

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

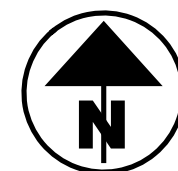
LIC-SR37-19.40 PART 2

UNION TOWNSHIP
LICKING COUNTY



LOCATION MAP

LATITUDE: 40 °01'03" N LONGITUDE: 82 °31'27" W



PORTION TO BE IMPROVED	—————
INTERSTATE HIGHWAY	=====
FEDERAL ROUTES	=====
STATE ROUTES	=====
COUNTY & TOWNSHIP ROADS	=====
OTHER ROADS	—————

DESIGN DESIGNATION

CURRENT ADT (20)	7,600
DESIGN YEAR ADT (20)	9,100
DESIGN HOURLY VOLUME (20)	1,200
DIRECTIONAL DISTRIBUTION	0.59
TRUCKS (24 HOUR B&C)	6%
DESIGN SPEED	55 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
05 MAJOR COLLECTOR - RURAL	
NHS PROJECT	N/A

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATE	SHEET NUMBER
SHOULDER WIDTH	3/12/2023	2

ADA DESIGN WAIVERS

NONE

UNDERGROUND UTILITIES
Contact Two Working Days
Before You Dig

OHIO811.org
Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

PLAN PREPARED BY:
**CARPENTER
MARTY** transportation
6612 SINGLETREE DRIVE COLUMBUS, OH 43229
614.656.2424 * WWW.CMTRAN.COM

INDEX OF SHEETS:

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FEDERAL PROJECT NUMBER

E170(955)

RAILROAD INVOLVEMENT

COLUMBUS & OHIO RIVER (CUOH)

PROJECT DESCRIPTION

THIS PROJECT INCLUDES THE REPLACEMENT OF THE DEFICIENT STRUCTURE (SFN 4501837) OVER RAMP CREEK ON S.R. 37 SOUTH OF HAYES ROAD IN UNION TOWNSHIP.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	0.81 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.13 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	NOI NOT REQUIRED

2023 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 4.

Jason L. Sturgeon, P.E.
District 05 Deputy Director

Jack Marchbanks, PhD
Director, Department of Transportation

STAGE 3 SUBMITTAL
7/1/2024

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
SEE PART 1					

ENGINEER'S SEAL:	ENGINEER'S SEAL:
SIGNED: _____ DATE: _____	SIGNED: _____ DATE: _____

TITLE SHEET

DESIGN AGENCY



DESIGNER	BTP
REVIEWER	BAA 2/28/24
PROJECT ID	104981
SHEET	TOTAL
P.1	36

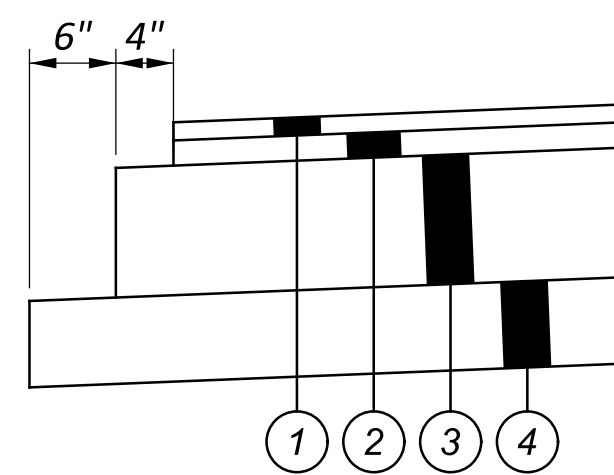
LIC-SR37-19.40

MODEL: Sheet PAPER SIZE: 34x22 (in.) DATE: 7/1/2024 TIME: 3:36:04 PM USER: backel P:\ODT\05\0011_LIC-37-19.40\104981\400-Engineering\Roadway\Sheets\104981_GT002_Part 2.dgn

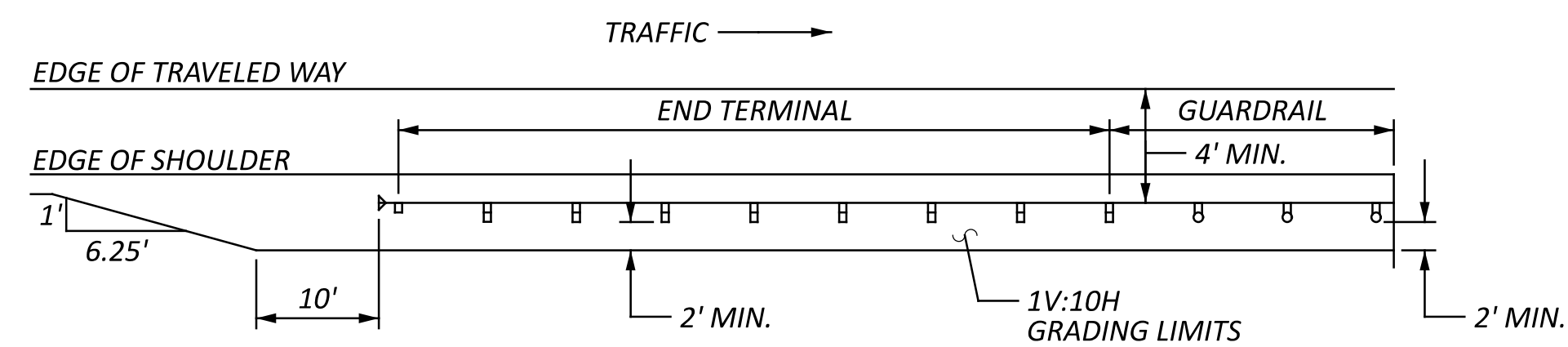
LEGEND

- ① ITEM 441 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG70-22M
- ② ITEM 441 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449), PG70-22M
- ③ ITEM 301 9" ASPHALT CONCRETE BASE, (449), PG64-22
- ④ ITEM 304 8" AGGREGATE BASE
- ⑤ ITEM 407 NON-TRACKING TACK COAT
- ⑥ ITEM 204 SUBGRADE COMPACTION
- ⑦ ITEM 606 GUARDRAIL, TYPE MGS
- ⑧ ITEM 659 SEEDING AND MULCHING, CLASS 3B
- ⑨ ITEM 605 AGGREGATE DRAINS

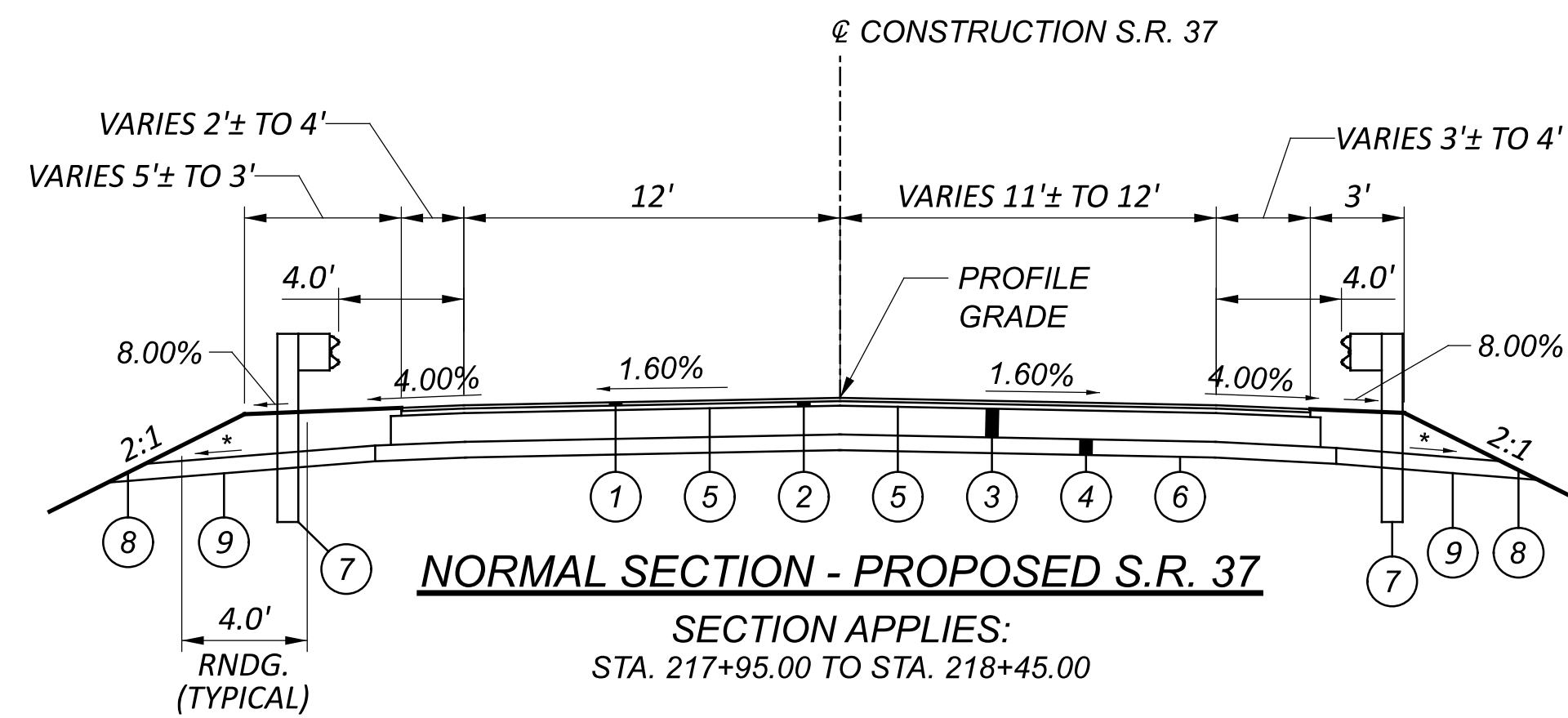
- (A) EXISTING ASPHALT PAVEMENT (14"±)
- (B) EXISTING AGGREGATE BASE (6"±)



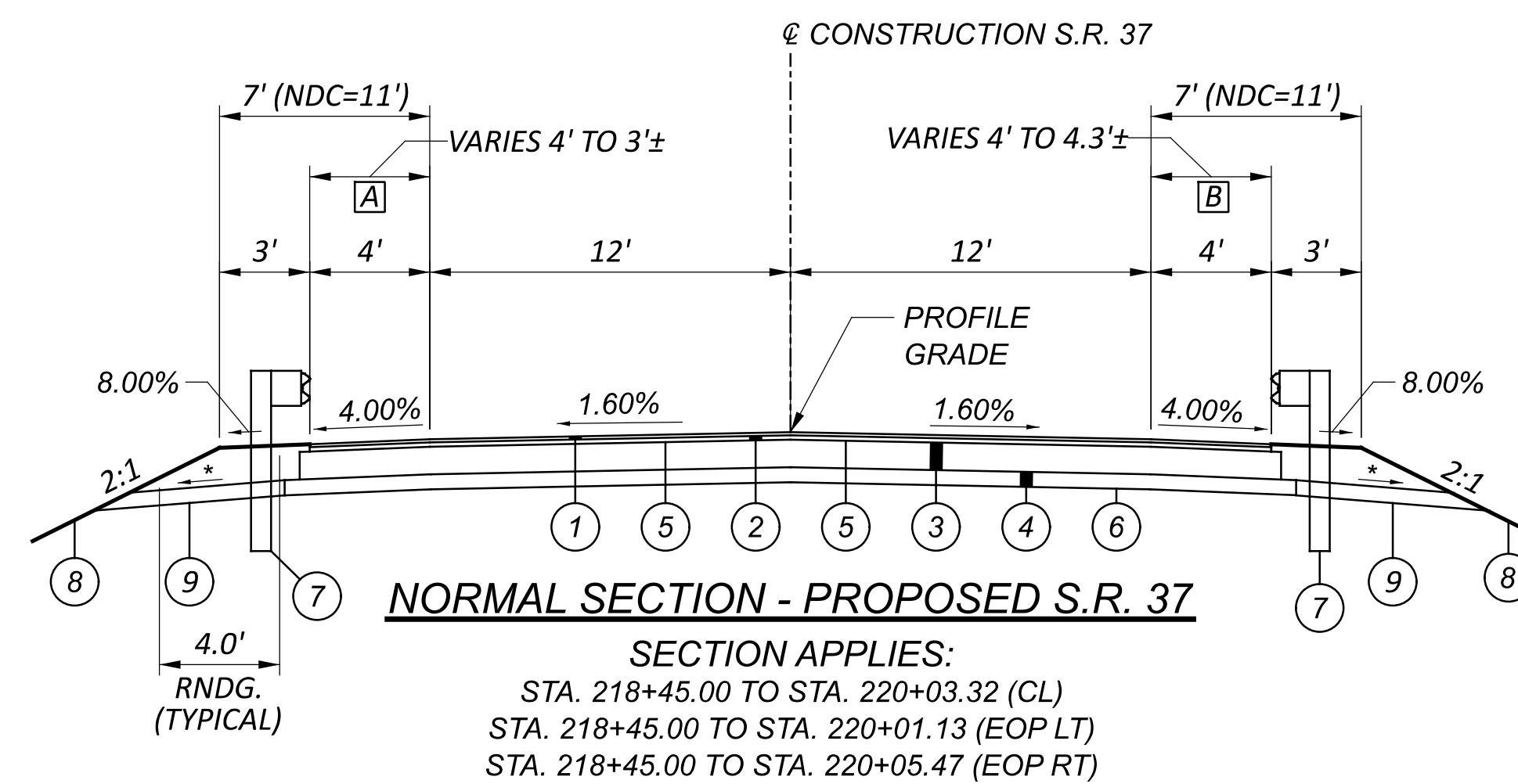
PAVEMENT STEP DETAIL



GRADING DETAILS FOR ANCHOR ASSEMBLY, MGS TYPE E

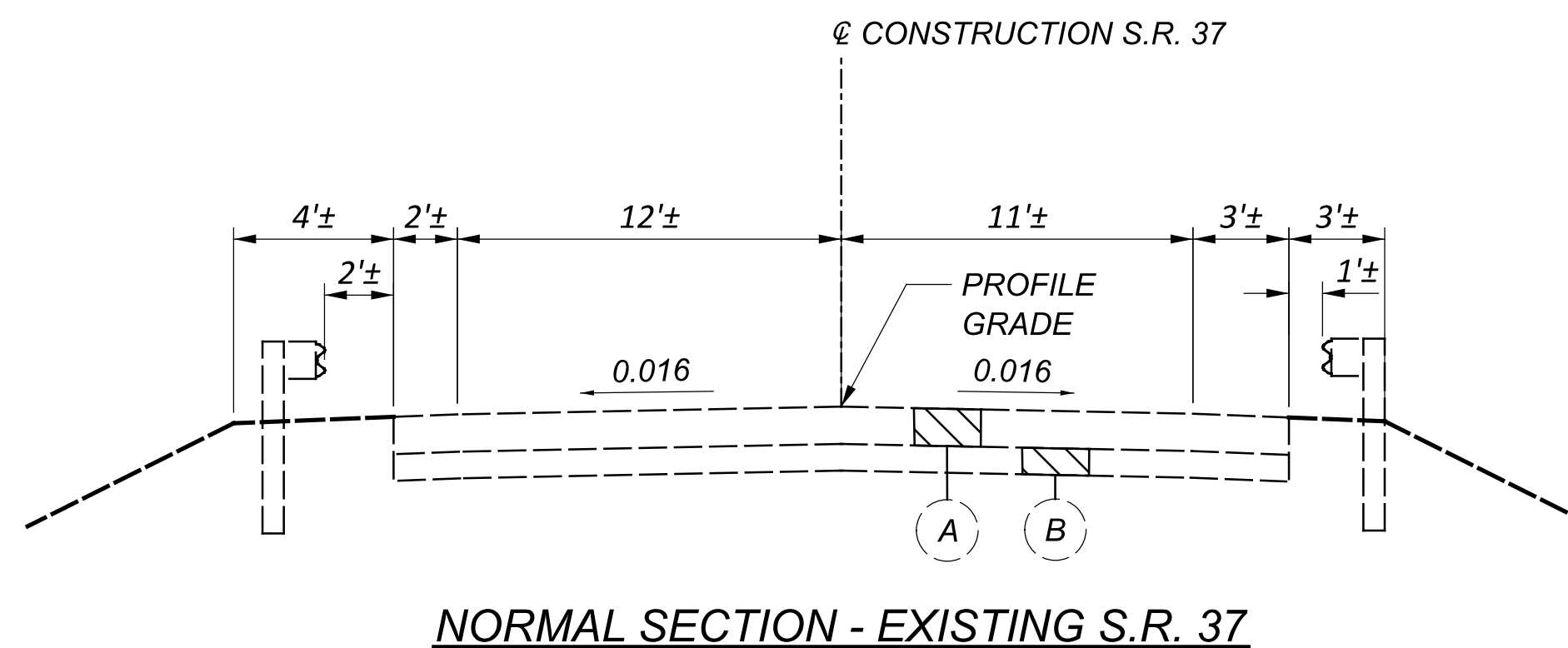


* 4% MIN.
 8% DESIRABLE
 AGGREGATE DRAIN STATIONING:
 217+95.00 (LT)
 218+20.00 (RT)
 218+45.00 (LT)



(A) STA. 219+60.00 TO STA. 219+95.00
 (B) STA. 219+95.00 TO STA. 220+03.32

* 4% MIN.
 8% DESIRABLE
 AGGREGATE DRAIN STATIONING:
 218+45.00 (LT)
 218+70.00 (RT)
 218+95.00 (LT)
 219 +45.00 (RT)
 219+70.00 (LT)
 219+95.00 (RT)



UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

LICKING RURAL ELECTRIFICATION INC.
11339 MT. VERNON RD, PO BOX 455
UTICA, OH 43080-0455
ATTN: JOHN STRATHMAN
PHONE: 740-348-1149 OR 740-404-3076
EMAIL: JSTRATHMAN@THEENERGYCOOP.COM

BRIGHTSPEED
2025 AKRON RD
WOOSTER, OH 44691
ATTN: JOHN SCHOONOVER
PHONE: 740-263-2819
PHONE: 330-262-1128
EMAIL: JEFFERY.L.SCHOONOVER@BRIGHTSPEED.COM
EMAIL: RELOCATIONS@BRIGHTSPEED.COM

COLUMBIA GAS OF OHIO
2429 NORTH LINDEN AVENUE
ZANESVILLE, OH 43701
ATTN: REAGAN RICHARDS
PHONE: 740-258-0701
EMAIL: REAGANRICHARDS@NISOURCE.COM

WINDSTREAM COMMUNICATIONS
ATTN: GEOFFREY HAMM
PHONE: 740-349-8857
EMAIL: GEOFFERY.P.HAMM@WINDSTREAM.COM

SPECTRUM CABLE TV
3770 EAST LIVINGSTON AVENUE
COLUMBUS, OH 43227-2280
ATTN: ANTHONY ADAMS
PHONE: 614-827-7971
EMAIL: ANTHONY.ADAMS@CHARTER.COM

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITIES AS REQUIRED BY SECTION 153.64 OF THE OHIO REVISED CODE. ODOT ASSUMES NO RESPONSIBILITY FOR THE LOCATION OR THE DEPTHS OF THE UNDERGROUND FACILITIES SHOWN ON THESE PLANS.

AT LEAST 48 HOURS BEFORE DIGGING, THE CONTRACTOR SHALL CALL THE OHIO UTILITIES PROTECTION SERVICE AT THE NUMBER LISTED ON THE TITLE SHEET. NON-MEMBER UTILITY COMPANIES MUST BE CALLED DIRECTLY. THE NAMES AND ADDRESSES OF THE UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS ARE LISTED ABOVE.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 9:00PM AND 6:00AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET P.4 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

POSITIONING METHOD: ODOT REAL TIME NETWORK (RTN)
MONUMENT TYPE: ODOT TYPE "B"

VERTICAL POSITIONING -
ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: 12A

HORIZONTAL POSITIONING -
REFERENCE FRAME: NAD 83 (2011)
ELLIPSOID: GRS 80
COORDINATE SYSTEM: OHIO STATE PLANE, SOUTH OHIO
PROJECT SCALE FACTOR: 1.00000000 (PRJ. IS IN GRID COORDINATES)
ORIGIN OF COORDINATE SYSTEM 0,0

UNITS ARE IN U.S. SURVEY FEET

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS. 623.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, TOPSOIL	275 CU. YD.	
659, SEEDING AND MULCHING, CLASS 3B	2,472 SQ. YD.	
659, REPAIR SEEDING AND MULCHING	124 SQ. YD.	
659, INTER-SEEDING	124 SQ. YD.	
659, COMMERCIAL FERTILIZER	0.33 TON	
659, LIME	0.51 ACRES	
659, WATER	14 M. GAL.	

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN SECTION 203.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS). NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF SECTION 203.05.

CLEARING AND GRUBBING

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
4"-12"	26	0	26
18"	5	0	5
30"	5	0	5

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS, EVEN THOUGH OTHERWISE SHOWN.

PAVING AT RAILROAD CROSSING

WORK THE CROWN OUT OF THE PROPOSED PAVEMENT, BEGINNING 50 FEET FROM THE NEAREST RAIL, BY RAISING THE EDGES OF THE NEW PAVEMENT TO MEET THE PLATFORM ELEVATION.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH REBOUNDABLE RETROREFLECTIVE SHEETING, PER CMS 730.191.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

LOCATION OF GUARDRAIL

THE LOCATIONS OF THE GUARDRAIL RUNS, AS SHOWN IN THESE PLANS ARE SUBJECT TO ADJUSTMENTS PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATION WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

REMOVED MATERIALS

ALL REMOVED MATERIALS EXCEPT AS NOTED ELSEWHERE IN THE PLANS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED BY THE CONTRACTOR FROM THE JOB SITE.

ITEM 605 AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT 50 FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS AND AT 25 FOOT INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS. THE AGGREGATE DRAINS SHALL BE STAGGERED SO THAT EACH DRAIN IS 25 FEET FROM THE ADJACENT DRAIN ON THE OPPOSITE SIDE FOR NORMAL CROWNED SECTIONS. AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE.

ITEM 407, NON-TRACKING TACK COAT

THE RATE OF APPLICATION OF THE ITEM 407, NON-TRACKING TACK COAT SHALL BE PER CMS TABLE 407.06-1 AND SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.08 GAL/SY FOR TACK COAT UNDER THE INTERMEDIATE COURSE AND AN AVERAGE APPLICATION RATE OF 0.05 GAL/SY FOR TACK COAT UNDER THE SURFACE COURSE, (FOR ESTIMATING PURPOSES ONLY).

ITEM 623 CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ITEM 623 CONSTRUCTION LAYOUT STAKES AND SURVEYING, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING INFORMATION TO THE DEPARTMENT:

THE CONTRACTOR SHALL PROVIDE AS-BUILT DATA FOR THE SPECIFIED COMPLETED CONSTRUCTION ITEMS IN OHIO STATE PLANE COORDINATES (GRID). THE CONSTRUCTION ITEMS SHALL BE LOCATED AS PER THE SURVEY FEATURE CODE LIST FOUND ON THE OHIO DEPARTMENT OF TRANSPORTATION OFFICE OF CADD & MAPPING SERVICES WEBSITE. AN EMAIL CONTAINING A COMMA DELIMITED ASCII FILE AND A SURVEYOR'S CERTIFICATION SHALL BE DELIVERED TO:

Cody.Gierhart@dot.ohio.gov (D5 GIS COORDINATOR)
AND
Steven.Miller@dot.ohio.gov (D5 CONSTRUCTION AREA ENGINEER)

AFTER ALL INFORMATION HAS BEEN COLLECTED. THE ASCII FILE SHALL INCLUDE A HEADER CONTAINING NAME OF SURVEYOR, DATE(S) OF COLLECTION, HORIZONTAL DATUM (I.E. NAD83 (2011), OHIO STATE PLANE COORDINATE SYSTEM NORTH OR SOUTH), VERTICAL DATUM (I.E. NAVD 88, GEOID12A) AND METHOD OF COLLECTION (I.E. OHIO VRS, GPS RTK, TOTAL STATION, ETC.) AND BE IN A TABLE FORM AS FOLLOWS:

POINT NUMBER, NORTHING, EASTING, ELEVATION, FEATURE CODE, DESCRIPTION

BELOW IS A LIST OF THE ITEMS THE CONTRACTOR IS REQUIRED TO PROVIDE:

- GUARDRAIL
- CULVERT INLET AND OUTLET (TAKEN AT THE CL AND CROWN OF THE CULVERT)

THE ABOVE ITEMS SHALL BE COLLECTED USING SURVEY GRADE EQUIPMENT MEETING THE REQUIREMENTS OF SECTION 400 IN THE OHIO DEPARTMENT OF TRANSPORTATION SURVEY & MAPPING SPECIFICATIONS MANUAL.

ALL COST ASSOCIATED WITH OBTAINING THE INFORMATION LISTED ABOVE SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 623 CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN.

IN ADDITION TO THE ABOVE REQUIREMENTS, THE LOCATIONS OF ALL PROPOSED GUARDRAIL INSTALLATIONS SHALL BE STAKED BY THE CONTRACTOR PRIOR TO INSTALLATION ON THIS PROJECT. THE CONTRACTOR IS REQUIRED TO STAKE EACH LOCATION TO INDICATE THE BEGINNING AND END OF THE PROPOSED GUARDRAIL RUN. THIS WILL ALSO INCLUDE INDICATING THE TYPE OF END TREATMENT TO BE INSTALLED AT EACH LOCATION. THE CONTRACTOR SHALL STAKE EACH LOCATION AT LEAST TWO (2) DAYS PRIOR TO PLACEMENT.

ENDANGERED BAT HABITAT REMOVAL

THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET. THE CONTRACTOR SHALL REMOVE ONLY THE TREES NECESSARY TO CONSTRUCT THE PROJECT.

INSPECTION FOR BATS AND NESTING BIRDS

PRIOR TO THE START OF DEMOLITION ACTIVITIES THE CONTRACTOR SHALL INSPECT THE UNDERSIDE OF THE BRIDGE FOR THE PRESENCE OF BATS OR NESTING BIRDS. IF ANY BATS OR BIRD NESTS ARE OBSERVED THE CONTRACTOR SHALL NOTIFY NICOLE HAFFER-LIPSTREU IN THE DISTRICT 5 PLANNING DEPARTMENT @ (740) 323-5103 (NICOLE.HAFERLIPSTREU@DOT.OHIO.GOV), OR, BRIAN TATMAN @ (740) 323-5191 (BRIAN.TATMAN@DOT.OHIO.GOV) PRIOR TO STARTING ANY DEMOLITION WORK.

RAILROAD COORDINATION

THE CONTRACTOR SHALL NOTIFY GENESEE & WYOMING INC. PUBLIC PROJECTS DEPARTMENT 30 DAYS PRIOR TO STARTING CONSTRUCTION.

GENESEE & WYOMING INC. FLAGGING SERVICES WILL BE REQUIRED FOR ALL WORK WITHIN GENESEE & WYOMING INC. RIGHT-OF-WAY OR ANY WORK THAT HAS A "POTENTIAL TO FOUL".

THE CONTRACTOR MUST NOT USE THE RAILROAD RIGHT OF WAY FOR STORAGE OF MATERIALS OR EQUIPMENT DURING CONSTRUCTION. THE RAILROAD'S RIGHT OF WAY MUST REMAIN CLEAR AT ALL TIMES. THE CONTRACTOR MUST PLAN AND PERFORM THE WORK IN A MANNER SUCH THAT THE RAILROAD TRACKS AT THE PROJECT LOCATION REMAIN FULLY CAPABLE OF OPERATING RAIL TRAFFIC THROUGHOUT THE WORK PERIOD AND RAIL TRAFFIC IS NOT DELAYED OR OTHERWISE IMPACTED DUE TO THE WORK BEING PERFORMED.

ALL WORK PERFORMED ON, ABOVE, OR ADJACENT TO RAILROAD PROPERTY SHALL BE IN ACCORDANCE WITH THE PUBLIC PROJECT MANUAL, CURRENT EDITION. WORK PLANS SHALL BE SUBMITTED FOR REVIEW TO THE RAILROAD FOR TASKS RELATED TO SITE ACCESS, SOIL AND WATER MANAGEMENT, EXCAVATION, SHORING, HOISTING, AND ALL OTHER WORK THAT PRESENTS POTENTIALLY AFFECTS RAILROAD PROPERTY OR OPERATIONS. ALL WORK PLANS SHALL BE PREPARED AND SUBMITTED TO THE RAILROAD IN ADHERENCE WITH THE PUBLIC PROJECT MANUAL, SECTION 1.11 CONSTRUCTION SUBMISSION CRITERIA.

THE CONTRACTOR WILL BE REQUIRED TO REACH OUT TO GENESEE & WYOMING INC. REAL ESTATE FOR AN ROE APPLICATION AND AGREEMENT FOR WORK TO TAKE PLACE ON THE GENESEE & WYOMING INC. ROW.

WEBSITE FOR ROE INFORMATION: [HTTPS://WWW.GWRR.COM/REAL_ESTATE/ACCESSING_PROPERTY](https://www.gwrr.com/real_estate/accessing_property)

CENTERLINE OF CONSTRUCTION REFERENCES AND BENCHMARK						
C OF CONSTRUCTION S.R. 37		PROJECT COORDINATES (GRID)		ELEVATION	PT.#	DESCRIPTION
STATION	OFFSET	NORTHING	EASTING			
212+15.62	15.85' LT	734201.16	1961842.81		CP54	ODOT TYPE "B" PROJECT CONTROL
213+52.67	40.06' RT	734346.41	1961871.44	978.18	BM#53	IRON PIN AT CORNER OF LOT
216+45.02	37.00' LT	734618.61	1961740.00	969.18	BM#4	IRON PIN
217+00.00	0.00	734679.65	1961765.81			P.O.T.
219+14.47	15.47' RT	734893.12	1961740.01		CP52	ODOT TYPE "B" PROJECT CONTROL
220+85.94	0.00	735058.48	1961692.06			T.S.
229+96.17	25.17' RT	735962.69	1961685.61	956.61	BM#1	CHISELED BOX AT EAST END OF SOUTH BRIDGE ABUTMENT
231+92.68	171.63' RT	736150.26	1961843.36		CP01	ODOT TYPE "B" PROJECT CONTROL

DESIGN AGENCY



DESIGNER
BTP
 REVIEWER
BAA 02/28/24
 PROJECT ID
104981
 SHEET TOTAL
 P.4 | 38

ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES ON S.R. 37 WITH THE EXCEPTION OF THE CLOSURE PERIOD ALLOWED IN THE INCENTIVE/DISINCENTIVE TABLE BELOW, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET P.6.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

NOTICE OF CLOSURE SIGNS (W20-H13) SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW.

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE.

NOTICE OF CLOSURE SIGN TIME TABLE

ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
ROAD CLOSURES	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
	<= 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TO BE A SPECIFIC OFFICE WITHIN THE DISTRICT RATHER THAN THE GENERAL SWITCHBOARD NUMBER.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS, AS DETAILED IN SCD MT-101.60 AT THE LOCATIONS SPECIFIED ON SHEET 6 DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES. SEE SHEET 6 FOR SIGN AND BARRIER LOCATIONS.

ITEM 614, MAINTAINING TRAFFIC (CONTINUED)

DISCONNECTING POWER TO THE RAILROAD BUNGALOW: INSTALL TYPE 3 BARRICADES ON EITHER SIDE OF THE RAILROAD TRACKS PRIOR TO THE CONTRACTOR CONTACTING THE FOLLOWING TO SHUT OFF POWER TO THE BUNGALOW:

LICKING RURAL ELECTRIFICATION INC.
11339 MT. VERNON RD.
P.O. BOX 455
UTICA, OHIO 43080-0455
ATTN: JOHN STRATHMAN
740-348-1149
740-404-3076
JSTRATHMAN@THEENERGYCOOP.COM

TODD HENSLEY
SIGNAL SUPERVISOR
OHIO CENTRAL RAILROAD
51720 CR16
WEST LAFAYETTE, OH 43845
740-502-7214

THE RAILROAD CROSSING SHALL NOT BE USED FOR CONSTRUCTION ACTIVITIES OR ACCESS WHILE POWER IS DISCONNECTED TO THE BUNGALOW. THE CONTRACTOR SHALL CONTACT THE POWER COMPANY AND SIGNAL SUPERVISOR TO CONNECT POWER TO THE BUNGALOW PRIOR TO REMOVING THE BARRICADES.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

INCENTIVE/DISINCENTIVE CONTRACT TABLE (PN 121)

CRITICAL WORK - TIME WHEN ROUTE MAY BE CLOSED	S.R. 37
DAYS	120
INCENTIVE/DISINCENTIVE PER DAY	\$5,000
MAXIMUM INCENTIVE	\$70,000

ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

FOR OPERATIONS WITHOUT POSITIVE PROTECTION OCCURRING WITHIN 10 FEET OF AN OPEN TRAVELED LANE THAT MEET ALL OF THE FOLLOWING CRITERIA:
ON A MULTI-LANE DIVIDED INTERSTATE, OTHER FREEWAY OR EXPRESSWAY; AND
AN AUTHORIZED SPEED LIMIT OF 45 MPH OR GREATER THAT IS IN EFFECT AT THE TIME OF THE OPERATION;
AND,
AADT OF 50,000 (OR AADT OF 30,000 WITH 25% OR HIGHER PERCENT TRUCKS)

"WITHOUT POSITIVE PROTECTION" MEANS USE OF DRUMS, CONES, SHADOW VEHICLE, ETC, WITHOUT PROTECTION FROM PORTABLE BARRIER OR OTHER RIGID BARRIER ALONG THE WORK AREA. THIS PHRASE DOES NOT APPLY TO CASES WHERE POSITIVE PROTECTION IS REQUIRED. MOBILE OPERATIONS ARE REGARDED AS "WITHOUT POSITIVE PROTECTION". FOR WORK ZONES USING A COMBINATION OF BARRIER AND TEMPORARY TRAFFIC CONTROL DEVICES (CONES, DRUMS, ETC), THE DESIGNATION SHALL BE BASED UPON THE TYPE OF DEVICES USED IN THE AREA THAT WORKERS ARE LOCATED.

IF MULTIPLE ACTIVE LOCALIZED QUALIFYING WORK AREAS OCCUR WITHOUT POSITIVE PROTECTION, PER MAINLINE TRAFFIC DIRECTION, PROVIDE A UNIFORMED LEO AND OFFICIAL PATROL CAR IN ADVANCE OF:

- THE FIRST ACTIVE WORK AREA THAT DRIVERS WILL ENCOUNTER; OR
- THE ACTIVE WORK AREA LATERALLY CLOSEST TO THE OPEN TRAVELED LANE; OR
- OTHER LOCATION AS APPROVED BY THE ENGINEER.

ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS (CONTINUED)

THE UNIFORMED LEO AND OFFICIAL PATROL CAR MAY RELOCATE AMONG THE LISTED LOCATIONS AS APPROPRIATE AS THE OPERATIONS PROCEED IN THE LOCALIZED QUALIFYING WORK AREAS.

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION (OR AT THE POINT OF ROAD CLOSURE), AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE THAT SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 200 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED A MINIMUM OF TWENTY-ONE (21) DAYS PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS. INFORMATION SHOULD INCLUDE BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVEABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE FOLLOWING INFORMATION:

DISTRICT PUBLIC INFORMATION OFFICER (PIO) BY FAX AT 614-887-4510 OR EMAIL AT D05.PIO@DOT.OHIO.GOV

DISTRICT PERMIT SECTION BY FAX AT 614-887-4525 OR EMAIL AT BRIAN.BOSCH@DOT.OHIO.GOV

CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION BY FAX AT 614-728-4099 OR EMAIL AT HAULING.PERMIT@DOT.OHIO.GOV

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE-MENTIONED ITEMS, VIA MEDIA SOURCES.

DESIGNATED LOCAL DETOUR ROUTE

IN ADDITION TO THE OFFICIAL, SIGNED DETOUR ROUTE, A LOCAL ROUTE HAS BEEN DETERMINED TO BE THE SECONDARY, UNSIGNED DETOUR ROUTE OR "DESIGNATED LOCAL DETOUR ROUTE." THIS ROUTE IS SHOWN ON SHEET 6. DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, RIDGES, BUMPS, DUST AND STANDING WATER. ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL DETOUR ROUTE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DETERMINED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED FOR USE AS DETERMINED BY THE ENGINEER TO MAINTAIN AND SUBSEQUENTLY RESTORE THE DESIGNATED LOCAL DETOUR ROUTE.

- ITEM 253, PAVEMENT REPAIR 425 CU. YD.
- ITEM 301, ASPHALT CONCRETE BASE, (449), PG 64-22 320 CU. YD.
- ITEM 304, AGGREGATE BASE 20 CU. YD.
- ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG 64-22 50 CU. YD
- ITEM 407, NON-TRACKING TACK COAT 80 GAL.
- ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 20 CU. YD.
- ITEM 642, CENTER LINE 1.25 MILE
- ITEM 642, EDGE LINE 1.00 MILE

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEET P.6 OF THE PLAN. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

(THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN 2 HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.)

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN (CONTINUED)

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.) THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE TO THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 24 SIGN MONTH ASSUMING 4 PCMS SIGN(S) FOR 6 MONTH(S)

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER _____ M. GAL.

MAINTAINING EXISTING DRIVES

THE CONTRACTOR SHALL MAINTAIN ACCESS TO RESIDENCES TO THE FULLEST EXTENT POSSIBLE. IT IS UNDERSTOOD THAT FOR SHORT PERIODS OF TIME, THE FULL ACCESS TO DRIVEWAYS MAY NOT BE POSSIBLE. THE CONTRACTOR SHALL MAKE ACCOMMODATIONS TO THE RESIDENT SO THAT DURING SHORT INTERVALS, THERE IS STILL ACCESS TO PARK NEAR THE RESIDENCE.

THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT U.S. MAIL OR ANY OTHER DELIVERY WITHIN THE PROJECT LIMITS IS NOT DISRUPTED BY CONSTRUCTION OPERATIONS.

DESIGN AGENCY



DESIGNER

BTP

REVIEWER

BAA 02/28/24

PROJECT ID

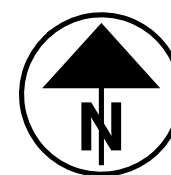
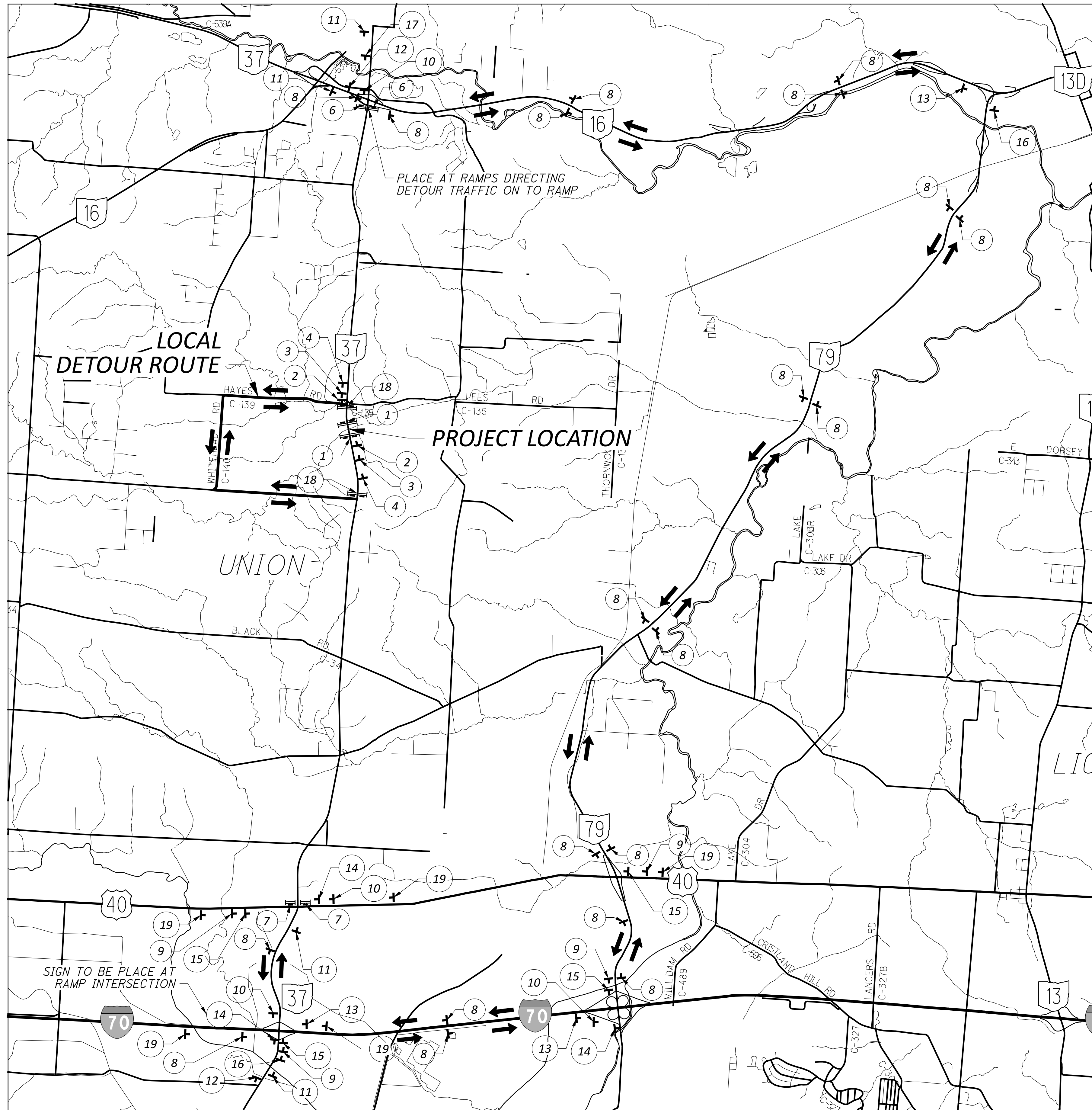
104981

SHEET

P.6

TOTAL

38



1
TYPE B WARNING LIGHT

ROAD CLOSED
R11-2-48
TYPE III BARRICADE

2

ROAD CLOSED AHEAD
500 FEET
W20-3-48
W16-2P-30

3
TYPE A WARNING LIGHT

ROAD CLOSED AHEAD
1000 FEET
W20-3-48
W16-2P-30

4
TYPE A WARNING LIGHT

ROAD WORK AHEAD
W20-1-48

5
TYPE B WARNING LIGHT

ROAD CLOSED
3 MILES AHEAD
LOCAL TRAFFIC ONLY
DETOUR
R11-3A-60
M4-10R-48
TYPE III BARRICADE

6
TYPE B WARNING LIGHT

ROAD CLOSED
3 MILES AHEAD
LOCAL TRAFFIC ONLY
DETOUR
R11-3A-60
M4-10L-48
TYPE III BARRICADE

7
ROAD CLOSED
3 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3A-60
TYPE III BARRICADE

8

DETOUR
↑
M1-5-2
M4-8-30
M6-3-30

9

DETOUR
↘
M1-5-2
M4-8-30
M5-1-30

10

DETOUR
↙
M1-5-2
M4-8-30
M5-1-30

11

ROAD CLOSED AHEAD
37
EAST
W20-3-48
M1-5-2
M3-2-30

19

ROAD CLOSED AHEAD
37
WEST
W20-3-48
M1-5-2
M3-4-30

12
END DETOUR
M4-8A

13

DETOUR
↗
M1-5-2
M4-8-30
M6-2R-30

14

DETOUR
←
M1-5-2
M4-8-30
M6-1L-30

15

DETOUR
→
M1-5-2
M4-8-30
M6-1R-30

16

DETOUR
↖
M1-5-2
M4-8-30
M6-2L-30

17

DETOUR AHEAD
W20-2-48

18
ROAD CLOSED TO THRU TRAFFIC
R11-4-60
TYPE III BARRICADE

CTY-RTE-SECTION

MODEL: Sheet PAPER SIZE: 34x22 (in.) DATE: 7/1/2024 TIME: 3:36:25 PM USER: backel
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SHEET NUM.

PART.

ITEM

ITEM EXT

GRAND TOTAL

UNIT

DESCRIPTION

SEE SHEET NO.

P.5

P.9

OFFICE

ITEM

ITEM EXT

GRAND TOTAL

UNIT

ROADWAY

SPECIAL 20120010

38 EACH

TREE REMOVED, 4"-12"

201 21800

7 EACH

TREE REMOVED, 18"

201 23000

5 EACH

TREE REMOVED, 30"

202 23000

677 SY

PAVEMENT REMOVED

202 38000

391 FT

GUARDRAIL REMOVED

202 42010

4 EACH

ANCHOR ASSEMBLY REMOVED, TYPE E

202 75000

803 FT

FENCE REMOVED

203 10000

609 CY

EXCAVATION

203 20000

771 CY

EMBANKMENT

606 15050

338 FT

GUARDRAIL, TYPE MGS

606 26150

1 EACH

ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)

P.3

606 26550

3 EACH

ANCHOR ASSEMBLY, MGS TYPE T

EROSION CONTROL

659 00100

1 EACH

SOIL ANALYSIS TEST

659 00300

275 CY

TOPSOIL

659 10000

2,472 SY

SEEDING AND MULCHING

659 14000

124 SY

REPAIR SEEDING AND MULCHING

659 15000

124 SY

INTER-SEEDING

659 20000

0.33 TON

COMMERCIAL FERTILIZER

659 31000

0.51 ACRE

LIME

659 35000

14 MGAL

WATER

DRAINAGE

601 32004

41 CY

ROCK CHANNEL PROTECTION, TYPE A WITH GEOTEXTILE FABRIC

P.3

605 31100

50 FT

AGGREGATE DRAINS

PAVEMENT

204 10000

768 SY

SUBGRADE COMPACTION

301 56000

187 CY

ASPHALT CONCRETE BASE, PG64-22, (449)

304 20000

171 CY

AGGREGATE BASE

407 20000

81 GAL

NON-TRACKING TACK COAT

441 70100

26 CY

ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG70-22M

441 70200

36 CY

ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449)

TRAFFIC CONTROL

642 00100

0.08 MILE

EDGE LINE, 4", TYPE 1

642 00300

0.04 MILE

CENTER LINE, TYPE 1 (DOUBLE YELLOW)

642 00500

12 FT

STOP LINE, TYPE 1

STRUCTURES OVER 20 FOOT SPAN

FOR LIC-00037-19.17 ESTIMATED QUANTITIES

P.20

INCIDENTALS

614 11000

1 LS

MAINTAINING TRAFFIC

619 16010

12 MNTH

FIELD OFFICE, TYPE B

623 10001

1 LS

CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN

P.3

624 10000

1 LS

MOBILIZATION

832 30000

1 EACH

EROSION CONTROL

DESIGN AGENCY



DESIGNER

BTP

REVIEWER

BAA 06/28/24

PROJECT ID

104981

SHEET

P.8


TOTAL

38

SHEET TITLE

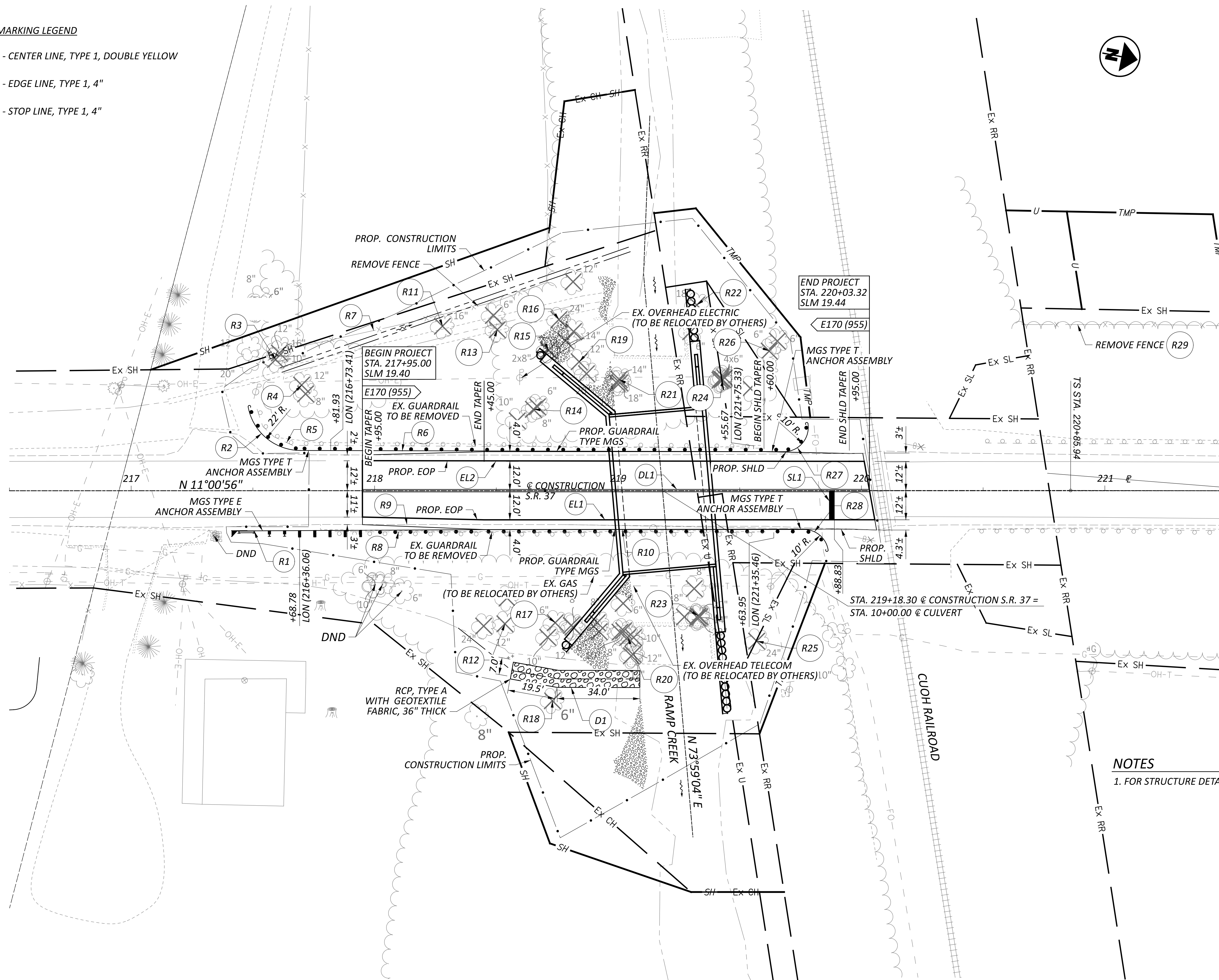
REF NO.	SHEET NO.	STATION TO STATION		ROUTE	SIDE	SPECIAL	201	201	202	202	202	202	606	606	606	601	605	642	642	642						
						TREE REMOVED, 4"-12" EACH	TREE REMOVED, 18" EACH	TREE REMOVED, 30" EACH	PAVEMENT REMOVED SY	GUARDRAIL REMOVED FT	ANCHOR ASSEMBLY REMOVED, TYPE E EACH	FENCE REMOVED FT	GUARDRAIL, TYPE MGS FT	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016) EACH	ANCHOR ASSEMBLY, MGS TYPE T EACH	ROCK CHANNEL PROTECTION, TYPE A WITH GEOTEXTILE FABRIC CY	AGGREGATE DRAINS FT	CENTER LINE, TYPE 1 (DOUBLE YELLOW) MILE	EDGE LINE, 4", TYPE 1 MILE	STOP LINE, TYPE 1 FT						
R1	10	217+41.44	TO	217+69.17	SR37	RT								1												
R2	10	217+48.11	TO	217+69.47	SR37	LT									1											
R3	10	217+59.43	TO	217+60.91	SR37	LT	1	1																		
R4	10	217+70.07	TO	217+71.66	SR37	LT	2																			
R5	10	217+81.97	TO	219+68.21	SR37	LT					214.9	2														
R6	10	217+81.97	TO	219+68.21	SR37	LT							200.0													
R7	10	217+68.05	TO	218+70.75	SR37	LT								106.1												
R8	10	217+83.75	TO	219+59.69	SR37	RT																				
R9	10	217+95.00	TO	220+05.50	SR37					676.3																
R10	10	218+00.50	TO	219+76.50	SR37	RT							137.5													
R11	10	218+27.95	TO	218+27.95	SR37	LT		1																		
R12	10	218+44.85	TO	219+54.61	SR37	RT	2		1																	
R13	10	218+48.90	TO	218+50.45	SR37	LT	1		1																	
R14	10	218+58.68	TO	218+66.97	SR37	LT	3																			
R15	10	218+71.45	TO	218+78.27	SR37	LT	2																			
R16	10	218+75.75	TO	218+81.86	SR37	LT		1	1																	
R17	10	218+71.31	TO	218+81.50	SR37	RT	4																			
R18	10	218+73.32	TO	218+73.32	SR37	RT	1																			
R19	10	218+84.18	TO	218+87.13	SR37	LT	1	1																		
R20	10	218+91.52	TO	219+06.18	SR37	RT	9																			
R21	10	218+99.61	TO	219+00.71	SR37	LT	2	1																		
R22	10	219+29.96	TO	219+29.96	SR37	LT	1	1																		
R23	10	219+27.31	TO	219+33.69	SR37	RT	3	1	1																	
R24	10	219+42.80	TO	219+42.80	SR37	LT	4																			
R25	10	219+57.00	TO	219+57.00	SR37	RT			1																	
R26	10	219+62.21	TO	219+65.51	SR37	LT	2																			
R27	10	219+68.21	TO	219+78.10	SR37	LT									1											
R28	10	219+76.50	TO	219+86.37	SR37	RT									1											
R29	10	220+66.00	TO	227+30.00	SR37	LT						696.0														
D1	10	218+56.22	TO	219+09.00	SR37	RT									41.0											
		217+95.00	TO	220+03.32	SR37											49.5										
EL1	10	217+95.00	TO	220+05.51	SR37	RT																	0.04			
EL2	10	217+95.00	TO	220+01.17	SR37	LT																	0.04			
DY1	10	217+95.00	TO	220+03.32	SR37																	0.04				
SL1	10	219+86.88	TO	219+88.88	SR37	RT																	12.0			
TOTALS CARRIED TO GENERAL SUMMARY							38	7	5	677	391	4	803	338	1	3	41	50	0.04	0.08	12					

SHEET TITLE

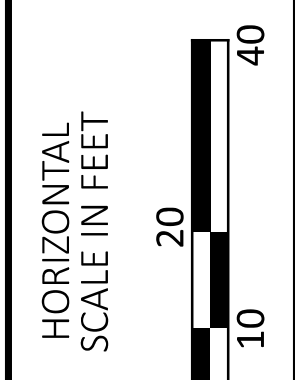
DESIGN AGENCY

 DESIGNER
BTP
 REVIEWER
BAA 06/28/24
 PROJECT ID
104981
 SHEET TOTAL
P.9 38

PAVEMENT MARKING LEGEND

- (DL-X) ITEM 642 - CENTER LINE, TYPE 1, DOUBLE YELLOW
- (EL-X) ITEM 642 - EDGE LINE, TYPE 1, 4"
- (SL-X) ITEM 642 - STOP LINE, TYPE 1, 4"

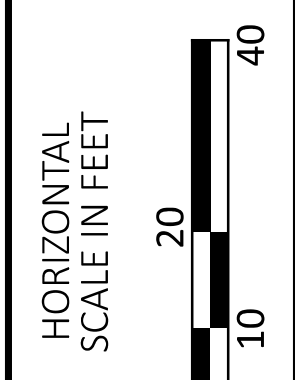
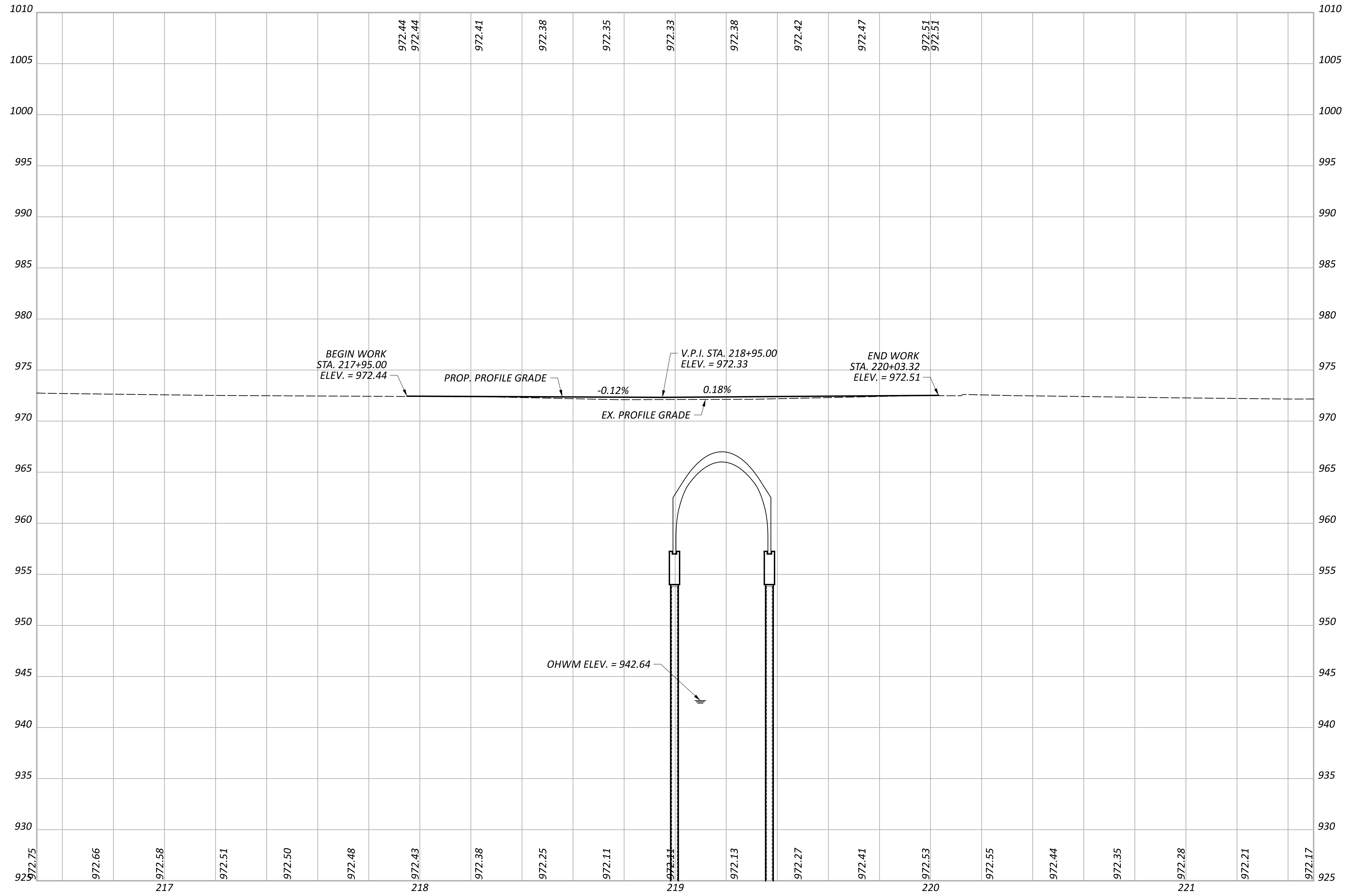


NOTES
 1. FOR STRUCTURE DETAILS, SEE SHEETS 17-30.



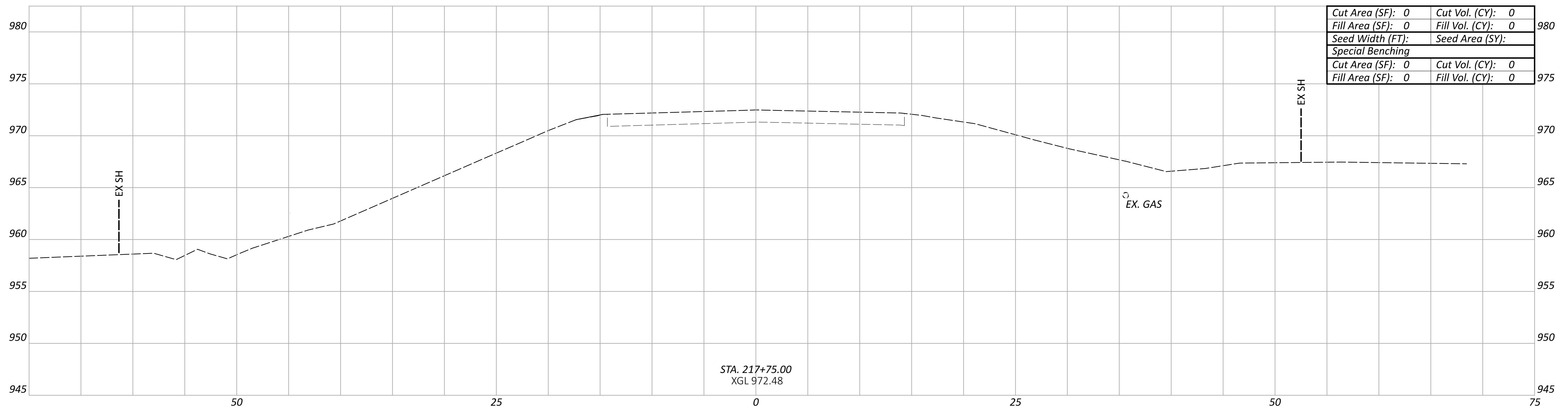
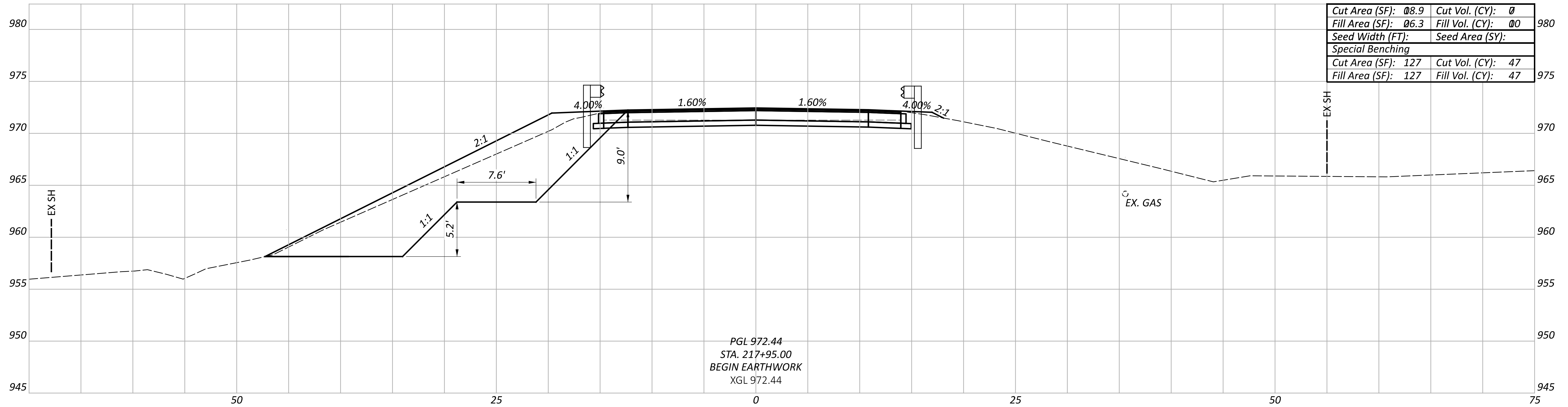
PLAN - S.R. 37
 STA. 216+50.00 TO STA. 221+50.00

DESIGN AGENCY	
DESIGNER	BTP
REVIEWER	BAA 02/28/24
PROJECT ID	104981
SHEET	TOTAL
P.10	38




PROFILE - S.R. 37
 STA. 216+50.00 TO STA. 221+50.00

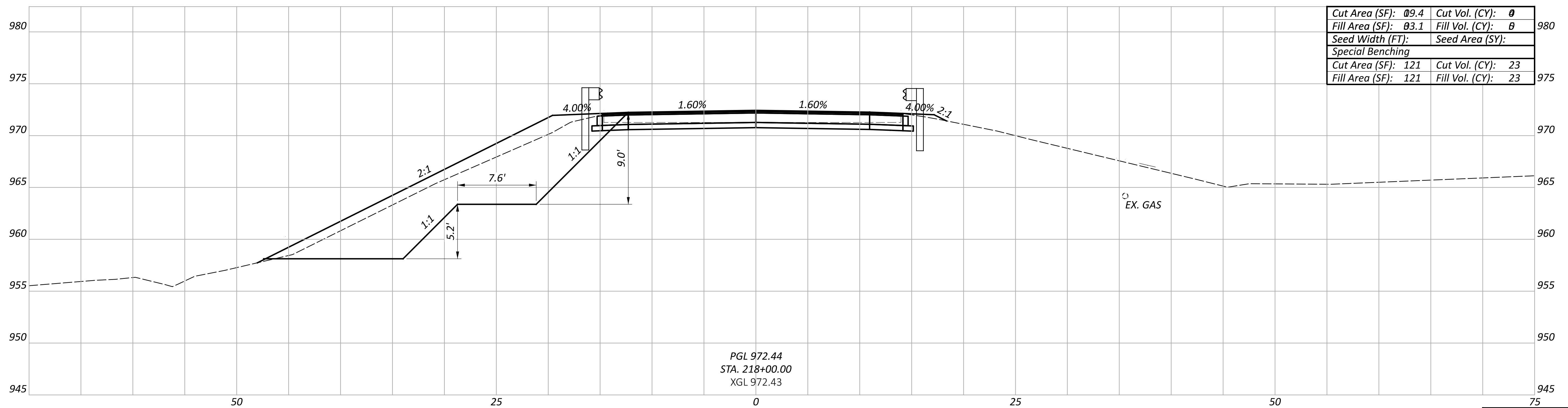
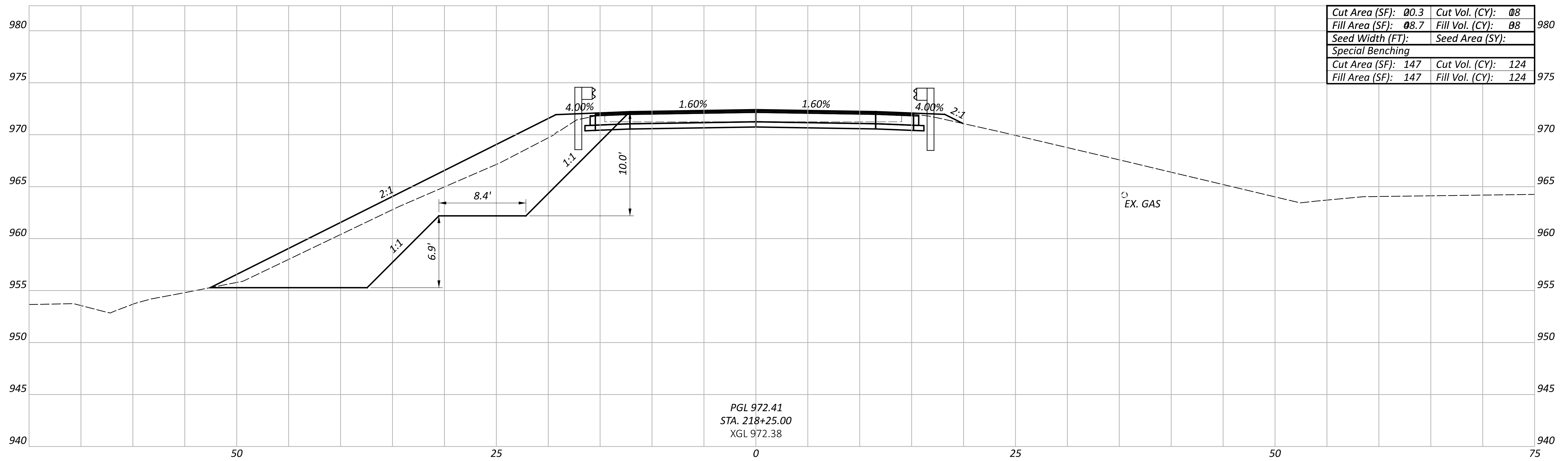
DESIGN AGENCY	
DESIGNER	BTP
REVIEWER	BAA 02/28/24
PROJECT ID	104981
SHEET	TOTAL
P.11	38



Sheet Totals			104981	
Seeding	Cut	Fill	SHEET	TOTAL
			P.12	38

CROSS SECTIONS
 STA. 217+75.00 TO STA. 217+95.00

DESIGN AGENCY

 CARPENTER MARTY
 DESIGNER
 BTP
 REVIEWER
 BAA 02/28/24
 PROJECT ID
 104981



CROSS SECTIONS
 STA. 218+00.00 TO STA. 218+25.00

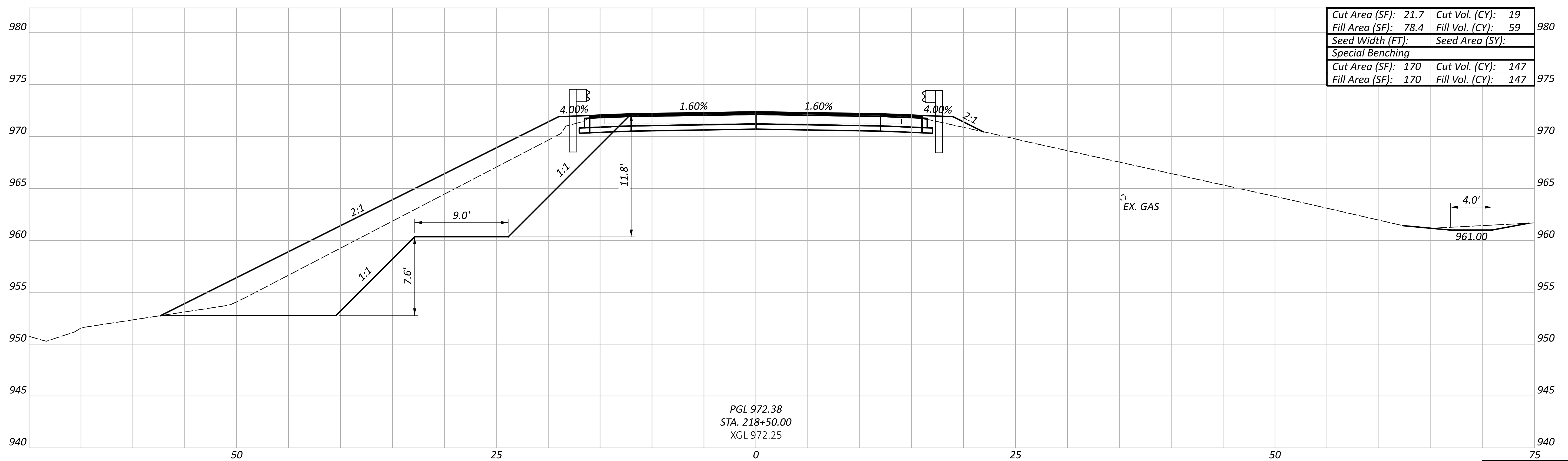
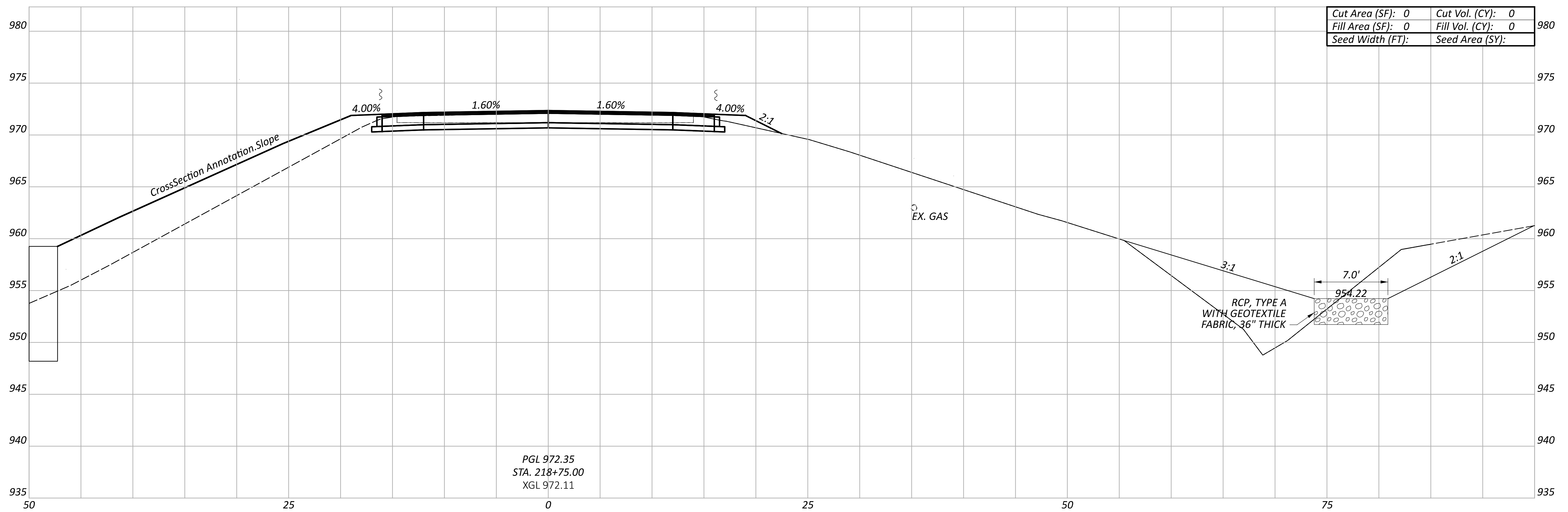


DESIGNER
 BTP

REVIEWER
 BAA 02/28/24

PROJECT ID
 104981

Sheet Totals			104981
Seeding	Cut	Fill	TOTAL
P.13			38

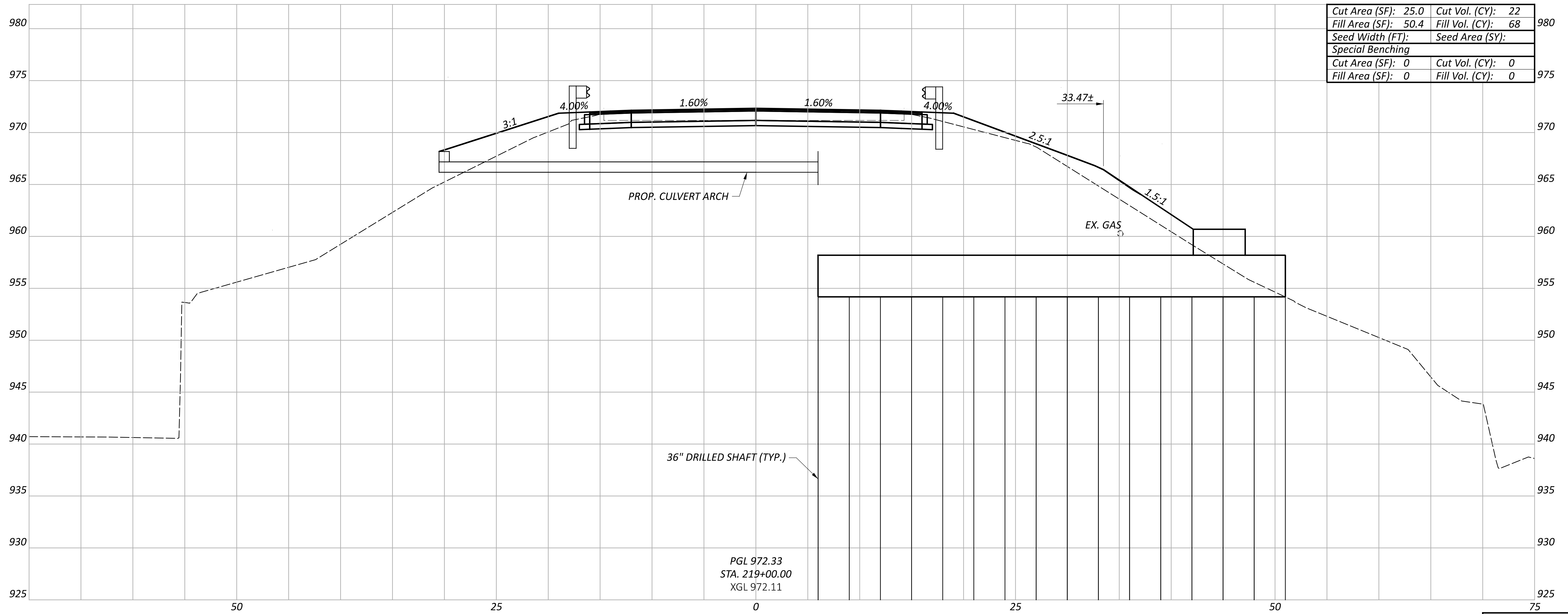


CROSS SECTIONS
 STA. 218+50.00 TO STA. 218+75.00

DESIGN AGENCY

 DESIGNER
 BTP
 REVIEWER
 BAA 02/28/24
 PROJECT ID
 104981

Sheet Totals			104981	
Seeding	Cut	Fill	SHEET	TOTAL
			P.14	38



PGL 972.33
 STA. 219+00.00
 XGL 972.11

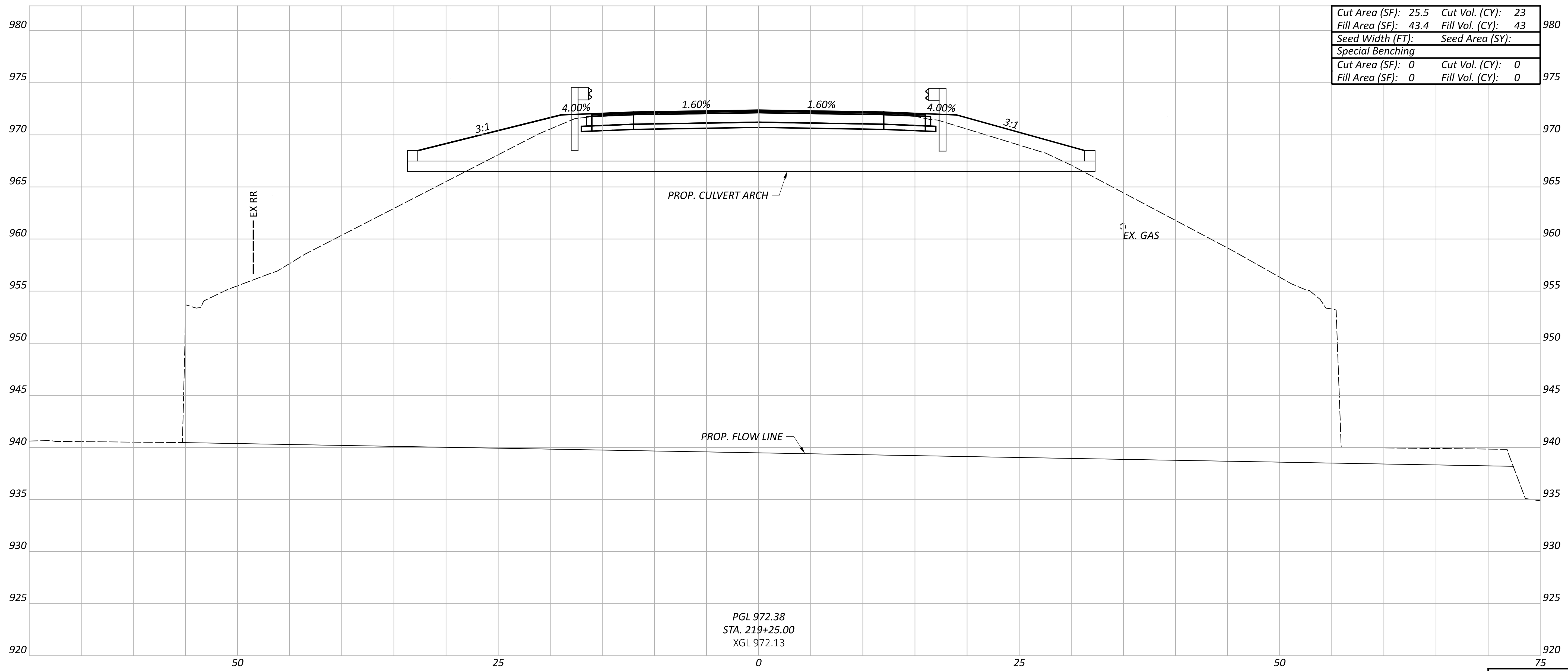
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Special Benching			
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Fill Area (SF):	0	Fill Vol. (CY):	0

CROSS SECTIONS
 STA. 219+00.00

DESIGN AGENCY

 DESIGNER
 BTP
 REVIEWER
 BAA 02/28/24
 PROJECT ID
 104981
 SHEET TOTAL
 P.15 38


Sheet Totals			104981	
Seeding	Cut	Fill	SHEET	TOTAL
			P.15	38



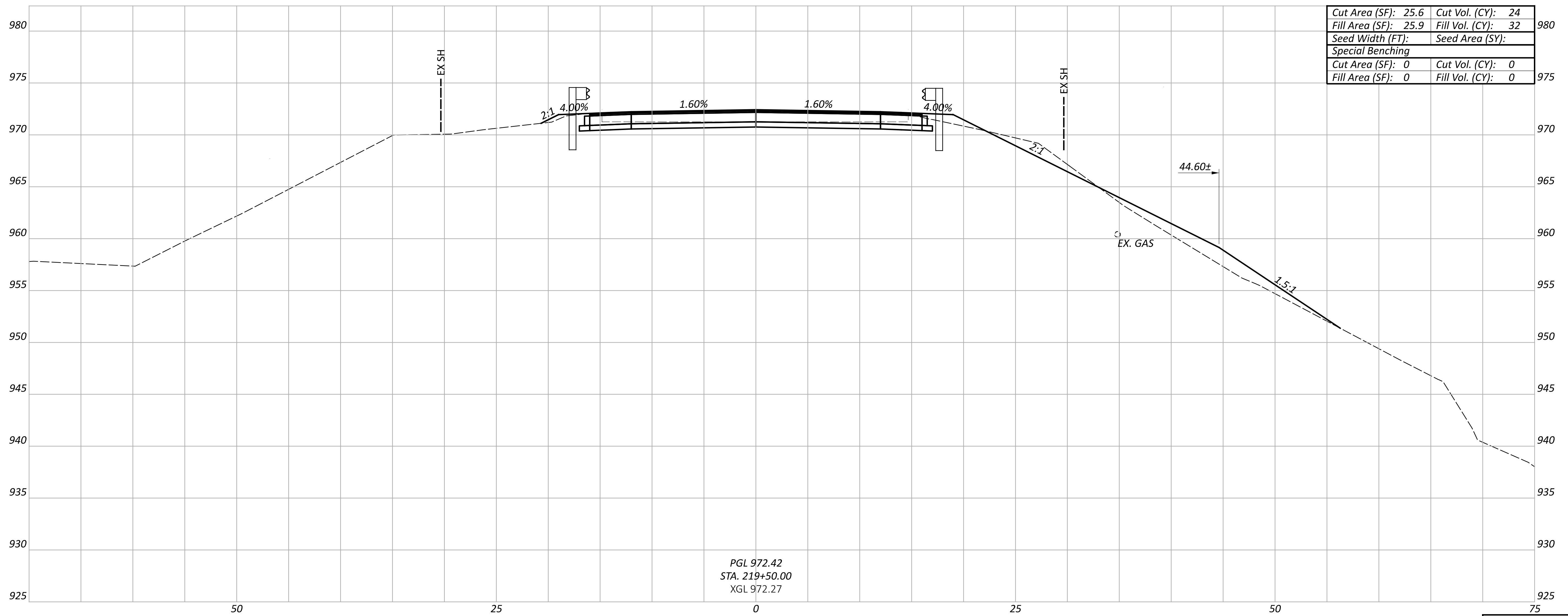
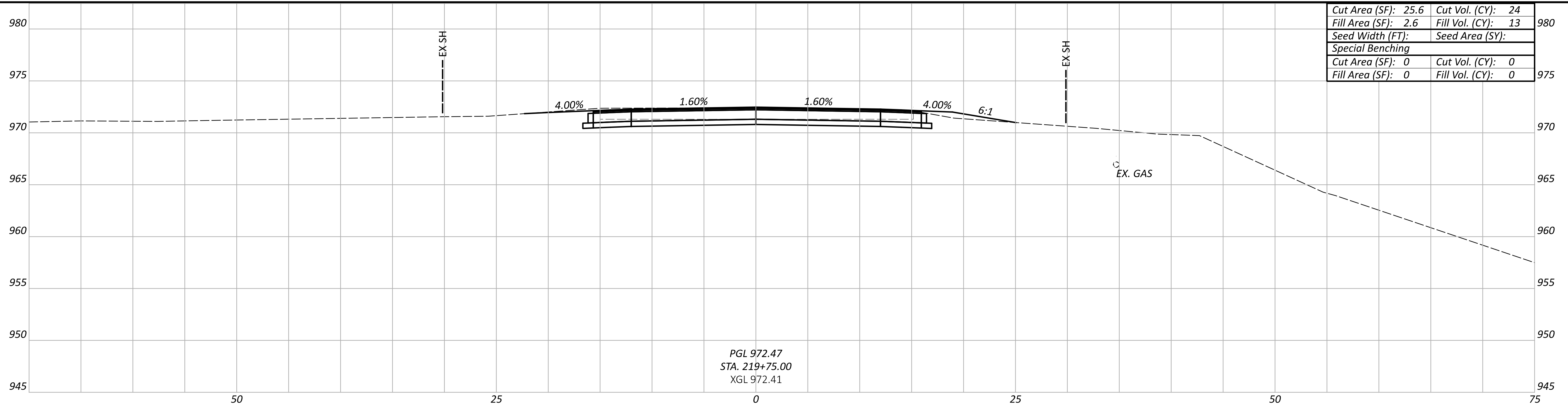
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Special Benching			
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PGL 972.38
 STA. 219+25.00
 XGL 972.13

CROSS SECTIONS
 STA. 219+25.00

DESIGN AGENCY

 DESIGNER
 BTP
 REVIEWER
 BAA 02/28/24
 PROJECT ID
 104981
 SHEET TOTAL
 P.16 38

Sheet Totals		
Seeding	Cut	Fill

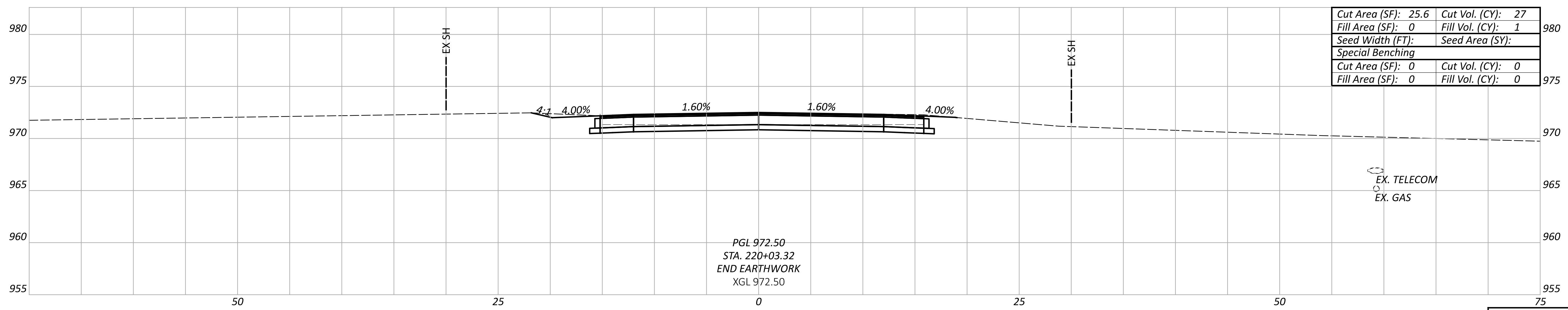
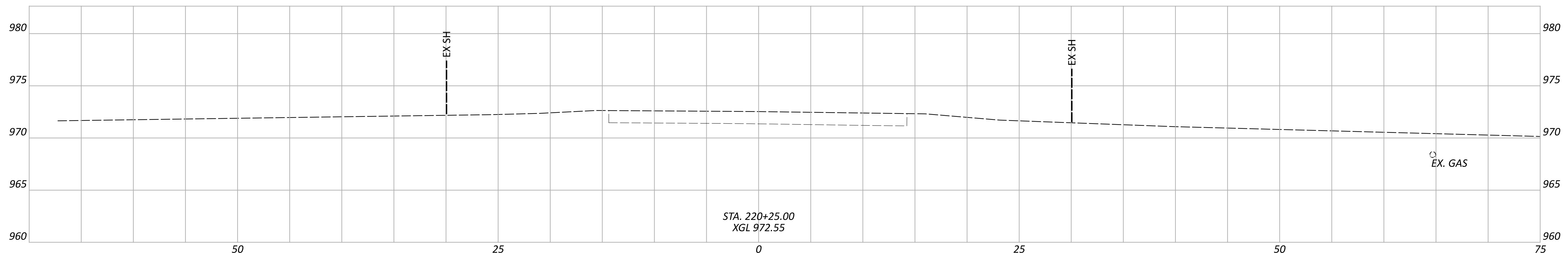


CROSS SECTIONS
 STA. 219+50.00 TO STA. 219+75.00

DESIGN AGENCY

 DESIGNER
 BTP
 REVIEWER
 BAA 02/28/24
 PROJECT ID
 104981


Sheet Totals			104981
Seeding	Cut	Fill	TOTAL
			P.17 38



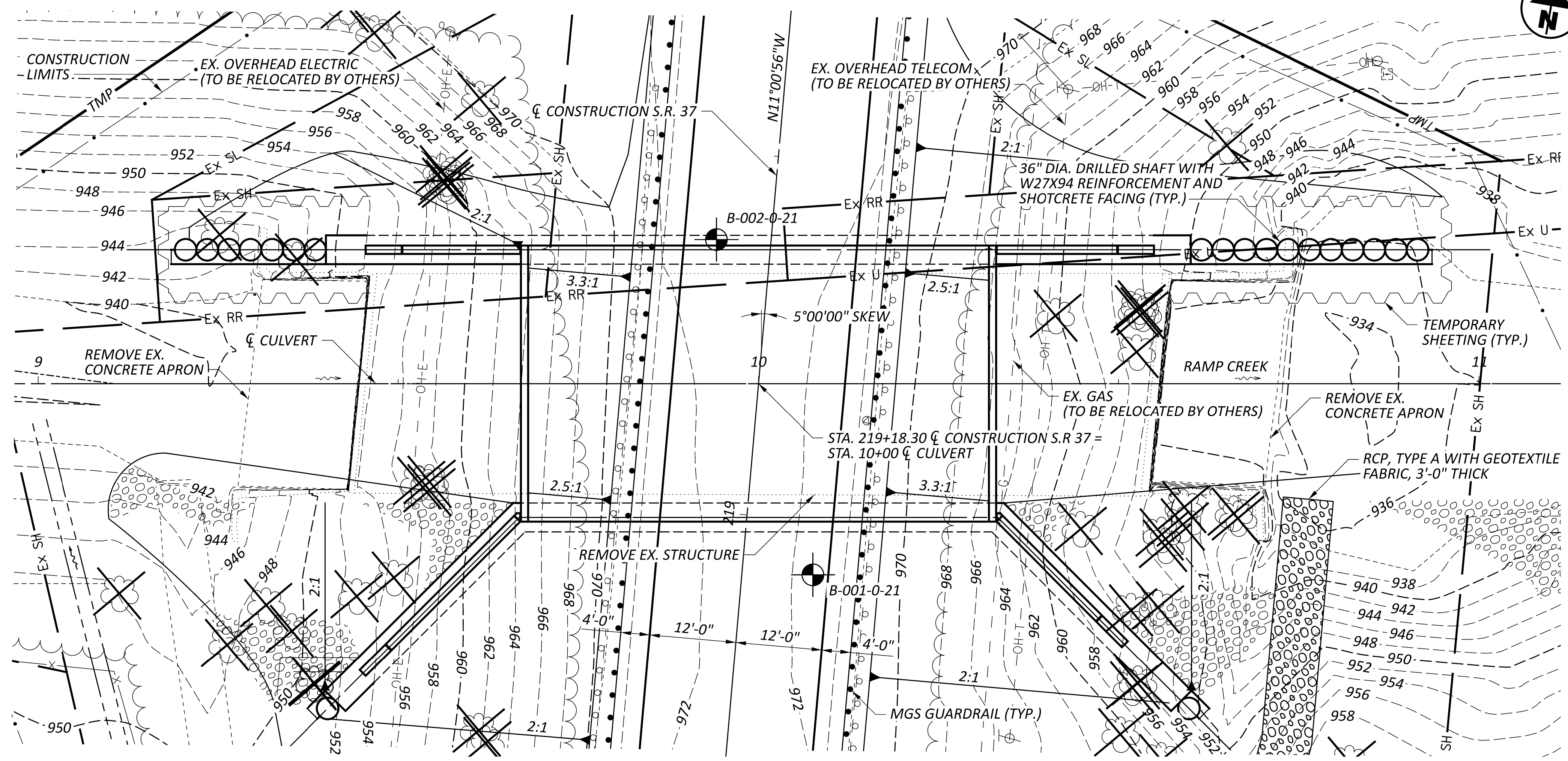
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Special Benching			
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Sheet Totals			104981	
Seeding	Cut	Fill	SHEET	TOTAL
			P.18	38

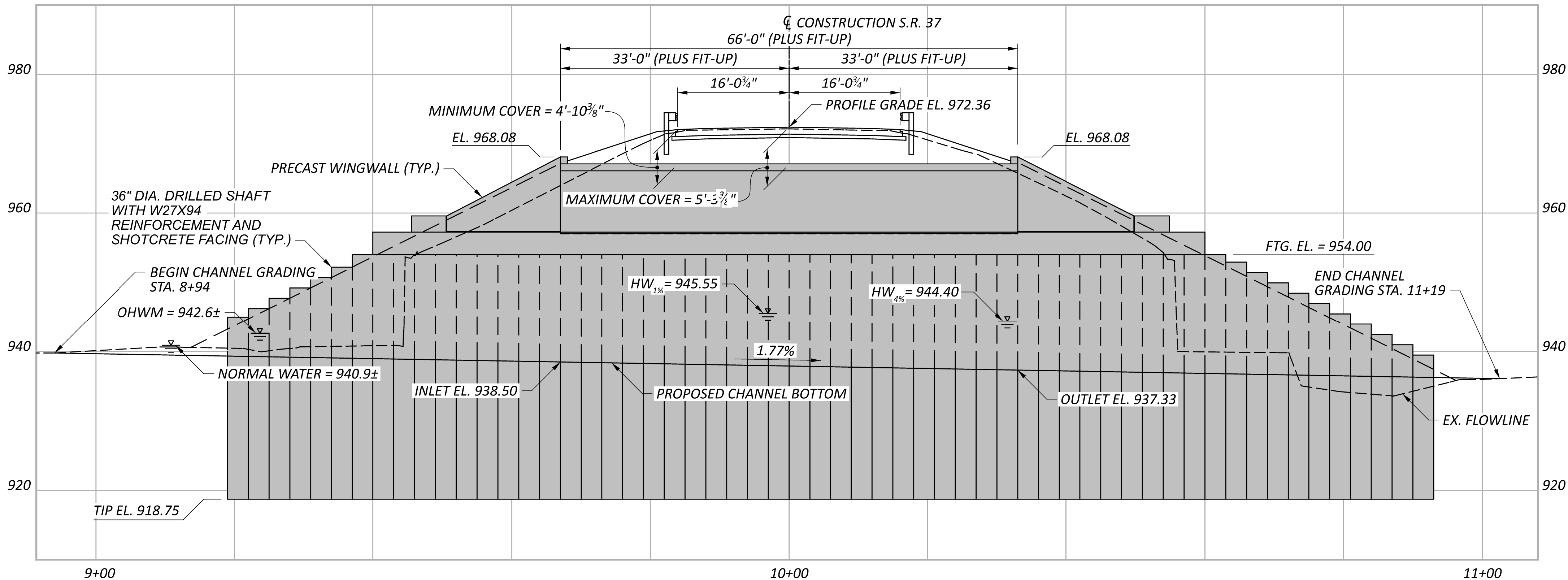
CROSS SECTIONS
 STA. 220+03.32 TO STA. 220+25.00

DESIGN AGENCY

 CARPENTER MARTY
 DESIGNER
 BTP
 REVIEWER
 BAA 02/28/24
 PROJECT ID
 104981

MODEL: CL_CULV - Plan 1-2 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 7/1/2024 TIME: 4:02:57 PM USER: brussell
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PLAN



PROFILE ALONG ϕ CULVERT

BENCHMARK DATA

BM #1 STA.	229+96.17	ELEV.	956.61,	OFFSET	25.17,	RT
BM #4 STA.	216+45.02,	ELEV.	969.18,	OFFSET	37.00,	LT
BM #53 STA.	213+52.67,	ELEV.	978.18,	OFFSET	40.06,	RT

FOR ADDITIONAL BENCHMARK INFORMATION SEE ROADWAY PLAN SHEET [P.4/38].

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:

2024 ADT =	7,600	2024 ADTT =	456
2044 ADT =	9,100	2044 ADTT =	546
DIRECTIONAL DISTRIBUTION =		0.59	

LEGEND

- PROJECT BORING LOCATION
- RCP, TYPE A WITH GEOTEXTILE FABRIC, 3'-0" THICK

HYDRAULIC DATA

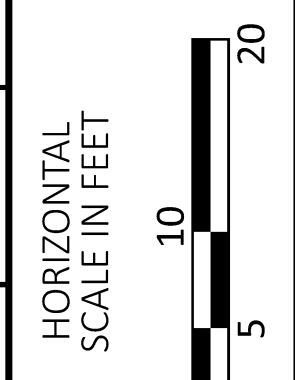
DRAINAGE AREA =	5.6	SQ. MILES
Q (4%) =	1280	CFS
Q (1%) =	1860	CFS
V (4%) =	11.12	FT/S
V (1%) =	12.39	FT/S
STRUCTURE CLEARS THE 4% YEAR DESIGN HW BY 21.6 FEET.		

EXISTING STRUCTURE

TYPE: 14' X 10' TWIN CELL REINFORCED CONCRETE BOX CULVERT
 LENGTH: 113'-0"±
 ROADWAY: 36'-0"± F/F GUARDRAIL
 VEHICULAR LIVE LOAD: S-15-46
 SKEW: 5°00'00"± R.F.
 WEARING SURFACE: ASPHALT
 APPROACH SLABS: N/A
 ALIGNMENT: TANGENT
 CROWN: 0.0156 FT/FT
 STRUCTURE FILE NUMBER: 4501837
 DATE BUILT: 1950
 DISPOSITION: TO BE REMOVED

PROPOSED STRUCTURE

TYPE: 9'-0" RISE X 36'-0" SPAN, SINGLE CELL, THREE-SIDED ARCH TOP PRECAST CONCRETE CULVERT ON REINFORCED DRILLED SHAFTS
 LENGTH: 66'-0"
 ROADWAY: 32'-0" F/F GUARDRAIL
 VEHICULAR LIVE LOAD: HL-93
 FUTURE WEARING SURFACE: 0.060 KSF
 SKEW: 5°00'00" R.F.
 APPROACH SLABS: N/A
 ALIGNMENT: TANGENT
 CROWN: 0.016 FT/FT
 COORDINATES: LATITUDE 40°01'04" N
 LONGITUDE 82°31'27" W



SITE PLAN
 BRIDGE NO. LIC-00037-19.170
 OVER RAMP CREEK

SFN	4501838
DESIGN AGENCY	
DESIGNER	BWR
CHECKER	SMH
REVIEWER	GDJ
PROJECT ID	104981
SUBSET	1
TOTAL	14
SHEET	P.19
TOTAL	38

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

851 DATED 1-21-2022

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE 9th EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

OPERATIONAL IMPORTANCE:

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING:

VEHICULAR LIVE LOAD: HL-93

FUTURE WEARING SURFACE (FWS) OF 0.06 KIPS/FT²

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (CULVERT FOOTING, CAST-IN-PLACE RETAINING WALL)

CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT)

CONCRETE REINFORCEMENT:
GALVANIZED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI (CULVERT FOOTING, CAST-IN-PLACE RETAINING WALL)

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI (PILES)

STEEL SHEET PILING - ASTM A572 GRADE 50 - YIELD STRENGTH 50 KSI

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK, BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN:

PROVIDE ASTM A572 YIELD STRENGTH 50 KSI STEEL SHEET PILE WITH THE FOLLOWING CHARACTERISTICS:

LENGTH = 40 FEET
MINIMUM SECTION MODULUS = 45 IN³/FT
MINIMUM MOMENT OF INERTIA = 400 IN⁴/FT

BACKFILL INSIDE THE COFFERDAMS AND EXCAVATION BRACING IN ACCORDANCE WITH 503.08 WITH MATERIALS CONFORMING TO 703.16.B GRANULAR EMBANKMENT OR 703.16.C GRANULAR MATERIAL TYPE B.

MEASUREMENT FOR PAYMENT FOR COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN, LUMP SUM SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS TO COMPLETE THE WORK AS SHOWN ON SHEET 3/14 AND AS DESCRIBED WITHIN THIS NOTE.

ITEM 507 - STEEL PILES, MISC.: W27X94, FURNISHED AND INSTALLED:

THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL PILES INTO DRILLED SHAFTS. FURNISH STEEL PILES CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM A709, GRADE 50. DO NOT FIELD WELD OR SPLICE STEEL PILES.

MEASUREMENTS FOR PAYMENT WILL BE LIMITED TO THE DISTANCE BETWEEN THE BOTTOM OF THE DRILLED SHAFT AND THE TOP OF THE PILE ELEVATION AS DETAILED IN THE PLANS AND AS DETERMINED BY THE ENGINEER. PAYMENT FOR THE STEEL PILES SHALL BE AT THE CONTRACT PRICE BID PER FOOT FOR ITEM 507 - STEEL PILES, MISC.: W27X94, FURNISHED AND INSTALLED.

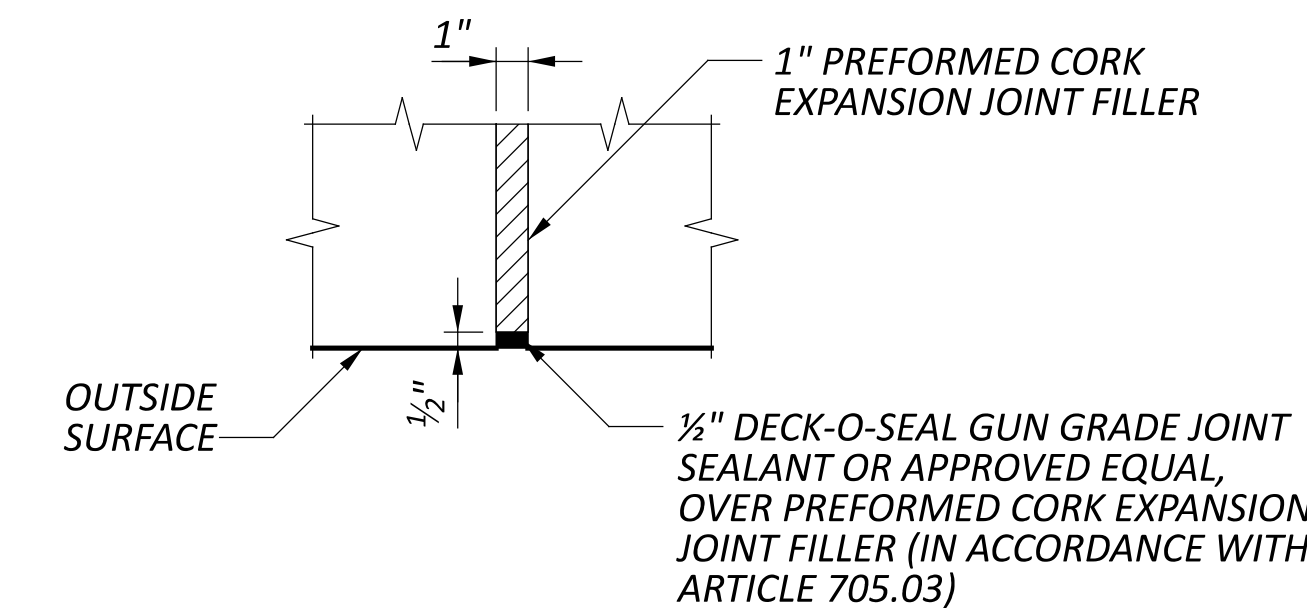
PRECAST REINFORCED CONCRETE ARCH SECTIONS

ARCH SECTIONS SHOWN ON THE PLANS WERE OBTAINED FROM MANUFACTURERS AT THE TIME THE PLANS WERE PREPARED. IF THE WALL AND/OR TOP SLAB THICKNESS OF THE ARCH SECTIONS PROPOSED ARE DIFFERENT FROM WHAT IS SHOWN ON THE PLANS, A MARKED COPY OF THE PROJECT PLANS, INCLUDING ALL PLAN NOTES AND DETAILS SHOWING ALL ITEMS AFFECTED BY THE DIFFERENT ARCH SECTION DIMENSIONS, SHALL BE SUBMITTED FOR APPROVAL WITH THE SHOP DRAWINGS. ALL WORK REQUIRED TO ACCOMMODATE ANY REVISED DIMENSIONS SHALL BE AT NO EXTRA COSTS TO THE STATE.

ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN AND

ALL 1" P.E.J.F., AS PER PLAN CALLED FOR IN THE PLANS SHALL BE PREFORMED CORK JOINT FILLER (IN ACCORDANCE WITH ARTICLE 705.03). RECESS JOINT FILLER 1/2" FOR ALL JOINTS (SEE DETAIL). SEAL ALL JOINTS THAT ARE ABOVE GRADE WITH DECK-O-SEAL GUN GRADE JOINT SEALANT OR AN APPROVED EQUAL. THE COLOR SHALL BE STONE GRAY. APPROVE MANUFACTURER'S APPLICATION METHODS SHALL BE FOLLOWED DURING SURFACE PREPARATION AND APPLICATION FOR MAXIMUM EFFECTIVENESS.

DECK-O-SEAL
P.O. BOX 397
HAMPSHIRE, IL 60140
PHONE: 800-542-7665



PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN, SF AND SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK DESCRIBED.

ITEM 524 - DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN:

THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS. THE DRILLED SHAFTS ARE REINFORCED WITH PILES INSTEAD OF REINFORCING STEEL CAGES. FURNISH AND INSTALL THE DRILLED SHAFTS IN ACCORDANCE WITH CMS 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

EXCAVATE THE HOLE FOR THE DRILLED SHAFT WITHIN 3 INCHES OF THE PLAN LOCATION.

PLACE THE PILE VERTICALLY WITHIN THE HOLE. PLACE THE PILE SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF THE ROW OF DRILLED SHAFTS. SUPPORT THE PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT. DO NOT ALLOW THE VERTICAL ALIGNMENT OF THE PILE TO VARY BY MORE THAN 1/4 INCH PER FOOT OF DEPTH. DO NOT ALLOW THE ORIENTATION OF THE FLANGES TO VARY BY MORE THAN 10 DEGREES.

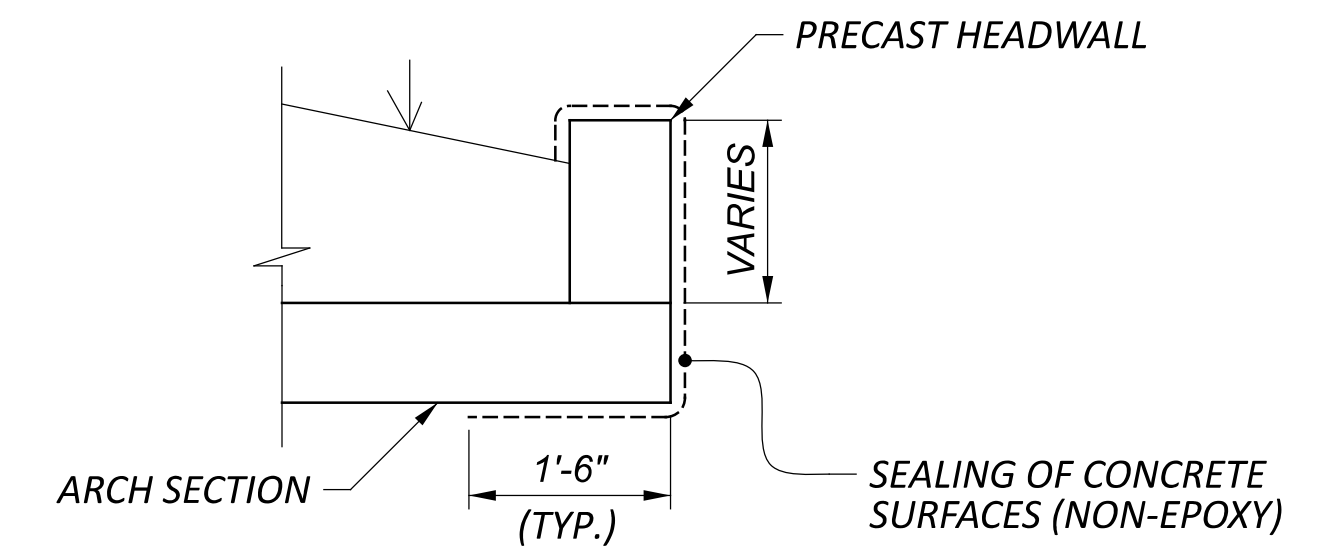
USE CLASS QC5 CONCRETE ACCORDING TO CMS 511. PLACE CONCRETE TO THE ELEVATION AS SHOWN IN THE SCHEDULE. THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDED THE DEPTH OF WATER IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. POURING CONCRETE ALONG THE WEB OF THE PILE IS ACCEPTABLE. TREMIE METHOD SHALL BE USED FOR CONCRETE PLACEMENT IF WALLS OF THE DRILLED SHAFT CAVE-IN. IF CASING IS USED FOR DRILLED SHAFT, THE ANNULAR SPACES BETWEEN THE CASING AND SURROUNDING SOIL SHALL BE FILLED WITH BENTONITE OR FILLCRETE.

CHECK THE POSITION, THE VERTICAL ALIGNMENT, AND ORIENTATION OF THE PILE IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO MEET THE ABOVE TOLERANCES.

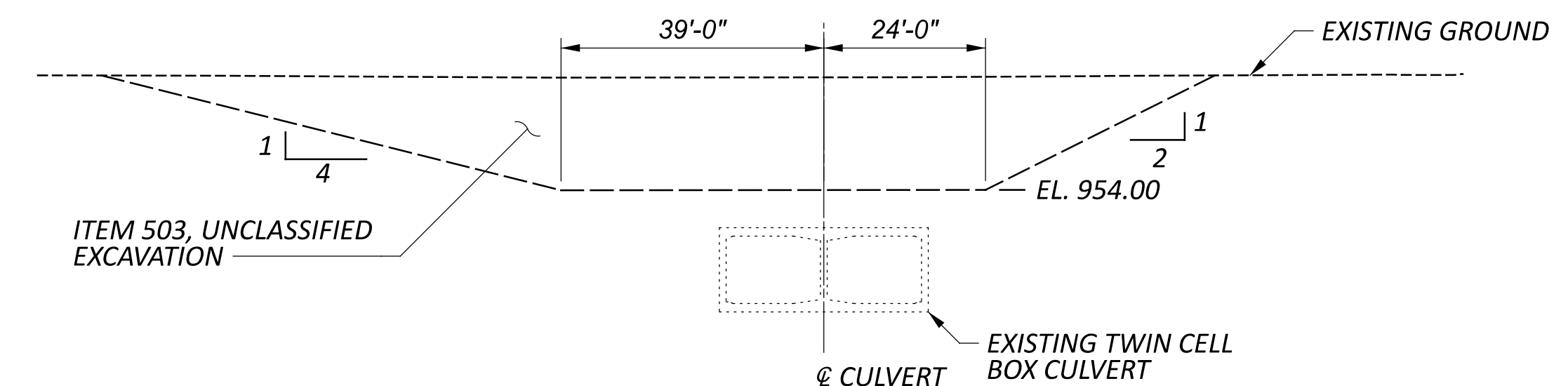
FILL THE HOLE ABOVE THE TOP OF THE DRILLED SHAFT TO THE TOP OF THE SHEET PILING WITH ITEM 613 LOW STRENGTH MORTAR BACKFILL (LSM). REMOVE LSM AS NECESSARY FROM AROUND THE DRILLED SHAFT ONCE THE SHEET PILING AND FILL ARE REMOVED.

MEASUREMENT FOR PAYMENT FOR DRILLED SHAFTS ABOVE BEDROCK, AS PER PLAN WILL BE LIMITED TO THE DISTANCE BETWEEN THE BOTTOM OF THE DRILLED SHAFT AND TOP OF THE SHAFT ELEVATION AS DETAILED IN THE PLANS AND AS DETERMINED BY THE ENGINEER.

PAYMENT IS FULL COMPENSATION FOR CONSTRUCTING THE DRILLED SHAFTS, INCLUDING FURNISHING AND PLACING LSM, AND REMOVAL OF LSM FROM AROUND THE DRILLED SHAFT.



LIMITS OF ITEM 512-SEALING CONCRETE SURFACES AT PRECAST CONCRETE HEADWALL



LIMITS OF UNCLASSIFIED EXCAVATION

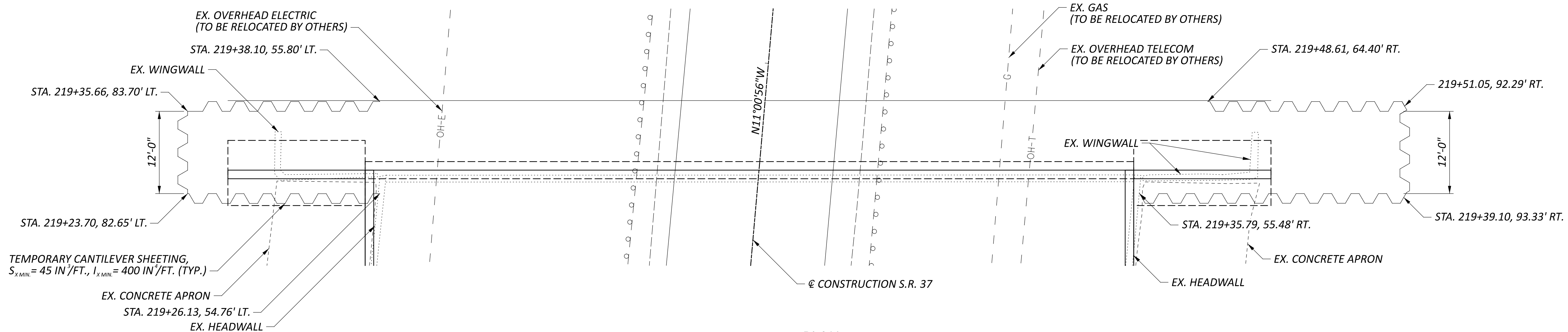
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DATE: 6/21/24		DATE: 6/24/24			
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
202	11002	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN	
503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	3
503	21301	LS		UNCLASSIFIED EXCAVATION, AS PER PLAN	2
507	00400	3570	FT	STEEL PILES, MISC.: W27X94, FURNISHED AND INSTALLED	2
509	26000	7442	LB	GALVANIZED STEEL REINFORCEMENT	
511	46010	3	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING	
511	46510	125	CY	CLASS QC1 CONCRETE, FOOTING	
512	10050	641	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
512	33000	402	SY	TYPE 2 WATERPROOFING	
516	13601	62	SF	1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN	2
518	21200	33	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
518	40001	223	FT	6" PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN	9
520	10001	5064	SF	PNEUMATICALLY PLACED CONCRETE SHOTCRETE, AS PER PLAN	12
524	94703	3623	FT	DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN	2
611	71001	66	FT	CONDUIT, TYPE A, PRECAST REINFORCED CONCRETE ARCH SECTIONS, AS PER PLAN, 36'-0" SPAN X 9'-0" RISE	12
851	10001	734	SF	PRECAST GRAVITY AND SEMIGRAVITY RETAINING WALL, AS PER PLAN	12
851	14000	2	DAY	ON-SITE ASSISTANCE	

GENERAL NOTES
BRIDGE NO. LIC-00037-19.170
OVER RAMP CREEK

SFN	4501838
DESIGN AGENCY	CARPENTER MARTY
DESIGNER	BWR
CHECKER	SMH
REVIEWER	GDJ
PROJECT ID	104981
SUBSET	2
TOTAL	14
SHEET	P.20
TOTAL	38

LIC-SR37-19.40

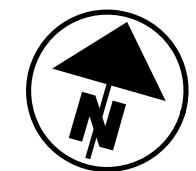
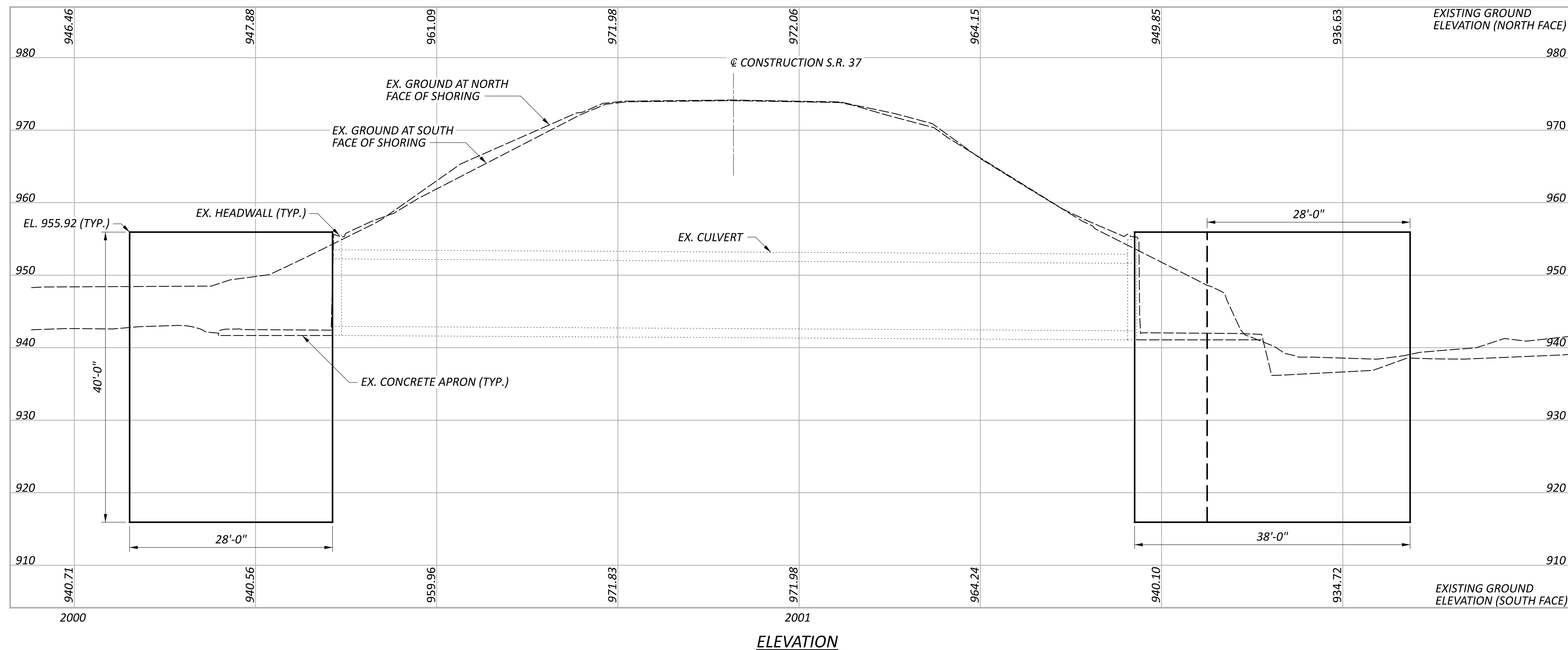
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PLAN

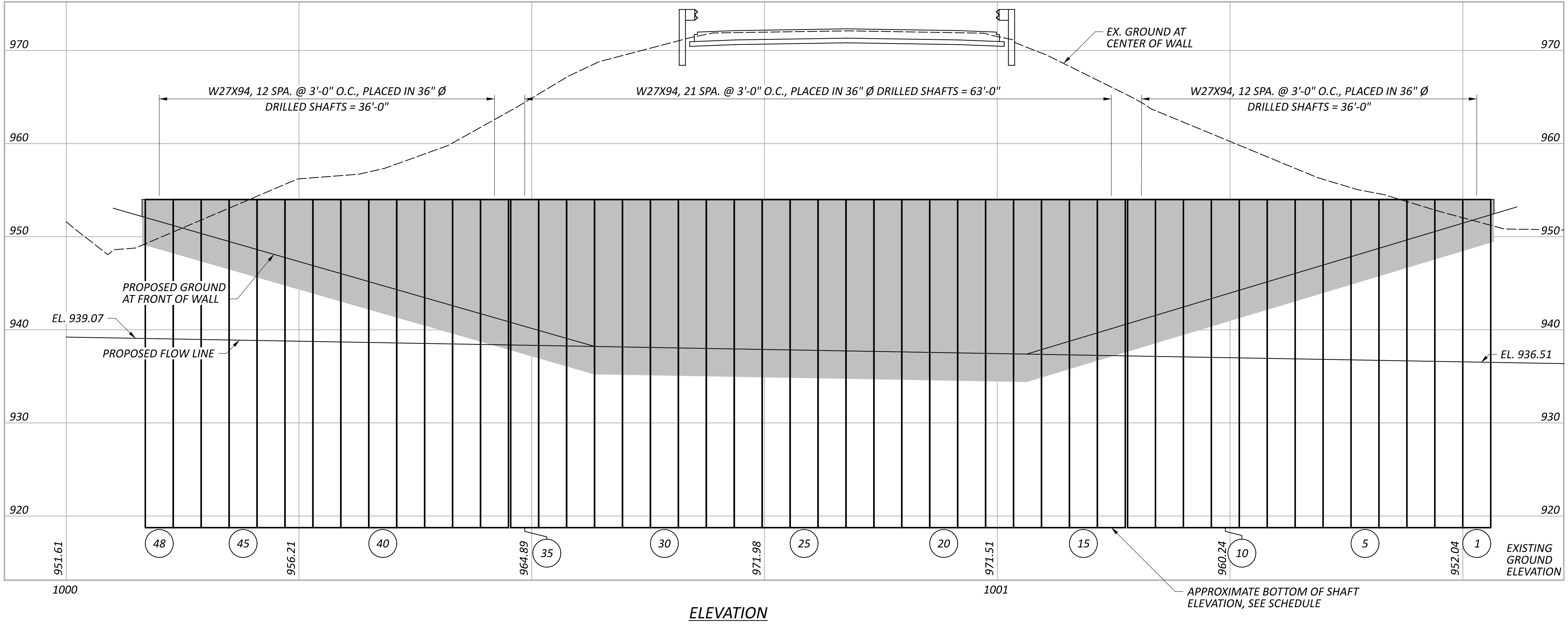
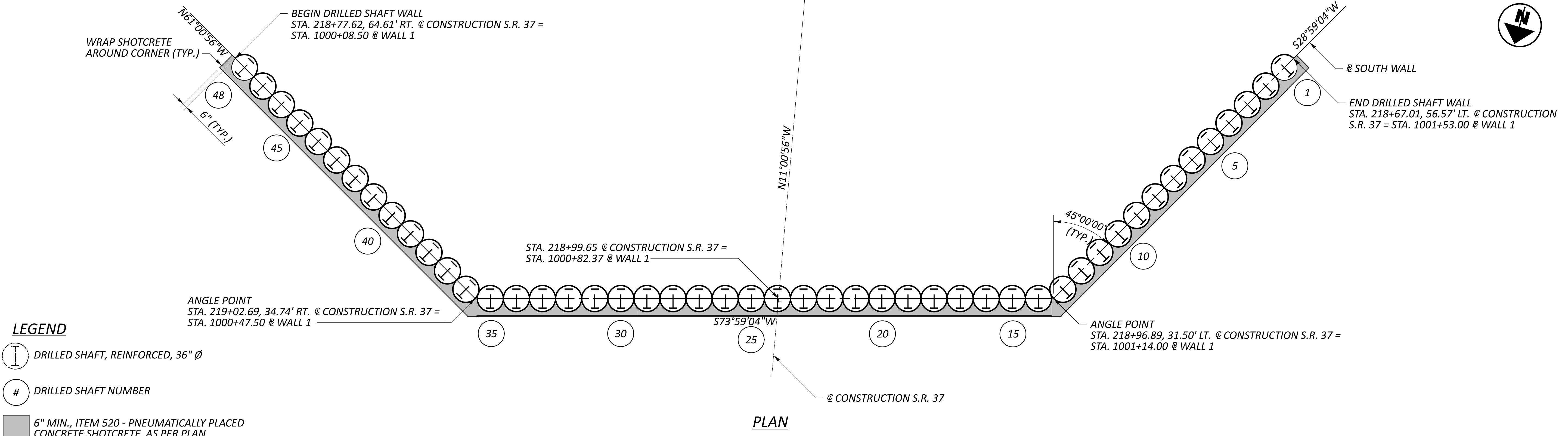
SUGGESTED SEQUENCE OF CONSTRUCTION

1. DRIVE TEMPORARY STEEL SHEET PILE EXCAVATION BRACING AS SHOWN.
2. EXCAVATE IN THE VICINITY OF THE PROPOSED THREE-SIDED STRUCTURE TO ELEVATION 954. LEAVE A 2H:1V SLOPE ON THE NORTH SIDE OF THE PROPOSED STRUCTURE TO INTERSECT WITH THE DRIVEN STEEL SHEET PILE EXCAVATION BRACING AT APPROXIMATE ELEVATION 962. LEAVE A 4H:1V SLOPE ON THE SOUTH SIDE OF THE PROPOSED STRUCTURE TO INTERSECT WITH THE EXISTING ROADWAY SURFACE TO PROVIDE CONSTRUCTION ACCESS TO THE BOTTOM OF THE EXCAVATION. FILL INSIDE SHEETING TO TOP TO PROVIDE WORK PLATFORM. SEAL SHEETING TIGHT AGAINST HEADWALL TO PREVENT BACKFILL POURING INTO CULVERT.
3. DRILL ALL DRILLED SHAFTS, PLACE W27X94 STEEL PILES, AND POUR DRILLED SHAFT CONCRETE.
4. EXCAVATE BETWEEN DRILLED SHAFT WALLS DOWN TO THE CREEK BOTTOM, IN FOUR APPROXIMATELY FOUR-FOOT LIFTS, AND REMOVE EXISTING DUAL-BOX CULVERT STRUCTURE.
5. PULL THE TEMPORARY STEEL SHEET PILE EXCAVATION BRACING.
6. PLACE SHOTCRETE FACING ON DRILLED SHAFTS AS EXCAVATION PROCEEDS.
7. RESTORE CREEK BOTTOM TO PROPOSED FLOW LINE.
8. CAST FOOTING ON TOP OF DRILLED SHAFTS WITH KEYWAYS FOR PLACEMENT OF PROPOSED THREE-SIDED STRUCTURE.
9. PLACE PROPOSED THREE-SIDED STRUCTURE AND WINGWALLS.
10. BACKFILL UP TO ROADWAY SUBGRADE ELEVATION IN ACCORDANCE WITH ITEMS 503.08 AND 203.
11. REPLACE ROADWAY BASE AND PAVEMENT LAYERS TO PROPOSED ROADWAY SURFACE ELEVATION.



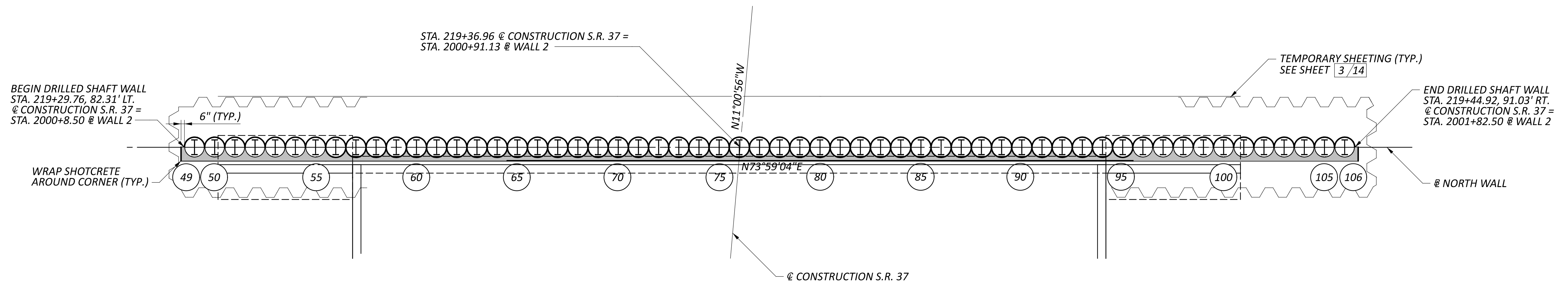
TEMPORARY SHORING DETAILS
 BRIDGE NO. LIC-00037-19.170
 OVER RAMP CREEK

SFN	4501838
DESIGN AGENCY	CARPENTER MARTY
DESIGNER	CHECKER
BWR	SMH
REVIEWER	
GDJ	2-13-24
PROJECT ID	104981
SUBSET	TOTAL
3	14
SHEET	TOTAL
P.21	38



SOUTH DRILLED SHAFT WALL PLAN AND ELEVATION
 BRIDGE NO. LIC-00037-19.170
 OVER RAMP CREEK

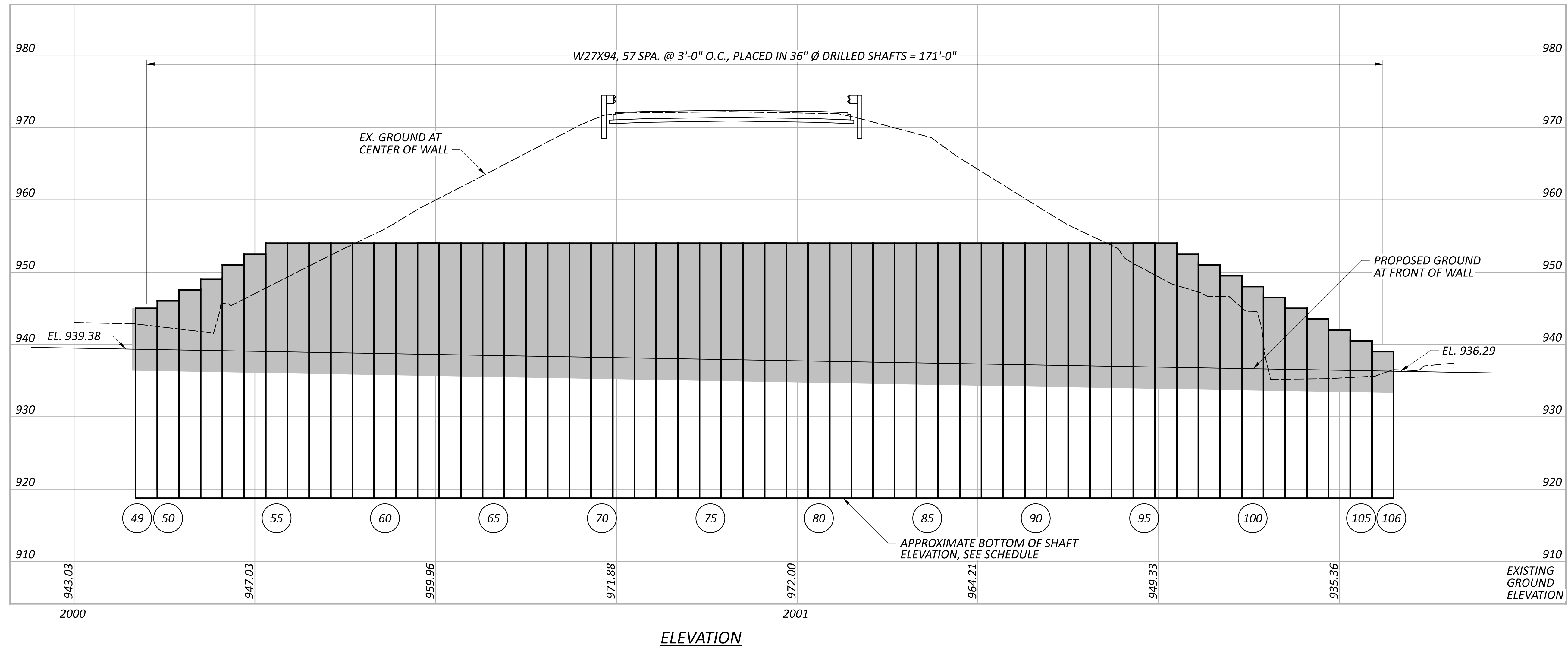
SFN		4501838	
DESIGN AGENCY			
DESIGNER	CHECKER	REVIEWER	
BWR	SMH	GDJ 2-14-24	
PROJECT ID			
104981			
SUBSET	TOTAL	SHEET TOTAL	
4	14	P.22	38



PLAN

LEGEND

- DRILLED SHAFT, REINFORCED, 36" Ø
- DRILLED SHAFT NUMBER
- 6" MIN., ITEM 520 - PNEUMATICALLY PLACED CONCRETE SHOTCRETE, AS PER PLAN



NORTH DRILLED SHAFT WALL PLAN AND ELEVATION
 BRIDGE NO. LIC-00037-19.170
 OVER RAMP CREEK

SFN	4501838
DESIGN AGENCY	
DESIGNER	CHECKER
BWR	SMH
REVIEWER	
GDJ 2-14-24	
PROJECT ID	
104981	
SUBSET	TOTAL
5	14
SHEET	
TOTAL	
P.23	38


DRILLED SHAFT SCHEDULE, SOUTH WALL

LIC-00037-19.170

SHAFT NUMBER	SHAFT LOCATION ALONG CENTERLINE OF CONSTRUCTION S.R. 37 STATIONING	CENTER OF SHAFT FROM CENTERLINE OF CONSTRUCTION S.R. 37	SHAFT LOCATION ALONG BASELINE SOUTH WALL STATIONING	NORTHING	EASTING	SHAFT DIAMETER	SHAFT SPACING	APPROX. EXISTING GROUND ELEVATION	TOP OF SHAFT	BOTTOM OF SHAFT	524	PILE SIZE	APPROX. LENGTH OF PILE
											SHAFT LENGTH ABOVE BEDROCK		FT.
1	218+68.16	-55.60	1001+51.50	1961679.10	734834.09	36.0	3.00	951.41	954.00	918.75	35.25	W27X94	34.75
2	218+70.46	-53.67	1001+48.50	1961680.55	734836.71	36.0	3.00	952.22	954.00	918.75	35.25	W27X94	34.75
3	218+72.76	-51.75	1001+45.50	1961982.01	734839.34	36.0	3.00	953.03	954.00	918.75	35.25	W27X94	34.75
4	218+75.06	-49.82	1001+42.50	1961683.46	734841.96	36.0	3.00	953.85	954.00	918.75	35.25	W27X94	34.75
5	218+77.36	-47.89	1001+39.50	1961684.91	734844.59	36.0	3.00	954.68	954.00	918.75	35.25	W27X94	34.75
6	218+79.65	-45.96	1001+36.50	1961686.37	734847.21	36.0	3.00	955.46	954.00	918.75	35.25	W27X94	34.75
7	218+81.95	-44.03	1001+33.50	1961687.82	734849.83	36.0	3.00	956.50	954.00	918.75	35.25	W27X94	34.75
8	218+84.25	-42.10	1001+30.50	1961689.27	734852.46	36.0	3.00	957.74	954.00	918.75	35.25	W27X94	34.75
9	218+86.55	-40.18	1001+27.50	1961690.73	734855.08	36.0	3.00	958.98	954.00	918.75	35.25	W27X94	34.75
10	218+88.85	-38.25	1001+24.50	1961692.18	734857.71	36.0	3.00	960.20	954.00	918.75	35.25	W27X94	34.75
11	218+91.14	-36.32	1001+21.50	1961693.64	734860.33	36.0	3.00	961.38	954.00	918.75	35.25	W27X94	34.75
12	218+93.44	-34.39	1001+18.50	1961695.09	734862.96	36.0	3.00	962.55	954.00	918.75	35.25	W27X94	34.75
13	218+95.74	-32.46	1001+15.50	1961696.54	734865.58	36.0	3.25	963.73	954.00	918.75	35.25	W27X94	34.75
14	218+97.04	-29.76	1001+12.25	1961698.95	734867.38	36.0	3.00	965.28	954.00	918.75	35.25	W27X94	34.75
15	218+97.31	-26.77	1001+09.25	1961701.83	734868.20	36.0	3.00	966.79	954.00	918.75	35.25	W27X94	34.75
16	218+97.57	-23.78	1001+06.25	1961704.71	734869.03	36.0	3.00	968.28	954.00	918.75	35.25	W27X94	34.75
17	218+97.83	-20.80	1001+03.25	1961707.60	734869.86	36.0	3.00	969.74	954.00	918.75	35.25	W27X94	34.75
18	218+98.09	-17.81	1001+00.25	1961710.48	734870.69	36.0	3.00	971.08	954.00	918.75	35.25	W27X94	34.75
19	218+98.35	-14.82	1000+97.25	1961713.36	734871.52	36.0	3.00	971.81	954.00	918.75	35.25	W27X94	34.75
20	218+98.61	-11.83	1000+94.25	1961716.25	734872.34	36.0	3.00	971.91	954.00	918.75	35.25	W27X94	34.75
21	218+98.88	-8.84	1000+91.25	1961719.13	734873.17	36.0	3.00	971.96	954.00	918.75	35.25	W27X94	34.75
22	218+99.14	-5.85	1000+88.25	1961722.01	734874.00	36.0	3.00	972.01	954.00	918.75	35.25	W27X94	34.75
23	218+99.40	-2.86	1000+85.25	1961724.90	734874.83	36.0	3.00	972.06	954.00	918.75	35.25	W27X94	34.75
24	218+99.66	0.13	1000+82.25	1961727.78	734875.65	36.0	3.00	972.11	954.00	918.75	35.25	W27X94	34.75
25	218+99.92	3.11	1000+79.25	1961730.66	734876.48	36.0	3.00	972.07	954.00	918.75	35.25	W27X94	34.75
26	219+00.18	6.10	1000+76.25	1961733.55	734877.31	36.0	3.00	972.02	954.00	918.75	35.25	W27X94	34.75
27	219+00.44	9.09	1000+73.25	1961736.43	734878.14	36.0	3.00	971.97	954.00	918.75	35.25	W27X94	34.75
28	219+00.71	12.08	1000+70.25	1961739.32	734878.96	36.0	3.00	971.92	954.00	918.75	35.25	W27X94	34.75
29	219+00.97	15.07	1000+67.25	1961742.20	734879.79	36.0	3.00	971.74	954.00	918.75	35.25	W27X94	34.75
30	219+01.23	18.06	1000+64.25	1961745.08	734880.62	36.0	3.00	971.05	954.00	918.75	35.25	W27X94	34.75
31	219+01.49	21.05	1000+61.25	1961747.97	734881.45	36.0	3.00	970.27	954.00	918.75	35.25	W27X94	34.75
32	219+01.75	24.03	1000+58.25	1961750.85	734882.28	36.0	3.00	969.50	954.00	918.75	35.25	W27X94	34.75
33	219+02.01	27.02	1000+55.25	1961753.73	734883.10	36.0	3.00	968.57	954.00	918.75	35.25	W27X94	34.75
34	219+02.27	30.01	1000+52.25	1961756.62	734883.93	36.0	3.00	966.86	954.00	918.75	35.25	W27X94	34.75
35	219+02.54	33.00	1000+49.25	1961759.50	734884.76	36.0	3.25	965.06	954.00	918.75	35.25	W27X94	34.75
36	219+01.72	35.89	1000+46.00	1961762.49	734884.51	36.0	3.00	963.17	954.00	918.75	35.25	W27X94	34.75
37	218+99.79	38.19	1000+43.00	1961765.11	734883.06	36.0	3.00	961.62	954.00	918.75	35.25	W27X94	34.75
38	218+97.86	40.49	1000+40.00	1961767.74	734881.60	36.0	3.00	960.53	954.00	918.75	35.25	W27X94	34.75
39	218+95.94	42.78	1000+37.00	1961770.36	734880.15	36.0	3.00	959.45	954.00	918.75	35.25	W27X94	34.75
40	218+94.01	45.08	1000+34.00	1961772.99	734878.69	36.0	3.00	958.36	954.00	918.75	35.25	W27X94	34.75
41	218+92.08	47.38	1000+31.00	1961775.61	734877.24	36.0	3.00	957.60	954.00	918.75	35.25	W27X94	34.75
42	218+90.15	49.68	1000+28.00	1961778.24	734875.79	36.0	3.00	957.37	954.00	918.75	35.25	W27X94	34.75
43	218+88.22	51.97	1000+25.00	1961780.86	734874.33	36.0	3.00	956.85	954.00	918.75	35.25	W27X94	34.75
44	218+86.29	54.27	1000+22.00	1961783.48	734872.88	36.0	3.00	955.57	954.00	918.75	35.25	W27X94	34.75
45	218+84.37	56.57	1000+19.00	1961786.11	734871.43	36.0	3.00	954.29	954.00	918.75	35.25	W27X94	34.75
46	218+82.44	58.87	1000+16.00	1961788.73	734869.97	36.0	3.00	953.01	954.00	918.75	35.25	W27X94	34.75
47	218+80.51	61.17	1000+13.00	1961791.36	734868.52	36.0	3.00	951.74	954.00	918.75	35.25	W27X94	34.75
48	218+78.58	63.47	1000+10.00	1961793.98	734867.07	36.0	3.00	951.12	954.00	918.75	35.25	W27X94	34.75

	524	APPROX. LENGTH OF PILE
	SHAFT LENGTH ABOVE BEDROCK	OF PILE
SUBTOTAL SOUTH WALL	1692.00	1668.00

SOUTH WALL DRILLED SHAFT SCHEDULE
 BRIDGE NO. LIC-00037-19.170
 OVER RAMP CREEK

SFN
 4501838
 DESIGN AGENCY

 DESIGNER: BWR
 CHECKER: SMH
 REVIEWER: GDJ
 PROJECT ID: 104981
 SUBSET: 6 TOTAL: 14
 SHEET: P.24 TOTAL: 38

LIC-SR37-19.40

MODEL: Sheet PAPER: 34x22 (in.) DATE: 7/1/2024 TIME: 3:37:14 PM USER: bachel
P:\ODT\05\001_LIC-37-19.40\104981\400-Engineering\Structures\SFN_4501837\Sheets\104981_SFN_4501837_S0002.dgn


DRILLED SHAFT SCHEDULE, NORTH WALL

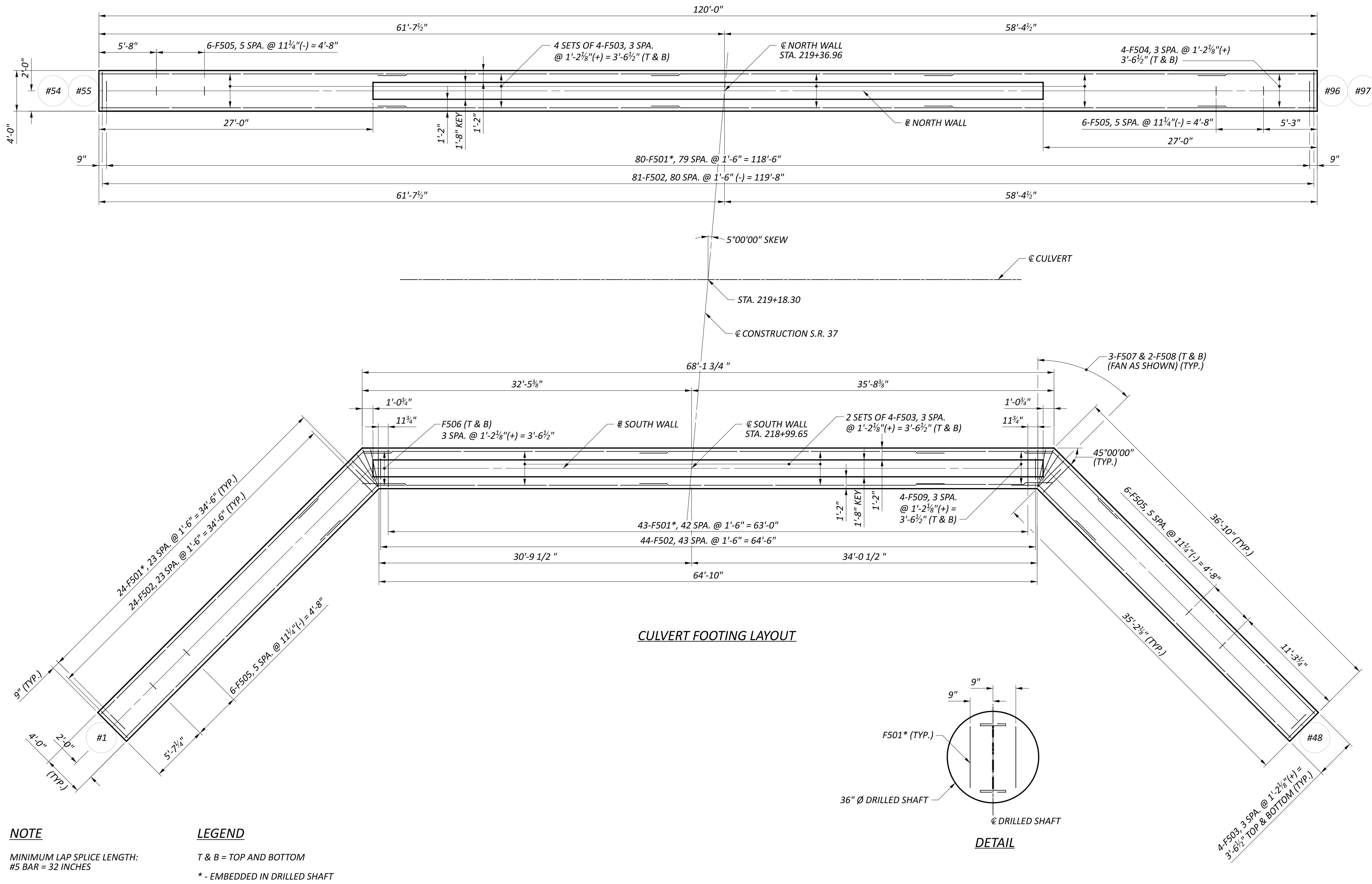
LIC-00037-19.170

SHAFT NUMBER	SHAFT LOCATION ALONG CENTERLINE OF CONSTRUCTION S.R. 37 STATIONING	CENTER OF SHAFT FROM CENTERLINE OF CONSTRUCTION S.R. 37	SHAFT LOCATION ALONG BASELINE NORTH WALL STATIONING	NORTHING	EASTING	SHAFT DIAMETER	SHAFT SPACING	APPROX. EXISTING GROUND ELEVATION	TOP OF SHAFT	BOTTOM OF SHAFT	524		PILE SIZE	APPROX. LENGTH OF PILE
											SHAFT LENGTH ABOVE BEDROCK			
49	219+29.89	-80.82	2000+10.00	1961642.55	734889.86	36.0	3.00	943.15	945.00	918.75	26.25	W27X94	25.75	
50	219+30.15	-77.83	2000+13.00	1961645.44	734890.69	36.0	3.00	942.80	946.50	918.75	27.75	W27X94	27.25	
51	219+30.41	-74.84	2000+16.00	1961648.32	734891.51	36.0	3.00	942.45	948.00	918.75	29.25	W27X94	28.75	
52	219+30.67	-71.85	2000+19.00	1961651.21	734892.34	36.0	3.00	942.10	949.50	918.75	30.75	W27X94	30.25	
53	219+30.93	-68.86	2000+22.00	1961654.09	734893.17	36.0	3.00	945.54	951.00	918.75	32.25	W27X94	31.75	
54	219+31.19	-65.87	2000+25.00	1961656.97	734894.00	36.0	3.00	947.05	952.50	918.75	33.75	W27X94	33.25	
55	219+31.46	-62.89	2000+28.00	1961659.86	734894.82	36.0	3.00	948.57	954.00	918.75	35.25	W27X94	34.75	
56	219+31.72	-59.90	2000+31.00	1961662.74	734895.65	36.0	3.00	950.09	954.00	918.75	35.25	W27X94	34.75	
57	219+31.98	-56.91	2000+34.00	1961665.62	734896.48	36.0	3.00	951.54	954.00	918.75	35.25	W27X94	34.75	
58	219+32.24	-53.92	2000+37.00	1961668.51	734897.31	36.0	3.00	952.98	954.00	918.75	35.25	W27X94	34.75	
59	219+32.50	-50.93	2000+40.00	1961671.39	734898.13	36.0	3.00	954.44	954.00	918.75	35.25	W27X94	34.75	
60	219+32.76	-47.94	2000+43.00	1961674.27	734898.96	36.0	3.00	955.90	954.00	918.75	35.25	W27X94	34.75	
61	219+33.02	-44.95	2000+46.00	1961677.16	734899.79	36.0	3.00	957.64	954.00	918.75	35.25	W27X94	34.75	
62	219+33.29	-41.97	2000+49.00	1961680.04	734900.62	36.0	3.00	959.36	954.00	918.75	35.25	W27X94	34.75	
63	219+33.55	-38.98	2000+52.00	1961682.92	734901.45	36.0	3.00	960.90	954.00	918.75	35.25	W27X94	34.75	
64	219+33.81	-35.99	2000+55.00	1961685.81	734902.27	36.0	3.00	962.45	954.00	918.75	35.25	W27X94	34.75	
65	219+34.07	-33.00	2000+58.00	1961688.69	734903.10	36.0	3.00	964.03	954.00	918.75	35.25	W27X94	34.75	
66	219+34.33	-30.01	2000+61.00	1961691.58	734903.93	36.0	3.00	965.60	954.00	918.75	35.25	W27X94	34.75	
67	219+34.59	-27.02	2000+64.00	1961694.46	734904.76	36.0	3.00	967.16	954.00	918.75	35.25	W27X94	34.75	
68	219+34.85	-24.03	2000+67.00	1961697.34	734905.58	36.0	3.00	968.73	954.00	918.75	35.25	W27X94	34.75	
69	219+35.12	-21.05	2000+70.00	1961700.23	734906.41	36.0	3.00	970.29	954.00	918.75	35.25	W27X94	34.75	
70	219+35.38	-18.06	2000+73.00	1961703.11	734907.24	36.0	3.00	971.56	954.00	918.75	35.25	W27X94	34.75	
71	219+35.64	-15.07	2000+76.00	1961705.99	734908.07	36.0	3.00	971.99	954.00	918.75	35.25	W27X94	34.75	
72	219+35.90	-12.08	2000+79.00	1961708.88	734908.89	36.0	3.00	972.05	954.00	918.75	35.25	W27X94	34.75	
73	219+36.16	-9.09	2000+82.00	1961711.76	734909.72	36.0	3.00	972.08	954.00	918.75	35.25	W27X94	34.75	
74	219+36.42	-6.10	2000+85.00	1961714.64	734910.55	36.0	3.00	972.12	954.00	918.75	35.25	W27X94	34.75	
75	219+36.68	-3.11	2000+88.00	1961717.53	734911.38	36.0	3.00	972.15	954.00	918.75	35.25	W27X94	34.75	
76	219+36.95	-0.13	2000+91.00	1961720.41	734912.21	36.0	3.00	972.18	954.00	918.75	35.25	W27X94	34.75	
77	219+37.21	2.86	2000+94.00	1961723.29	734913.03	36.0	3.00	972.11	954.00	918.75	35.25	W27X94	34.75	
78	219+37.47	5.85	2000+97.00	1961726.18	734913.86	36.0	3.00	972.07	954.00	918.75	35.25	W27X94	34.75	
79	219+37.73	8.84	2001+00.00	1961729.06	734914.69	36.0	3.00	972.02	954.00	918.75	35.25	W27X94	34.75	
80	219+37.99	11.83	2001+03.00	1961731.95	734915.52	36.0	3.00	971.97	954.00	918.75	35.25	W27X94	34.75	
81	219+38.25	14.82	2001+06.00	1961734.83	734916.34	36.0	3.00	971.89	954.00	918.75	35.25	W27X94	34.75	
82	219+38.52	17.81	2001+09.00	1961737.71	734917.17	36.0	3.00	971.24	954.00	918.75	35.25	W27X94	34.75	
83	219+38.78	20.80	2001+12.00	1961740.60	734918.00	36.0	3.00	970.47	954.00	918.75	35.25	W27X94	34.75	
84	219+39.04	23.78	2001+15.00	1961743.48	734918.83	36.0	3.00	969.67	954.00	918.75	35.25	W27X94	34.75	
85	219+39.30	26.77	2001+18.00	1961746.36	734919.65	36.0	3.00	968.87	954.00	918.75	35.25	W27X94	34.75	
86	219+39.56	29.76	2001+21.00	1961749.25	734920.48	36.0	3.00	967.00	954.00	918.75	35.25	W27X94	34.75	
87	219+39.82	32.75	2001+24.00	1961752.13	734921.31	36.0	3.00	964.92	954.00	918.75	35.25	W27X94	34.75	
88	219+40.08	35.74	2001+27.00	1961755.01	734922.14	36.0	3.00	963.06	954.00	918.75	35.25	W27X94	34.75	
89	219+40.35	38.73	2001+30.00	1961757.90	734922.97	36.0	3.00	961.20	954.00	918.75	35.25	W27X94	34.75	
90	219+40.61	41.72	2001+33.00	1961760.78	734923.79	36.0	3.00	959.34	954.00	918.75	35.25	W27X94	34.75	
91	219+40.87	44.70	2001+36.00	1961763.66	734924.62	36.0	3.00	957.51	954.00	918.75	35.25	W27X94	34.75	
92	219+41.13	47.69	2001+39.00	1961766.55	734925.45	36.0	3.00	955.83	954.00	918.75	35.25	W27X94	34.75	
93	219+41.39	50.68	2001+42.00	1961769.43	734926.28	36.0	3.00	954.41	954.00	918.75	35.25	W27X94	34.75	
94	219+41.65	53.67	2001+45.00	1961772.31	734927.10	36.0	3.00	952.16	954.00	918.75	35.25	W27X94	34.75	
95	219+41.91	56.66	2001+48.00	1961775.20	734927.93	36.0	3.00	950.61	954.00	918.75	35.25	W27X94	34.75	
96	219+42.18	59.65	2001+51.00	1961778.08	734928.76	36.0	3.00	949.06	954.00	918.75	35.25	W27X94	34.75	
97	219+42.44	62.64	2001+54.00	1961780.97	734929.59	36.0	3.00	947.67	952.50	918.75	33.75	W27X94	33.25	
98	219+42.70	65.62	2001+57.00	1961783.85	734930.41	36.0	3.00	946.61	951.00	918.75	32.25	W27X94	31.75	
99	219+42.96	68.61	2001+60.00	1961786.73	734931.24	36.0	3.00	945.23	949.50	918.75	30.75	W27X94	30.25	
100	219+43.22	71.60	2001+63.00	1961789.62	734932.07	36.0	3.00	944.57	948.00	918.75	29.25	W27X94	28.75	
101	219+43.48	74.59	2001+66.00	1961792.50	734932.90	36.0	3.00	935.65	946.50	918.75	27.75	W27X94	27.25	
102	219+43.74	77.58	2001+69.00	1961795.38	734933.73	36.0	3.00	935.68	945.00	918.75	26.25	W27X94	25.75	
103	219+44.01	80.57	2001+72.00	1961798.27	734934.55	36.0	3.00	935.71	943.50	918.75	24.75	W27X94	24.25	
104	219+44.27	83.56	2001+75.00	1961801.15	734935.38	36.0	3.00	935.75	942.00	918.75	23.25	W27X94	22.75	
105	219+44.53	86.54	2001+78.00	1961804.03	734936.21	36.0	3.00	935.82	940.50	918.75	21.75	W27X94	21.25	
106	219+44.79	89.53	2001+81.00	1961806.92	734937.04	36.0	3.00	936.13	939.00	918.75	20.25	W27X94	19.75	

	524	APPROX. LENGTH OF PILE
	SHAFT LENGTH ABOVE BEDROCK	
SUBTOTAL NORTH WALL	1930.50	1901.50
TOTAL	3622.50	3569.50
TOTALS CARRIED TO SHEET 3	3623.00	3570.00

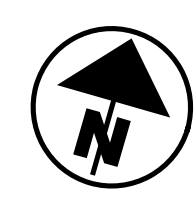
NORTH WALL DRILLED SHAFT SCHEDULE
BRIDGE NO. LIC-00037-19.170
OVER RAMP CREEK

SFN 4501838
DESIGN AGENCY

DESIGNER: BWR CHECKER: SMH
REVIEWER: GDJ 2-14-24
PROJECT ID: 104981
SUBSET TOTAL: 7 | 14
SHEET TOTAL: P.25 | 38



NOTE
 MINIMUM LAP SPLICE LENGTH:
 #5 BAR = 32 INCHES

LEGEND
 T & B = TOP AND BOTTOM
 * - EMBEDDED IN DRILLED SHAFT

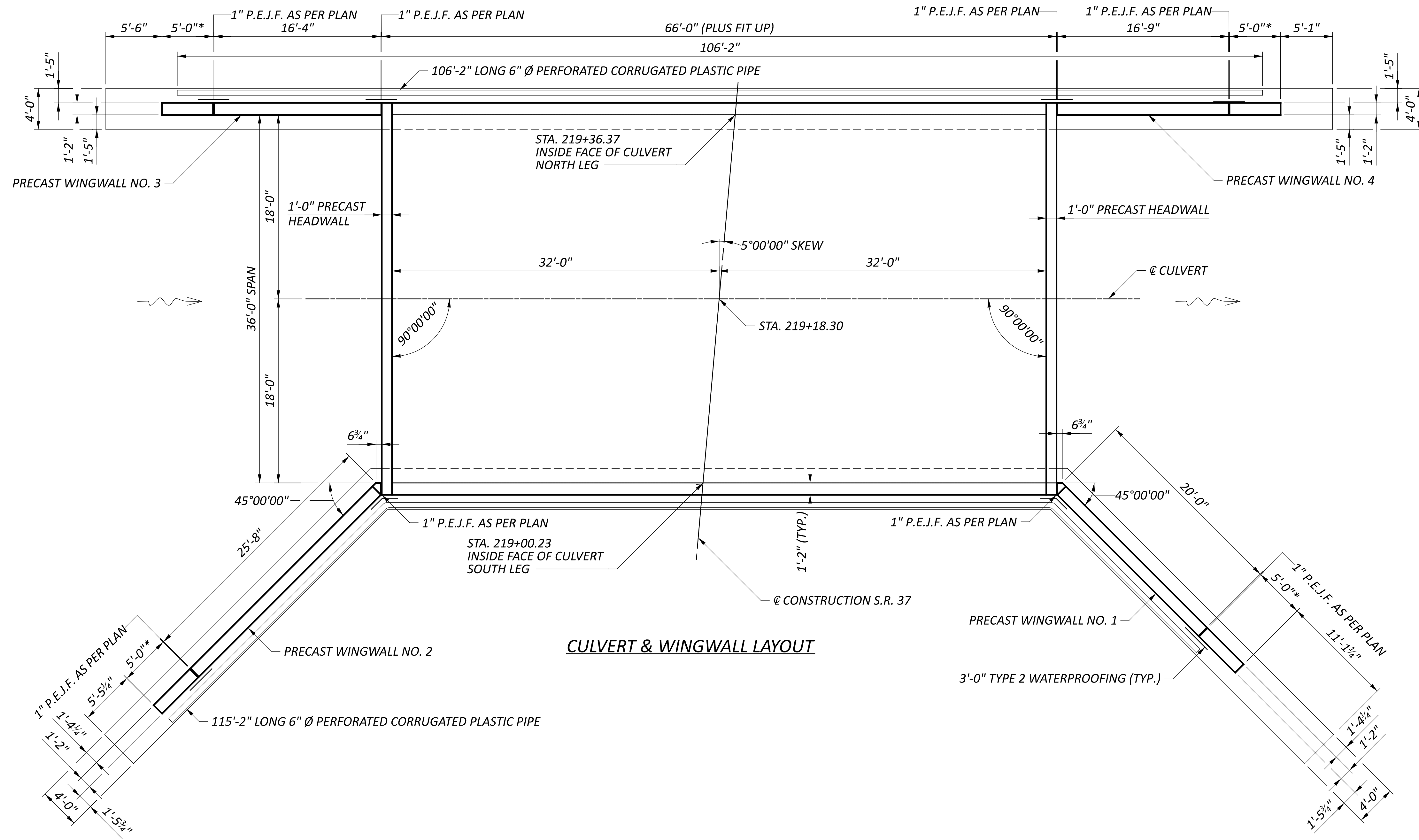


FOOTING LAYOUT PLAN
 BRIDGE NO. LIC-00037-19.170
 OVER RAMP CREEK

SFN	4501838
DESIGN AGENCY	CARPENTER MARTY
DESIGNER	BWR
CHECKER	SMH
REVIEWER	GDJ
PROJECT ID	104981
SUBSET	8
TOTAL	14
SHEET	P.26
TOTAL	38

LEGEND

* - CAST-IN-PLACE WALL



CULVERT & WINGWALL LAYOUT



CULVERT LAYOUT
 BRIDGE NO. LIC-00037-19.170
 OVER RAMP CREEK

SFN
 4501838

DESIGN AGENCY



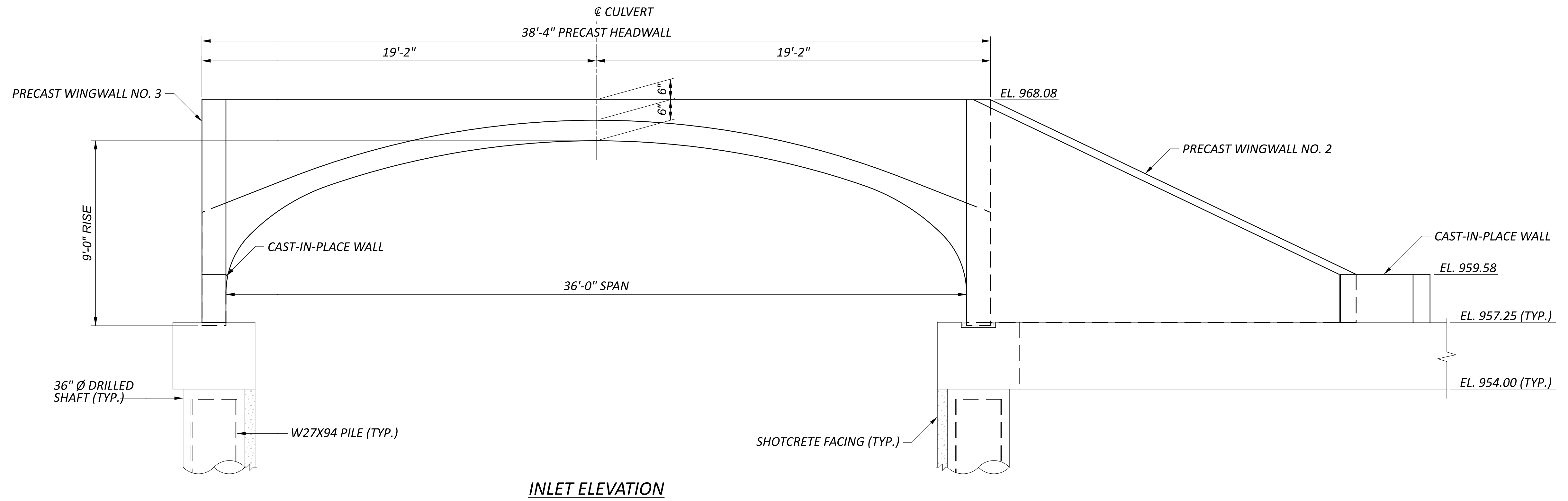
DESIGNER: BWR
 CHECKER: SMH

REVIEWER: GDJ
 2-14-24

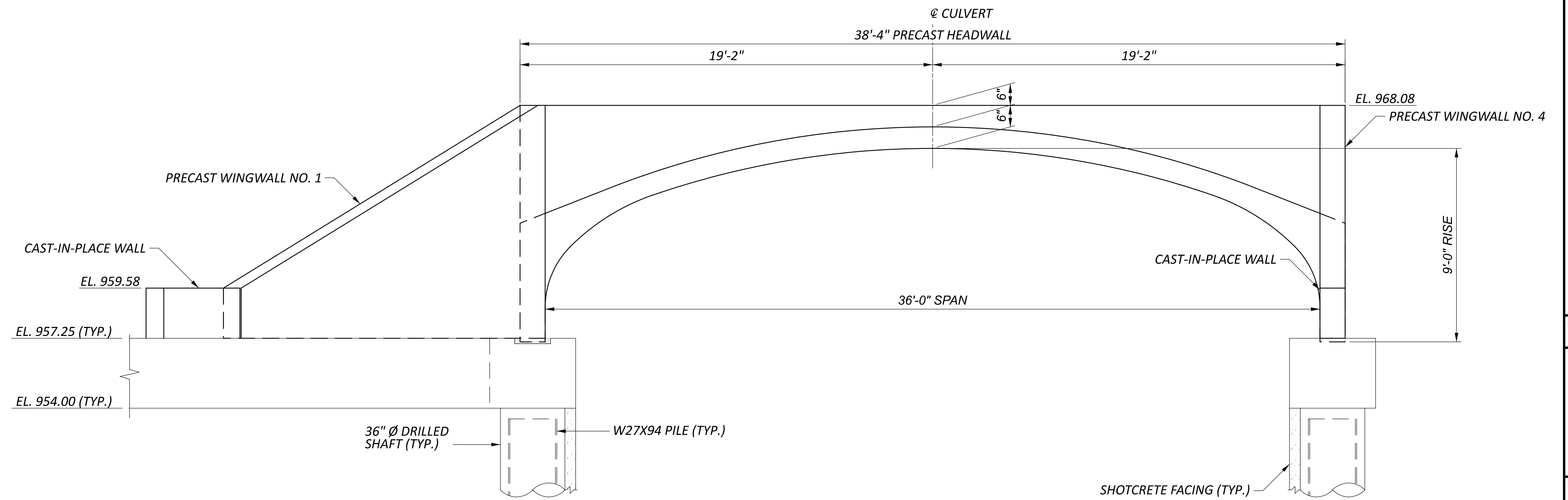
PROJECT ID: 104981

SUBSET	TOTAL
9	14

SHEET	TOTAL
P.27	38



INLET ELEVATION

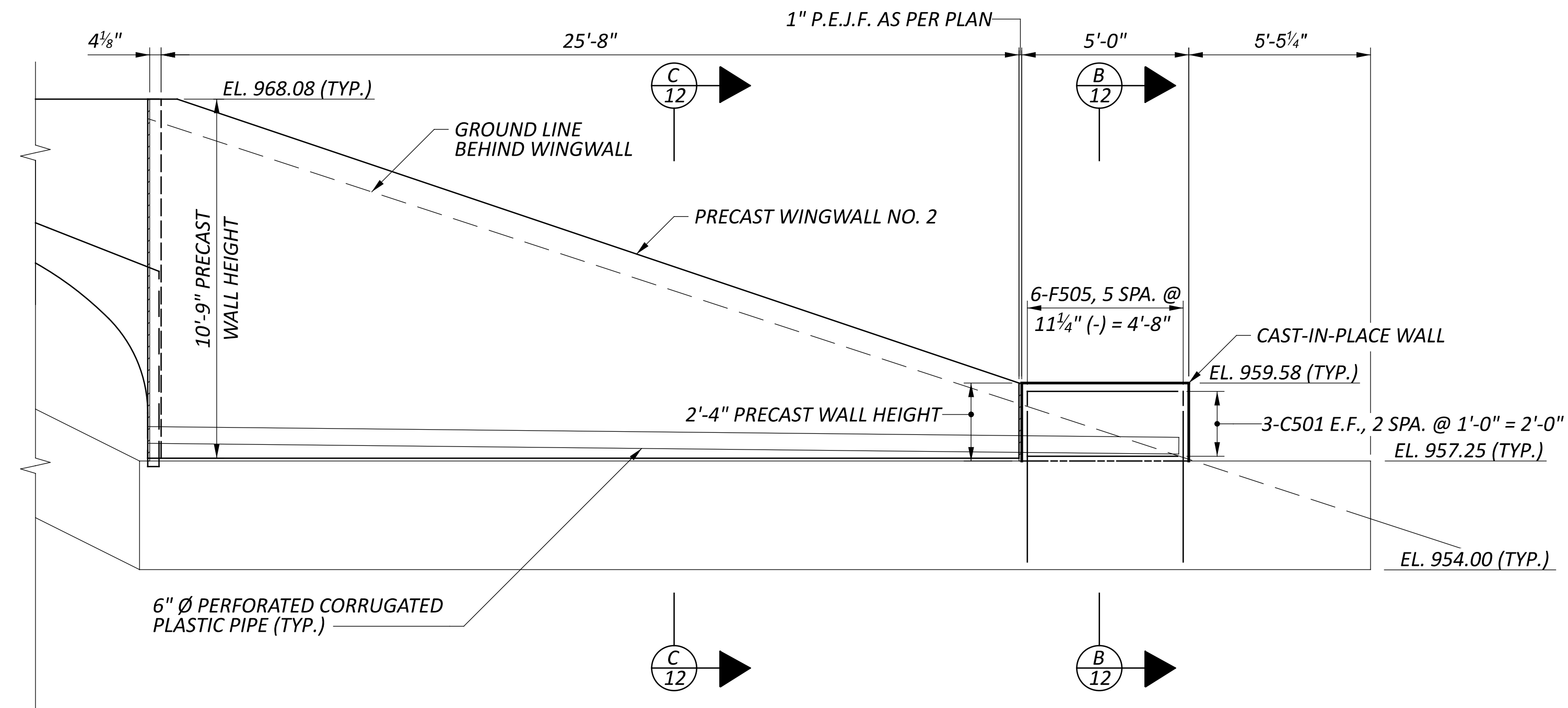
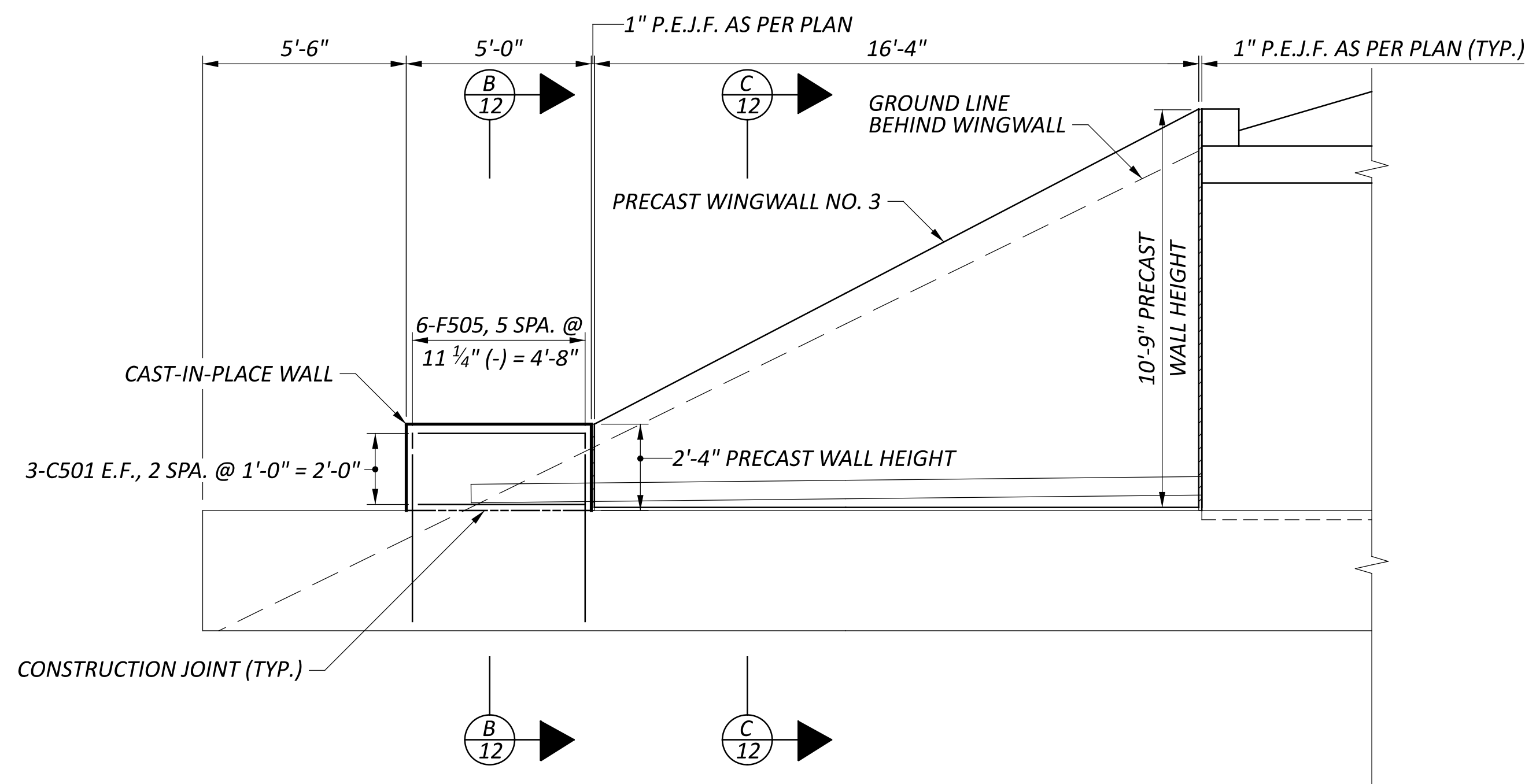


OUTLET ELEVATION

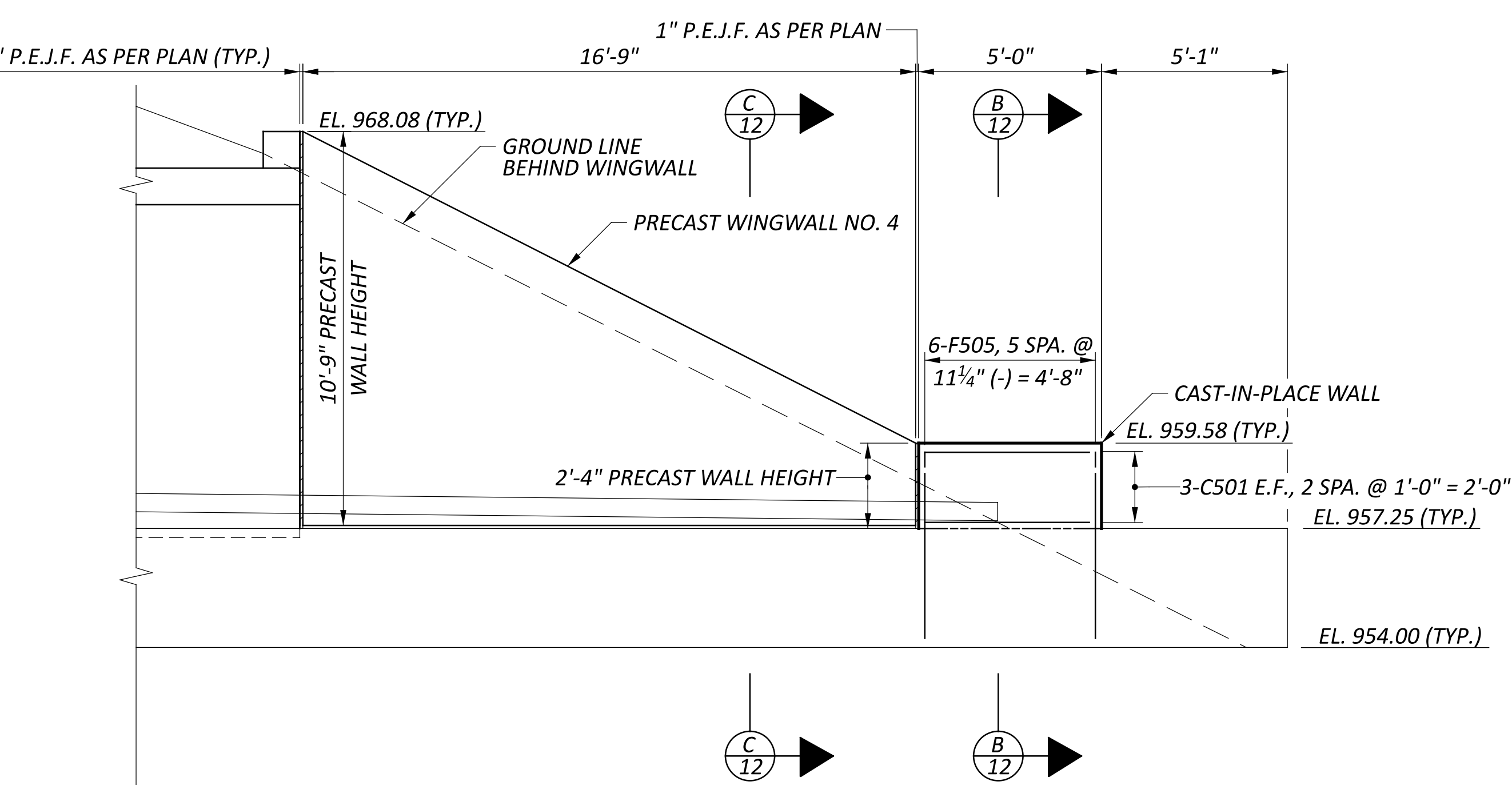
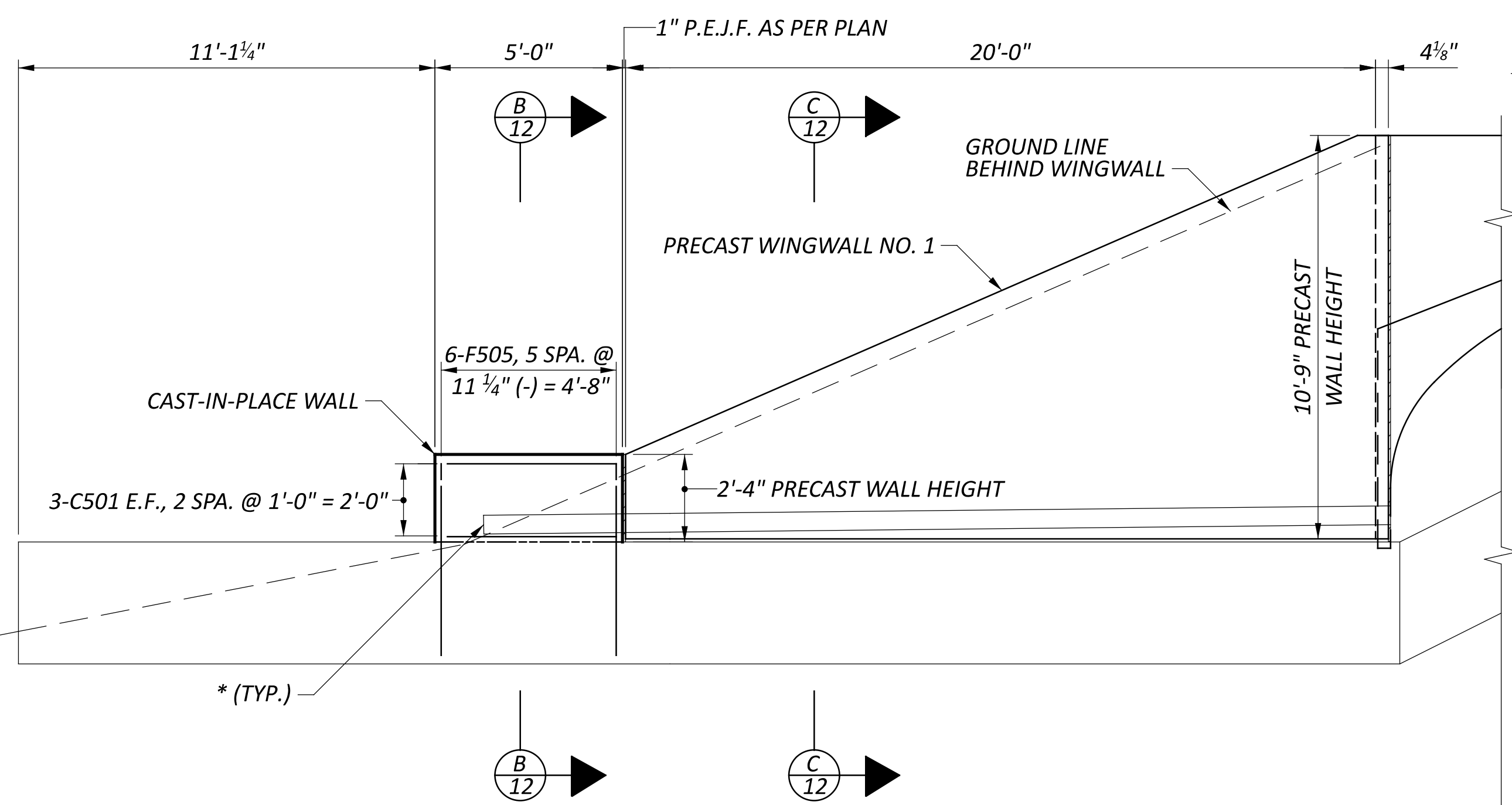
NOTE

PRECAST CULVERT AND PRECAST WINGWALLS SIT ON 1" GROUT LEVELING PAD.

SFN	4501838
DESIGN AGENCY	CARPENTER MARTY
DESIGNER	CHECKER
BWR	SMH
REVIEWER	
GDJ	2-15-24
PROJECT ID	104981
SUBSET	TOTAL
10	14
SHEET	TOTAL
P.28	38



INLET WALL ELEVATION



OUTLET WALL ELEVATION

LEGEND

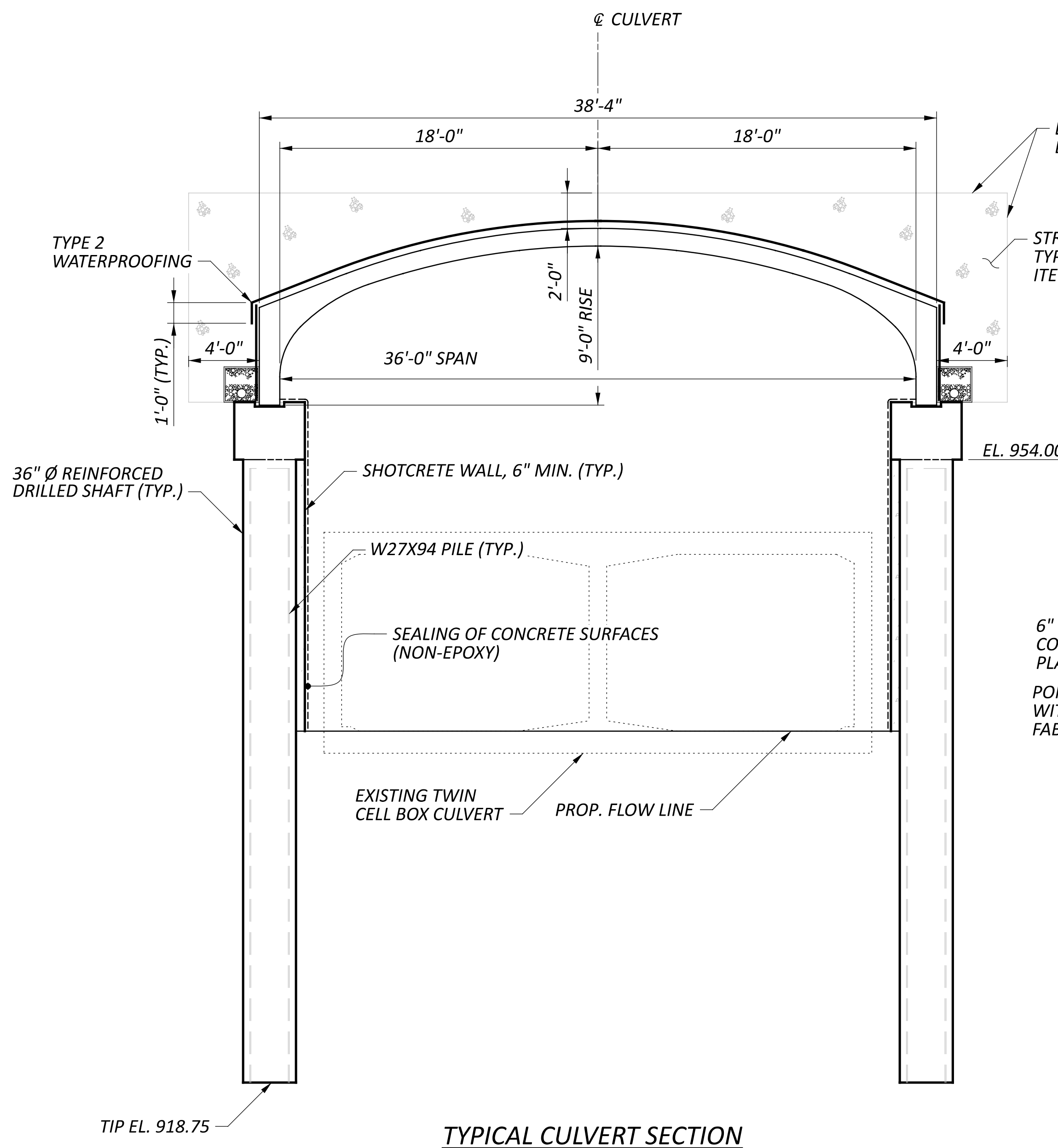
E.F. = EACH FACE

* - PROVIDE PRECAST CONCRETE OUTLET WITH TYPE 1 TIED CONCRETE BLOCK MAT AS SHOWN IN DM-1.1 (TYP.). INCLUDE FOR PAYMENT WITH ITEM 518 - 6" PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN.

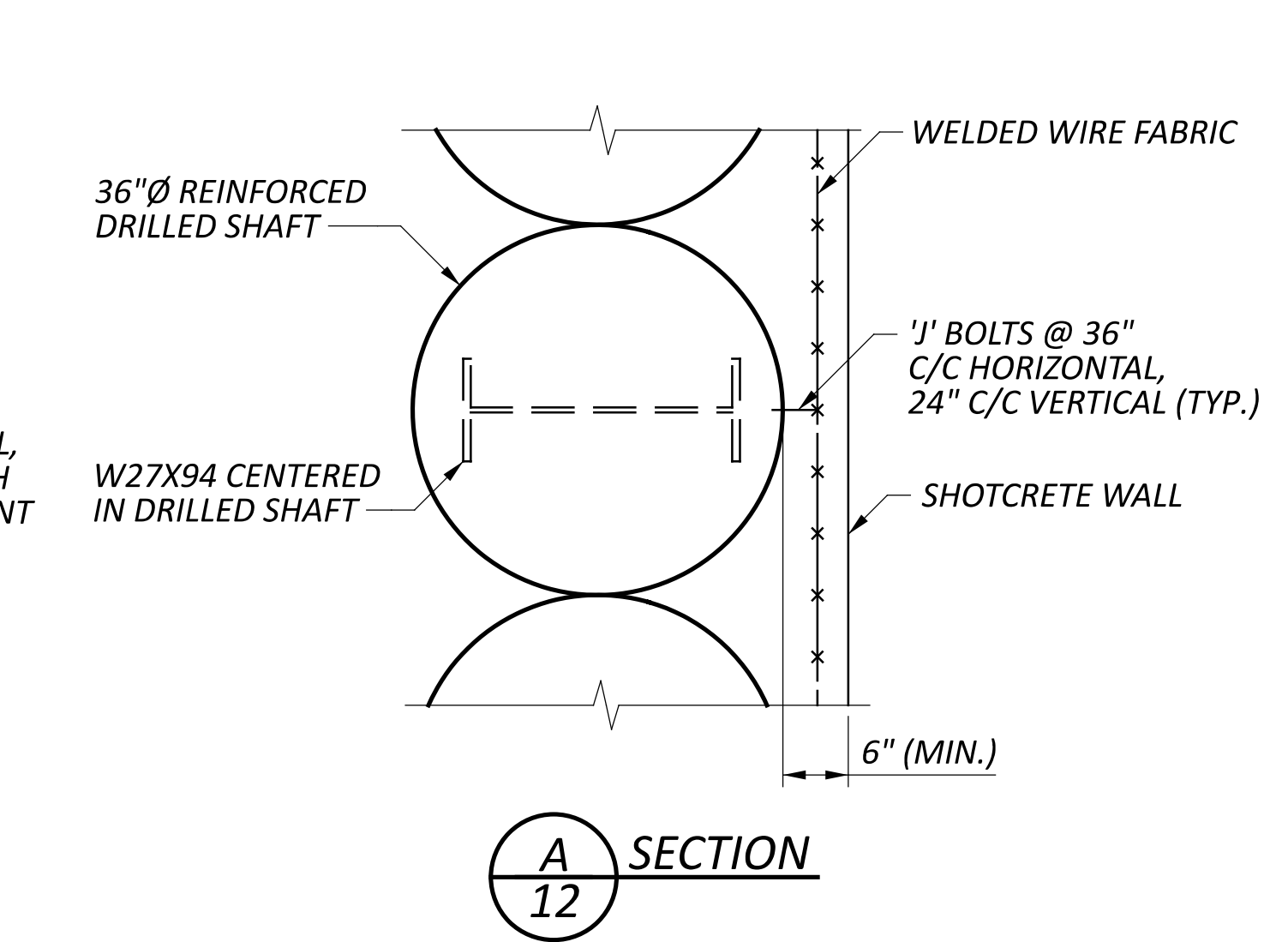
NOTE

PRECAST CULVERT AND PRECAST WINGWALLS SIT ON 1" GROUT LEVELING PAD.

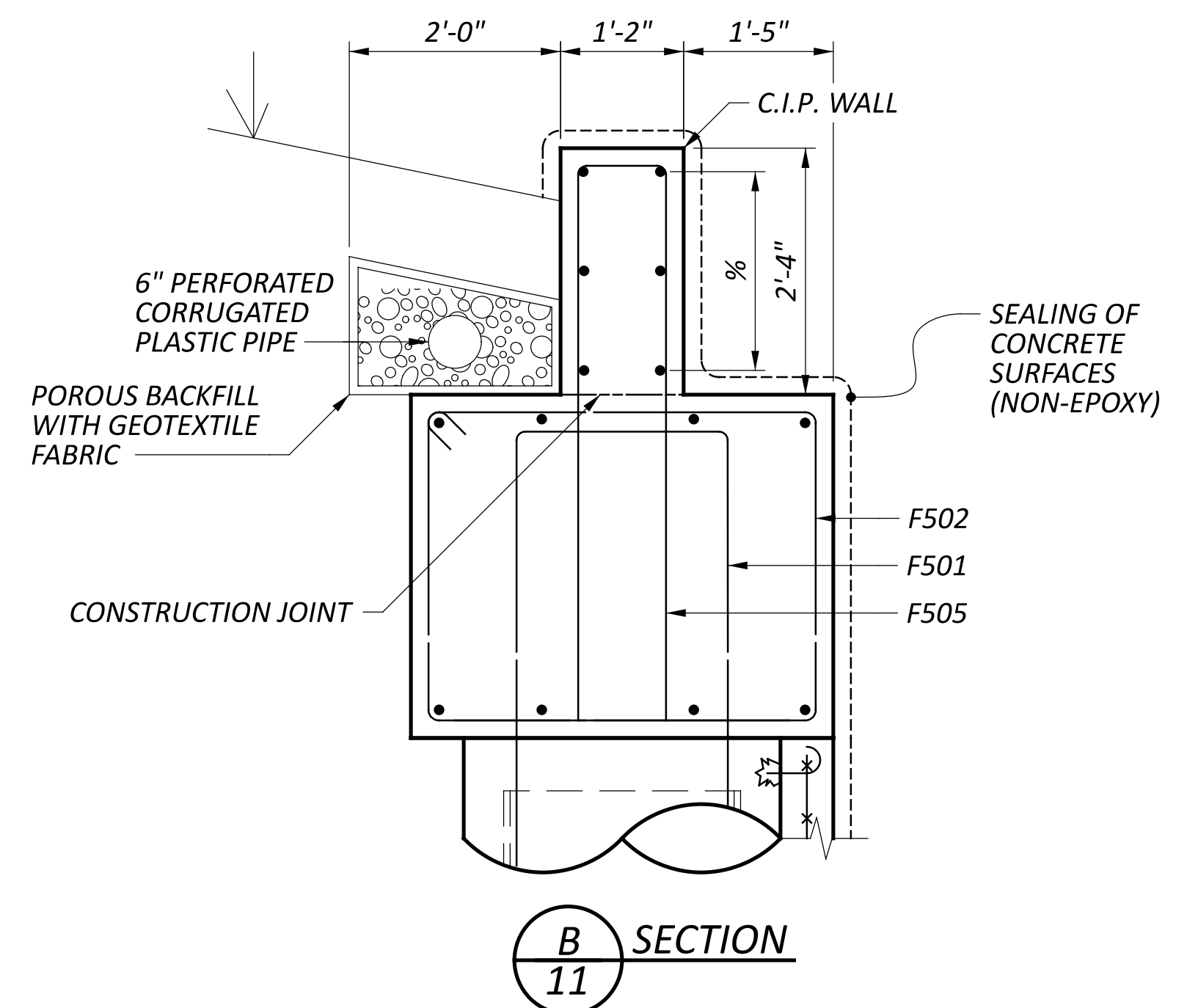
SFN	4501838
DESIGN AGENCY	CARPENTER MARTY
DESIGNER	CHECKER
BWR	SMH
REVIEWER	
GDJ	2-15-24
PROJECT ID	104981
SUBSET	TOTAL
11	14
SHEET	TOTAL
P.29	38



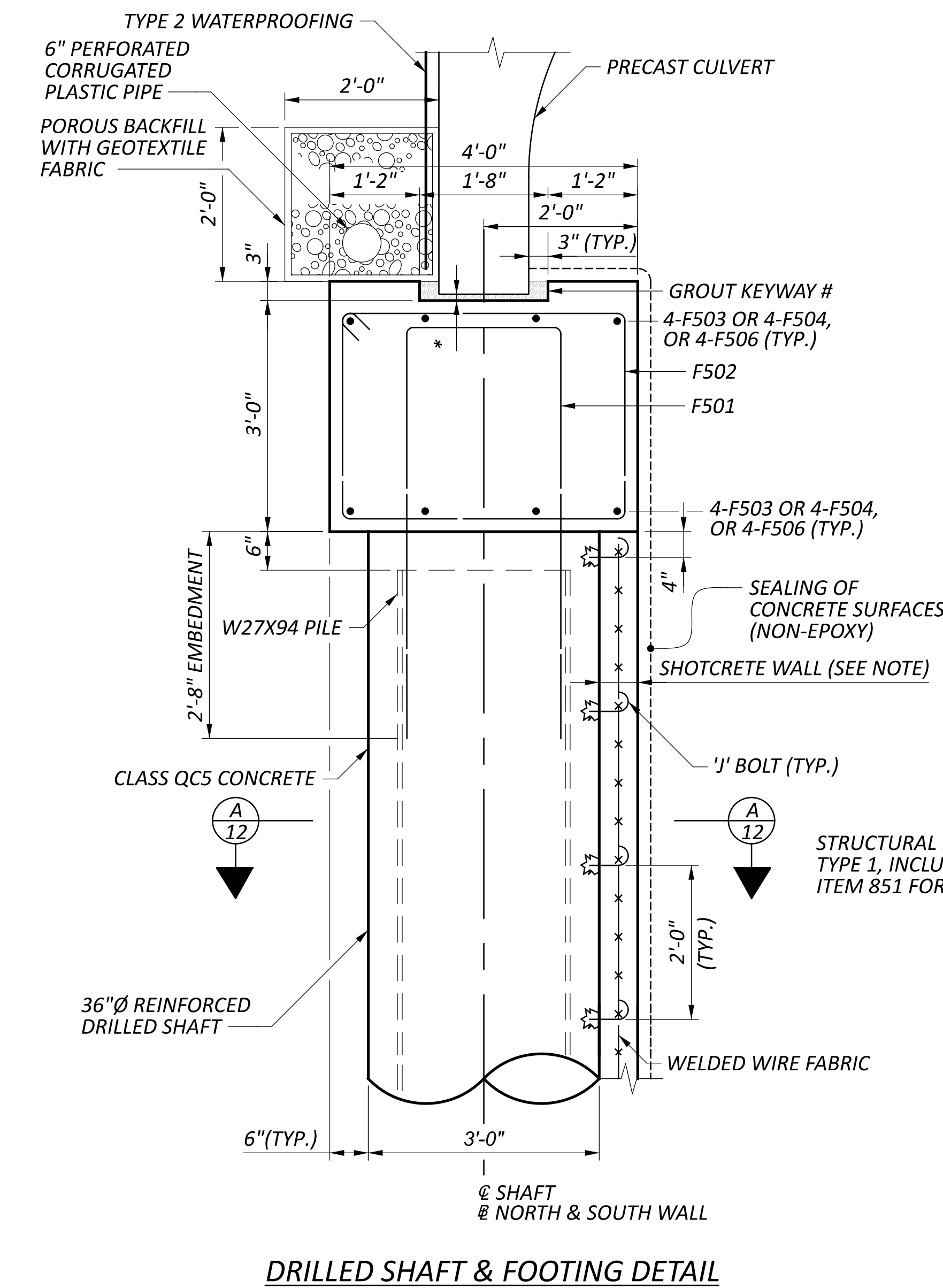
TYPICAL CULVERT SECTION



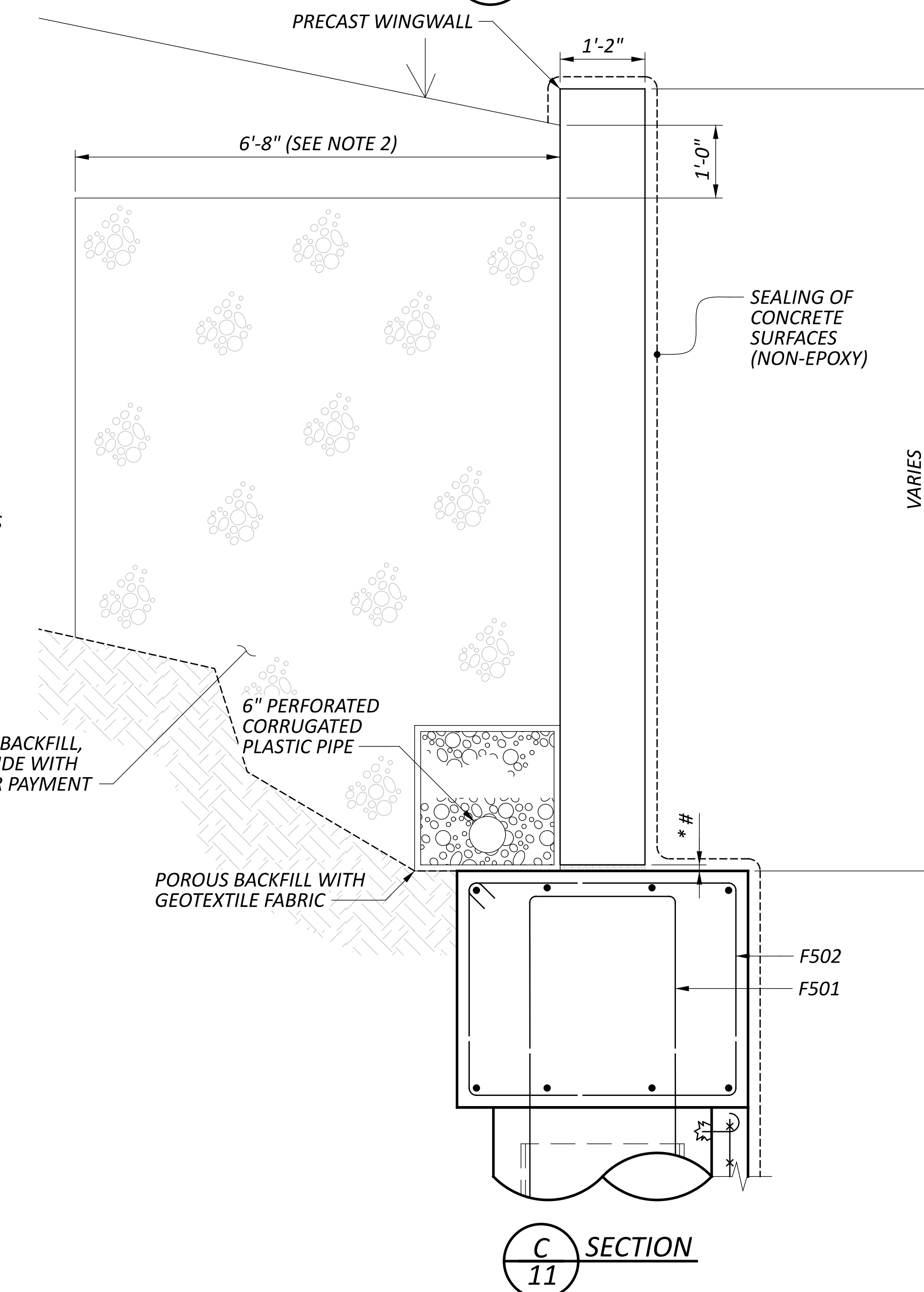
SECTION A 12



SECTION B 11



DRILLED SHAFT & FOOTING DETAIL



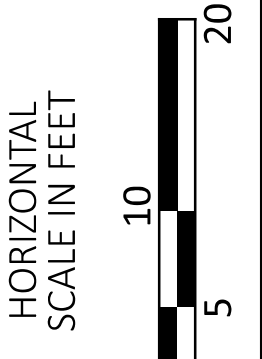
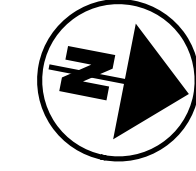
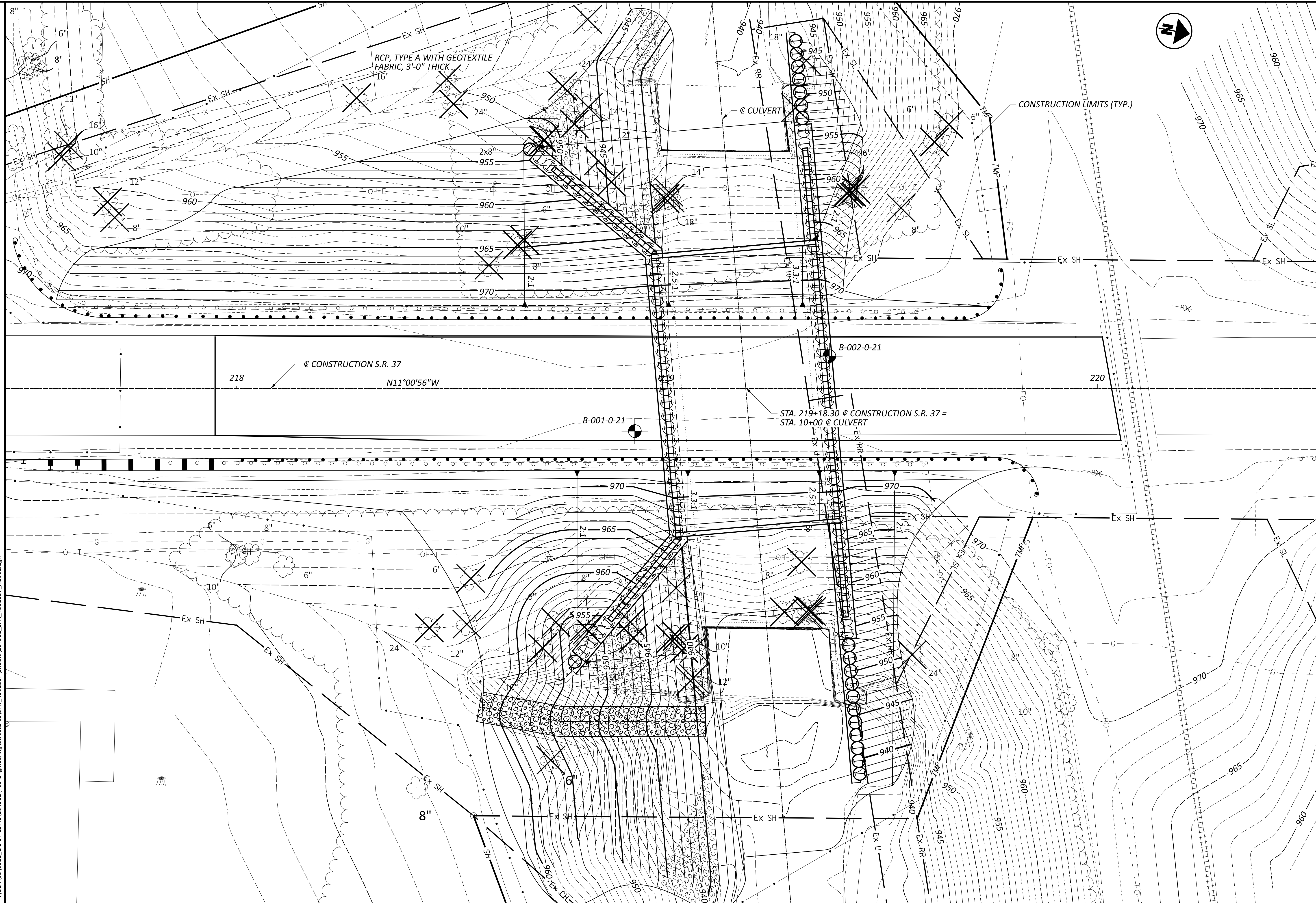
SECTION C 11

- LEGEND**
- # - INCLUDE WITH PRECAST STRUCTURE FOR PAYMENT
 - * - 1" GROUT LEVELING PAD
 - % - 3-C501 EACH FACE, 2 SPA. @ 1'-0" = 2'-0"

- NOTES**
1. ITEM 520 - PNEUMATICALLY PLACED CONCRETE SHOTCRETE, AS PER PLAN: THIS ITEM CONSISTS OF INSTALLING J-BOLTS, 5" LONG, EMBEDDED 1" AND SPACED AT 36" X 24" PATTERN; INSTALLING WELDED WIRE FABRIC SIZE 6X6 - W5.5XW5.5 AND INSTALLING CONCRETE FACING WITH A MINIMUM THICKNESS OF 6".
 2. 6'-8" CRITICAL BACKFILL ZONE FOR PRECAST WINGWALLS SHALL BE USED FOR BID QUANTITY ESTIMATION. ACTUAL BACKFILL ZONE DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR UPON SELECTION OF PRECAST WALL MANUFACTURER.

CULVERT AND DRILLED SHAFT DETAILS
 BRIDGE NO. LIC-00037-19.170
 OVER RAMP CREEK

SFN	4501838
DESIGN AGENCY	CARPENTER MARTY
DESIGNER	BWR
CHECKER	SMH
REVIEWER	GDJ
PROJECT ID	104981
SUBSET	12
TOTAL	14
SHEET	P.30
TOTAL	38



PROPOSED GRADING PLAN
BRIDGE NO. LIC-00037-19.170
OVER RAMP CREEK

SFN		4501838	
DESIGN AGENCY			
DESIGNER	CHECKER	REVIEWER	
BWR	SMH	GDJ 02/13/24	
PROJECT ID			
104981			
SUBSET	TOTAL		
13	14		
SHEET	TOTAL		
P.31	38		

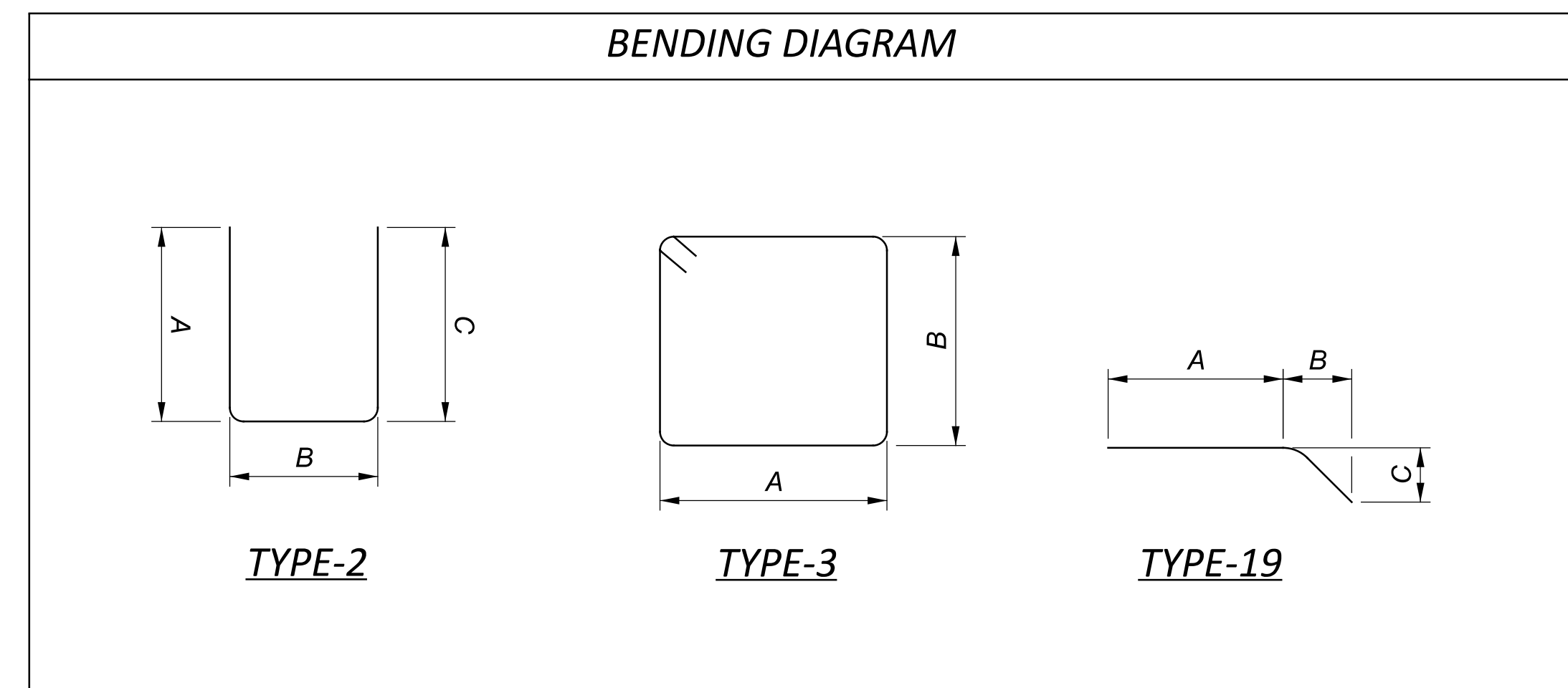
NOTES


1. THE BAR NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A NO. 5 BAR. BAR DIMENSIONS ARE OUT-TO-OUT, UNLESS OTHERWISE NOTED.

2. ALL STEEL REINFORCEMENT SHALL BE GALVANIZED.

BAR MARK	MATERIAL TYPE	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS		
		SOUTH	NORTH	TOTAL				A	B	C
FOOTING (GALVANIZED STEEL REINFORCEMENT - GSR)										
F501	GSR	92	80	172	12'-9"	2288	2	5'-6"	2'-0"	5'-6"
F502	GSR	92	81	173	12'-10"	2316	3	3'-6"	2'-7"	
F503	GSR	32	32	64	30'-0"	2003	STR			
F504	GSR	0	8	8	10'-2"	85	STR			
F505	GSR	12	12	24	10'-5"	261	2	4'-11"	10"	4'-11"
F506	GSR	16	0	16	11'-10"	198	19	4'-11"	10"	4'-11"
F507	GSR	12	0	12	3'-2"	40	STR			
F508	GSR	8	0	8	2'-6"	21	STR			
F509	GSR	8	0	8	13'-6"	113	STR			
FOOTING GSR SUBTOTAL						7325				

BAR MARK	MATERIAL TYPE	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS		
		REAR	FWD	TOTAL				A	B	C
CAST-IN PLACE-WALL (GALVANIZED STEEL REINFORCEMENT - GSR)										
C501	GSR	12	12	24	4'-8"	117	STR			
CAST-IN-PLACE-WALL GSR SUBTOTAL						117				



SFN	4501838
DESIGN AGENCY	
DESIGNER	CHECKER
BWR	SMH
REVIEWER	
GDJ 2-15-24	
PROJECT ID	104981
SUBSET	TOTAL
14	14
SHEET	TOTAL
P.32	38

PROJECT DESCRIPTION

LIC-37-19.40 (PID 104981) IS A BRIDGE REPLACEMENT PROJECT ALONG SR-37 OVER RAMP CREEK ABOUT 3 MILES SOUTH OF THE GRANVILLE, IN LICKING COUNTY, OHIO.

HISTORIC RECORDS

NO HISTORIC BORINGS WERE AVAILABLE FOR THIS PROJECT.

GEOLOGY

THE PROJECT SITE IS LOCATED WITHIN THE GALION GLACIATED LOW PLATEAU. THIS AREA RANGES IN ELEVATION FROM 800 FT AND 1400 FT, WITH MODERATE RELIEF (100 FT). IT IS CHARACTERIZED AS ROLLING UPLAND TRANSITIONAL BETWEEN THE GENTLY ROLLING TILL PLAIN AND THE HILLY GLACIATED ALLEGHENY PLATEAU AND IS MANTLED WITH THIN TO THICK DRIFT. THE GEOLOGY IS DESCRIBED AS MEDIUM- TO LOW-LIME WISCONSINAN-AGE TILL OVER MISSISSIPPIAN- AGE SHALES AND SANDSTONE.

RECONNAISSANCE

A FIELD RECONNAISSANCE VISIT FOR THE CULVERT LIC- 37- 19.40 REPLACEMENT WAS CONDUCTED ON FEBRUARY 24, 2022, ALONG SR-37 AT THE RAMP CREEK CROSSING IN LICKING COUNTY, OHIO. LAND USE OF THE AREA SURROUNDING THE PROJECT SITE CAN BE DESCRIBED AS COMBINATION OF WOODLAND AND AGRICULTURAL.

THE WESTERN AND EASTERN EMBANKMENT SLOPES DIRECTLY ABOVE THE CULVERT AS WELL AS THE CREEK SIDE SLOPES TO THE WEST, APART FROM THE NORTHEASTERN EDGE OF THE EASTERN EMBANKMENT AND CREEK SIDE SLOPES PAST THE EASTERN END OF THE CULVERT GENERALLY APPEARED TO BE STABLE WITH FEW SIGNS OF INSTABILITY OBSERVED DURING OUR SITE VISIT. EXISTING EMBANKMENT SLOPES APPEARED TO BE AT GRADES RANGING BETWEEN 2 HORIZONTAL TO 1 VERTICAL (2H:1V) AND 1.5H:1V WITH THE STEEPER SLOPES LOCATED AT THE AFOREMENTIONED NORTHEASTERN PORTION OF THE SITE. THE NORTHEASTERN SECTION OF THE EMBANKMENT WAS OBSERVED TO BE HEAVILY ERODED AT THE TOE NEAR THE WINGWALL AND HAD PARTIALLY UNDERMINED THE FOUNDATION OF THE EASTERN SIDE OF THE CULVERT. THE SURFACE SOIL ON THE EMBANKMENT WAS OBSERVED TO BE VERY SOFT. PAST THE EASTERN OUTLET OF THE CULVERT, THE NORTHERN AND SOUTHERN BANKS OF THE CREEK WERE OBSERVED TO BE HEAVILY ERODED WITH MULTIPLE SLOPE FAILURES OBSERVED. MAJOR EROSION DUE TO RUNOFF FROM A DRAINAGE CHANNEL WAS ALSO OBSERVED ON THE SOUTHERN BANK OF THE CREEK EAST OF THE CULVERT. OVERALL, THE CULVERT APPEARED TO BE IN POOR CONDITION WITH STRUCTURAL WEAR OBSERVED ON THE UNDERSIDE OF THE BOX CULVERT, INLET/OUTLET OF THE CULVERT AND WINGWALLS.

THE PAVEMENT AT THE SITE WAS OBSERVED TO BE IN FAIR CONDITION WITH MODERATE SEVERITY LONGITUDINAL AND TRANSVERSE CRACKING, WHEEL TRACK CRACKING AND CRACK SEALING DEFICIENCIES. THE PAVEMENT APPEARED TO BE WELL DRAINED WITH WATER DIRECTED DIRECTLY OFF THE SHOULDERS OF EITHER SIDE OF THE ROADWAY.

SUBSURFACE EXPLORATION

THE SUBSURFACE EXPLORATION WAS CONDUCTED BY NEAS BETWEEN JUNE 11, 2021 AND JULY 7, 2021 AND INCLUDED 2 STRUCTURE BORINGS DRILLED TO DEPTHS OF 73 FT AND 81.5 FT BGS.

BORINGS WERE DRILLED BY NEAS USING A CME 55X OR CME 75T TRUCK MOUNTED DRILLING RIG UTILIZING 3.25- INCH DIAMETER HOLLOW STEM AUGERS. SOIL SAMPLES WERE RECOVERED CONTINUOUSLY, THEN AT INTERVALS OF 2.5- FT TO A DEPTH OF 56.5 FT BGS AND AT 5.0- FT INTERVALS THEREAFTER USING A SPLIT SPOON SAMPLER (AASHTO T-206 "STANDARD METHOD FOR PENETRATION TEST AND SPLIT BARREL SAMPLING OF SOILS."). STANDARD PENETRATION TESTS (SPT) WERE CONDUCTED USING A CME AUTO HAMMER THAT HAS BEEN CALIBRATED TO BE 81.9% AND 89% EFFICIENT ON DECEMBER 5, 2019 AND MAY 1, 2019, RESPECTITVELY.

GROUNDWATER LEVEL OBSERVATIONS WERE RECORDED BOTH DURING AND AFTER THE COMPLETION OF DRILLING. AFTER COMPLETING THE BORINGS, THE BOREHOLES WERE BACKFILLED WITH AUGER CUTTINGS AND BENTONITE CHIPS MIXTURE.

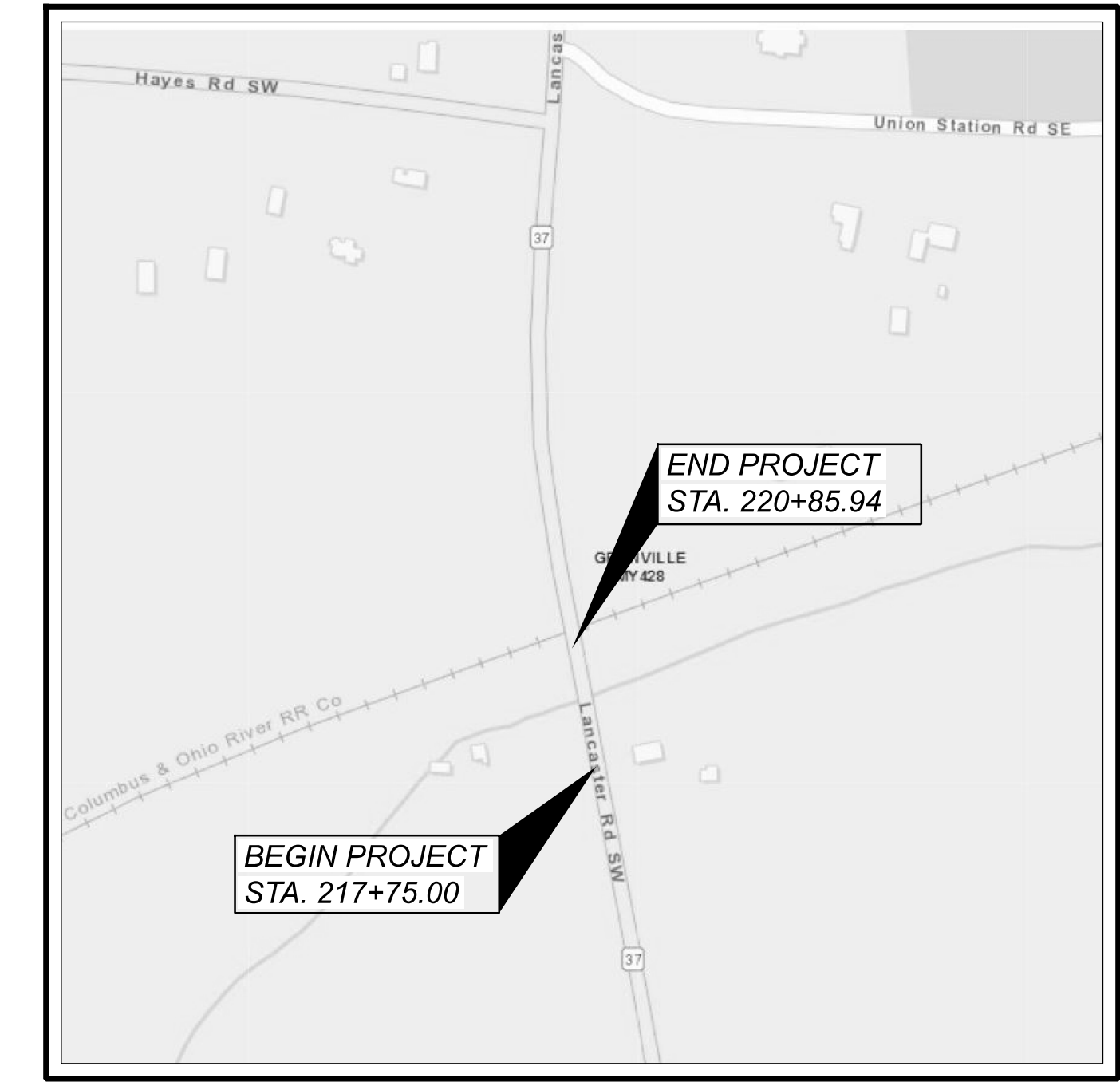
EXPLORATION FINDINGS

THE SUBSURFACE PROFILE AT THE BRIDGE SITE IS GENERALLY CONSISTENT WITH THE GEOLOGICAL MODEL FOR THE PROJECT IN REGARD TO THE MATERIALS ENCOUNTERED. THE SUBSURFACE PROFILE AT THE BRIDGE SITE GENERALLY CONSISTS OF TWENTY- ONE- TO TWENTY-THREE-INCH-THICK EXISTING PAVEMENT SECTION (ASPHALT AND GRANULAR BASE).

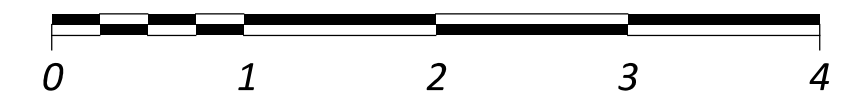
THE NATURAL OVERBURDEN SOILS CONSIST OF PRIMARILY NON- COHESIVE MATERIALS INCLUDING SANDY SILT (A- 4a), STONE FRAGMENTS WITH SAND (A- 1- b), GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT (A- 2- 4), COARSE AND FINE SAND (A- 3a) AND STONE FRAGMENTS WITH SAND, SILT AND CLAY (A-2-6). THE NON-COHESIVE SOILS ARE DESCRIBED AS LOOSE TO VERY DENSE IN COMPACTNESS CORRELATING TO N60 VALUES BETWEEN 10 AND 63 BPF. NATURAL MOISTURE CONTENTS OF THE NON-COHESIVE TILL SOILS RANGED FROM 6 TO 19 PERCENT.

LEGEND

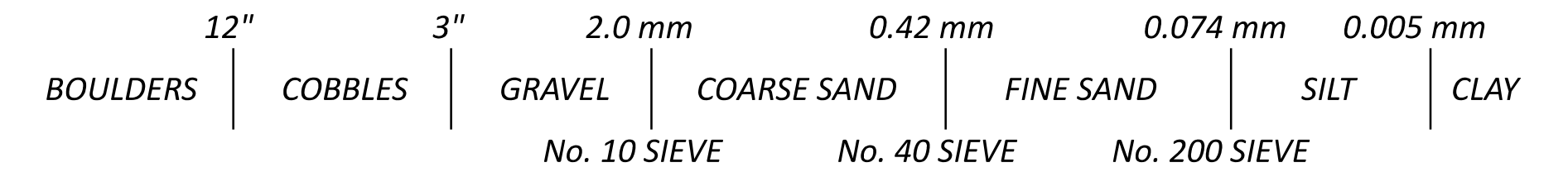
DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
GRAVEL AND STONE FRAGMENTS WITH SAND	A-1-b	0	7
GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT	A-2-4	2	7
STONE FRAGMENTS WITH SAND, SILT, AND CLAY	A-2-6	0	1
COARSE AND FINE SAND	A-3a	0	2
SANDY SILT	A-4a	13	19
SILT AND CLAY	A-6a	3	2
	TOTAL	18	38
PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		
SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL		
BORING LOCATION - PLAN VIEW.			
DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.			
WC	INDICATES WATER CONTENT IN PERCENT.		
N ₆₀	INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.		
W	INDICATES FREE WATER ELEVATION.		
SS	INDICATES A SPLIT SPOON SAMPLE.		
NP	INDICATES A NON-PLASTIC SAMPLE.		



LOCATION MAP
SCALE IN MILES



PARTICLE SIZE DEFINITIONS



COHESIVE SOILS ENCOUNTERED AT THE PROJECT SITE INCLUDE SANDY SILT (A- 4a) AND SILT AND CLAY (A-6a). THE SOILS OF THIS STRATUM CAN BE DESCRIBED AS HAVING A SOFT TO HARD CONSISTENCY BASED ON N60 VALUES BETWEEN 4 AND 47 BLOWS PER FOOT (BPF), AND UNCONFINED COMPRESSIVE STRENGTHS (ESTIMATED BY MEANS OF HAND PENETROMETER) BETWEEN APPROXIMATELY 0.75 AND 4.50 TON PER SQUARE FOOT (TSF). NATURAL MOISTURE CONTENTS OF THE FINE- GRAINED TILL SOILS RANGED FROM 11 TO 20 PERCENT IN MOISTURE. BASED ON ATTERBERG LIMITS TEST PERFORMED ON REPRESENTATIVE SAMPLES OF THE NATURAL TILL SOILS, THE LIQUID AND PLASTIC LIMITS RANGED FROM 19 TO 30 PERCENT AND 15 TO 20 PERCENT, RESPECTIVELY.

IT SHOULD BE NOTED THAT ABOUT 10 FT THICK, SOFT COHESIVE SOILS WERE ENCOUNTERED STARTING FROM 27 FT BELOW GROUND SURFACE (BGS) AT THE PROPOSED CULVERT INLET LOCATION.

BEDROCK WAS NOT ENCOUNTERED IN EITHER OF THE STRUCTURE BORINGS PERFORMED.

GROUNDWATER WAS ENCOUNTERED DURING DRILLING IN BOTH STRUCTURE BORINGS PERFORMED AT 40 FT AND 17.5 FT BGS, RESPECTIVELY.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JANUARY 2022.

AVAILABLE INFORMATION

THE SOIL, BEDROCK, AND GROUNDWATER INFORMATION COLLECTED FOR THIS SUBSURFACE EXPLORATION THAT CAN BE CONVENIENTLY DISPLAYED ON THE SOIL PROFILE SHEETS HAS BEEN PRESENTED, GEOTECHNICAL REPORTS, IF PREPARED, ARE AVAILABLE FOR REVIEW ON THE OFFICE OF CONTRACT SALES WEBSITE.

Scour Samples						
Boring ID	Sample ID	Sample Elevation	D ₅₀ Value (mm)	τ Value (psf)	D ₁₀₀ (mm)	Erosion Category
B-001-0-21	SS-13	942.4' - 939.9'	0.041	0.2423	11.599	2.501
	SS-15	937.4' - 934.9'	0.056	0.1344	6.436	2.361
B-002-0-21	SS-15	937.7' - 935.2'	0.039	0.1433	6.861	2.868
	SS-18	930.2' - 927.7'	0.043	0.2008	9.614	2.754

RECON. - EB, 02/24/2022
 DRILLING - JH, 06/11/2021 - 07/07/2021
 DRAWN - AI, 06/22/2022
 REVIEWED - CH, 01/29/2024, 02/27/2024

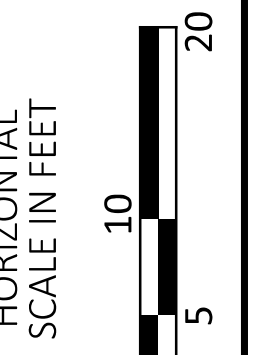
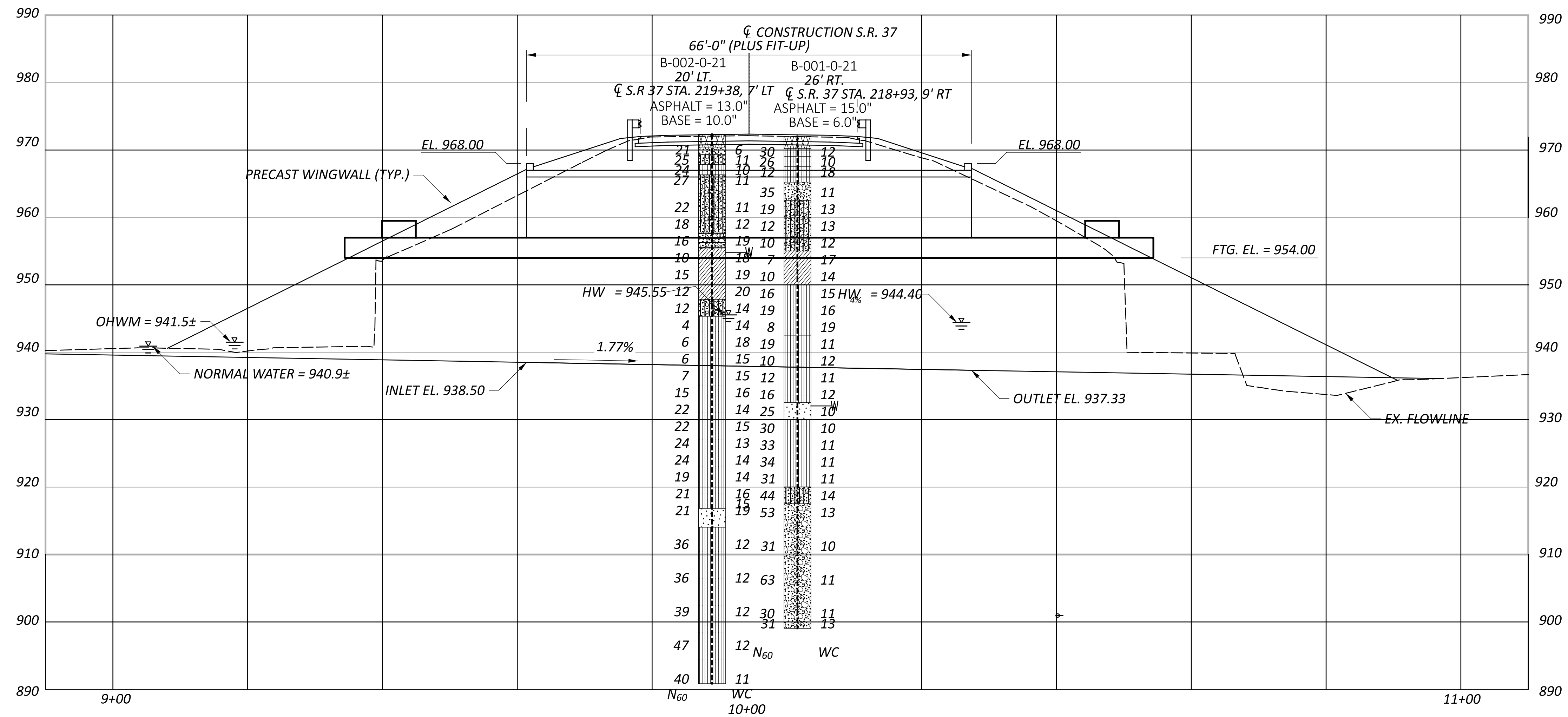
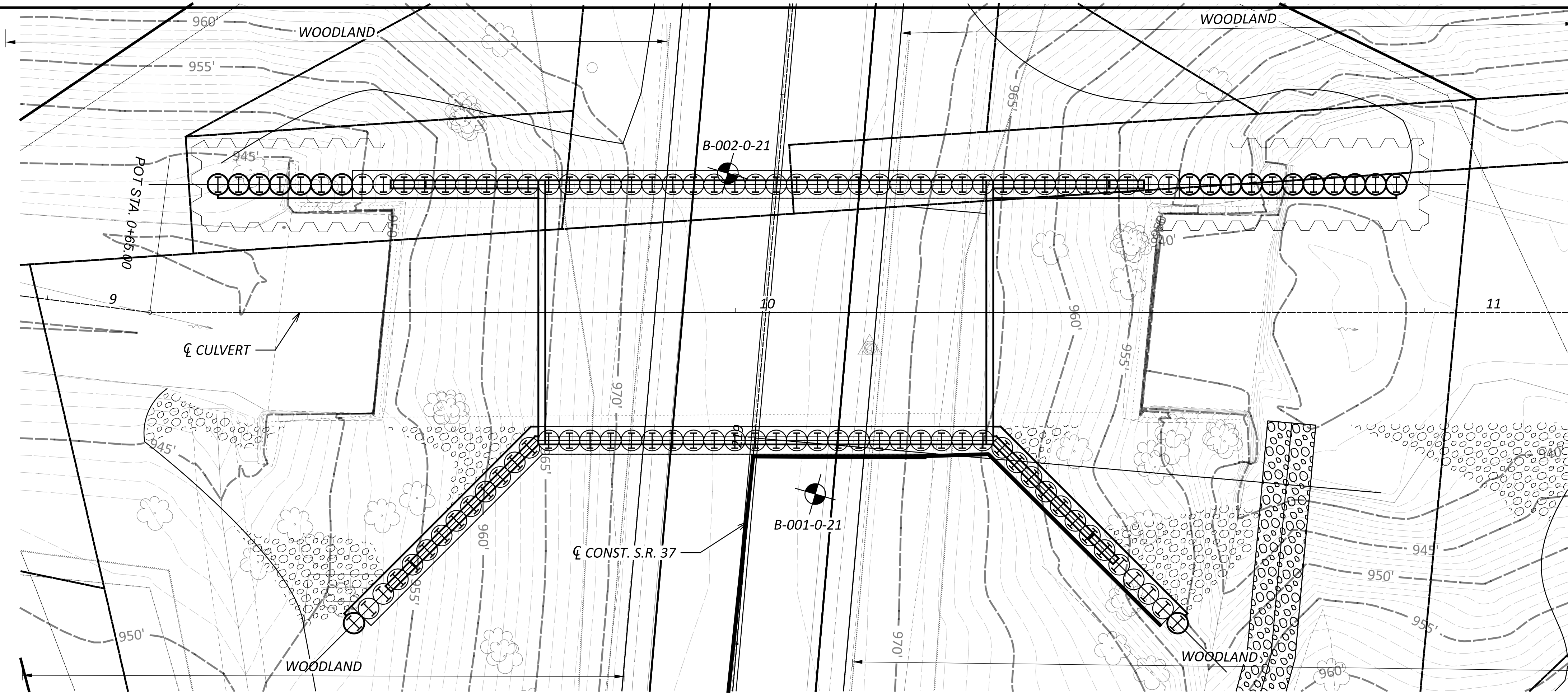
GEOTECHNICAL PROFILE - CULVERT
 BRIDGE NO. LIC-37-19.40 OVER RAMP CREEK

LIC-37-19.40

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 P:\OHDOT_v2\Works\104981\400-Engineering\Geotechnical\Sheets\104981_ZC001.dgn

DESIGN AGENCY
NEAS
 National Engineering & Architectural Services Inc.
 2800 CORPORATE EXCHANGE DR,
 SUITE 240
 COLUMBUS, OH,
 43231
 TEL: 614.714.0299
 WWW.NEASINC.COM

DESIGNER	AI
REVIEWER	CH
PROJECT ID	104981
SUBSET TOTAL	1 6
SHEET TOTAL	P.33 38



GEOTECHNICAL PROFILE - CULVERT
 BRIDGE NO. LIC-37-19.40 OVER RAMP CREEK

DESIGN AGENCY	
KEAS <small>Geotechnical Engineering & Construction Services, Inc.</small>	
DESIGNER	
DT	
REVIEWER	
CH 02-27-2024	
PROJECT ID	
104981	
SUBSET	TOTAL
2	6
SHEET	
P.34	TOTAL 38

LIC-37-19-40

MODEL: Sheet PAPER: 34x22 (in.) DATE: 2/27/2024 TIME: 1:22:01 PM USER: dtarawneh
 P:\OHDOT_v2\Works\104981\400-Engineering\Geotechnical\Sheets\104981_ZL001.dgn

PROJECT: LIC-37-19-40	DRILLING FIRM / OPERATOR: NEAS / J. HODGES	STATION / OFFSET: 218+93.9' RT.	EXPLORATION ID: B-001-0-21																
TYPE: CULVERT	SAMPLING FIRM / LOGGER: NEAS / J. HODGES	ALIGNMENT: SR-37																	
PID: SFN	DRILLING METHOD: 3.25" HSA	ELEVATION: 971.9 (MSL) EOB: 73.0 ft.	PAGE: 1 OF 2																
START: 6/11/21	SAMPLING METHOD: SPT	LAT / LONG: 40.017614, -82.524142																	
MATERIAL DESCRIPTION AND NOTES		GRADATION (%)	BACK FILL																
		GR CS FS SI CL LL PL PI WC	ODOT CLASS (GI)																
15.0" ASPHALT AND 6.0" BASE (DRILLERS DESCRIPTION)	ELEV. 971.9	DEPTHS																	
		1																	
		2	6	7	30	100	SS-1	4.50	28	9	16	30	17	26	18	8	12	A-4a (2)	
		3	3	9	26	44	SS-2	-	28	15	19	30	8	NP	NP	NP	10	A-4a (1)	
		4	9	10															
		5	3	5	12	89	SS-3	2.75	18	9	15	43	15	27	20	7	18	A-4a (5)	
		6																	
		7																	
		8	7	12	35	56	SS-4	-	-	-	-	-	-	-	-	-	-	11	A-1-b (V)
		9																	
		10																	
		11	4	7	19	100	SS-5	-	-	-	-	-	-	-	-	-	-	13	A-2-4 (V)
		12																	
		13	4	4	12	33	SS-6	-	-	-	-	-	-	-	-	-	-	13	A-2-4 (V)
		14																	
		15																	
		16	2	3	10	22	SS-7	-	-	-	-	-	-	-	-	-	-	12	A-2-4 (V)
17																			
VERY STIFF, BROWN AND DARK BROWN SILT AND CLAY, SOME SAND, TRACE TO SOME GRAVEL, DAMP	ELEV. 954.9	18	0	2	7	100	SS-8	3.00	3	10	17	45	25	29	18	11	17	A-6a (7)	
		19																	
		20																	
		21	0	2	10	100	SS-9	4.00	24	13	15	31	17	28	17	11	14	A-6a (3)	
		22																	
		23	4	5	16	100	SS-10	2.50	-	-	-	-	-	-	-	-	-	15	A-4a (V)
		24																	
		25	5	6	19	100	SS-11	2.50	21	13	21	32	13	25	18	7	16	A-4a (2)	
		26																	
		27																	
VERY STIFF TO HARD, GRAY, SANDY SILT, LITTLE CLAY, TRACE TO LITTLE GRAVEL, DAMP	ELEV. 942.4	28	2	2	8	100	SS-12	3.00	-	-	-	-	-	-	-	-	19	A-4a (V)	
		29																	
		30	2	6	19	100	SS-13	4.50	5	14	19	42	20	22	16	6	11	A-4a (5)	
		31																	
		32																	
		33	1	3	10	100	SS-14	2.50	-	-	-	-	-	-	-	-	-	12	A-4a (V)
		34																	
		35	2	4	12	100	SS-15	3.50	12	12	19	43	14	20	15	5	11	A-4a (4)	
		36																	
		37																	
MEDIUM DENSE, GRAY, COARSE AND FINE SAND SOME SILT, LITTLE GRAVEL, TRACE CLAY, DAMP	ELEV. 932.4	38	2	5	16	100	SS-16	4.00	-	-	-	-	-	-	-	-	12	A-4a (V)	
		39																	
		40	4	7	25	100	SS-17	-	-	-	-	-	-	-	-	-	-	10	A-3a (V)
		41																	
		42																	
		43	8	10	30	50	SS-18	4.50	18	14	20	33	15	21	15	6	10	A-4a (3)	
		44																	
		45	9	10	33	100	SS-19	4.25	-	-	-	-	-	-	-	-	-	11	A-4a (V)
		46																	
		47																	
DENSE, GRAY, STONE FRAGMENTS WITH SAND AND SILT, LITTLE CLAY, MOIST	ELEV. 919.9	48	8	11	34	100	SS-20	4.50	-	-	-	-	-	-	-	-	11	A-4a (V)	
		49																	
		50	5	11	31	100	SS-21	4.50	-	-	-	-	-	-	-	-	-	11	A-4a (V)
		51																	
		52																	
		53	10	14	44	100	SS-22	-	-	-	-	-	-	-	-	-	-	14	A-2-4 (V)
		54																	
		55	16	19	53	44	SS-23	-	-	-	-	-	-	-	-	-	-	13	A-1-b (V)
		56																	
		57																	
58																			
59																			

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 6/15/22 14:10 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2021\ARCHIVE\LIC-37-19-40\GINT FILES\LIC-37-19-40.GPJ

GEOTECHNICAL PROFILE - CULVERT
 BRIDGE NO. LIC-37-19.40 OVER RAMP CREEK
 BORING LOG B-001-0-21

DESIGN AGENCY
NEAS
 National Engineering & Architectural Services Inc.
 2800 CORPORATE EXCHANGE DR, SUITE 240 COLUMBUS, OH, 43231
 TEL: 614.714.0299 WWW.NEASINC.COM

DESIGNER: AI
 REVIEWER: CH 1-29-2024
 PROJECT ID: 104981
 SUBSET: 3 TOTAL: 6
 SHEET: P.35 TOTAL: 38

PID:	SFN:	PROJECT:	LIC-37-19.40	STATION / OFFSET:	218+93.9' RT.	START:	6/11/21				PG 2 OF 2	B-001-0-21				
							END:									
MATERIAL DESCRIPTION						GRADATION (%)				ATTERBERG		BACK FILL				
AND NOTES						GR	CS	FS	SI	CL	LL		PL	PI	WC	ODOT CLASS(GI)
MEDIUM DENSE TO VERY DENSE GRAY GRAVEL AND STONE FRAGMENTS WITH SAND TRACE SILT, TRACE CLAY, DAMP TO MOIST (continued)						REC (%)	SAMPLE ID	HP (tsf)								
DEPTHS						SPT/ RQD	N ₆₀									
61						11	31	100	SS-24	-	-	-	-	-	10	A-1-b (V)
62						12										
63																
64																
65																
66						11	63	33	SS-25	-	-	-	-	11	A-1-b (V)	
67						21	25									
68																
69																
70																
71						7	30	44	SS-26	-	-	-	-	11	A-1-b (V)	
72						9	13									
73						8	31	50	SS-27	-	-	-	-	13	A-1-b (V)	
EOB						10	13									
ELEV. 911.9																
ELEV. 898.9																

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 6/15/22 14:10 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2021 ARCHIVE\LIC-37-19.40\GINT FILES\LIC-37-19.40.GPJ

NOTES: GROUNDWATER ENCOUNTERED AT 40.0' DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; PUMPED 50 GAL. BENTONITE GROUT; SHOVELED SOIL CUTTINGS

DESIGN AGENCY
NEAS
 National Engineering & Architectural Services Inc.
 2800 CORPORATE EXCHANGE DR, SUITE 240, COLUMBUS, OH, 43231
 TEL: 614.714.0299
 WWW.NEASINC.COM

DESIGNER: AI
 REVIEWER: CH
 PROJECT ID: 104981
 SUBSET TOTAL: 4 6
 SHEET TOTAL: P.36 38

GEOTECHNICAL PROFILE - CULVERT
 BRIDGE NO. LIC-37-19.40 OVER RAMP CREEK
 BORING LOG B-001-0-21

PID:	SFN:	PROJECT:	LIC-37-19.40	STATION / OFFSET:	219+38, 7' LT.	START: 7/6/21			END: 7/7/21			PG 2 OF 2		B-002-0-21									
						GR	CS	FS	SI	CL	LL	PL	PI		WC	ODOT CLASS (G)	HOLE SEALED						
MATERIAL DESCRIPTION AND NOTES																							
VERY STIFF TO HARD, GRAY, SANDY SILT, LITTLE TO SOME CLAY, TRACE TO SOME GRAVEL, DAMP (continued)																							
				ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)			ATTERBERG									
				912.2							GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (G)	HOLE SEALED		
					61	11	36	67	SS-24	4.50	25	14	20	29	12	19	15	4	12	A-4a (1)			
					62	13																	
					63																		
					64																		
					65																		
					66	10	36	100	SS-25	3.00	9	11	18	41	21	22	15	7	12	A-4a (5)			
					67	14																	
					68																		
					69																		
					70																		
					71	8	39	100	SS-26	2.50	-	-	-	-	-	-	-	-	12	A-4a (V)			
					72	14																	
					73																		
					74																		
					75																		
					76	13	47	100	SS-27	4.50	-	-	-	-	-	-	-	-	12	A-4a (V)			
					77	19																	
					78																		
					79																		
					80	7	40	100	SS-28	4.50	-	-	-	-	-	-	-	-	11	A-4a (V)			
					81	15																	
				890.7	EOB																		

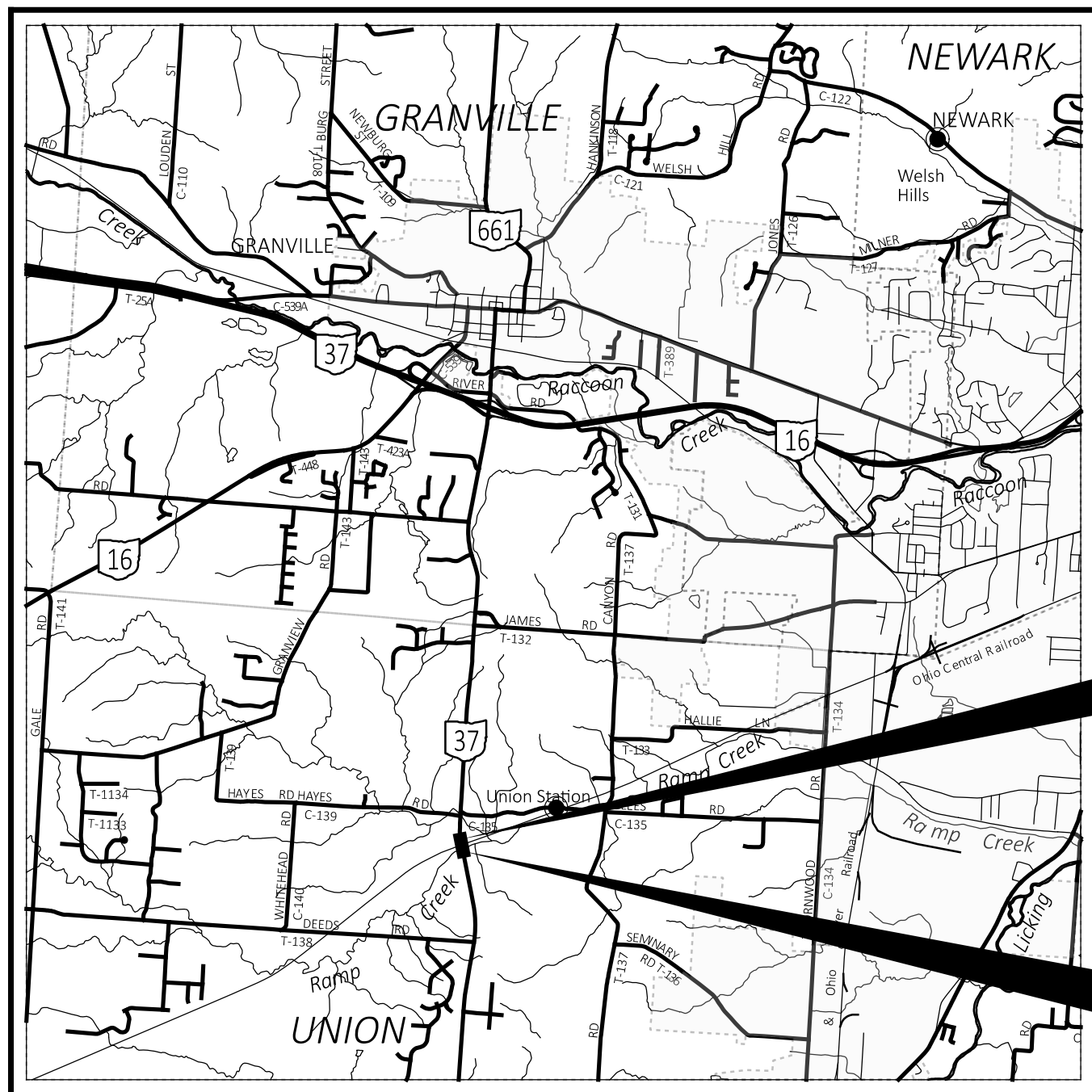
STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT.GDT - 6/15/22 14:10 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\ARCHIVE BY YEAR\2021 ARCHIVE\LIC-37-19.40\GINT FILES\LIC-37-19.40.GPJ

NOTES: GROUNDWATER ENCOUNTERED AT 17.5' DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH, PUMPED 175 GAL. BENTONITE GROUT



DESIGNER: AI
 REVIEWER: CH
 PROJECT ID: 104981
 SUBSET TOTAL: 6 / 6
 SHEET TOTAL: P.38 / 38

GEOTECHNICAL PROFILE - CULVERT
 BRIDGE NO. LIC-37-19.40 OVER RAMP CREEK
 BORING LOG B-002-0-21



LOCATION MAP

LATITUDE: 40°01'05" LONGITUDE: -82°31'27"

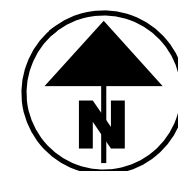


Table with 2 columns: Road Type and Symbol. Includes categories like PORTION TO BE IMPROVED, INTERSTATE HIGHWAY, FEDERAL ROUTES, STATE ROUTES, COUNTY & TOWNSHIP ROADS, and OTHER ROADS.

UTILITY OWNERS table with 4 columns: TYPE, NAME & ADDRESS, TYPE, NAME & ADDRESS. Lists owners for Electric, Cable, and Gas.

CONVENTIONAL SYMBOLS

Table of conventional symbols for various features including County Line, Township Line, Section Line, Corporation Line, Fence Line, Center Line, Right of Way, Standard Highway Easement, Temporary Right of Way, Channel Easement, Slope Easement, Utility Easement, Railroad, Guardrail, Construction Limits, Edge of Pavement, Edge of Shoulder, Ditch/Creek, Tree Line, Ownership Hook Symbol, Property Line Symbol, Break Line Symbol, Tree, Shrub, Evergreen, Stump, Wetland, Grass, Aerial Target, Post, Mailbox, Telephone Marker, Light, Fire Hydrant, Water Meter, Water Valve, Utility Valve, Telephone Pole, Power Pole, and Light Pole.

RIGHT OF WAY LEGEND SHEET LIC-S.R. 37-19.40

LICKING COUNTY UNION TOWNSHIP UNITED STATES MILITARY DISTRICT LOT 22, 2ND QTR., T. 1 N., R. 13 W.

INDEX OF SHEETS:

Table with 2 columns: Sheet Name and Sheet Number. Lists LEGEND SHEET (1), CENTERLINE PLAT (2), PROPERTY MAP (3), SUMMARY OF ADDITIONAL R/W (4), DETAIL SHEET (5-6), and RAILROAD PLAT (7).

STRUCTURE KEY

Table with 2 columns: Structure Type and Symbol. Includes RESIDENTIAL (white square), COMMERCIAL (grey square), and OUT-BUILDING (hatched square).

FEDERAL PROJECT NUMBER

E170 (955)

PROJECT DESCRIPTION

THIS PROJECT INCLUDES THE REPLACEMENT OF THE DEFICIENT STRUCTURE (SFN 4501837) OVER RAMP CREEK ON S.R. 37 SOUTH OF HAYES ROAD IN UNION TOWNSHIP.

THE EXISTING AND PROPOSED RIGHT OF WAY SHALL BE REFERENCED FROM THE CENTERLINE OF RIGHT OF WAY.

PLANS PREPARED BY:

FIRM NAME: CARPENTER MARTY TRANSPORTATION INC. R/W DESIGNER: LUCAS GUNKA, P.E., CHASE MEYERS R/W REVIEWER: MICHAEL D. WEEKS, P.E., P.S. FIELD REVIEWER: ADAM FLEENOR, MICHAEL WEEKS PRELIMINARY FIELD REVIEW DATE: 2/21/2023 TRACINGS FIELD REVIEW DATE: 9/14/2023 OWNERSHIP UPDATED BY: LUCAS GUNKA, P.E. DATE COMPLETED: 9/13/2023 PLAN COMPLETION DATE: 9/15/23 (FINAL)

TYPES OF TITLE LEGEND

SH = STANDARD HIGHWAY EASEMENT T = TEMPORARY EASEMENT U = UTILITY EASEMENT

UNDERGROUND UTILITIES Contact Two Working Days Before You Dig OHIO811.org Before You Dig OHIO811. 8-1-1. or 1-800-362-2764 (Non members must be called directly)

NOTES: THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE OBTAINED FROM THE OWNER OF THE UTILITIES AS REQUIRED BY SECTION 153.64 O.R.C. UTILITIES ARE SHOWN AS FOUND ON THESE SITES IN RESPONSE TO OHIO811 TICKETS #B112402066-00B DATED 05/04/2021 AND #B112402068-00B DATED 05/04/2021.

I, MICHAEL D. WEEKS, P.S., HAVE REVIEWED A SURVEY CONDUCTED OF THE EXISTING CONDITIONS FOR THE OHIO DEPARTMENT OF TRANSPORTATION IN MAY, 2021. THE RESULTS OF THAT SURVEY ARE CONTAINED HEREIN.

UNDERGROUND UTILITY LOCATIONS ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. THOUGH THEY ARE BELIEVED TO BE ACCURATE, THEIR LOCATION IS AS MARKED ON THE GROUND BY THE UTILITY COMPANY PER OHIO811 CONFIRMATION, THOSE MARKINGS SUBSEQUENTLY BEING SURVEYED AS A PART OF THIS PROJECT.

SEE THE SURVEY PARAMETERS NOTE AFFIXED TO THESE PLANS FOR THE HORIZONTAL AND VERTICAL SURVEY PARAMETERS USED FOR THIS PROJECT.

AS A PART OF THIS PROJECT I HAVE CONFIRMED THE REESTABLISHED LOCATIONS OF THE EXISTING PROPERTY LINES AND CENTERLINE OF EXISTING RIGHT OF WAY FOR PROPERTY TAKES CONTAINED HEREIN. AS A PART OF THIS PROJECT I HAVE ESTABLISHED THE PROPOSED PROPERTY LINES, CALCULATED THE GROSS TAKE, PRESENT ROAD OCCUPIED, NET TAKE AND NET RESIDUE; AS WELL AS PREPARED THE LEGAL DESCRIPTIONS NECESSARY TO ACQUIRE THE PARCELS SHOWN HEREIN. AS A PART OF THIS WORK I HAVE SET RIGHT OF WAY MONUMENTS AT PROPERTY CORNERS, PROPERTY LINE INTERSECTIONS, AND ANGLE POINTS ON THE RIGHT OF WAY AS SHOWN HEREIN.

ALL OF MY WORK CONTAINED HEREIN WAS CONDUCTED IN ACCORDANCE WITH THE OHIO ADMINISTRATIVE CODE CHAPTER 4733-37 STANDARDS FOR BOUNDARY SURVEYS, UNLESS NOTED OTHERWISE. THE WORDS "I" AND "MY" AS USED HEREIN ARE TO MEAN THAT EITHER MYSELF OR SOMEONE WORKING UNDER MY DIRECT SUPERVISION, OR THE DIRECT SUPERVISION OF THE OHIO DEPARTMENT OF TRANSPORTATION.

SURVEYOR'S SEAL CARPENTER MARTY TRANSPORTATION MICHAEL D. WEEKS S-7357 REGISTERED PROFESSIONAL SURVEYOR

Table with 2 columns: Role and Name. Includes DESIGN AGENCY (CARPENTER MARTY TRANSPORTATION), DESIGNER (LWG, CFM), REVIEWER (MDW 09/15/23), PROJECT ID (104981), SUBSET (RW.1), and TOTAL (RW.7).

BASIS OF EX. ζ OF R/W AND R/W WIDTH:
 THE CENTERLINE OF RIGHT OF WAY AND RIGHT OF WAY LIMITS WERE
 ESTABLISHED BY USING THE FOLLOWING:
 -CENTER LINE PLAT LIC-37-19.18

OTHER REFERENCES:
 -THE BALTIMORE AND OHIO RAILROAD COMPANY AND
 THE PHILADELPHIA BALTIMORE AND WASHINGTON RAILROAD COMPANY
 RIGHT OF WAY AND TRACK MAP
 -PLAT OF SURVEY ROCK SPRING FARM
 -PLAT OF SURVEY ROCK SPRING FARM REPLAT LOT 3
 -PLAT OF SURVEY ROCK SPRING FARM REPLAT TO ESTABLISH LOTS 1-A & 2-A
 -DEED AND PLAT OF SURVEY KSP INFRA USA LLC INST. NO. 202205260013166
 -SURVEY OF 12.070 ACRES BY JOBES HENDERSON & ASSOCIATES INC.
 DATED 03/07/1997
 -SURVEY OF 1.58 ACRES BY BRYAN D. THOMAS, ESQ. DATED 08/29/2022

SETTING OF ALL MONUMENTS SHALL BE PERFORMED BY A SURVEYOR REGISTERED
 IN THE STATE OF OHIO. THE MONUMENT ASSEMBLIES AND REFERENCE MONUMENTS
 WILL BE INSTALLED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION.
 THE IRON PIN AND CAP (WHEN REQUIRED) ARE TO BE INSTALLED BY THE
 CONTRACTOR'S SURVEYOR.

CHANGES OR ALTERATIONS TO THE LOCATION OF ANY MONUMENTS SHOWN
 IN THIS TABLE, REQUIRE PRIOR APPROVAL FROM THE DISTRICT REAL ESTATE
 ADMINISTRATOR OF THE OHIO DEPARTMENT OF TRANSPORTATION. IN THE EVENT
 THAT CHANGES OR ALTERATIONS ARE APPROVED, A REVISED CENTERLINE PLAT
 WITH THE NEW LOCATIONS SHALL BE RECORDED IN THE APPLICABLE COUNTY
 RECORDS AND THE OHIO DEPARTMENT OF TRANSPORTATION. SPECIFICATIONS
 FOR MONUMENT ASSEMBLIES, REFERENCE MONUMENTS AND RIGHT OF WAY
 MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1.

SURVEYING PARAMETERS

THE FOLLOWING VERTICAL POSITIONING, AND HORIZONTAL
 POSITIONING PARAMETERS WERE USED FOR ALL SURVEYING ON
 THIS PROJECT:

POSITIONING METHOD: ODOT REAL TIME NETWORK (RTN)
 MONUMENT TYPE: ODOT TYPE "B"

VERTICAL POSITIONING -
 ORTHOMETRIC HEIGHT DATUM: NAVD 88
 GEOID: 12A

HORIZONTAL POSITIONING -
 REFERENCE FRAME: NAD 83 (2011)
 ELLIPSOID: GRS 80
 COORDINATE SYSTEM: OHIO STATE PLANE, SOUTH OHIO
 PROJECT SCALE FACTOR: 1.00000000 (PRJ. IS IN GRID COORDINATES)
 ORIGIN OF COORDINATE
 SYSTEM 0,0
 UNITS ARE IN U.S. SURVEY FEET

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE
 ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY
 PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION
 ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN
 ACCORDANCE WITH CMS. 623.

CENTERLINE PLAT

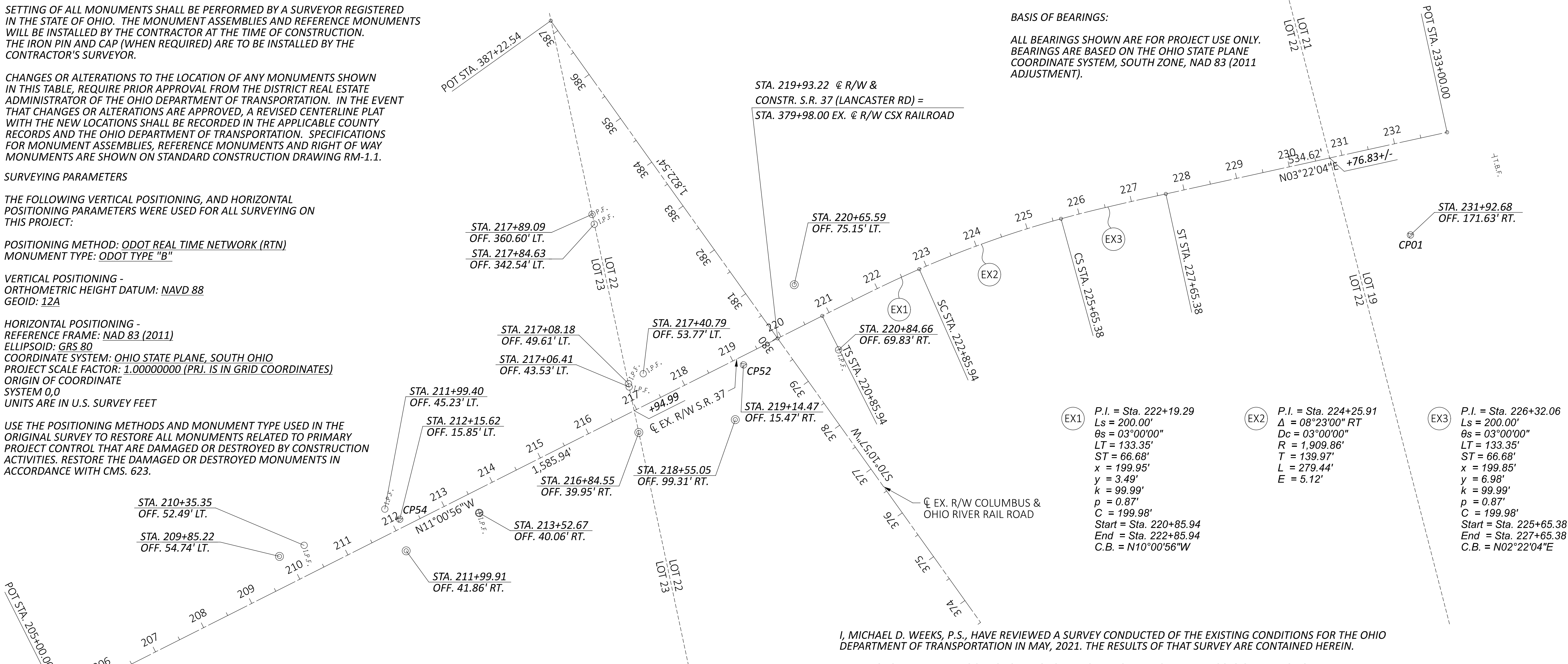
LIC-S.R. 37-19.40
 LICKING COUNTY
 UNION TOWNSHIP
 UNITED STATES MILITARY DISTRICT
 LOT22, 2ND QTR., T. 1 N., R. 13 W.

MONUMENT LEGEND

- ☐ EXISTING R/W MONUMENT BOX
- ⊙ EXISTING CONCRETE MONUMENT
- ⊙ RAILROAD SPIKE FOUND
- I.P.F. IRON PIN FOUND
- ⊙ I.P.F. IRON PIN FOUND W/ ID CAP
- I.R.S. IRON PIN SET W/ ID CAP
- ⊙ ODOT TYPE "B" PROJECT CONTROL

BASIS OF BEARINGS:

ALL BEARINGS SHOWN ARE FOR PROJECT USE ONLY.
 BEARINGS ARE BASED ON THE OHIO STATE PLANE
 COORDINATE SYSTEM, SOUTH ZONE, NAD 83 (2011
 ADJUSTMENT).



EX1 P.I. = Sta. 222+19.29
 Ls = 200.00'
 $\theta_s = 03^{\circ}00'00''$
 LT = 133.35'
 ST = 66.68'
 x = 199.95'
 y = 3.49'
 k = 99.99'
 p = 0.87'
 C = 199.98'
 Start = Sta. 220+85.94
 End = Sta. 222+85.94
 C.B. = N10°00'56"W

EX2 P.I. = Sta. 224+25.91
 $\Delta = 08^{\circ}23'00''$ RT
 Dc = 03°00'00"
 R = 1,909.86'
 T = 139.97'
 L = 279.44'
 E = 5.12'

EX3 P.I. = Sta. 226+32.06
 Ls = 200.00'
 $\theta_s = 03^{\circ}00'00''$
 LT = 133.35'
 ST = 66.68'
 x = 199.85'
 y = 6.98'
 k = 99.99'
 p = 0.87'
 C = 199.98'
 Start = Sta. 225+65.38
 End = Sta. 227+65.38
 C.B. = N02°22'04"E

I, MICHAEL D. WEEKS, P.S., HAVE REVIEWED A SURVEY CONDUCTED OF THE EXISTING CONDITIONS FOR THE OHIO DEPARTMENT OF TRANSPORTATION IN MAY, 2021. THE RESULTS OF THAT SURVEY ARE CONTAINED HEREIN.

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SEE THE SURVEY PARAMETERS NOTE AFFIXED TO THESE PLANS FOR THE HORIZONTAL AND VERTICAL SURVEY PARAMETERS USED FOR THIS PROJECT.

AS A PART OF THIS PROJECT I HAVE CONFIRMED THE REESTABLISHED LOCATIONS OF THE EXISTING PROPERTY LINES AND CENTERLINE OF EXISTING RIGHT OF WAY FOR PROPERTY TAKES CONTAINED HEREIN. AS A PART OF THIS PROJECT I HAVE ESTABLISHED THE PROPOSED PROPERTY LINES, CALCULATED THE GROSS TAKE, PRESENT ROAD OCCUPIED, NET TAKE AND NET RESIDUE; AS WELL AS PREPARED THE LEGAL DESCRIPTIONS NECESSARY TO ACQUIRE THE PARCELS SHOWN HEREIN. AS A PART OF THIS WORK I HAVE SET RIGHT OF WAY MONUMENTS AT PROPERTY CORNERS, PROPERTY LINE INTERSECTIONS, AND ANGLE POINTS ON THE RIGHT OF WAY AS SHOWN HEREIN.

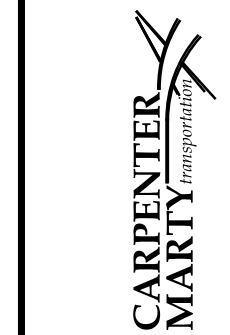
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CENTERLINE & MONUMENT COORDINATE TABLE

STATION OFFSET (FROM ζ R/W)		PROJECT COORDINATES (GRID)		MONUMENT DESCRIPTION		MONUMENTS TO BE SET DURING CONSTRUCTION		R/W MON. EXPECTED TO BE DISTURBED
STATION	OFFSET	NORTHING	EASTING	PT.#	DESCRIPTION	MON. ASSY. (623 TYPE C)	REF. MON. (623 TYPE A)	R/W MON. (623 TYPE B)
CENTERLINE OF R/W - C.R. 81								
209+85.22	54.74' LT	733967.574	1961848.653	CLX100	CONC. MONUMENT			
211+99.91	41.86' RT	734196.770	1961902.448	CLX101	CONC. MONUMENT			
216+84.54	39.95' RT	734672.106	1961807.949	CLX102	CONC. MONUMENT			
218+55.05	99.31' RT	734850.822	1961833.663	CLX103	CONC. MONUMENT			
220+65.59	75.15' LT	735024.142	1961622.184	CLX104	CONC. MONUMENT			
HORIZONTAL CONTROL MONUMENTS								
212+15.62	15.85' LT	734201.160	1961842.806	CP54	ODOT TYPE "B" PROJECT CONTROL			
219+14.47	15.47' RT	734893.121	1961740.013	CP52	ODOT TYPE "B" PROJECT CONTROL			
231+92.68	171.63' RT	736150.261	1961843.362	CP01	ODOT TYPE "B" PROJECT CONTROL			
QUANTITY CARRIED TO GENERAL SUMMARY								

RECEIVED _____, 20____
 RECORDED _____, 20____
 BOOK _____ PAGE _____
 COUNTY RECORDER

DESIGN AGENCY



DESIGNER

CFM

REVIEWER

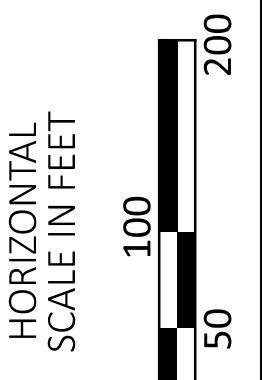
MDW 09/15/23

PROJECT ID

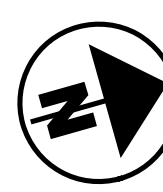
104981

SUBSET TOTAL

RW.2 RW.7



LIC-S.R. 37-19.40
 CENTERLINE PLAT



TOTAL NUMBER OF :

4 OWNERSHIPS 0 TOTAL TAKES
 6 PARCELS 0 OWNERSHIPS W/ STRUCTURES INVOLVED

RECORD AREA - TOTAL PRO - NET TAKE = NET RESIDUE
 GROSS TAKE - PRO IN TAKE = NET TAKE
 ALL AREAS IN ACRES

GRANTEE:

ALL RIGHT OF WAY ACQUIRED IN THE NAME OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION.

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE		REMARKS
											LEFT	RIGHT	
1	TIMOTHY PAUL ALLEN AND CHRISTINE LYNN ALLEN	5	I.N. 202106030016792	071-326694-00.001	11.000	0.738	0.000	0.000	0.000				NO TAKE, LOT 1-A
2-SH	MATT SHARP AND PAMELA QUIGLEY	5	I.N. 202009210024651 I.N. 202105110014070	071-326028-00.000	15.024	0.746	0.132	0.000	0.132			14.146	LOT 3B, AUDITOR'S RECORD AREA = 15.428; SEE SHEET 5 FOR OVERLAP TABLE
3-SH	MCKENZIE WORKMAN	5	I.N. 202208290021124	071-326736-00.000	1.580	0.381	0.098	0.000	0.098			1.101	140 L.F. 4' BARBED WIRE FENCE (113 L.F. ENCROACHMENT); SEE SHEET 5 FOR OVERLAP TABLE
4-T1	THE COLUMBUS AND OHIO RIVER RAIL ROAD COMPANY, AN OHIO CORPORATION	5, 7	I.N. 200603210007847	N/A	N/A	0.193	0.019	0.000	0.019				CONSTRUCT BRIDGE AND GRADE, P.R.O. FOR PROJECT AREA ONLY, 1 TREE
4-T2	"	5, 7	"	"	N/A	0.193	0.041	0.000	0.041				CONSTRUCT BRIDGE AND GRADE, P.R.O. FOR PROJECT AREA ONLY, 2 TREES
				TOTAL:			0.060		0.060				
5-U	KSP INFRA USA LLC, A TEXAS LIMITED LIABILITY COMPANY	5	I.N. 202205260013166	071-326400-00.000	111.454	2.784	0.023	0.000	0.023				COLUMBIA GAS OF OHIO - GAS LINE AND FACILITIES
5-T	"	5, 6	"	"	"	"	0.126	0.000	0.126				UTILITY RELOCATION CONSTRUCTION; 156' WIRE FENCE ENCROACHMENT

SUMMARY OF ADDITIONAL RIGHT-OF-WAY

LIC-S.R. 37-19-40

MODEL: Sheet PAPER: 34x22 (in.) DATE: 7/1/2024 TIME: 3:37:30 PM USER: bachel
 P:\ODT\05\001_1_LIC-37-19-40\104981\400-Engineering\RW_Sheets\104981_RS001.dgn


TYPES OF TITLE LEGEND
 SH = STANDARD HIGHWAY EASEMENT
 T = TEMPORARY EASEMENT
 U = UTILITY EASEMENT

NOTE: ALL TEMPORARY PARCELS TO BE OF 12 MONTH DURATION.

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

REV. BY	DATE	DESCRIPTION
FIELD REVIEW BY	MDW	DATE: 9/14/2023
OWNERSHIP VERIFIED BY	LWG	DATE: 9/13/2023
DATE COMPLETED	9/15/2023	

DESIGN AGENCY



DESIGNER
LWG, CFM

REVIEWER
MDW 09/15/23

PROJECT ID
104981

SUBSET TOTAL
RW.4 | RW.7

NOTE: THE RAILROAD STATIONING IS FROM THE FOLLOWING RAILROAD VALUATION MAP NO. V.128.1/4:

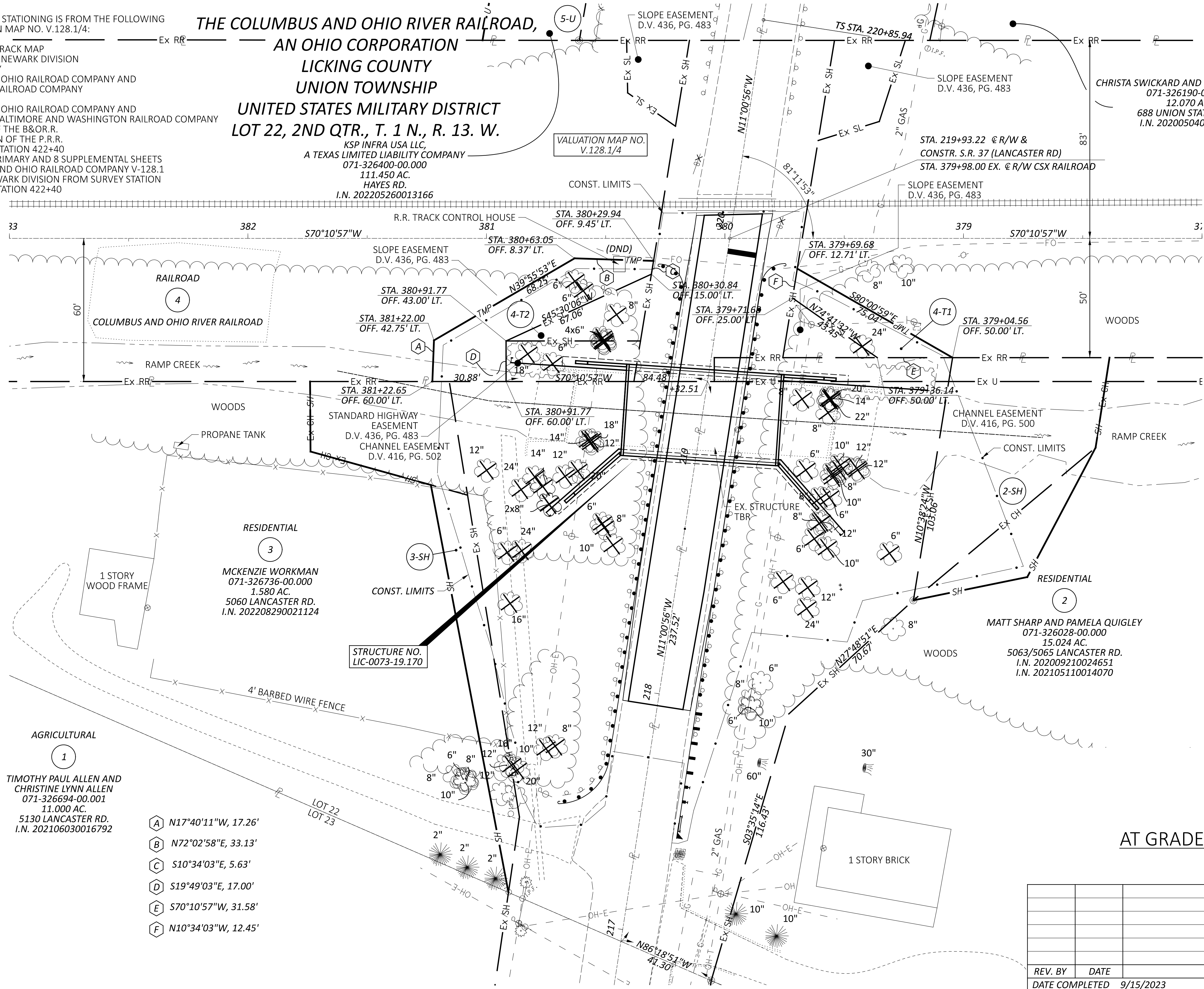
RIGHT OF WAY AND TRACK MAP
THE COLUMBUS AND NEWARK DIVISION
OPERATED JOINTLY BY
THE BALTIMORE AND OHIO RAILROAD COMPANY AND
THE PENNSYLVANIA RAILROAD COMPANY
OWNED JOINTLY BY
THE BALTIMORE AND OHIO RAILROAD COMPANY AND
THE PHILADELPHIA, BALTIMORE AND WASHINGTON RAILROAD COMPANY
NEWARK DIVISION OF THE B&O.R.
PITTSBURGH DIVISION OF THE P.R.R.
STATION 316+80 TO STATION 422+40
SHEET NO. 4 OF 17 PRIMARY AND 8 SUPPLEMENTAL SHEETS
OF THE BALTIMORE AND OHIO RAILROAD COMPANY V-128.1
COLUMBUS AND NEWARK DIVISION FROM SURVEY STATION
316+80 TO SURVEY STATION 422+40

THE COLUMBUS AND OHIO RIVER RAILROAD,
AN OHIO CORPORATION
LICKING COUNTY
UNION TOWNSHIP
UNITED STATES MILITARY DISTRICT
LOT 22, 2ND QTR., T. 1 N., R. 13. W.

KSP INFRA USA LLC,
A TEXAS LIMITED LIABILITY COMPANY
071-326400-00.000
111.450 AC.
HAYES RD.
I.N. 202205260013166

VALUATION MAP NO.
V.128.1/4

CONST. LIMITS



LIC-37-19.40

MODEL: Sheet PAPER SIZE: 34x22 (in.) DATE: 7/1/2024 TIME: 3:37:36 PM USER: backel
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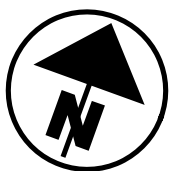
AGRICULTURAL
1
TIMOTHY PAUL ALLEN AND
CHRISTINE LYNN ALLEN
071-326694-00.001
11.000 AC.
5130 LANCASTER RD.
I.N. 202106030016792

- A N17°40'11\"W, 17.26'
- B N72°02'58\"E, 33.13'
- C S10°34'03\"E, 5.63'
- D S19°49'03\"E, 17.00'
- E S70°10'57\"W, 31.58'
- F N10°34'03\"W, 12.45'

AT GRADE CROSSING

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 9/15/2023



HORIZONTAL
SCALE IN FEET
0 20 40

RAILROAD PLAT

DESIGN AGENCY	CARPENTER MARTY
DESIGNER	CFM
REVIEWER	MDW 09/15/23
PROJECT ID	104981
SUBSET TOTAL	RW.7 RW.7