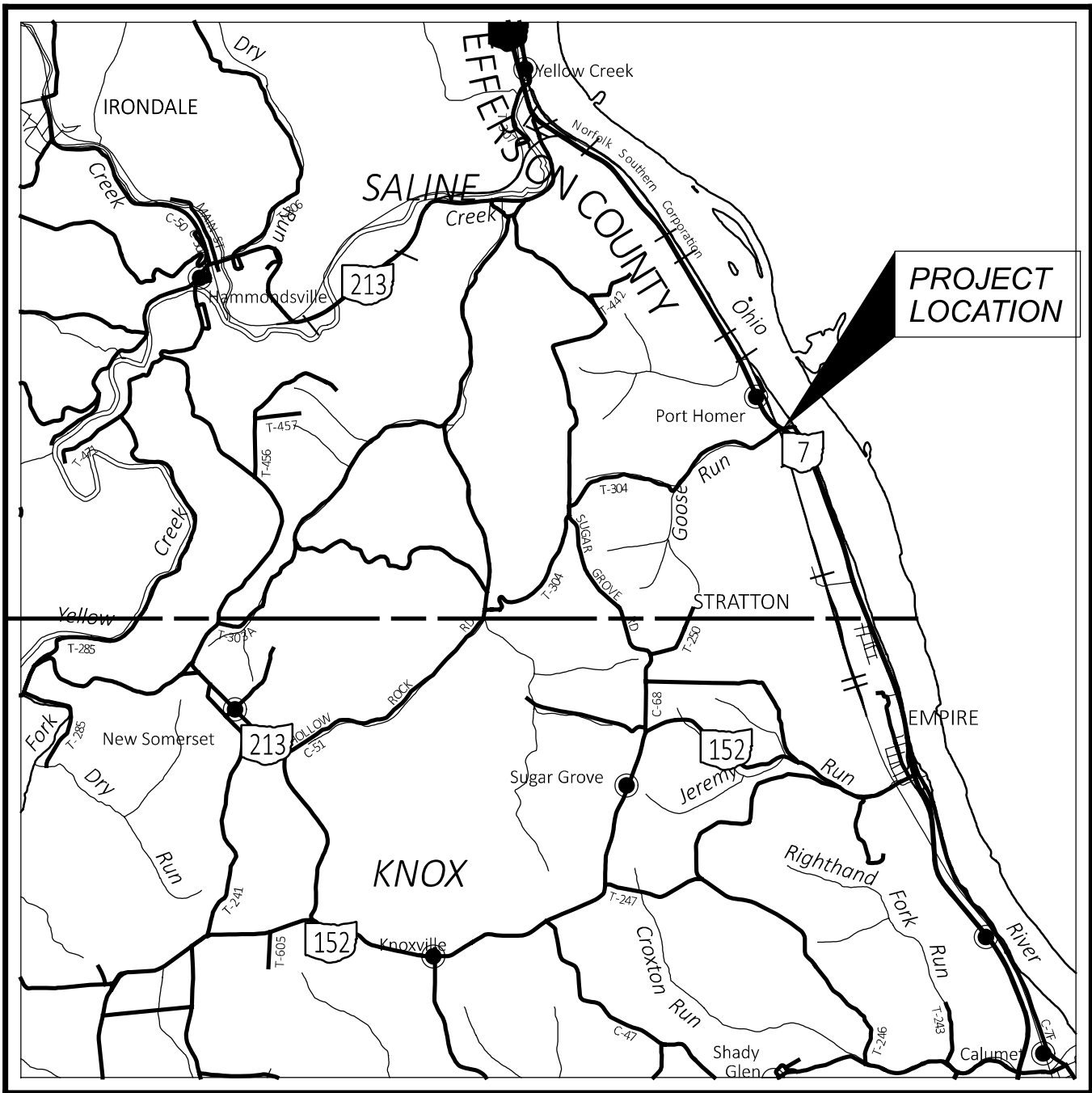




LOCATION MAP

LATITUDE: 40 °32'25" LONGITUDE: 80 °38'10"



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

DESIGN DESIGNATION

CURRENT ADT (2026)	8,800
DESIGN YEAR ADT (2046)	10,500
DESIGN HOURLY VOLUME (2046)	950
DIRECTIONAL DISTRIBUTION	56%
TRUCKS (24 HOUR B&C)	24%
DESIGN SPEED	60 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION	PRINCIPAL ARTERIAL
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE REQUIRED

ADA DESIGN WAIVERS

NONE REQUIRED

UNDERGROUND UTILITIES

Contact Two Working Days Before You Dig



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

PLAN PREPARED BY:
MOTT MACDONALD
20445 EMERALD PARKWAY, SUITE 100, CLEVELAND, OHIO 44135
PHONE: (216) 335-3640 FAX: (216) 265-2816

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

JEF-007-30.92

SALINE TOWNSHIP
JEFFERSON COUNTY

INDEX OF SHEETS:

TITLE SHEET	P.01
SCHEMATIC PLAN	P.02
GENERAL NOTES	P.03-P.04
MAINTENANCE OF TRAFFIC NOTES	P.05-P.06
GENERAL SUMMARY	P.07
STRUCTURES (OVER 20 FOOT SPAN)	P.08-P.19
SFN 4101561	
HISTORIC GEOTECHNICAL PROFILE-BRIDGE	P.20-P.25

FEDERAL PROJECT NUMBER

E200(088)

RAILROAD INVOLVEMENT

NO

PROJECT DESCRIPTION

COMPLETE RECONSTRUCTION OF STRUCTURE SFN 4101561
CARRYING STATE ROUTE 7.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	0.2 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.6 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A (NOI NOT REQUIRED)

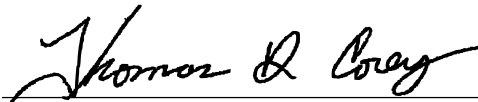
LIMITED ACCESS

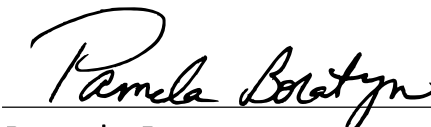
THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2023 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT THE PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH IN THE MOT NOTES.


Thomas D. Corey
District 11 Deputy Director


Pamela Boratyn
Director, Department of Transportation

ENGINEER'S SEAL

FOR ENTIRE PLAN EXCEPT STRUCTURES OVER 20'



ENGINEER'S SEAL

FOR STRUCTURES OVER 20' (SFN 4101561)



STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	1/19/24	TC-41.20	10/18/13			800-2023 1/17/25	LOW DENSITY CELLULAR CONCRETE FILL 12/27/2024
BP-3.2	1/18/19	TC-42.20	10/18/13			832 7/19/24	
		TC-52.10	10/18/13			821 4/20/12	
DM-4.3	1/15/16	TC-52.20	1/15/21			921 7/19/24	
DM-4.4	1/15/16						
F-1.1	7/19/13						
F-3.1	7/19/13						
F-3.2	7/18/14						
F-3.3	7/19/13						
F-3.4	7/19/13						
MT-95.30	7/19/19						
MT-97.10	4/19/19						
MT-99.30	1/17/20						
MT-103.10	1/21/22						

DESIGN AGENCY



20445 EMERALD PKWY
SUITE 100
CLEVELAND, OH 44135

DESIGNER

SMS

REVIEWER

SJP 04/11/25

PROJECT ID

110889

SHEET

P.01

TOTAL

25

SHEET NUM.						PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P.03	P.04	P.05	P.06		P.13	01/NHS						
LS						LS	201	11000	LS		ROADWAY	
											CLEARING AND GRUBBING	
						5,000	832	30000	5,000	EACH	EROSION CONTROL	
											ENVIRONMENTAL / REMEDIATION	
LS	40					LS	SPECIAL	69098400	LS		WORK INVOLVING ASBESTOS CONTAINING MATERIALS	P.03
						40	SPECIAL	69098800	40	TON	SPECIAL - SOLID WASTE	P.04
											STRUCTURE OVER 20 FOOT SPAN (SFN 4101561)	
					769	769	SPECIAL	20302000	769	CY	ENGINEERED FILL, LOW DENSITY CELLULAR CONCRETE FILL	P.10
					294	294	503	21100	294	CY	UNCLASSIFIED EXCAVATION	
					14,454	14,454	509	10000	14,454	LB	EPOXY COATED STEEL REINFORCEMENT	
					112	112	509	40000	112	LB	CONCRETE REINFORCEMENT, MISC.:GALVANIZED DEFORMED WELDED WIRE REINFORCEMENT	P.11
					1,420	1,420	510	10000	1,420	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
					205	205	511	50213	205	CY	CLASS QC1 CONCRETE WITH QC/QA, SUBSTRUCTURE, AS PER PLAN	P.11
					1,509	1,509	518	20000	1,509	SY	PREFABRICATED GEOCOMPOSITE DRAIN	
					610	610	518	39801	610	FT	4" PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN	P.11
					20	20	518	39900	20	FT	4" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
					305	305	522	12201	305	FT	STRUCTURAL PLATE CORRUGATED METAL STRUCTURE, AS PER PLAN (28'-1" SPAN, 6'-3" RISE)	P.11
											MAINTENANCE OF TRAFFIC	
			50			50	614	11110	50	HOURL	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		30				30	614	13000	30	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
		16				16	614	18601	16	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	P.05
			10			10	616	10000	10	MGAL	WATER	
			0.5			0.5	616	20000	0.5	TON	CALCIUM CHLORIDE	
											INCIDENTALS	
		LS				LS	614	11001	LS		MAINTAINING TRAFFIC, AS PER PLAN	P.05
						8	619	16010	8	MNTH	FIELD OFFICE, TYPE B	
						LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
						LS	624	10001	LS		MOBILIZATION, AS PER PLAN	P.03

GENERAL SUMMARY

DESIGN AGENCY

M

M

MOTT
MACDONALD

20445 EMERALD PKWY
SUITE 100
CLEVELAND, OH 44135

DESIGNER

SMS

REVIEWER

SJP 04/11/25

PROJECT ID

110889

SHEET

P.07

TOTAL

25

ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, SUBSTRUCTURE, AS PER PLAN:

THIS WORK SHALL INCLUDE SURFACE PREPARATION OF EXISTING CONCRETE SURFACES AGAINST WHICH THIS CONCRETE SHALL BE PLACED.

REMOVE SOIL, DUST FROM THE DOWEL HOLES, OR OTHER MATERIAL FROM THE EXISTING CONCRETE WITH COMPRESSED AIR, BRUSHES, OR OTHER METHODS THAT DO NOT DAMAGE THE SURFACE.

APPLY A FINAL WATER WASH TO THE SURFACE LEAVING IT SATURATED SURFACE DRY PRIOR TO PLACING CONCRETE.

ITEM 509 - CONCRETE REINFORCING, MISC.: GALVANIZED DEFORMED WELDED WIRE REINFORCEMENT:

PROVIDE AND INSTALL GALVANIZED DEFORMED WELDED WIRE REINFORCEMENT (WWR) AS SHOWN IN THE PLANS AND HEREIN SPECIFIED.

IN ADDITION TO THE REQUIREMENTS OF CMS 509, THIS ITEM SHALL BE IN ACCORDANCE WITH:
WRI - MANUAL OF STANDARD PRACTICE
CRSI - MANUAL OF STANDARD PRACTICE

PROVIDE WWR IN SHEETS NOT ROLLS.

SAW CUTTING WWR IN THE FIELD IS PERMITTED. FLAME CUTTING IS NOT.

PAYMENT FOR ACCEPTED QUANTITIES OF THE WORK DESCRIBED HEREIN, COMPLETE IN PLACE, SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR THIS ITEM. THIS SHALL INCLUDE ALL ITEMS NEEDED TO COMPLETE THIS ITEM OF WORK AS DESCRIBED, AND TO THE SATISFACTION OF THE ENGINEER.

ITEM 518 4" PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN:

THIS WORK SHALL INCLUDE FURNISHING AND INSTALLING GEOTEXTILE FABRIC-WRAPPED PERFORATED CORRUGATED PLASTIC PIPE, DRAINAGE STONE, LSM CAP, AND ANY OTHER APPURTENANCES NEEDED TO COMPLETE THE WORK AS SHOWN IN THE PLANS AND HEREIN SPECIFIED.

MATERIALS:

IN ADDITION TO THE REQUIREMENTS OF CMS 518, FABRIC WRAP FOR THE PIPE SHALL BE WOVEN AND SUPPLIED WITH THE PIPE AS AN INTEGRAL UNIT.

DRAINAGE STONE TO BE #57 CRUSHED STONE OR RECYCLED CONCRETE PER CMS 703. NO SLAG OR RECYCLED ASPHALT WILL BE ACCEPTED.

FITTINGS TO SECURE PIPE TO CONCRETE SURFACES TO BE 316 STAINLESS STRAPS 0.06"x ½" MINIMUM SECURED WITH POWDER ACTUATED FASTENERS OF THE SAME MATERIAL.

EXECUTION:

STONE TO BE PLACED LOOSELY ABOVE THE PIPE TO THE HEIGHT SHOWN.

MEASUREMENT AND PAYMENT:

PAYMENT FOR ACCEPTED QUANTITIES OF THE WORK DESCRIBED HEREIN, COMPLETE IN PLACE, SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR THIS ITEM. THIS SHALL INCLUDE ALL TOOLS, LABOR, MATERIALS, EQUIPMENT, POWER, AND DISPOSAL NECESSARY TO COMPLETE THIS ITEM OF WORK AS DESCRIBED, AND TO THE SATISFACTION OF THE ENGINEER.

ITEM 522 STRUCTURAL PLATE CORRUGATED METAL STRUCTURE, AS PER PLAN (28'-1"SPAN, 6'-3"RISE):

DESCRIPTION:

THIS WORK SHALL INCLUDE DESIGNING, LOAD RATING, FURNISHING, AND INSTALLING ENGINEERED CORRUGATED METAL PLATE ARCH STRUCTURE, SUPPORTING BEARING ANGLES OR CHANNELS, AND ANY OTHER APPURTENANCES NEEDED TO COMPLETE THE WORK AS SHOWN IN THE PLANS AND HEREIN SPECIFIED.

REFERENCES:

OHIO DOT, BRIDGE DESIGN MANUAL, 2020.

ANY STANDARDS INCORPORATED BY REFERENCE BY THE STANDARDS REFERENCED HEREIN ARE INCORPORATED BY REFERENCE INTO THIS ITEM, ET CETERA.

SUBMITTALS:

IN ADDITION TO THE PROVISIONS OF C&MS 501, PROVIDE SUBMITTALS FOR THE FOLLOWING:

- STRUCTURAL PLATE LAYOUT PLANS IF REQUIRED HEREIN.
- DESIGN CALCULATIONS SEALED BY TWO QUALIFIED PROFESSIONAL ENGINEERS LICENSED IN THE STATE OF OHIO.
- LOAD RATING REPORT: CONTRACTOR OR SUPPLIER SHALL PROVIDE THE LOAD RATING REPORT (BR-100) IN ACCORDANCE WITH ODOT BRIDGE DESIGN MANUAL, SECTION 900. THE INVENTORY RATING FACTOR SHALL BE MORE THAN 1.500. THE CONTROLLING LEGAL LOAD RATING FACTOR SHALL BE EQUAL TO OR GREATER THAN 1.50 (150%).

EXECUTION:

DESIGN PARAMETERS ARE:

PARAMETER	VALUE
SPAN:	28'-1"
RISE:	6'-3"
LIVE LOADING:	AASHTO HL-93
FILL HEIGHT:	VARIES FROM 4' TO 13'
SUPPORTING AND OVERBURDEN SOIL:	γ= 120 PCF Φ=30°

THE PLANS ARE BASED UPON THE DIMENSIONS ABOVE. CONTRACTOR SHALL ADVISE THE ENGINEER IF THE RISE INDICATED ABOVE REQUIRES REVISION.

PREPARE LAYOUT PLANS OF THE STRUCTURAL PLATE SECTIONS IF THE THICKNESS PROVIDED WILL VARY ALONG THE LENGTH OF THE STRUCTURE. THE LAYOUT SHALL COORDINATE WITH THE STRUCTURE BASELINE SHOWN IN THE PLANS.

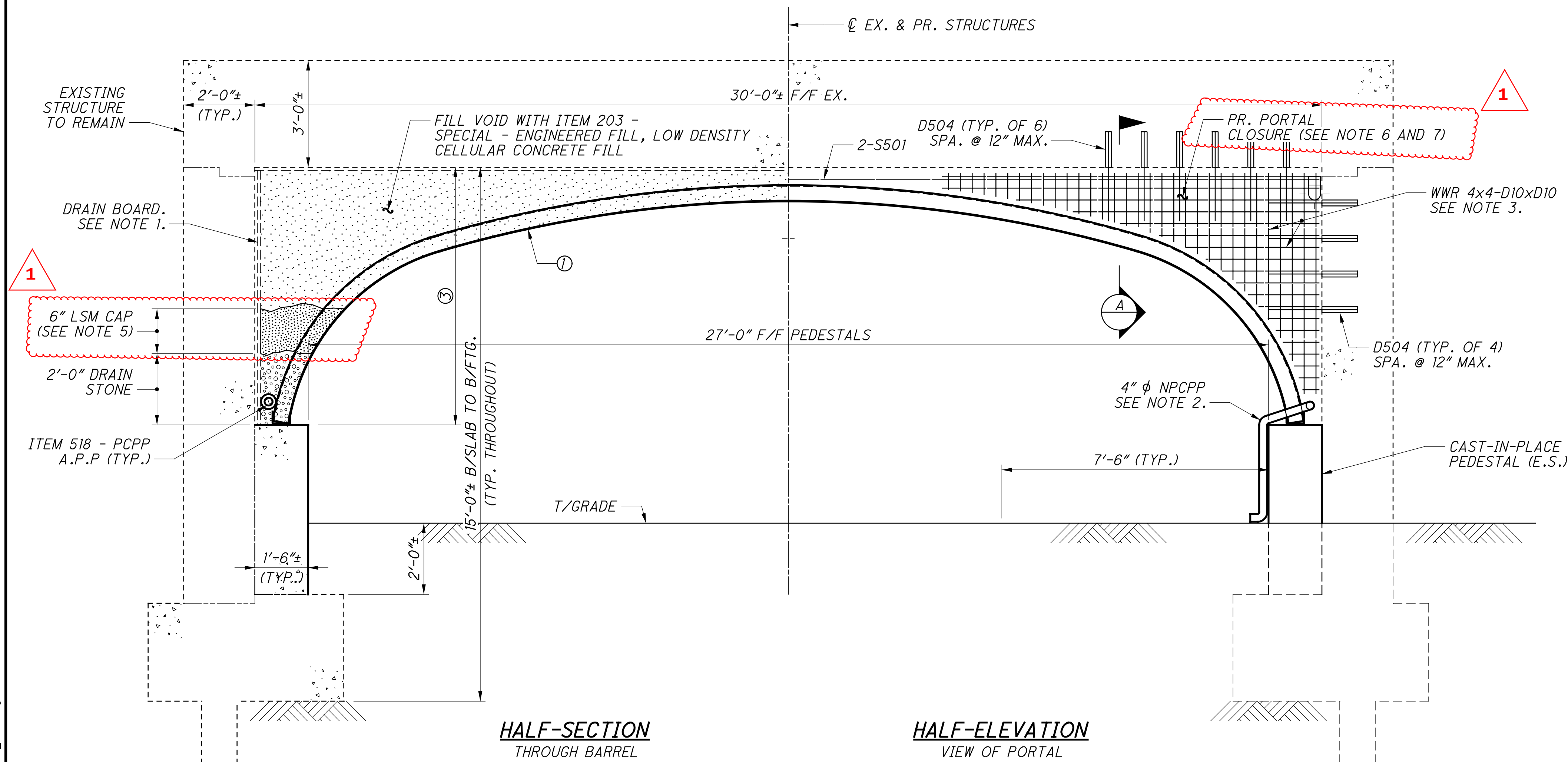
PREPARE LOAD RATING CALCULATIONS PER THE BRIDGE DESIGN MANUAL.

MEASUREMENT AND PAYMENT:

PAYMENT FOR ACCEPTED QUANTITIES OF THE WORK DESCRIBED HEREIN, COMPLETE IN PLACE, SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR THIS ITEM. THIS SHALL INCLUDE ALL TOOLS, LABOR, MATERIALS, EQUIPMENT, POWER, AND DISPOSAL NECESSARY TO COMPLETE THIS ITEM OF WORK AS DESCRIBED, AND TO THE SATISFACTION OF THE ENGINEER.

SFN	4101561
DESIGN AGENCY	M M MOTT MACDONALD 20445 EMERALD PKWY SUITE 100 CLEVELAND, OH 44135
DESIGNER	SK
CHECKER	RLD
REVIEWER	JMR 04/11/25
PROJECT ID	110889
SUBSET	4 TOTAL 12
SHEET	P.11 TOTAL 25

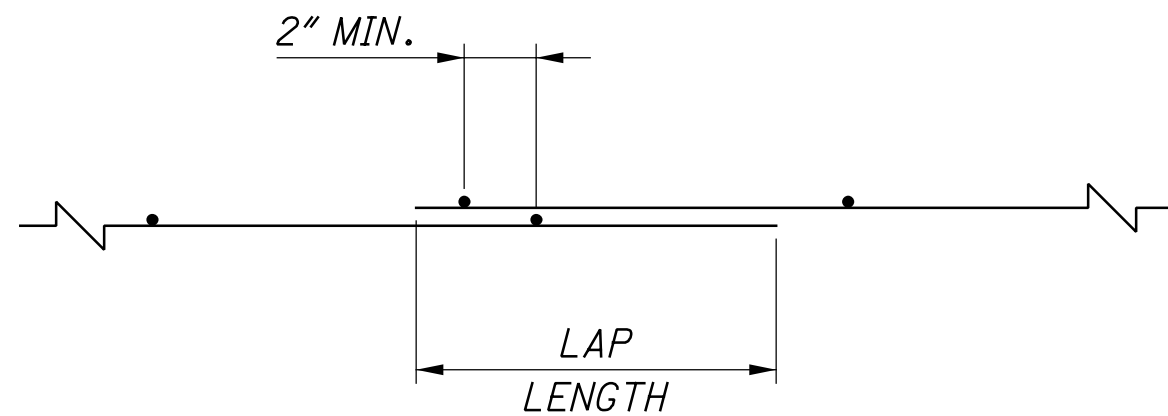
QUANTITIES CARRIED TO THE GENERAL SUMMARY



TRANSVERSE SECTION
THROUGH BARREL

HALF-ELEVATION
VIEW OF PORTAL

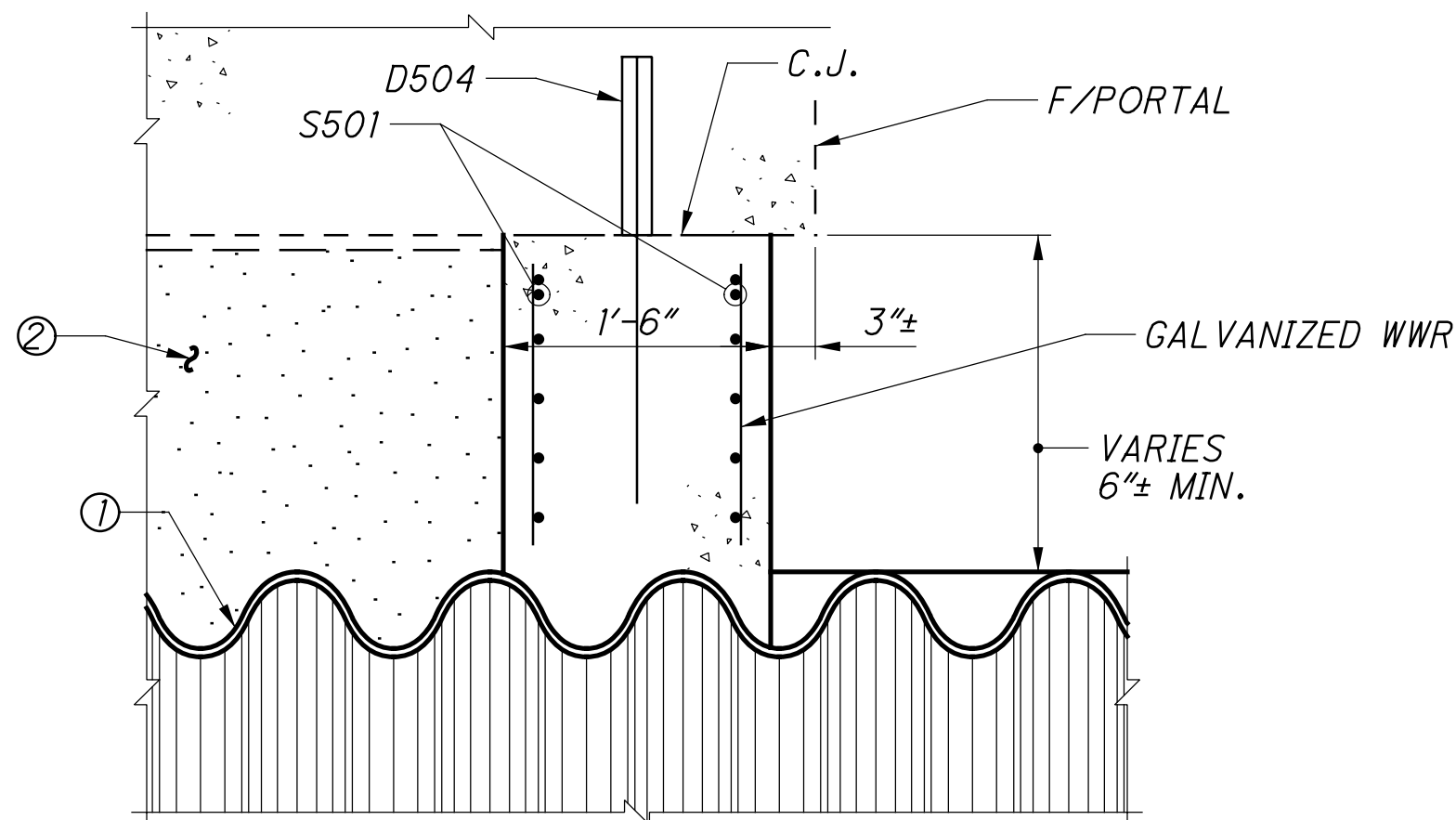
TRANSVERSE SECTION
THROUGH BARREL
SEE SECTIONS FOR FOUNDATION DETAILS



DETAIL - DEFORMED WWR LAP

DEFORMED WELDED WIRE REINFORCEMENT (WWR) LAP LENGTHS:

MINIMUM DEFORMED WWR LAP AND DEVELOPMENT LENGTHS, MEASURED ALONG THE LENGTH OF THE WIRE IN QUESTION, SHALL BE 8" ALONG D10 WIRES.



SECTION A-A
THROUGH PORTAL CLOSURE

NOTES:

- ① - ITEM 522 - STRUCTURAL PLATE CORRUGATED METAL STRUCTURE, AS PER PLAN
- ② - ITEM 203 - SPECIAL - ENGINEERED FILL, LOW DENSITY CELLULAR CONCRETE FILL
- ③ 7'-3" FROM BOTTOM OF EXISTING SLAB TO TOP OF PROPOSED SEAT. (TYPICAL THROUGHOUT.)

1. INSTALL DRAIN BOARD ON EACH WALL AND THE BOTTOM OF THE TOP SLAB UNDER ITEM 518 - PREFABRICATED GEOCOMPOSITE DRAIN. INSTALL TWO LAYERS ON THE WALLS WITH THE FILTER FABRIC FACING EACH WAY. INSTALL ONE LAYER ON THE TOP SLAB WITH THE FILTER FABRIC FACING UP AGAINST SLAB.
2. INSTALL NPCPP TO GRADE BEYOND THE PORTAL. SECURE TO PEDESTAL WITH GALVANIZED STEEL STRAPS ANCHORED TO CONCRETE WITH POWDER ACTUATED FASTENERS. INCLUDED WITH ITEM 518 - NON-PERFORATED CORRUGATED PLASTIC PIPE FOR PAYMENT.
3. ITEM 509 - CONCRETE REINFORCEMENT, MISC.: GALVANIZED DEFORMED WELDED WIRE REINFORCEMENT.
4. QUANTITY OF EXCAVATED SOIL MATERIALS SHALL BE USED AS A BASIS TO CALCULATE ITEM SPECIAL - SOLID WASTE. ALL SOIL FROM CONSTRUCTION EXCAVATIONS IS ASSUMED TO BE CONTAMINATED AND SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
5. SEAL THE JOINTS OF THE PLATE ARCH PRIOR TO BACK FILLING THE VOID WITH CELLULAR CONCRETE FILL TO CONTAIN FILL. COST FOR SEALING MATERIAL SHALL BE INCIDENTAL TO ITEM 522.
6. ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, SUBSTRUCTURE, AS PER PLAN TO BE USED FOR PROPOSED CONCRETE CLOSURE PORTAL.
7. CONTRACTOR SHALL ENSURE APPROPRIATE SUPPORT IS PROVIDED DURING CASTING OF CONCRETE PORTAL CLOSURE.

LEGEND:

- | | |
|---------------------------|-------------------------|
| AGG. - AGGREGATE | MIN. - MINIMUM |
| A.P.P. - AS PER PLAN | NPCPP - NON-PERFORATED |
| B/ - BOTTOM OF | CORRUGATED |
| C.J. - CONSTRUCTION JOINT | PLASTIC PIPE |
| CMP - CORRUGATED METAL | PCPP - PERFORATED |
| PLATE | CORRUGATED |
| CONC. - CONCRETE | PLASTIC PIPE |
| E.S. - EACH SIDE | PR. - PROPOSED |
| EX. - EXISTING | PVMT. - PAVEMENT |
| F/ - FACE OF | T/ - TOP OF |
| F/F - FACE-TO-FACE | TYP. - TYPICAL |
| FTG. - FOOTING | UNREINF. - UNREINFORCED |