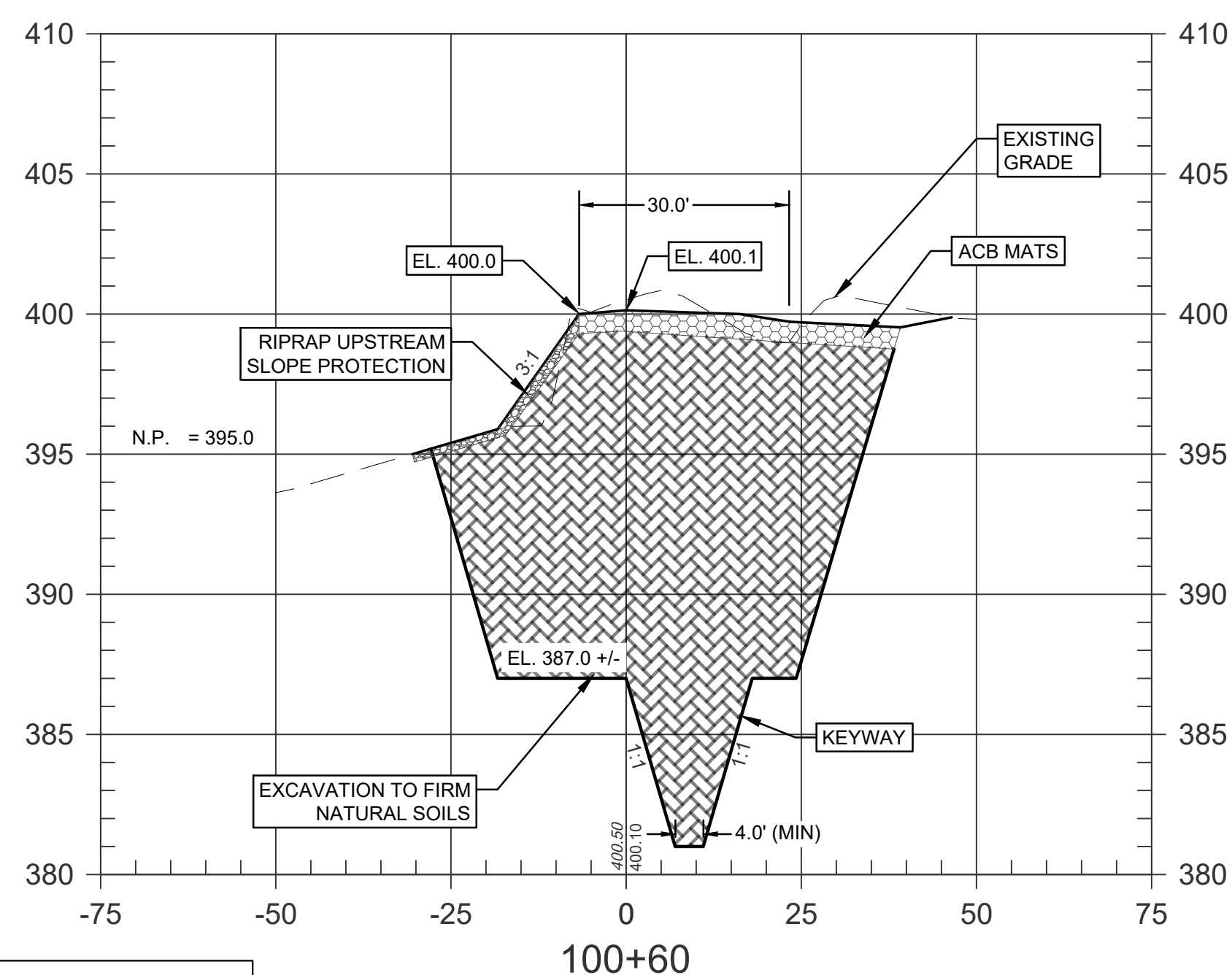
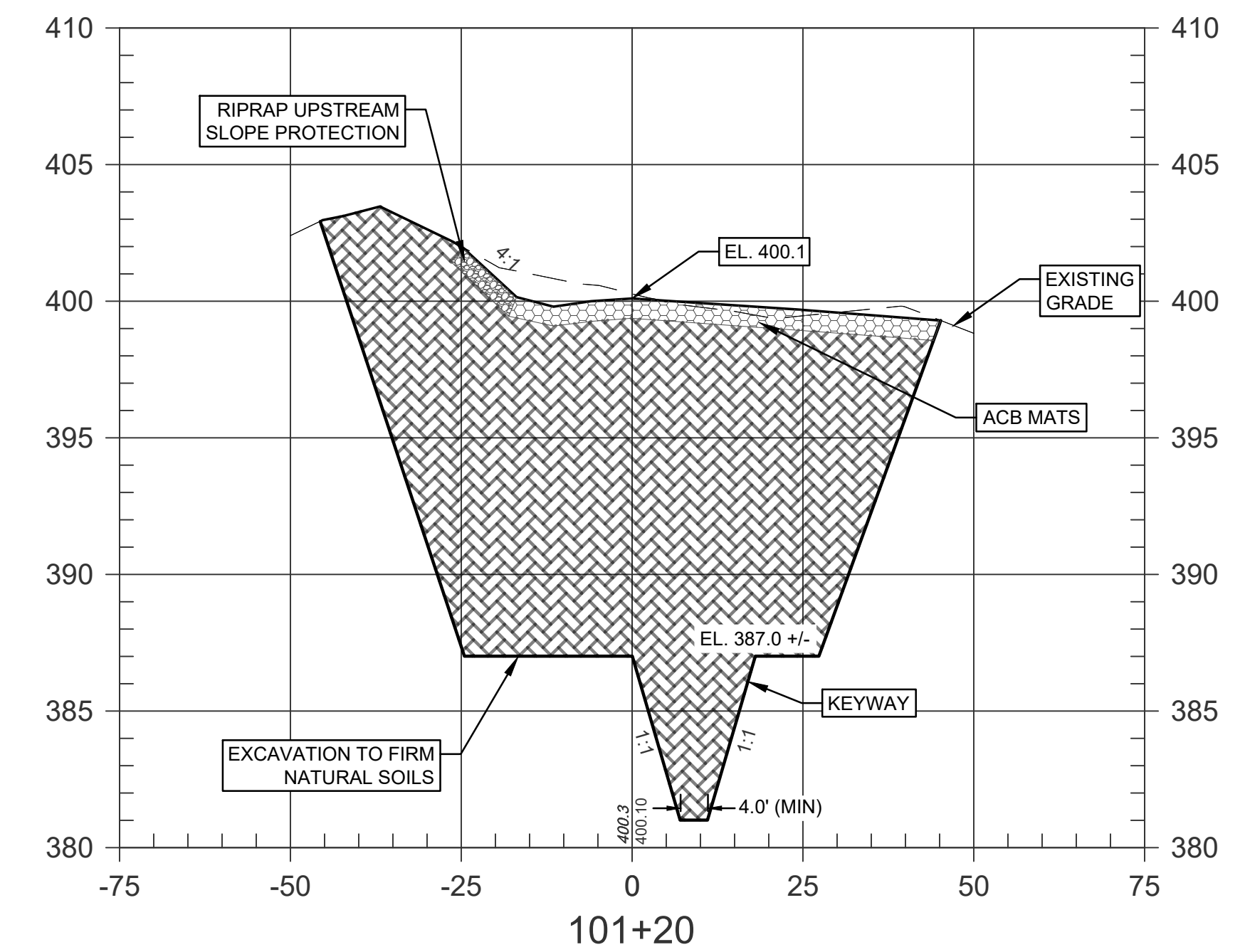
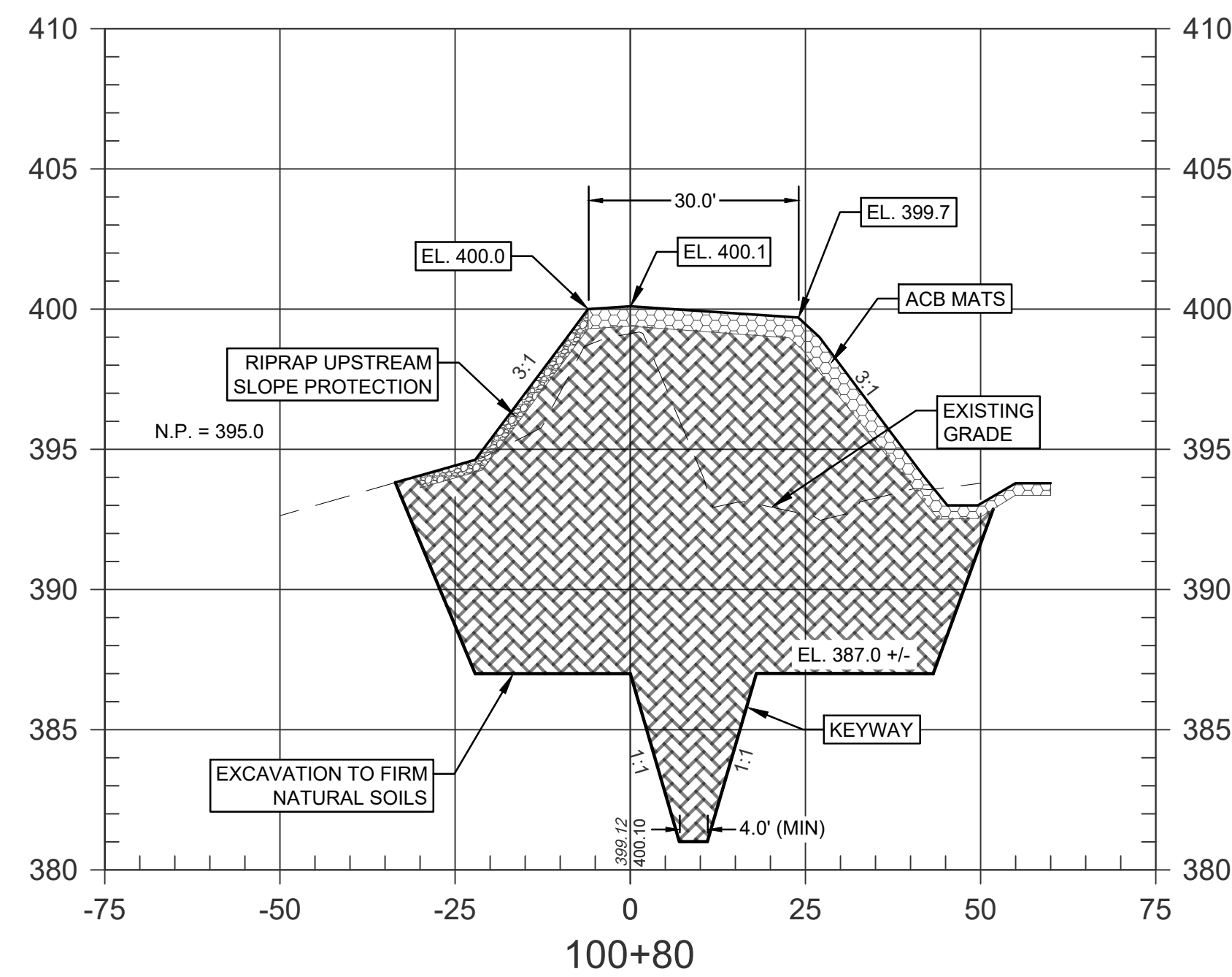
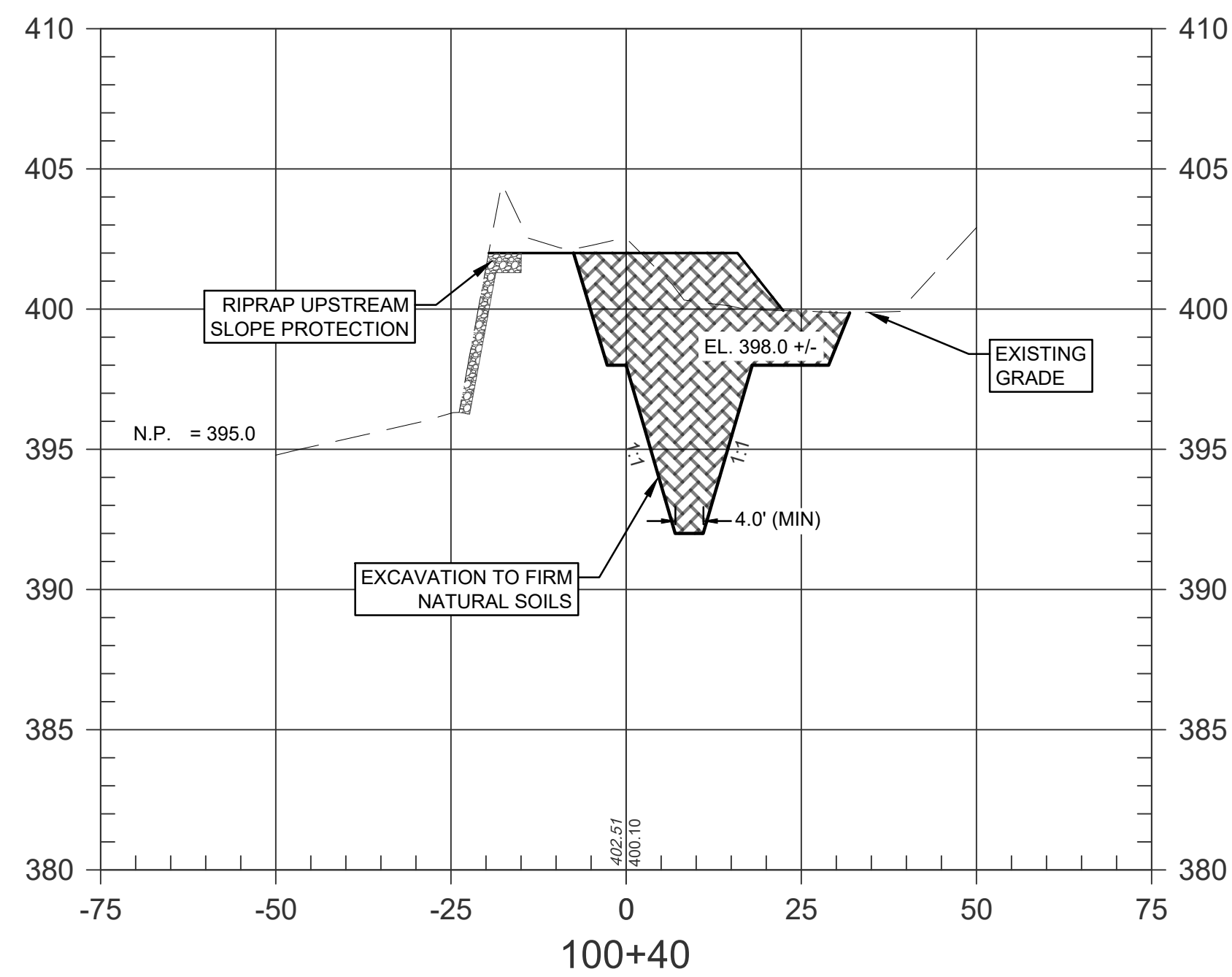
PROJECT:
QUAIL CROSSING GOLF COURSE DAM REHABILITATION
 WARRICK COUNTY, INDIANA

NO.	DATE	NATURE OF REVISION	CHKD.	DATE
1	7/03/25	ISSUED FOR BID	AJF	
		NATURE OF REVISION	CHKD.	
		FILE NAME		
		20-0296_AS1.dwg		

ARNON J. FRICKE
 REGISTERED PROFESSIONAL ENGINEER
 No. PE11100305
 STATE OF INDIANA

TITLE:
AUXILIARY SPILLWAY PLAN AND PROFILE

PROJECT NO.
20-0296.00000
 SHEET 10 OF 17
 DRAWING NO.
AS1



LEGEND

- EXISTING GRADE
- PROPOSED GRADE
- [Pattern] ARTICULATED CONCRETE BLOCK MATS
- [Pattern] RIPRAP
- [Pattern] EMBANKMENT FILL

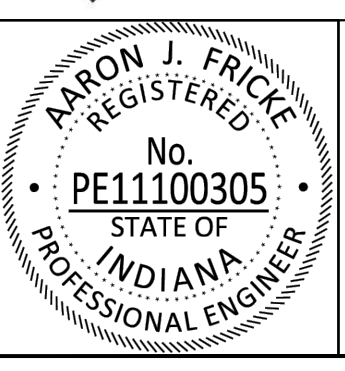
HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 5'

Aaron J. Fricke 07/03/2025

CB BURKE
 CHRISTOPHER B. BURKE ENGINEERING, LLC
 111 Monument Circle, Suite 3500
 Indianapolis, Indiana 46204
 (317) 266-8000 FAX: (317) 632-3306

PROJECT:
QUAIL CROSSING GOLF COURSE DAM REHABILITATION
 WARRICK COUNTY, INDIANA

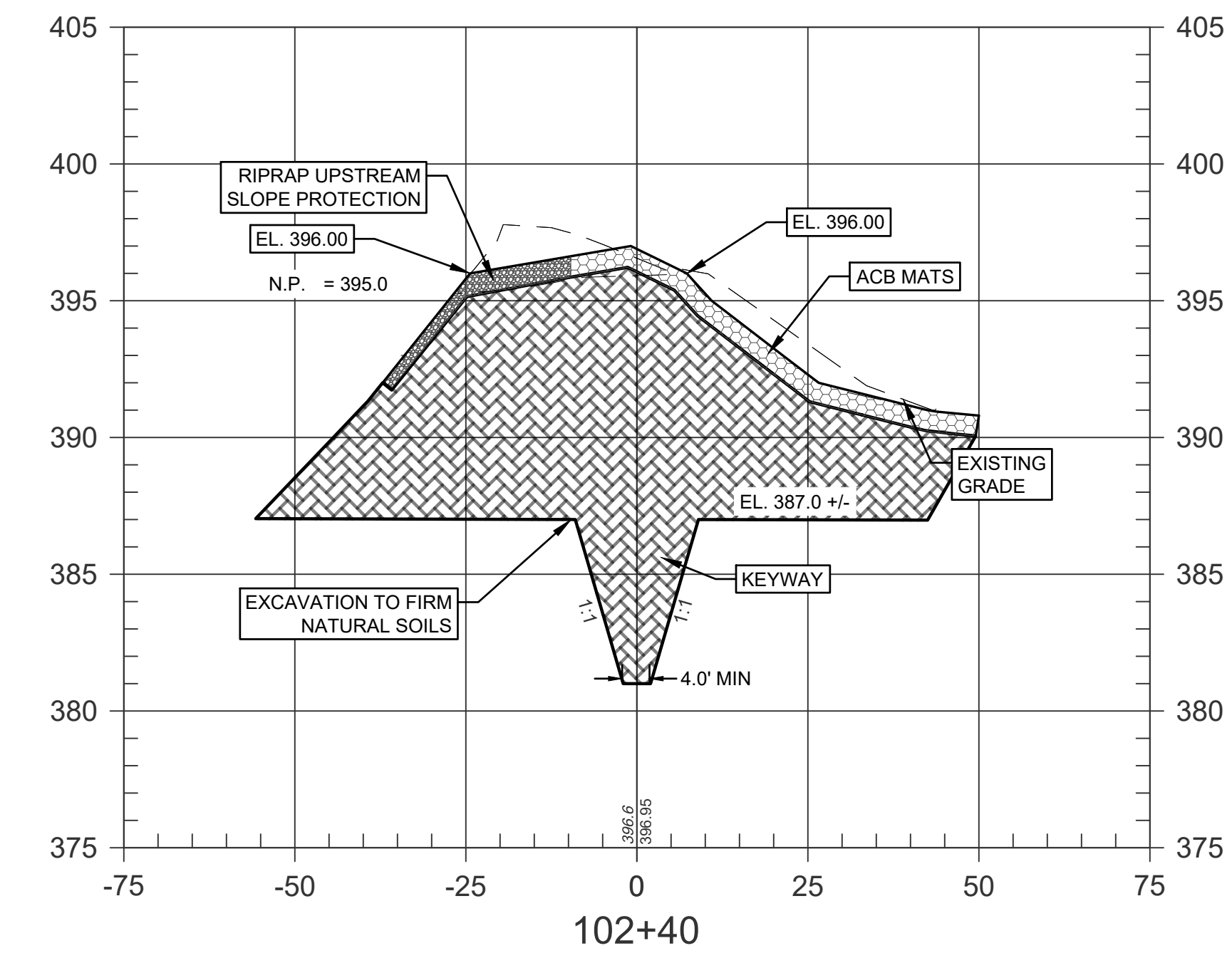
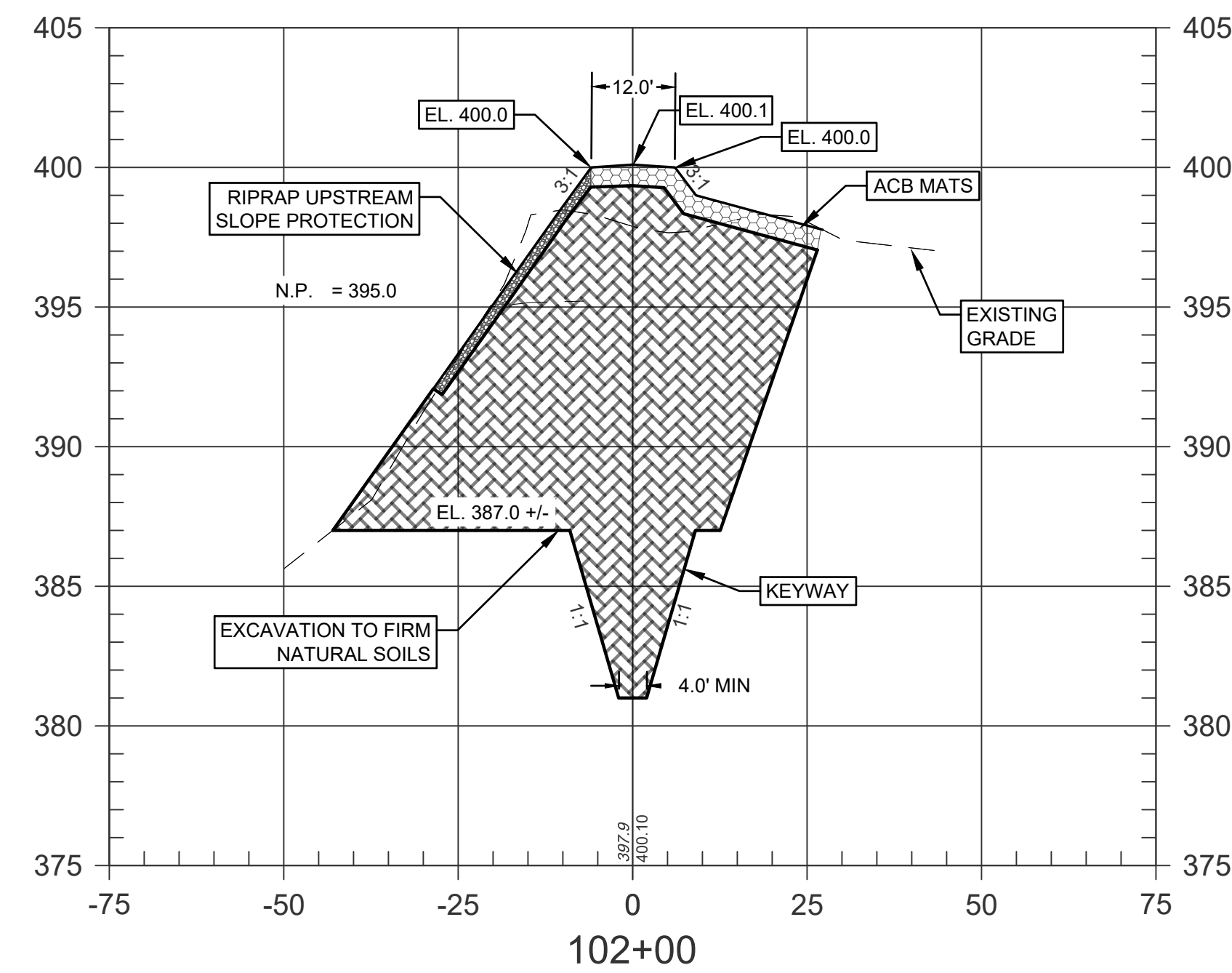
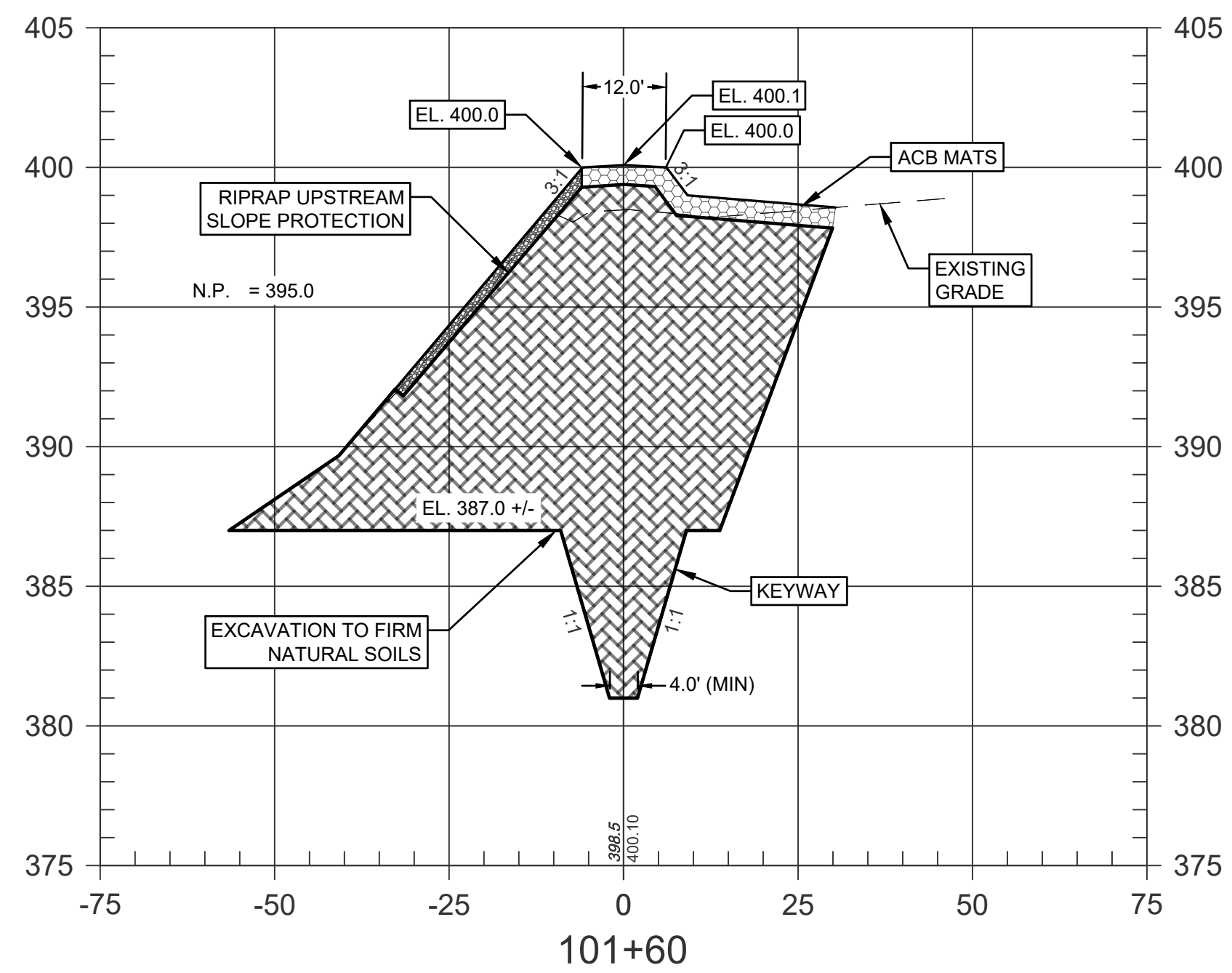
1	7/03/25	ISSUED FOR BID	AJF
NO.	DATE	NATURE OF REVISION	CHKD.
FILE NAME	20-0296_DES.dwg		



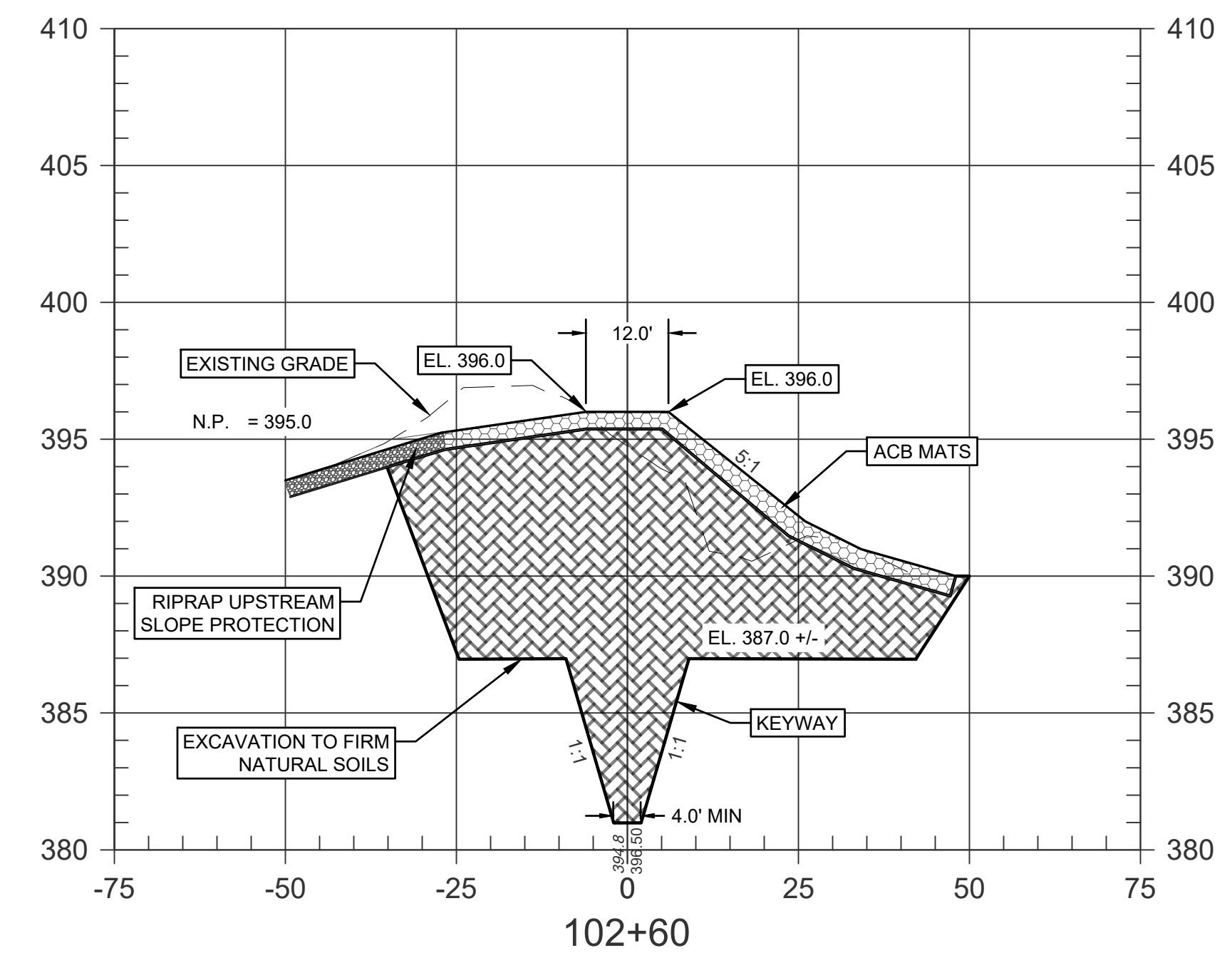
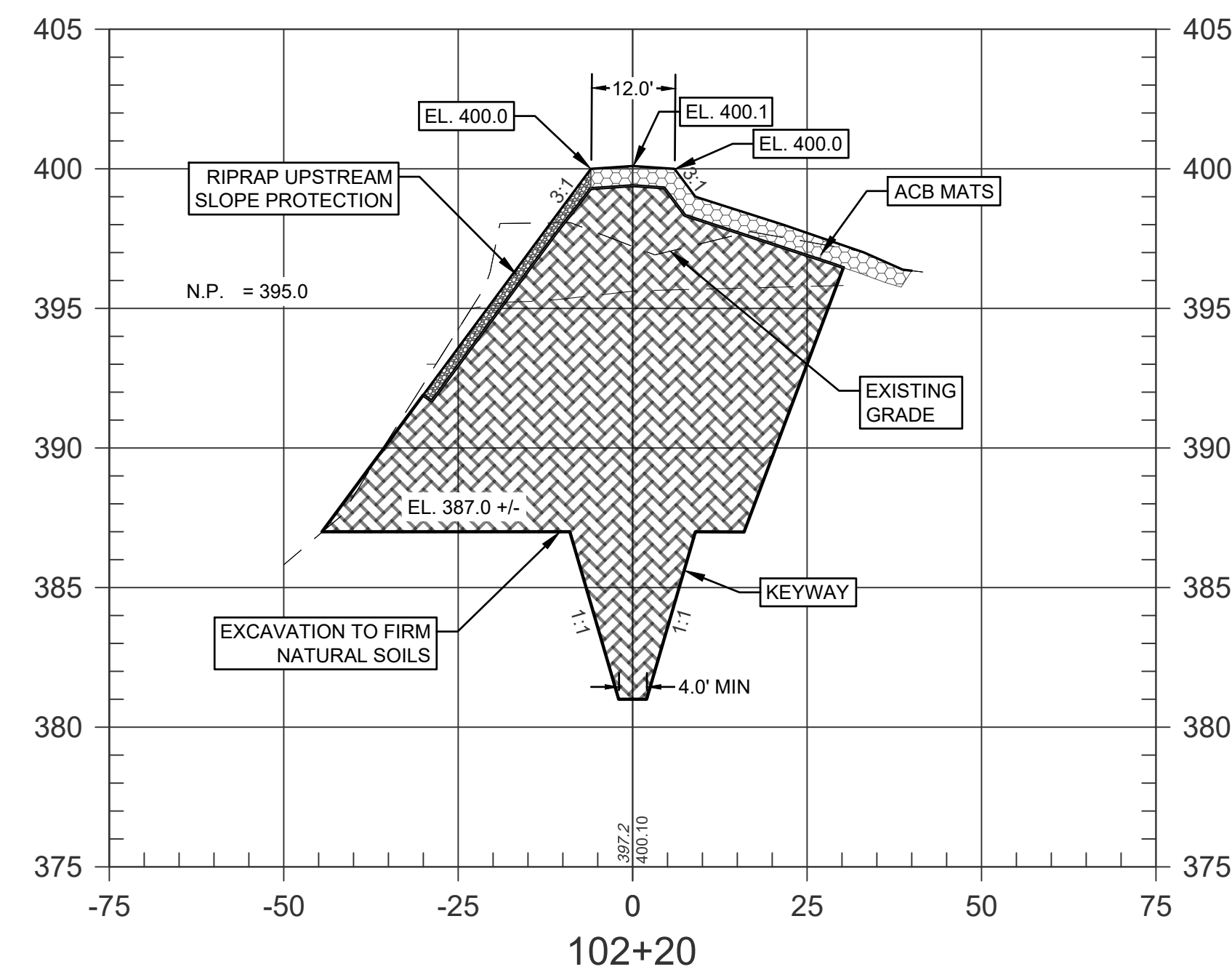
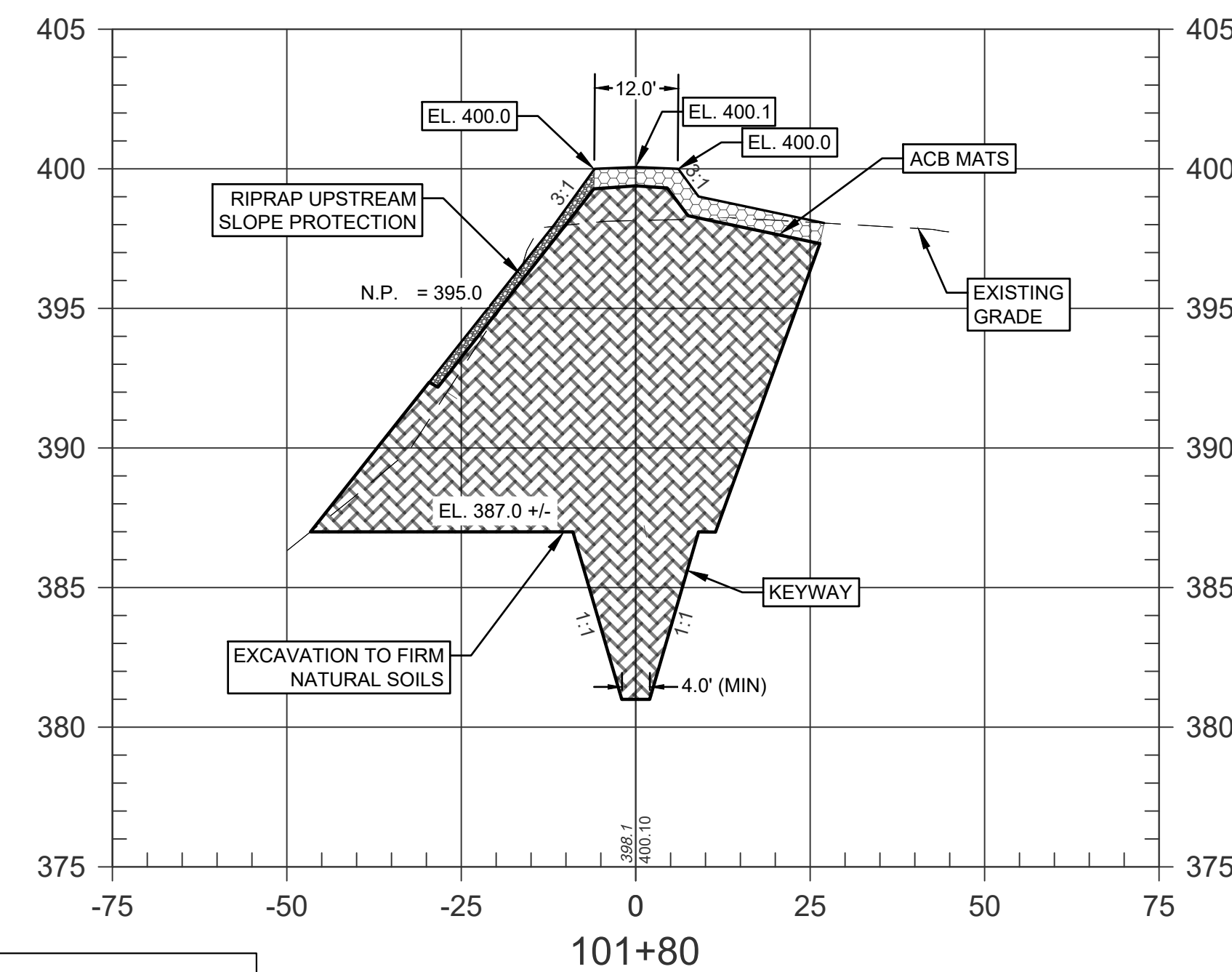
TITLE:
CROSS SECTIONS
 XS1

PROJECT NO.
20-0296.00000
 SHEET 11 OF 17
 DRAWING NO.

July 3, 2025
 R:\2020\20-0296\00000\CAD\20-0296_DES.dwg

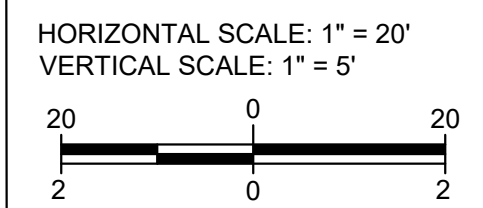


NOTE:
SECTION 102+40 IS LOCATED AT THE
TRANSITION FROM THE DAM CREST
TO THE AUXILIARY SPILLWAY.



LEGEND

- EXISTING GRADE
- PROPOSED GRADE
- [Pattern] ARTICULATED CONCRETE BLOCK MATS
- [Pattern] RIPRAP
- [Pattern] EMBANKMENT FILL



Aaron J. Fricke 07/03/2025

CB BURKE
CHRISTOPHER B. BURKE ENGINEERING, LLC
 111 Monument Circle, Suite 3500
 Indianapolis, Indiana 46204
 (317) 266-8000 FAX: (317) 632-3306

PROJECT:
QUAIL CROSSING GOLF COURSE DAM REHABILITATION
 WARRICK COUNTY, INDIANA

1	7/03/25	ISSUED FOR BID	AJF	DATE	7/3/2025
		NATURE OF REVISION	CHKD.		
		FILE NAME			



TITLE:
CROSS SECTIONS
XS2

PROJECT NO.
20-0296.00000
 SHEET 12 OF 17
 DRAWING NO.
XS2

July 3, 2025
 R:\2020\20-0296\00000\CAD\20-0296_DES.dwg

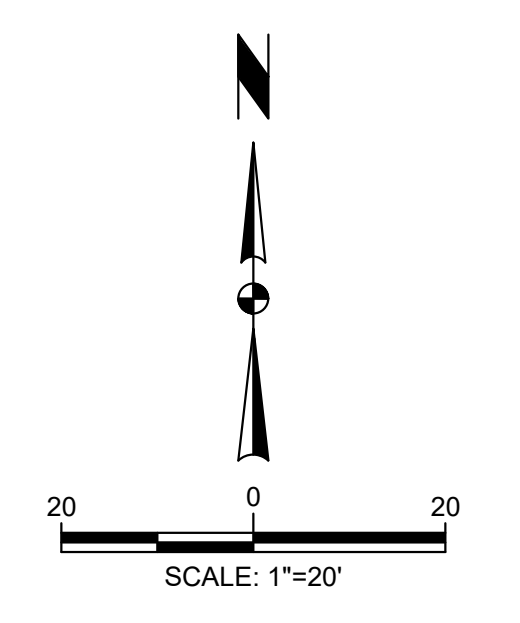


LEGEND

---400--- ---399---	EXISTING CONTOURS	---400--- ---399---	PROPOSED CONTOURS
---ST---	STORM SEWER	[Symbol]	ARTICULATED CONCRETE BLOCK MATS
---	WATER FLOW LINE	[Symbol]	RIPRAP
---	TOP OF BANK	[Symbol]	SEEDING AND EROSION CONTROL BLANKET
---	TOE OF SLOPE	[Symbol]	ACCESS ROAD/CONSTRUCTION ENTRANCE
●	POST	[Symbol]	STONE STAGING AREA
✕	BENCHMARK	[Symbol]	SEED AND MULCH
△	REBAR	[Symbol]	ROCK CHECK DAM
		---	SILT FENCE
		---	CONSTRUCTION LIMITS

- ### EROSION CONTROL NOTES:
- TEMPORARY EROSION CONTROL FEATURES TO HELP SEDIMENT FROM LEAVING THE SITE ARE SHOWN AT APPROXIMATE LOCATIONS.
 - INSPECT EROSION CONTROL FEATURES AT LEAST WEEKLY AND AGAIN WITHIN 24 HOURS FOLLOWING EACH RAINFALL EVENT OF 0.5 INCH OR MORE. REMOVE ACCUMULATED SEDIMENT IMMEDIATELY. REPAIR OR REPLACE DAMAGED EROSION CONTROL FEATURES IMMEDIATELY.
 - ROUTINELY REMOVE CONSTRUCTION DEBRIS AND WASTE FROM THE SITE.
 - THE DURATION OF TIME WHICH AN AREA REMAINS EXPOSED SHALL BE KEPT TO A PRACTICAL MINIMUM. TEMPORARY OR PERMANENT SURFACE STABILIZATION IS REQUIRED ON ANY BARE OR THINLY VEGETATED AREA THAT IS SCHEDULED TO OR LIKELY TO REMAIN INACTIVE FOR 15 OR MORE DAYS.
 - DEWATERING DIRECTLY INTO THE STREAM IS PROHIBITED. UTILIZE DEWATERING BAGS OR OTHER MEASURES APPROVED BY ENGINEER AND OWNER.
 - MAINTAIN EROSION CONTROL MEASURES THROUGHOUT CONSTRUCTION AS DESCRIBED ON THE DRAWINGS.
 - REMOVE ACCUMULATED SEDIMENT FROM THE SITE AFTER PERMANENT VEGETATION IS ESTABLISHED AND DISPOSE OFFSITE.
 - COORDINATE ACCEPTABLE LOCATION FOR STAGING AND STOCKPILING WITH OWNER IN ACCORDANCE WITH PERMIT CONDITIONS.
 - INSTALL EROSION CONTROL BLANKET IN ALL AREAS TO BE SEEDDED THAT ARE 4:1 (H:V) OR STEEPER.

- ### GENERAL CONSTRUCTION SEQUENCE
- THE GENERAL CONSTRUCTION SEQUENCE HAS BEEN PREPARED FOR PROJECT GUIDANCE AND MAY BE ADJUSTED TO MEET CONTRACTOR'S SPECIFIC PLANS. HOWEVER, THE SEQUENCE OF STEPS 1-3 MAY NOT BE ALTERED. CONTRACTOR SHALL GENERALLY PERFORM THE FOLLOWING STEPS TO COMPLETE THE PROJECT:
- STAKE THE LIMITS OF CONSTRUCTION.
 - INSTALL EROSION CONTROL MEASURES PRIOR TO LAND DISTURBING ACTIVITIES, INCLUDING INITIAL PERIMETER CONTROL.
 - CONSTRUCT THE ACCESS ROAD.
 - PERFORM CLEARING AND GRUBBING.
 - REMOVE THE EXISTING DAM EMBANKMENT AND EXISTING SPILLWAYS, INCLUDING OVEREXCAVATION TO FIRM NATURAL SOILS.
 - CONSTRUCT THE NEW DAM EMBANKMENT AND SPILLWAYS.
 - INSTALL RIPRAP AND ARTICULATED CONCRETE BLOCK MATS.
 - STABILIZE DISTURBED AREAS WITH TEMPORARY OR PERMANENT SEEDING AS SOON AS POSSIBLE WHEN WORK IS COMPLETE.
 - THROUGHOUT CONSTRUCTION, CONTROL DUST ON THE PROJECT SITE. SWEEP STREETS AS NECESSARY TO KEEP CLEAN OF DIRT, DUST, AND CONSTRUCTION DEBRIS. PROPERTY DISPOSE OF ALL MATERIALS.
 - REMOVE ALL TEMPORARY EROSION CONTROL MEASURES UPON SUCCESSFUL ESTABLISHMENT OF VEGETATION AND PROJECT COMPLETION.

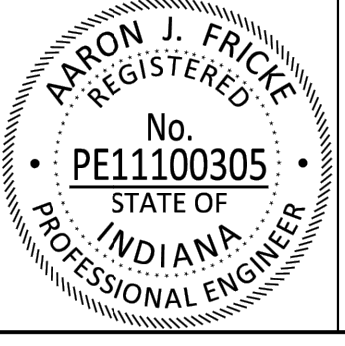


ARJ 7/2025
 R:\2020\20-0296\00000\CAD\20-0296_EC1.dwg

CHRISTOPHER B. BURKE ENGINEERING, LLC
 111 Monument Circle, Suite 3500
 Indianapolis, Indiana 46204
 (317) 266-8000 FAX: (317) 632-3306

PROJECT:
QUAIL CROSSING GOLF COURSE DAM REHABILITATION
 WARRICK COUNTY, INDIANA

1	7/03/25	ISSUED FOR BID	AJF	SCALE:	REFER TO SHEET
NO.	DATE	NATURE OF REVISION	CHKD.	DATE:	7/3/2025
FILE NAME	20-0296_EC1.dwg				



TITLE:
EROSION CONTROL PLAN

PROJECT NO.
20-0296.00000
 SHEET 16 OF 17
 DRAWING NO.
EC1

Aron J. Fricke 07/03/2025

