SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
									43		51		01/ENH/28						
																		STRUCTURE 20 FOOT SPAN AND UNDER (NORTH CULVERT)	43
									LS				LS	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
									LS				LS	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION	
									405				405	507	00100	405	FT	STEEL PILES HP10X42, FURNISHED	
									360				360	507	00150	360	FT	STEEL PILES HP10X42, DRIVEN	
									7,007				7,007	509	10000	7,007	LB	EPOXY COATED STEEL REINFORCEMENT	
									6				6	511	46010	6	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING	
									39				39	511	46510	39	CY	CLASS QC1 CONCRETE, FOOTING	
									7				7	511	46610	7	CY	CLASS QC1 CONCRETE, HEADWALL	
									68				68	512	10100	68	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
									85				85	512	33000	85	SY	TYPE 2 WATERPROOFING	
									40				40	516	13600	40	SF	1" PREFORMED EXPANSION JOINT FILLER	
									33				33	518	21200	33	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
									20				20	611	96448	20	FT	16' X 7' CONDUIT, TYPE A, 706.05	
																		RETAINING WALLS (SOLDIER PILE WALLS)	51
											707		707	203	35110	707	CY	GRANULAR MATERIAL, TYPE B	
											LS		LS	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION	
											2,500		2,500	507	00300	2,500	FT	STEEL PILES HP14X73, FURNISHED	
											2,175		2,175	507	00350	2,175	FT	STEEL PILES HP14X73, DRIVEN	
											326		326	512	10100	326	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
											64		64	516	42000	64	EACH	ELASTOMERIC BEARING PAD, MISC.: 1'-0" x 3" x ¼" THICK	53
											726		726	516	42000	726	EACH	ELASTOMERIC BEARING PAD, MISC.: 2'-0" x 3" x ¼" THICK	53
											156		156	518	21200	156	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
											447		447	518	40000	447	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
											53		53	518	40010	53	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
											5,043		5,043	SPECIAL	53051010	5,043	SF	RETAINING WALL, PRECAST CONCRETE LAGGING	53
																		INCIDENTALS	
													LS	614	11000	LS		MAINTAINING TRAFFIC	
													LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
													LS	624	10000	LS		MOBILIZATION	

CALCULATED CEL
CHECKED JMZ

GENERAL SUMMARY

ATH-CHAUNCEY

6B
76

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DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 8TH EDITION OF THE LRFD BRIDGE DESIGN SPECIFICATIONS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, 2009.

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

NONE

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800 DATED (REVISED) 10/20/23

DESIGN LOADING

DESIGN LOADING INCLUDES:
PEDESTRIAN LIVE LOAD: 0.090 KIPS/SF
VEHICULAR LIVE LOAD: H10 (TRUCK ONLY)
FUTURE WEARING SURFACE (FWS): 0.0 KSF

DESIGN DATA

CONCRETE CLASS QC1 (SUBSTRUCTURE):
COMPRESSIVE STRENGTH 4 KSI

CONCRETE CLASS QC2 (SUPERSTRUCTURE): COMPRESSIVE STRENGTH 4.5 KSI (LIGHTWEIGHT CONCRETE IS ACCEPTABLE)

REINFORCING STEEL - GRADE 60 MINIMUM YIELD STRENGTH 60 KSI - ASTM A615 OR A996

STRUCTURAL STEEL - ASTM A847 WEATHERING STEEL (HSS) (CVN) - YIELD STRENGTH 50 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50W WEATHERING STEEL (PLATES & W-SHAPES) - YIELD STRENGTH 50 KSI (CVN)

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 175 FEET BEHIND THE REAR ABUTMENT AND 200 FEET BEHIND THE FORWARD ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE BRIDGE ABUTMENT AND CULVERT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT AND CULVERT PILES UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED AND A 4 TO 6 MONTH WAITING PERIOD HAS ELAPSED. THE ENGINEER MAY ADJUST THE LENGTH OF THE WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE THE ABUTMENT PILES TO REFUSAL ON BEDROCK.

PILES TO BEDROCK: DRIVE PILES TO REFUSAL ON BEDROCK. THE COUNTY WILL CONSIDER REFUSAL TO BE OBTAINED BY PENETRATING WEAK BEDROCK FOR SEVERAL INCHES TO A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR BY CONTACTING STRONG BEDROCK AND THE PILE RECEIVING AT LEAST 20 BLOWS. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 204 KIPS PER PILE FOR THE ABUTMENT PILES.

REAR ABUTMENT PILES:
HP10x42 PILES 35 FEET LONG, ORDER LENGTH

FORWARD ABUTMENT PILES:
HP10x42 PILES 40 FEET LONG, ORDER LENGTH

ITEM 203 EMBANKMENT, AS PER PLAN

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STATIONS 100+59.96 TO 102+34.96 AND 104+17.04 TO 106+17.04.

PILE SPLICES

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN C&MS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

PILE DRIVING

THE MINIMUM RATED ENERGY OF THE HAMMER USED TO INSTALL THE PILES SHALL BE 15,000 FOOT-POUNDS. ENSURE THAT STRESSES IN THE PILES DURING DRIVING DO NOT EXCEED 45,000 POUNDS PER SQUARE INCH.

CONSTRUCTION REQUIREMENTS

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY ALL ELEVATIONS THROUGH THE ENGINEER TO ENSURE COMPLIANCE WITH THE SELECTED PRE-FABRICATED BRIDGE MANUFACTURER.

BEARING SEAT ADJUSTMENTS

THE ABUTMENT BEAM SEAT ELEVATIONS ARE BASED ON STRUCTURE DEPTH AND BEARING HEIGHTS AS PROVIDED BY THE PREFABRICATED BRIDGE MANUFACTURER. IF THE CONTRACTOR'S SELECTED MANUFACTURER HAS A DESIGN WITH BEARINGS THAT DO NOT CONFORM TO THE DIMENSIONS AND ELEVATIONS PROVIDED IN THE PLANS, ADJUST THE BEARING SEAT DIMENSIONS AND ELEVATIONS AT NO ADDITIONAL COST TO THE COUNTY. ADJUST THE LOCATION OF REINFORCING STEEL HORIZONTALLY AS NECESSARY TO AVOID INTERFERENCE WITH THE BEARING ANCHOR BOLTS. MAINTAIN THE MINIMUM CONCRETE COVER AND MINIMUM SPACING REQUIRED BY THE PROJECT PLANS. IF THE REINFORCING STEEL CANNOT BE MOVED TO PROVIDE THE REQUIRED POSITION FOR THE ANCHOR BOLTS, THE CONTRACTOR'S PREFABRICATED BRIDGE MANUFACTURER SHALL RE-DESIGN THE BEARINGS TO ACCOMMODATE AN ACCEPTABLE ANCHOR BOLT CONFIGURATION.

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=12"), AS PER PLAN

IN ADDITION TO THOSE REQUIREMENTS OF 526, THIS ITEM SHALL CONSIST OF THE FOLLOWING PROVISIONS.

ALL PROVISIONS OF ITEM 526, REINFORCED CONCRETE APPROACH SLAB SHALL APPLY EXCEPT THE EPOXY COATED REINFORCING BARS SHALL BE OF THE SIZE AND SPACING SHOWN IN THE PLANS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO PERFORM THE ABOVE WORK SHALL BE INCLUDED IN THE SQUARE YARD BID PRICE FOR ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=12"), AS PER PLAN

ITEM SPECIAL - STRUCTURES: PREFABRICATED STEEL BRIDGE

THE PRE-ENGINEERED SUPERSTRUCTURE SHALL BE DESIGNED AND MANUFACTURED BY ONE OF THE FOLLOWING OR AN APPROVED EQUAL:

CONTECH BRIDGE SOLUTIONS
9025 CENTRE POINTE DRIVE, SUITE 400
WEST CHESTER, OH 45069
PHONE: 800-526-3999
www.contech-cpi.com

WHEELER LUMBER, LLC
9330 JAMES AVENUE SOUTH
BLOOMINGTON, MN 55431
PHONE: 800-328-3986
FAX: 952-929-2909
www.wheeler-con.com

BIG R BRIDGE
P.O. BOX 1290
GREELEY, CO 80632-1290
PHONE: 800-234-0734
FAX: 970-356-9621
www.info@bigrbridge.com

ANDERSON BRIDGES, LLC
11 WILLOW STREET
COLFAX, WI 54730
PHONE: 877-934-2800
www.andersonbridges.com

THE BRIDGE MANUFACTURER SHALL HAVE BEEN IN THE BUSINESS OF DESIGN AND FABRICATION OF BRIDGES FOR A MINIMUM OF FIVE YEARS AND PROVIDE A LIST OF FIVE SUCCESSFUL BRIDGE PRODUCTS OF SIMILAR CONSTRUCTION, EACH OF WHICH HAS BEEN IN SERVICE AT LEAST THREE YEARS.

THE PREFABRICATED STEEL BRIDGE SHALL BE A STEEL PRATT TRUSS WITH BEARINGS, RAILING AND EXPANSION JOINTS.

MINIMUM MEMBER THICKNESS SHALL BE 1/4". THE OPEN ENDS OF CHORDS, END POSTS AND FLOOR BEAMS SHALL BE CAPPED.

WELDING SHALL BE IN ACCORDANCE WITH ODOT CMS 513.

THE CONCRETE DECK SHALL BE 9" THICK MAXIMUM AND IS DESIGNED TO SPAN LONGITUDINALLY ON FLOOR BEAMS SPACED AT 8'-0" MAXIMUM. IF A SMALLER FLOOR BEAM SPACING IS USED, THE BRIDGE MANUFACTURER MAY REDESIGN THE CONCRETE DECK. A REDESIGNED DECK SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. /1

THE MAXIMUM DEPTH FROM THE TOP OF DECK SURFACE TO BOTTOM OF TRUSS SHALL BE 1'-6".

THE TRUSS SHALL BE FABRICATED WITH CAMBER INCLUDING DEAD LOAD DEFLECTION TO MATCH THE PROPOSED PROFILE.

PREFABRICATED BRIDGE DESIGN AND SHOP DRAWINGS SUBMITTALS: THE BRIDGE MANUFACTURER SHALL HAVE AN ENGINEER REGISTERED IN THE STATE OF OHIO PREPARE, SIGN, SEAL AND DATE EACH PLAN AND HAVE A SECOND ENGINEER REGISTERED IN THE STATE OF OHIO CHECK, SIGN, SEAL AND DATE EACH PLAN. THE PREPARER AND CHECKER SHALL BE TWO DIFFERENT ENGINEERS.

THE BRIDGE MANUFACTURER SHALL SUBMIT SHOP DRAWINGS AND STRUCTURAL CALCULATIONS (PREPARED ACCORDING TO THE PREVIOUS PARAGRAPH) TO THE ENGINEER AND CONTRACTOR FOR ACCEPTANCE PRIOR TO BEGINNING FABRICATION. SHOP DRAWINGS SHALL BE UNIQUE DRAWINGS PREPARED TO ILLUSTRATE THE SPECIFIC PORTION OF THE WORK TO BE DONE. ALL RELATIVE DESIGN INFORMATION INCLUDING BUT NOT LIMITED TO GOVERNING CODES, DESIGN PARAMETERS, MEMBER SIZES, BRIDGE REACTIONS, SHOP AND FIELD CONNECTION DETAILS, DIMENSIONS RELATED TO SUBSTRUCTURES AND GENERAL NOTES SHALL BE CLEARLY SPECIFIED ON THE DRAWINGS. SHOP DRAWINGS SHALL BE ACCURATELY PREPARED BY SKILLED DRAFTERS TO BE COMPLETE IN EVERY RESPECT. DRAWINGS SHALL HAVE CROSS-REFERENCED DETAILS AND SHEET NUMBERS.

THE ENGINEER MUST PROVIDE WRITTEN ACCEPTANCE LETTER OF SHOP DRAWINGS TO CONFIRM TYPE, STYLE, AND GENERAL APPEARANCE OF PREFABRICATED STRUCTURE IN ACCORDANCE WITH CONTRACT DOCUMENTS.

THE CONTRACTOR MUST PROVIDE A WRITTEN ACCEPTANCE LETTER DOCUMENTING ACCEPTANCE OF THE SHOP DRAWINGS INCLUDING CONFIRMATION OF FIELD VERIFICATION, AS REQUIRED, AND DESCRIPTIONS OF ISSUES RESOLVED BETWEEN THE CONTRACTOR, THE FABRICATOR, THE DEPARTMENT, OR COUNTY.

BY ACCEPTING THESE SHOP DRAWINGS, THE CONTRACTOR REPRESENTS TO THE ENGINEER THAT ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONDITIONS SHOWN ON THE PLANS HAVE BEEN FIELD MEASURED AND VERIFIED, AND THAT THESE SHOP DRAWINGS COMPLY WITH ALL THE MATERIALS REQUIREMENTS, CONSTRUCTION REQUIREMENTS, CONTRACT REQUIREMENTS, AND PERFORMANCE CRITERIA. THE CONTRACTOR FURTHER REPRESENTS THAT THESE DRAWINGS HAVE BEEN COORDINATED AND VERIFIED WITH THE DETAILS OF THE WORK TO BE PERFORMED BY OTHER FABRICATORS AND ENTITIES ON THE PROJECT. THE COUNTY WILL NOT MAKE ANY ALLOWANCE FOR ADDITIONAL COST OR DELAYS TO THE CONTRACTOR FOR INCORRECT FABRICATION AS A RESULT OF FAILURE TO COORDINATE OR PERFORM THIS ACCEPTANCE.

IF THE ENGINEER REQUESTS CHANGES ON THESE SHOP DRAWINGS, OR THE CONTRACTOR MAKES CHANGES IN ADDITION TO THOSE EXPRESSLY REQUESTED, ENSURE THAT THE SHOP DRAWINGS ARE ACCEPTABLE AS ABOVE WITH SUITABLE REVISION MARKS TO IDENTIFY THE CHANGES.

WRITTEN ACCEPTANCE FROM BOTH CONTRACTOR AND ENGINEER MUST BE PROVIDED PRIOR TO INITIATING FABRICATION OF STRUCTURE.

MILL TEST REPORTS:
CONTRACTOR MUST PROVIDE WRITTEN ACCEPTANCE OF MILL TEST REPORTS FROM SUPPLIER SHOWING COMPLIANCE WITH ODOT CMS 501.06A.

DRAIN HOLES:
WHEN THE COLLECTION OF WATER INSIDE STRUCTURAL TUBING IS A POSSIBILITY, EITHER DURING FABRICATION, CONSTRUCTION, OR DURING SERVICE, THE TUBING SHALL BE PROVIDED WITH A DRAIN HOLE AT ITS LOWEST POINT TO PROVIDE POSITIVE DRAINAGE.

DELIVERY:
THE CONTRACTOR SHALL COORDINATE WITH THE BRIDGE MANUFACTURER, THE COUNTY AND OVERHEAD UTILITY OWNERS REGARDING THE DELIVERY AND ERECTION SCHEDULE, HAULING PERMITS AND FREIGHT CHARGES SHALL BE THE RESPONSIBILITY OF THE MANUFACTURER.

REV. BY	DATE	DESCRIPTION
CJK	03/29/24	/1 PRE-BID QUESTIONS

DESIGN AGENCY
PENNONI ASSOCIATES INC.
5202 BETHEL REED PARK, SUITE 200
COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
MDP	CJK	DJW	7/9/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ARA		N/A	

GENERAL NOTES

BRIDGE NO. ATH-CHAUNCEY HOCKHOCKING ADENA BIKEWAY EXTENSION OVER HOCKING RIVER

ATH-CHAUNCEY
PID No. 106647

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

NONE

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800	DATED (REVISED)	10/20/23
940	DATED (REVISED)	4/17/15

DESIGN LOADING

DESIGN LOADING INCLUDES:
VEHICULAR LIVE LOAD: H10 (TRUCK ONLY)
PEDESTRIAN LIVE LOAD: 0.090 KIPS/SF
FUTURE WEARING SURFACE (FWS): 0.0 KIPS/SF

DESIGN DATA

CONCRETE CLASS QC1 (CULVERT WINGWALLS AND FOOTINGS):
COMPRESSIVE STRENGTH 4 KSI

REINFORCING STEEL - GRADE 60 MINIMUM YIELD STRENGTH 60 KSI - ASTM A615 OR A996

STRUCTURAL STEEL - ASTM A709 GRADE 50 (GALVANIZED) (PLATES & SHAPES OF RAILING SUPPORT) - YIELD STRENGTH 50 KSI

DESIGN SPECIFICATIONS

THIS STANDARD DRAWING CONFORMS TO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA

THE FOLLOWING DESIGN DATA IS ASSUMED:

INTERNAL ANGLE OF FRICTION = 28 DEGREES
COEFFICIENT OF FRICTION = 0.30
UNIT WEIGHT OF SOIL = 120 PCF
UNIT WEIGHT OF CONCRETE = 150 PCF
SLOPE OF BACKFILL = LEVEL
HEIGHT OF LIVE LOAD SURCHARGE = 2.83 FT

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (FOOTING, WINGWALL AND FORESLOPE WALL)

REINFORCING STEEL - ASTM A615, A616, OR A617
GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI (ALL REINFORCING SHALL BE EPOXY COATED)

PRECAST CONCRETE

AT THE OPTION OF THE CONTRACTOR, PRECAST FOOTINGS AND WINGWALLS MAY BE USED PROVIDED THEY ARE SIZED TO MEET THE SOIL PARAMETERS AND MEET OR EXCEED THE MATERIAL STRENGTHS SPECIFIED HEREIN. THE CONTRACTOR SHALL SUBMIT DESIGNS AND SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.

FORESLOPE WALL ANCHOR DOWELS

ANCHOR PER CMS 510 WITH NONSHRINK, NONMETALLIC GROUT CONFORMING TO CMS 705.20 AND TO A DEPTH SPECIFIED ON SHEET 5 / 9 . PAYMENT FOR DOWEL HOLES, GROUT AND INSTALLATION SHALL BE INCLUDED WITH ITEM 511.

AS AN ALTERNATIVE TO RESIN BONDING, THREADED INSERTS OR NONPROTRUDING MECHANICAL CONNECTORS CAST INTO THE CULVERT BY THE MANUFACTURER MAY BE USED PROVIDED THEY CAN RESIST AN ULTIMATE PULL-OUT STRENGTH OF 12 KIPS AND MAINTAIN A MINIMUM COVER OF 3 INCHES AT THE BOTTOM OF THE CULVERT SLAB. MECHANICAL CONNECTORS MUST PROVIDE AN "L-SHAPED" BAR INSIDE THE CULVERT WITH A MINIMUM HORIZONTAL LENGTH OF 12 INCHES. PAYMENT FOR INSERTS OR MECHANICAL CONNECTORS SHALL BE INCLUDED WITH ITEM 611.

BACKFILL LIMITATION

WHEN THE DESIGN HEIGHT IS GREATER THAN 10 FT, THE BACKFILL BEHIND THE WINGWALLS SHALL NOT BE PLACED HIGHER THAN THE ELEVATION OF THE SOIL ABOVE THE TOE. WHEN THE SOIL ABOVE THE TOE IS AT ITS FINISHED ELEVATION, THE REMAINDER OF THE BACKFILL MAY BE PLACED.

POROUS BACKFILL WITH GEOTEXTILE FABRIC

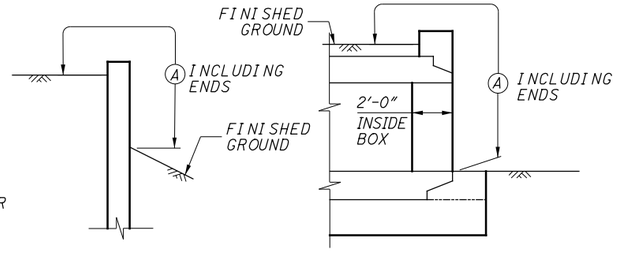
1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND TO 12" BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" ABOVE THE TOP ELEVATION OF THE WEEPHOLE. WEEPHOLES SHALL BE PLACED 6" TO 12" ABOVE THE NORMAL WATER ELEVATION OR GROUND LINE AND SHALL HAVE A MAXIMUM SPACING OF 10'-0". A MINIMUM OF ONE WEEPHOLE SHALL BE PROVIDED PER WINGWALL.

PREFORMED EXPANSION JOINT FILLER

PREFORMED EXPANSION JOINT FILLER (PEJF) CONFORMING TO CMS 705.03, 1 INCH THICK, SHALL BE PLACED ABOVE THE FOOTING BETWEEN THE SIDES OF THE BOX CULVERT AND THE ENDS OF THE WINGWALLS. PAYMENT FOR MATERIALS AND INSTALLATION SHALL BE INCLUDED WITH ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER.

SEALING OF FORESLOPE WALL AND WINGWALLS

ALL EXPOSED FORESLOPE WALL AND WINGWALL CONCRETE SHALL BE SEALED WITH EPOXY-URETHANE SEALER. THE LIMITS SHALL BE AS SHOWN IN THE DIAGRAMS BELOW. PAYMENT FOR THE EPOXY-URETHANE SEALER SHALL BE PER ITEM 512 - SEALING OF CONCRETE SURFACES.



WINGWALL

FORESLOPE WALL AND PRECAST BOX (CULVERT OUTLET BEVEL SHOWN)

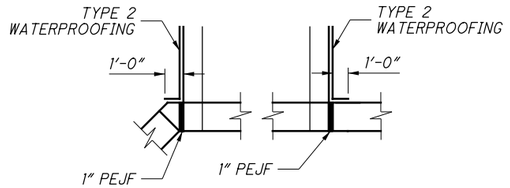
LIMITS OF ITEM 512-SEALING CONCRETE SURFACES
(A) - SEAL ENTIRE CONCRETE SURFACE AREA

WATERPROOFING

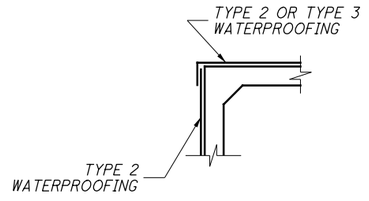
TYPE 2 WATERPROOFING, PER CMS 512.09 AND 711.25, SHALL EXTEND VERTICALLY DOWN THE ENTIRE SIDES OF THE PRECAST CULVERT SECTIONS FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.

IF PAVEMENT IS NOT PLACED DIRECTLY ON TOP OF THE CULVERT, TYPE 2 WATERPROOFING, PER CMS 512.09 AND 711.25 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.

IF PAVEMENT IS TO BE USED DIRECTLY ON TOP OF THE CULVERT, TYPE 3 WATERPROOFING, PER CMS 512.10 AND 711.29 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 -TYPE 3 WATERPROOFING.



PLAN VIEW



SECTION VIEW

WATERPROOFING DETAILS

BASIS OF PAYMENT

ALL LABOR, EQUIPMENT AND INCIDENTALS TO CONSTRUCT THE FOOTING, CUTOFF WALL, WINGWALLS AND FORESLOPE WALL SHALL BE INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE (RETAINING WALL/WINGWALL NOT INCLUDING FOOTING). PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL.

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE BRIDGE ABUTMENTS AND CULVERTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 175 FEET BEHIND THE REAR ABUTMENT AND 200 FEET BEHIND THE FORWARD ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE CULVERT AND BRIDGE FOOTINGS AND THE INSTALLATION OF THE CULVERT PILES UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED AND A 4 TO 6 MONTH WAITING PERIOD HAS ELAPSED. THE ENGINEER MAY ADJUST THE LENGTH OF THE WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE THE CULVERT FOOTING PILES TO REFUSAL ON BEDROCK.

PILES TO BEDROCK: DRIVE PILES TO REFUSAL ON BEDROCK. THE COUNTY WILL CONSIDER REFUSAL TO BE OBTAINED BY PENETRATING WEAK BEDROCK FOR SEVERAL INCHES TO A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR BY CONTACTING STRONG BEDROCK AND THE PILE RECEIVING AT LEAST 20 BLOWS. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 150 KIPS PER PILE FOR THE CULVERT AND WINGWALL PILES.

CULVERT AND WINGWALL PILES:
HP10x42 PILES 45 (1) FEET LONG, ORDER LENGTH

PILE SPLICES

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN C&MS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

PILE DRIVING

THE MINIMUM RATED ENERGY OF THE HAMMER USED TO INSTALL THE PILES SHALL BE 10,000 FOOT-POUNDS. ENSURE THAT STRESSES IN THE PILES DURING DRIVING DO NOT EXCEED 45,000 POUNDS PER SQUARE INCH.

REV. BY	DATE	DESCRIPTION
CJK	03/29/24	(1) PRE-BID QUESTIONS

DESIGN AGENCY
PENNONI ASSOCIATES INC.
5202 BETHEL REED PARK, SUITE 200
COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
MDP	JTS	DJW	7/9/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ARA		N/A	

SOUTH CULVERT: GENERAL NOTES
BRIDGE NO. ATH-CHAUNCEY HOCKCHOCKING ADENA BIKEWAY EXTENSION OVER HOCKING RIVER

ATH-CHAUNCEY
PID No. 106647

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

NONE

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800	DATED (REVISED)	10/20/23
940	DATED (REVISED)	4/17/15

DESIGN LOADING

DESIGN LOADING INCLUDES:
VEHICULAR LIVE LOAD: H10 (TRUCK ONLY)
PEDESTRIAN LIVE LOAD: 0.090 KIPS/SF
FUTURE WEARING SURFACE (FWS): 0.0 KIPS/SF

DESIGN DATA

CONCRETE CLASS QC1 (CULVERT WINGWALLS AND FOOTINGS):
COMPRESSIVE STRENGTH 4 KSI

REINFORCING STEEL - GRADE 60 MINIMUM YIELD STRENGTH 60 KSI - ASTM A615 OR A996

STRUCTURAL STEEL - ASTM A709 GRADE 50 (GALVANIZED) (PLATES & SHAPES OF RAILING SUPPORT) - YIELD STRENGTH 50 KSI

DESIGN SPECIFICATIONS

THIS STANDARD DRAWING CONFORMS TO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA

THE FOLLOWING DESIGN DATA IS ASSUMED:

INTERNAL ANGLE OF FRICTION = 28 DEGREES
COEFFICIENT OF FRICTION = 0.30
UNIT WEIGHT OF SOIL = 120 PCF
UNIT WEIGHT OF CONCRETE = 150 PCF
SLOPE OF BACKFILL = LEVEL
HEIGHT OF LIVE LOAD SURCHARGE = 2.83 FT

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (FOOTING, WINGWALL AND FORESLOPE WALL)

REINFORCING STEEL - ASTM A615, A616, OR A617
GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI (ALL REINFORCING SHALL BE EPOXY COATED)

PRECAST CONCRETE

AT THE OPTION OF THE CONTRACTOR, PRECAST FOOTINGS AND WINGWALLS MAY BE USED PROVIDED THEY ARE SIZED TO MEET THE SOIL PARAMETERS AND MEET OR EXCEED THE MATERIAL STRENGTHS SPECIFIED HEREIN. THE CONTRACTOR SHALL SUBMIT DESIGNS AND SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.

FORESLOPE WALL ANCHOR DOWELS

ANCHOR PER CMS 510 WITH NONSHRINK, NONMETALLIC GROUT CONFORMING TO CMS 705.20 AND TO A DEPTH SPECIFIED ON SHEET 5 /9 . PAYMENT FOR DOWEL HOLES, GROUT AND INSTALLATION SHALL BE INCLUDED WITH ITEM 511.

AS AN ALTERNATIVE TO RESIN BONDING, THREADED INSERTS OR NONPROTRUDING MECHANICAL CONNECTORS CAST INTO THE CULVERT BY THE MANUFACTURER MAY BE USED PROVIDED THEY CAN RESIST AN ULTIMATE PULL-OUT STRENGTH OF 12 KIPS AND MAINTAIN A MINIMUM COVER OF 3 INCHES AT THE BOTTOM OF THE CULVERT SLAB. MECHANICAL CONNECTORS MUST PROVIDE AN "L-SHAPED" BAR INSIDE THE CULVERT WITH A MINIMUM HORIZONTAL LENGTH OF 12 INCHES. PAYMENT FOR INSERTS OR MECHANICAL CONNECTORS SHALL BE INCLUDED WITH ITEM 611.

BACKFILL LIMITATION

WHEN THE DESIGN HEIGHT IS GREATER THAN 10 FT, THE BACKFILL BEHIND THE WINGWALLS SHALL NOT BE PLACED HIGHER THAN THE ELEVATION OF THE SOIL ABOVE THE TOE. WHEN THE SOIL ABOVE THE TOE IS AT ITS FINISHED ELEVATION, THE REMAINDER OF THE BACKFILL MAY BE PLACED.

POROUS BACKFILL WITH GEOTEXTILE FABRIC

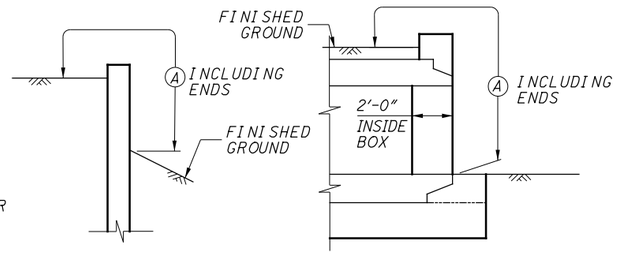
1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND TO 12" BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" ABOVE THE TOP ELEVATION OF THE WEEPHOLE. WEEPHOLES SHALL BE PLACED 6" TO 12" ABOVE THE NORMAL WATER ELEVATION OR GROUND LINE AND SHALL HAVE A MAXIMUM SPACING OF 10'-0". A MINIMUM OF ONE WEEPHOLE SHALL BE PROVIDED PER WINGWALL.

PREFORMED EXPANSION JOINT FILLER

PREFORMED EXPANSION JOINT FILLER (PEJF) CONFORMING TO CMS 705.03, 1 INCH THICK, SHALL BE PLACED ABOVE THE FOOTING BETWEEN THE SIDES OF THE BOX CULVERT AND THE ENDS OF THE WINGWALLS. PAYMENT FOR MATERIALS AND INSTALLATION SHALL BE INCLUDED WITH ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER.

SEALING OF FORESLOPE WALL AND WINGWALLS

ALL EXPOSED FORESLOPE WALL AND WINGWALL CONCRETE SHALL BE SEALED WITH EPOXY-URETHANE SEALER. THE LIMITS SHALL BE AS SHOWN IN THE DIAGRAMS BELOW. PAYMENT FOR THE EPOXY-URETHANE SEALER SHALL BE PER ITEM 512 - SEALING OF CONCRETE SURFACES.



WINGWALL

FORESLOPE WALL AND PRECAST BOX (CULVERT OUTLET BEVEL SHOWN)

LIMITS OF ITEM 512-SEALING CONCRETE SURFACES

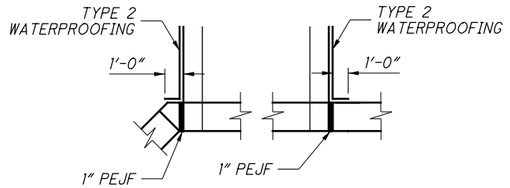
(A) - SEAL ENTIRE CONCRETE SURFACE AREA

WATERPROOFING

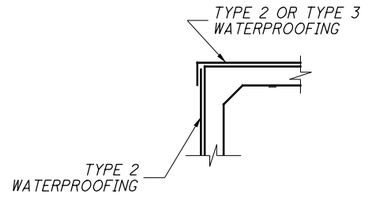
TYPE 2 WATERPROOFING, PER CMS 512.09 AND 711.25, SHALL EXTEND VERTICALLY DOWN THE ENTIRE SIDES OF THE PRECAST CULVERT SECTIONS FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.

IF PAVEMENT IS NOT PLACED DIRECTLY ON TOP OF THE CULVERT, TYPE 2 WATERPROOFING, PER CMS 512.09 AND 711.25 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.

IF PAVEMENT IS TO BE USED DIRECTLY ON TOP OF THE CULVERT, TYPE 3 WATERPROOFING, PER CMS 512.10 AND 711.29 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 -TYPE 3 WATERPROOFING.



PLAN VIEW



SECTION VIEW

WATERPROOFING DETAILS

BASIS OF PAYMENT

ALL LABOR, EQUIPMENT AND INCIDENTALS TO CONSTRUCT THE FOOTING, CUTOFF WALL, WINGWALLS AND FORESLOPE WALL SHALL BE INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE (RETAINING WALL/WINGWALL NOT INCLUDING FOOTING). PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL.

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING PILES, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE BRIDGE ABUTMENTS AND CULVERTS UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 175 FEET BEHIND THE REAR ABUTMENT AND 200 FEET BEHIND THE FORWARD ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE CULVERT AND BRIDGE FOOTINGS AND THE INSTALLATION OF THE CULVERT PILES UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED AND A 4 TO 6 MONTH WAITING PERIOD HAS ELAPSED. THE ENGINEER MAY ADJUST THE LENGTH OF THE WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE THE CULVERT FOOTING PILES TO REFUSAL ON BEDROCK.

PILES TO BEDROCK: DRIVE PILES TO REFUSAL ON BEDROCK. THE COUNTY WILL CONSIDER REFUSAL TO BE OBTAINED BY PENETRATING WEAK BEDROCK FOR SEVERAL INCHES TO A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR BY CONTACTING STRONG BEDROCK AND THE PILE RECEIVING AT LEAST 20 BLOWS. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 150 KIPS PER PILE FOR THE CULVERT AND WINGWALL PILES.

CULVERT AND WINGWALL PILES:
HP10x42 PILES 45 FEET LONG, ORDER LENGTH
1

PILE SPLICES

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN C&MS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

PILE DRIVING

THE MINIMUM RATED ENERGY OF THE HAMMER USED TO INSTALL THE PILES SHALL BE 10,000 FOOT-POUNDS. ENSURE THAT STRESSES IN THE PILES DURING DRIVING DO NOT EXCEED 45,000 POUNDS PER SQUARE INCH.

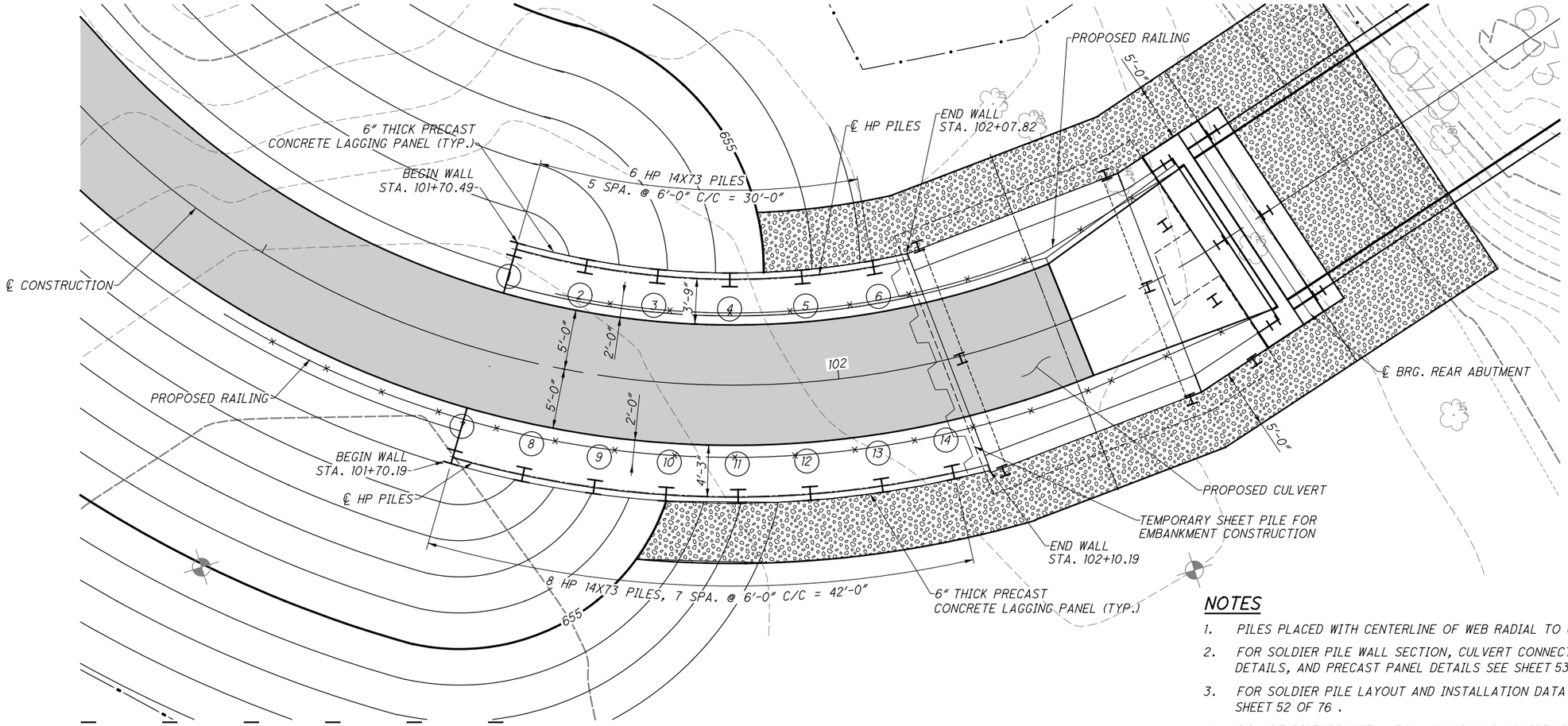
REV. BY	DATE	DESCRIPTION
CJK	03/29/24	1 PRE-BID QUESTIONS

DESIGN AGENCY
PENNONI ASSOCIATES INC.
5202 BETHEL REED PARK, SUITE 200
COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
MDP	JTS	DJW	7/9/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ARA		N/A	

NORTH CULVERT: GENERAL NOTES
BRIDGE NO. ATH-CHAUNCEY HOCKCHOCKING ADENA BIKEWAY EXTENSION OVER HOCKING RIVER

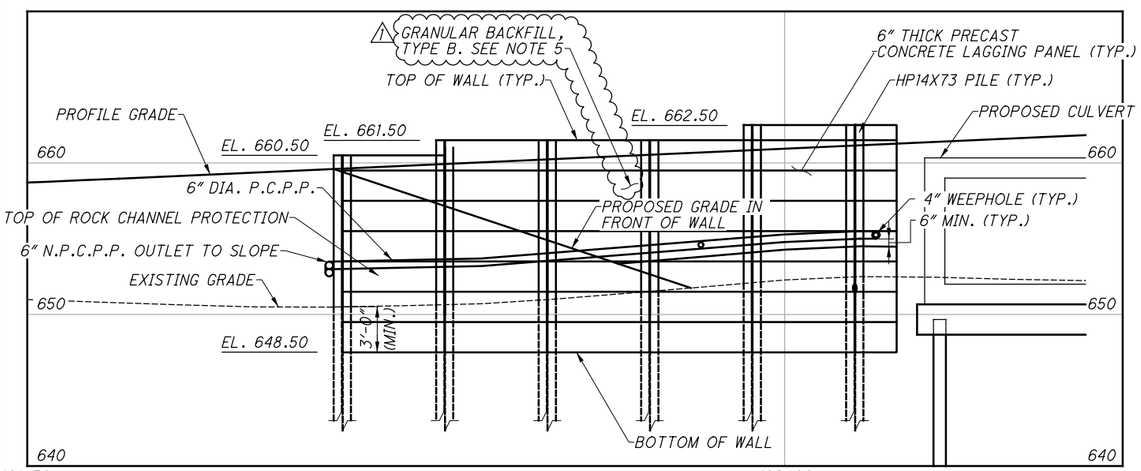
ATH-CHAUNCEY
PID No. 106647



PLAN

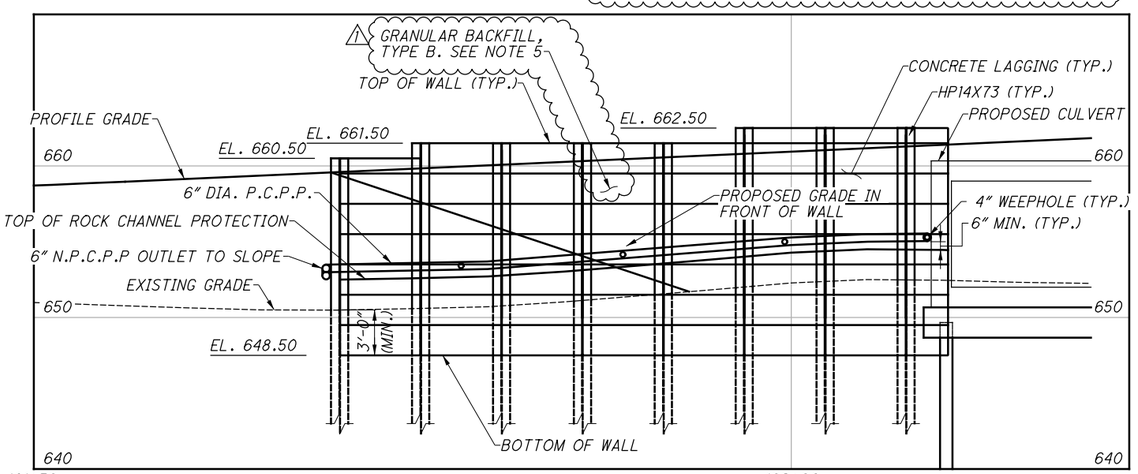
NOTES

1. PILES PLACED WITH CENTERLINE OF WEB RADIAL TO CURVE
2. FOR SOLDIER PILE WALL SECTION, CULVERT CONNECTION DETAILS, AND PRECAST PANEL DETAILS SEE SHEET 53 OF 76 .
3. FOR SOLDIER PILE LAYOUT AND INSTALLATION DATA SEE SHEET 52 OF 76 .
4. DO NOT DISTURB WETLANDS, AS SHOWN ON SHEET 25 OF 76 .
5. ITEM 503 - GRANULAR BACKFILL TYPE B SHALL BE PLACED BETWEEN THE POROUS BACKFILL THE FULL LENGTH OF THE SOLDIER PILE WALL.



LEFT WALL ELEVATION

(LOOKING WEST)



RIGHT WALL ELEVATION

(LOOKING WEST)

REV. BY	DATE	DESCRIPTION
CJK	03/29/24	1 PRE-BID QUESTIONS

DESIGN AGENCY
PENNONI ASSOCIATES INC.
5202 BETHEL REED PARK, SUITE 200
COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
ARA	TDB	DWJ	7/9/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ARA		N/A	

ATHENS COUNTY
STA. 102+34.96
STA. 104+18.96

SOUTH WALL PLAN AND ELEVATION
BRIDGE NO. ATH-CHAUNCEY HOCKHOCKING ADENA BIKEWAY EXTENSION OVER HOCKING RIVER

ATH-CHAUNCEY
PID No. 106647

1 / 6

48 / 76

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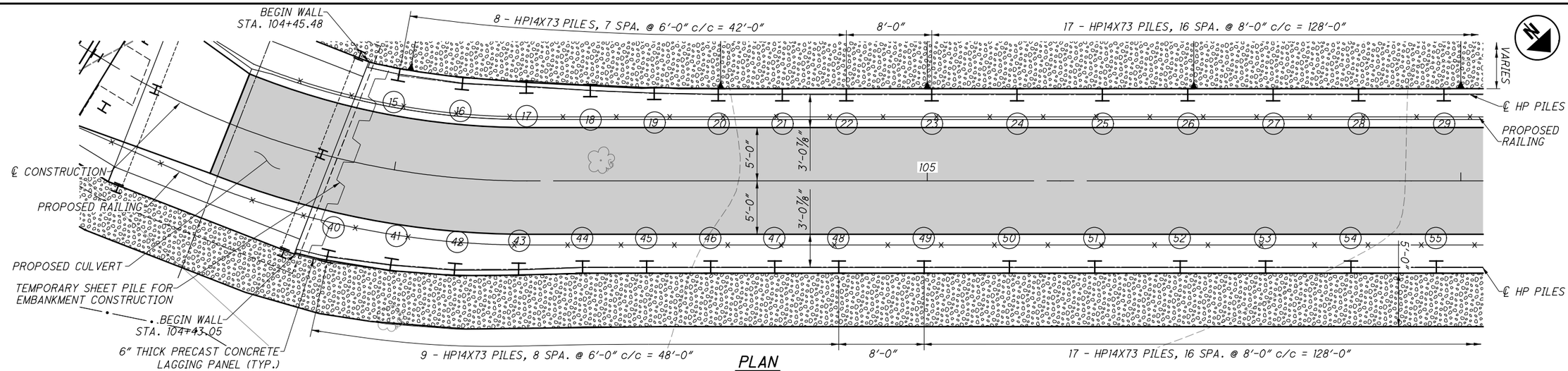
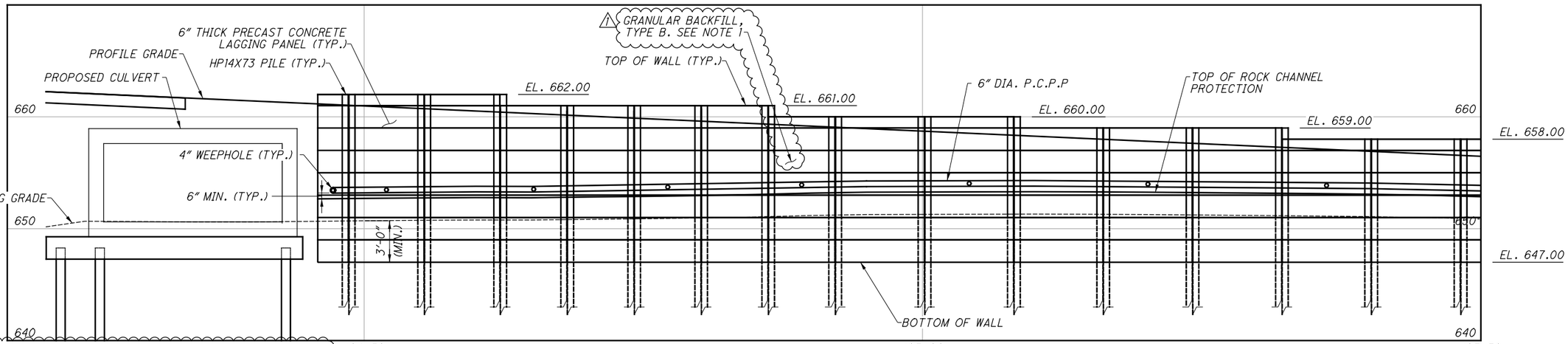


PLAN



LEFT WALL ELEVATION

(LOOKING WEST)

NOTES

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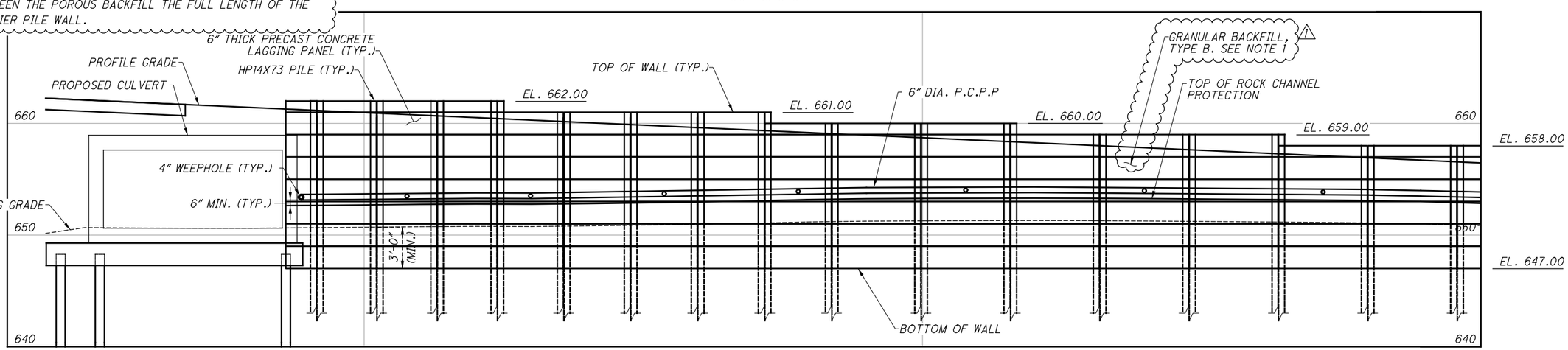

RIGHT WALL ELEVATION

(LOOKING WEST)

REV. BY	DATE	DESCRIPTION
CJK	03/29/24	1 PRE-BID QUESTIONS

DESIGN AGENCY
PENNONI ASSOCIATES INC.
5202 BETHEL REED PARK, SUITE 200
COLUMBUS, OHIO 43220

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ARA	AJK	DJW	7/9/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ARA		N/A	

ATHENS COUNTY
STA. 102+34.96
STA. 104+18.96

NORTH WALL PLAN AND ELEVATION - 1
BRIDGE NO. ATH-CHAUNCEY HOCKHOCKING ADENA
BIKEWAY EXTENSION OVER HOCKING RIVER

ATH-CHAUNCEY
PID No. 106647

2 / 6

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76

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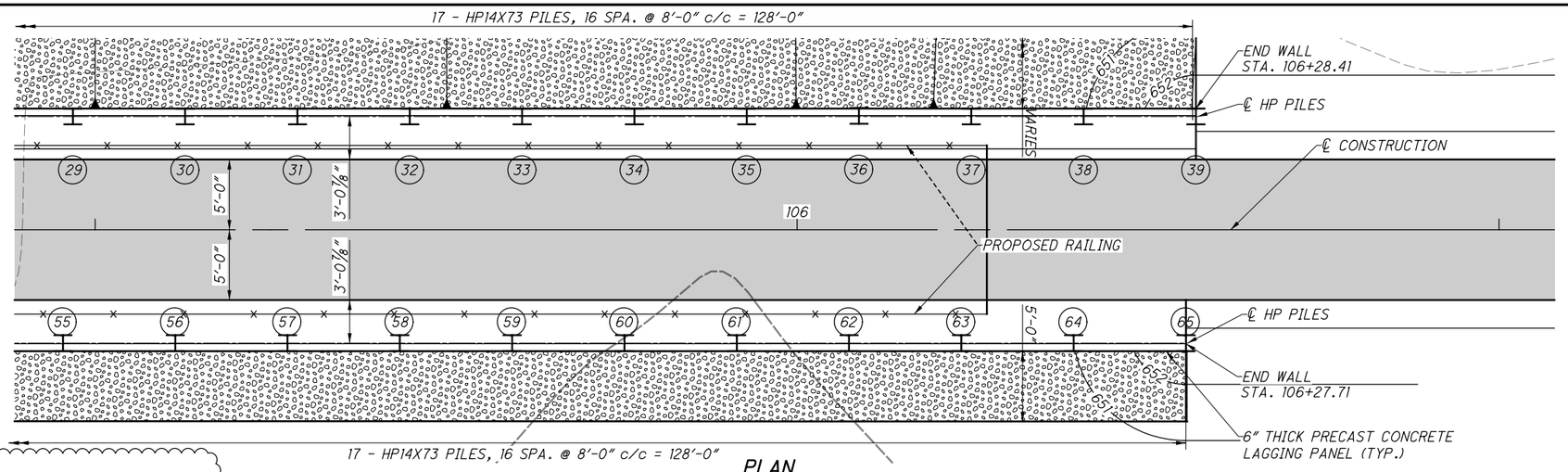

PLAN

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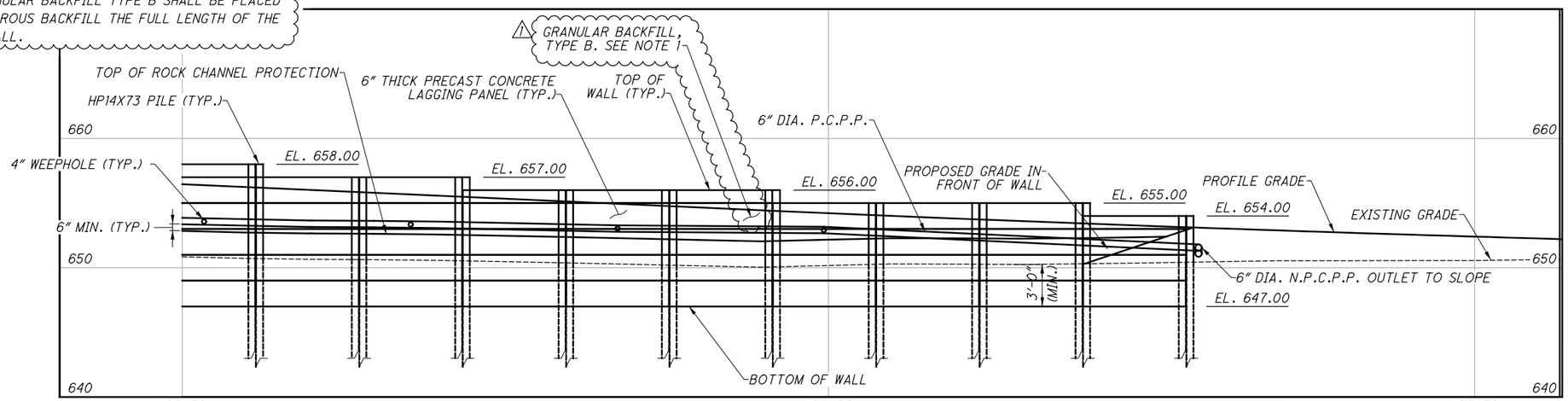
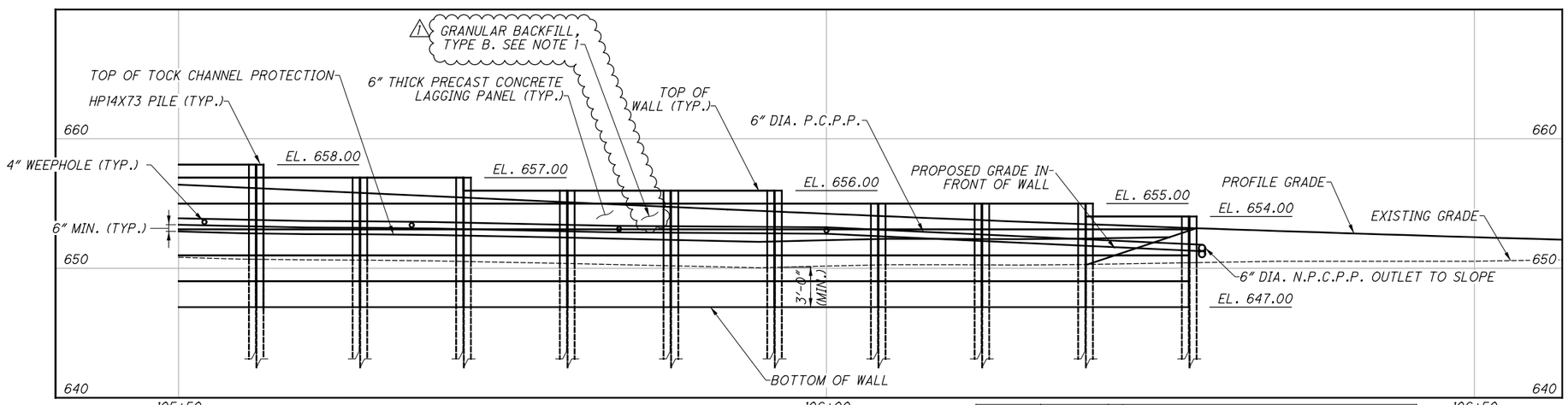


LEFT WALL ELEVATION

(LOOKING WEST)



RIGHT WALL ELEVATION

(LOOKING WEST)

REV. BY	DATE	DESCRIPTION
CJK	03/29/24	⚠1 PRE-BID QUESTIONS

DESIGN AGENCY
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5202 BETHEL REED PARK, SUITE 200
COLUMBUS, OHIO 43220

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ARA	AJK	DJW	7/9/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ARA		N/A	

ATHENS COUNTY
STA. 102+34.96
STA. 104+18.96

NORTH WALL PLAN AND ELEVATION - 2
BRIDGE NO. ATH-CHAUNCEY HOCKHOCKING ADENA
BIKEWAY EXTENSION OVER HOCKING RIVER

ATH-CHAUNCEY
PID No. 106647

3 / 6

50
76

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ESTIMATED QUANTITIES

ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION
203	35110	707	CU. YD.	GRANULAR MATERIAL, TYPE B
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION
507	00300	2500	FT.	STEEL PILES HP14X73, FURNISHED
507	00350	2175	FT.	STEEL PILES HP14X73, DRIVEN
512	10100	326	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
516	42000	64	EACH	ELASTOMERIC BEARING PAD, MISC.: 1'-0" X 3" X 1/4" THICK
516	42000	726	EACH	ELASTOMERIC BEARING PAD, MISC.: 2'-0" X 3" X 1/4" THICK
518	21200	156	CU. YD.	POROUS BACKFILL WITH GEOTEXTILE FABRIC
518	40000	447	LIN. FT.	6" PERFORATED CORRUGATED PLASTIC PIPE
518	40010	53	LIN. FT.	6" NON-PERFORATED CORRUGATED PLASTIC PIPE
530	51010	5043	SQ. FT.	SPECIAL - RETAINING WALL, PRECAST CONCRETE LAGGING

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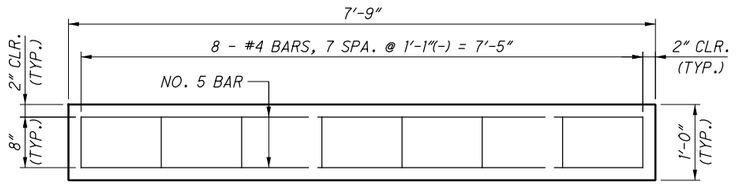
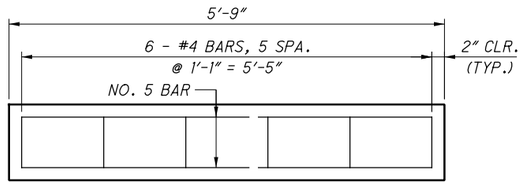
SOLDIER PILE WALL: ESTIMATED QUAMTITIES
BRIDGE NO. ATH-CHAUNCEY HOCKHOCKING ADENA
BIKEWAY EXTENSION OVER HOCKING RIVER

ATH-CHAUNCEY
PID No. 106647



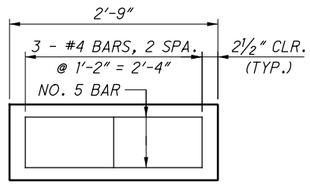
ELEVATION - 1'-0" LAGGING PANEL

(8'-0" PILE SPACING)



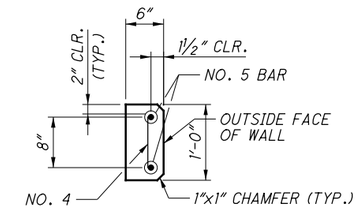
ELEVATION - 1'-0" LAGGING PANEL

(6'-0" PILE SPACING)

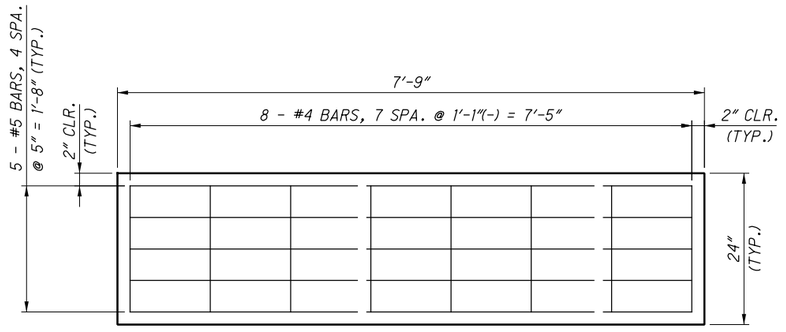


ELEVATION - 1'-0" LAGGING PANEL

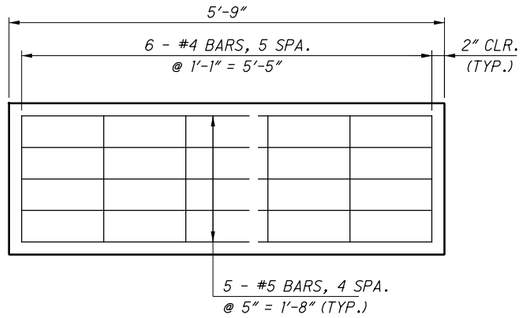
(END PANEL)



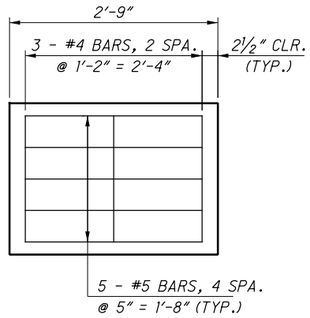
TYPICAL 1'-0" PANEL SECTION



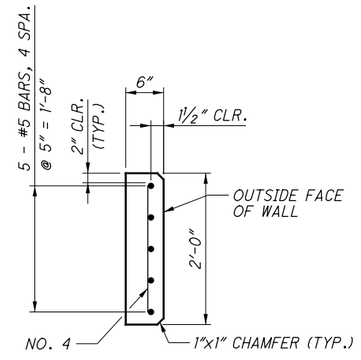
ELEVATION - 2'-0" LAGGING PANEL



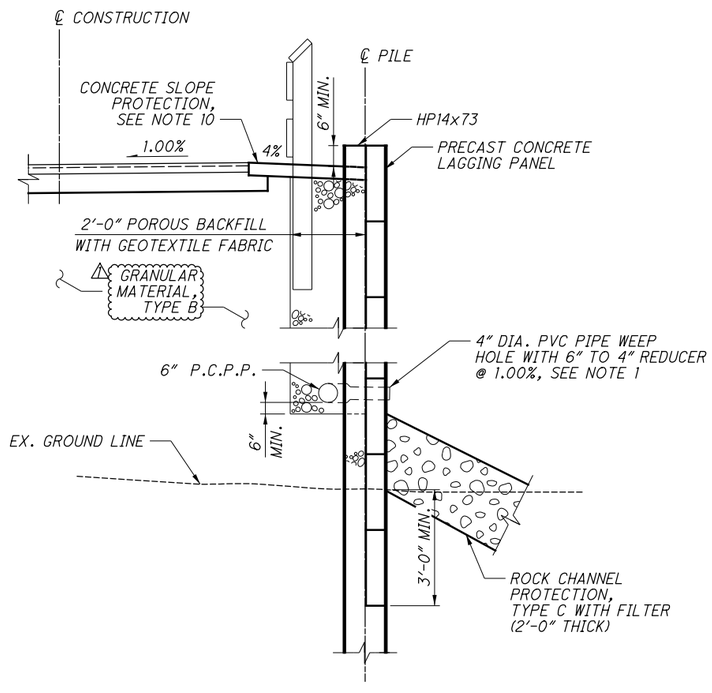
ELEVATION - 2'-0" LAGGING PANEL



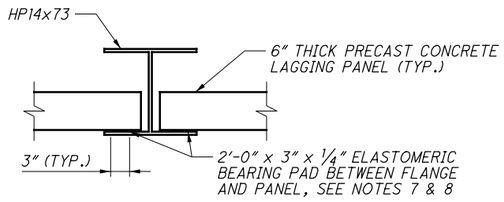
ELEVATION - 2'-0" LAGGING PANEL



TYPICAL 2'-0" PANEL SECTION

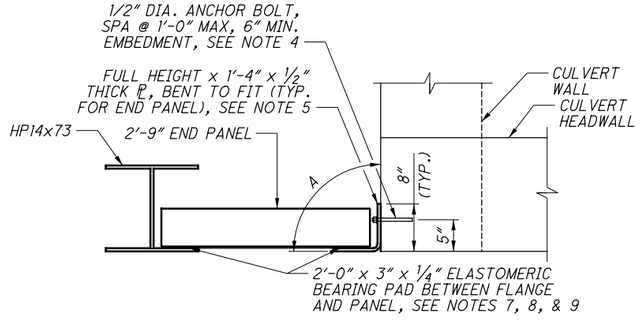


TYPICAL SOLDIER PILE WALL SECTION



PANEL BEARING DETAIL

	A
REAR LEFT WALL	99° 17' 5"
REAR RIGHT WALL	81° 36' 22"
FWD. LEFT WALL	98° 15' 6"
FWD. RIGHT WALL	82° 32' 9"



END PANEL CONNECTION DETAIL

NOTES

1. CORE WEEP HOLES THROUGH 6" REINFORCED CONCRETE LAGGING PANEL ONCE IN PLACE, AVOIDING REINFORCING STEEL. LABOR AND EQUIPTMENT FOR 4" CORES IN THE PRECAST LAGGING SHALL BE INCIDENTAL TO ITEM SPECIAL - RETAINING WALL, PRECAST CONCRETE LAGGING.
2. PRECAST CONCRETE LAGGING PANELS SHALL BE CONSTRUCTED USING CLASS QC 1 CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4.0 KSI. PANEL REINFORCING SHALL BE GRADE 60 WITH A MINIMUM YIELD STRENGTH OF 60 KSI.
3. REINFORCEMENT SHALL BE INCLUDED IN THE PAYMENT OF ITEM SPECIAL - RETAINING WALL, PRECAST CONCRETE LAGGING.
4. HIGH STRENGTH ANCHOR BOLTS SHALL BE ½" DIAMETER F1554, GRADE 55 BOLTS. HOLES FOR HIGH STRENGTH BOLTS SHALL BE 9/16" DIAMETER.
5. ALL END PANEL CONNECTION PLATE MATERIALS INCLUDING STEEL PLATE AND ANCHOR BOLT ASSEMBLIES SHALL BE INCLUDED FOR PAYMENT UNDER ITEM SPECIAL - RETAINING WALL, PRECAST CONCRETE LAGGING. DRILLED HOLES THROUGH CONNECTION PLATE SHALL BE CONSIDERED INCIDENTAL TO ITEM SPECIAL - RETAINING WALL, PRECAST CONCRETE LAGGING.
6. APPLY SEALING PER ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY URETHANE) TO ALL EXPOSED FACES OF ALL PRECAST CONCRETE LAGGING PANELS.
7. ELASTOMERIC BEARING PADS SHALL BE PROVIDED AT ALL PANEL BEARINGS. STRIPS SHALL BE PLACED BETWEEN FRONT FACE OF CONCRETE PANEL AND BACK FACE OF PILE FLANGE AND SHALL BE ADHESIVELY BONDED TO THE FLANGE.
8. ELASTOMERIC BEARING PADS SHALL BE NEOPRENE ELASTOMERIC PADS HAVING A DUROMETER HARDNESS OF 55 ± 5, HIGH DENSITY POLYETHYLENE PADS WITH A MINIMUM DENSITY OF 59 LB/FT³ (0.946 G/CM³) OR EQUIVALENT. SUPPLY CERTIFIED TEST DATA TO THE ENGINEER UPON DELIVERY OF THE MATERIAL TO THE PROJECT.
9. INSTALL PLATE ALONG EDGE OF FOOTING, SIMILAR TO CULVERT. END PANELS TO BEAR ON FOOTING PLATE SHALL BE CUT TO FIT.
10. FOR CONCRETE SLOPE PROTECTION LIMITS AND QUANTITIES, SEE SHEET 7 OF 76 .

REV. BY	DATE	DESCRIPTION
CJK	03/29/24	⚠1 PRE-BID QUESTIONS

DESIGN AGENCY
PENNONI ASSOCIATES INC.
5202 BETHEL REED PARK, SUITE 200
COLUMBUS, OHIO 43220

DESIGNED	DRAWN	REVIEWED	DATE
ARA	AJK	DJW	7/9/21
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ARA		N/A	

SOLDIER PILE WALL DETAILS

BRIDGE NO. ATH-CHAUNCEY HOCKCHOCKING ADENA BIKEWAY EXTENSION OVER HOCKING RIVER

ATH-CHAUNCEY

PID No. 106647

6 / 6

53
76

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